

THE EFFECT OF A BLENDED INSTRUCTIONAL COACHING MODEL ON  
TEACHER PERCEPTIONS OF PROFESSIONAL DEVELOPMENT

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## Abstract

Higher accountability for student learning requires that districts and schools reflect on how they can maximize teacher growth and student achievement. Professional development provides an avenue to meet both of these goals. A recent development that has grown from an increased focus on quality professional development is the implementation of coaching programs. The focus of this study was a learning coach model that blends components of content and change coaching. The purpose of this research study was to determine if a difference existed between teacher perceptions of professional development in a district where a blended coaching model existed, when compared to a random sample of school districts from across the state. The Standards Assessment Inventory (SAI) was used to measure teachers' perceptions of the professional development provided by the coaches. The research design allowed for a comparison of the mean of two different groups. The teacher perceptions of professional development of teachers in USD 232 were compared to the mean of a random sample of teachers from across the state of Kansas. The data provided responses aligned to all 12 of the National Staff Development Council Standards. The 12 hypothesis tests indicated there were differences on 3 of the 12 indicators between the teacher perceptions where the blended coaching model existed and the sample of teachers across the state. Of the 12 strands, the three strands that showed a difference were leadership, evaluation, and equity. In each of these strands, the USD 232 teacher perceptions were significantly higher than the state sample. Therefore, it can be concluded that teachers in USD 232 viewed their professional development more favorably in the three areas, identified as leadership, evaluation, and equity, than did teachers across the state.

## Dedication

For my wife, Jill, whose love, support, and strength helps me to reach great heights and persevere through difficulties. I love you.

For my sons, Luke and Ethan, who are my spirit and my (super) heroes. I am very proud of both of you.

For my parents, Edwin and Marilyn, whose love and support are more than anyone deserves and whose examples taught me the importance of integrity.

To a small group of educators whose passion for student learning and willingness to take a risk motivate me every day to be an advocate for the things that are not necessarily easy, but are best for learning.

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## CHAPTER ONE

### INTRODUCTION AND RATIONALE

Leadership, teaching, and adult actions matter... While it is true that demographic variables are linked directly to student achievement, it is also true that adult variables, including the professional practices of teachers and the decisions leaders make, can be more important than demographic variables. (Reeves, 2006, p. 23)

Effective leadership, teachers, and instruction continue to be recognized as key components providing a positive impact on student learning. New models of teacher leadership with a focus on coaching continue to be developed. As coaching programs are implemented across the country, research is necessary to determine what effect these programs may have on teacher learning and student achievement. The purpose of the current study was to evaluate teacher perceptions of professional development in a district where a blended coaching model existed.

The first chapter begins by examining the findings of previous investigations and establishes the importance of the research problem, coaching as a strategy to support professional development. The context is explained by providing the setting of the research and explaining why the research is significant. The purpose section of the study outlines the intent of the study, while the delimitations and assumptions address the scope of the current investigation. The research question presents the variables studied, and the definitions of terms provide clarity for the reader specific to terms in the study.

## Problem Statement

The use of coaching as a strategy to support professional development and to build learning capacity in schools has increased. Kowal and Steiner referred to the professional development requirements of the No Child Left Behind Act as reasons why there is a “nationwide increase in the prevalence of coaching as a professional development strategy” (2007, p. 1). However, the research base to understand the influence of coaching models on student and teacher learning is limited. The ability to study the effectiveness of coaching in a holistic way remains difficult because of the lack of consistency among the models that are implemented. Therefore, applicable research has been limited by the design and location of the coaching program.

Neufeld and Roper (2003a) referred to coaching as a promising strategy districts use to provide quality professional development. Neufeld and Roper’s (2003a) research on the strategy of coaching focused on content or change coaching. Content coaching models are related to content-specific curriculums such as literacy and math. In contrast, change models tend to focus more on school-wide improvement by working within the organization on creating a shared vision and philosophy. However, some coaching models reflect characteristics of both content and change coaching, creating a blended coaching model. Very little research has been specific to models that blend both change and content coaching.

Even-Ascencio (2002) studied coaching within the context of establishing professional learning communities. While the study was designed to examine coaching in a role that reflected both change and content coaching, Even-Ascencio looked for a link between coaching and the establishment of professional learning communities. This

qualitative study primarily identified contextual and cultural factors that supported effective implementation of the coaching program, as well as the implementation of professional learning communities. Other qualitative research studied the perceptions of the coaches from teacher and administrator perspectives. Primarily through interviews and observations, researchers have tried to determine the effect of coaching.

Simons (2006) conducted a qualitative study of the influence of coaching on teaching and learning and stated in her conclusion, “Placing instructional coaches within schools makes professional growth convenient, collegial, continuous, and responsive to direct teacher needs and requests” (p. 145). However, the purpose of the Simons study was related to feedback from teachers regarding their perceptions of the coaches.

Quantitative studies regarding teacher perceptions of professional development as a means to evaluate a blended coaching program do not exist. Due to economic conditions and higher accountability, studies of the relationship between teacher perceptions of professional development and coaching models are necessary, as coaching programs continue to expand. Valid and reliable professional development surveys could be used to measure the effectiveness of the professional development provided by districts with implemented coaching programs.

Even-Ascencio (2002) described the opportunity coaches have to support change not only in individual classrooms, but also in schools and organizations. The description suggested that coaches who work at both the classroom and building or district level can effect positive change. While research has increased on coaching models, not enough is known about blended coaching models developed explicitly to reflect components of both content and change coaching.

### *Background and Conceptual Framework*

Unified School District 232 (USD 232), in De Soto, Kansas, is a suburban school district southwest of Kansas City, Kansas. The district covers approximately 100 square miles and currently has 11 schools: six elementary schools, three middle schools, and two high schools. Student enrollment in the district is approximately 6,500 students. The population in the area that is served by USD 232 has grown rapidly and the district has experienced growth of 6-8% each year. The rapid growth increased the importance of building capacity to support new teachers and new schools (Cater, 2008).

The number of certified teachers increased in conjunction with the increase in student population. The Table 1 shows the increase in the number of students (K-12) and certified staff in the USD 232 school district over the last 5 years.

Table 1

#### *USD 232 School District Staff and Student Growth*

	2004/2005	2005/2006	2006/2007	2007/2008	2008/2009
Student Enrollment	4,710	5,138	5,541	5,918	6,383
Certified Staff	429	448	492	543	560

The approximate ethnic breakdown of the student population in USD 232 in the 2008-2009 school year was 86% white, 2% African-American, 6% Hispanic, and 6% other. Approximately 12% of the students were economically disadvantaged. On the state

reading assessment, 85.8% of the students were at the standard or above, and 86.4% of the students were at the standard or above on the state math assessment.

In the fall of 2005, district leaders implemented a coaching program, using the blended model. At that time, nine coaches were hired. In 2007, two more coaches were added when two new buildings opened. The learning coaches were site-based professional developers housed in the building they served. The purpose of the USD 232 Learning Coach Program is to support teachers in the implementation of the district's curriculum, instruction, and assessment program. The learning coaches have six primary responsibilities:

1. Contribute to the continuous improvement of the district's learning vision.
2. Strengthen communication between the grade level configurations and the different levels of the learning organization.
3. Support district professional development aligned to district initiatives.
4. Provide site-based professional development.
5. Collect and analyze learning data.
6. Select and develop curriculum, instruction, and assessment materials aligned to the district learning vision ("What Does a Learning Coach Do?" 2007).

The district Division of Teaching and Learning had oversight of the learning coaches. As such, the department coordinated and evaluated the coaches. The same division was responsible at the district level for student learning. The district created the coaching program to build the capacity to focus more closely on student learning at both at the building and district levels ("What Does a Learning Coach Do?" 2007).

### *Significance*

At the time of the study, the learning coach program in USD 232 was a blended coaching model that had been in place for 4 years. The learning coach interacted with and influenced teachers and administrators within the organization. The learning coach was an integral part of professional development and learning at all levels of the district. The teachers' perspective regarding the effectiveness of their professional development was essential to evaluating the coaching program. The results of this study can be utilized as part of the evaluation of the coaching model in USD 232. The study measured perceptions of professional development, which was significantly influenced by the coaches.

Analysis of the data identified if there were differences between the two samples, the USD 232 sample and the random state sample, on each of the 12 indicators. The learning coach had responsibilities tied to every level of the learning organization. Data specific to teacher perceptions of professional development provided an opportunity to identify how teachers, in USD 232, perceived the effectiveness of their professional development, compared teachers from across the state of Kansas. The perceptions provided a general evaluation of the effect of a blended coaching model, germane to USD 232, which could be applied to other teaching populations where coaching models exist.

The evaluation of the USD 232 coaching model was important to the district, as the funds and resources necessary to support a program are significant. At the time of the study, reflecting the current economic situation in the United States, state and school resources were limited. Rapidly growing school districts, similar to USD 232, must make effective decisions when determining where to place resources and dollars. Evaluations

of coaching programs are necessary to determine the effectiveness of the involved investments. Evaluating the effectiveness of coaching programs can provide information and guidance for school districts in determining whether coaching models are effective in providing quality professional development.

The study contributed to the current body of literature on coaching by identifying areas where the coaching program may affect teacher perceptions of professional development. Additionally, because the study was quantitative and the survey utilized is aligned to national standards on professional development, the findings should be more easily understood. The research draws an appropriate comparison because of the opportunity to compare teacher perceptions in one specific district to a random sample of teachers across the state.

#### *Purpose Statement*

The purpose of the proposed study was to determine if a difference exists between teacher perceptions of professional development in a district where a blended coaching model exists, when compared to teacher perceptions in other districts in the state of Kansas.

#### Delimitations

The primary delimitations established for this study directly aligned to the researcher's choice of USD 232 as the district of study. The researcher established a window for completion of the survey. The boundaries of the study follow.

1. The study was conducted from late February to early March of 2009.
2. The location of the study was Unified School District 232–De Soto, KS.
3. The population studied was certified teachers in the state of Kansas.

### Assumptions

Assumptions within the study primarily surrounded the administration of the survey. The study was based on the assumption that respondents' answers to the questions on the survey accurately reflected their perceptions of professional development. Additionally, it was assumed that the respondents were a representative sample of the total population of certified teachers employed in the state of Kansas.

### Research Question

A primary research question guided the study and provided a structure for the research compiled during the literature review (Roberts, 2004). The research question for this study was, "Is there a difference between teacher perceptions of professional development in districts across the state of Kansas and in a district where a blended coaching model exists?"

### Definition of Terms

The various types of coaching programs make it necessary for terms be defined to provide a context for the study. The researcher chose to provide definitions that clarified how professional development and different coaching models were defined within this specific study. The reader should fully understand the types of coaching models that were considered and the unique program that existed in the selected district. This section provides clarity for the reader.

*Blended coaching model.* A model for delivering professional development that contains components of both change coaching and content coaching (Neufeld & Roper, 2003a).

*Change coach.* A change coach is defined as an instructional coach whose responsibility is to focus on bringing a whole-school focus to improving teaching and learning (Neufeld & Roper, 2003a).

*Coaching.* A strategy of professional development designed to engage educators in collaborative work designed to contribute to the development of intellectual capacity within schools (Neufeld & Roper, 2003a, p.1).

*Content coach.* A content coach is defined as an instructional coach whose responsibilities revolve around specific content areas and effective instructional strategies associated with those contents (Neufeld & Roper, 2003a).

*Learning coach.* The title held by coaches in the USD 232 school district who serve to support teachers in implementing the district's curriculum, instruction, and assessment program ("What Does a Learning Coach Do?" 2007).

*Professional development.* Professional development is defined as training intended to teach teachers or administrators the knowledge and skills needed to do their job well (Ravitch, 2007).

### Overview of Methodology

The present study used a quantitative research approach. Roberts (2004) indicated the methodology should include a description of the variables, type of research, and research design, and the methodology should be reported with enough detail that replication of the study is possible. A survey approach was utilized in the study.

Kindergarten through twelfth grade teachers comprised the population of interest for the present study. There were two samples in the study. Respondents to the state survey of professional development comprised the first sample and teachers in USD 232

who responded to the survey comprised the second sample. Teachers in the school district interacted through professional development with their building learning coach or with other learning coaches in the school district. The variable of interest was teacher perception of the professional development provided in USD 232.

The Standards Assessment Inventory (SAI) was used to measure the teachers' perceptions of the professional development provided by the Learning Coach. The National Staff Development Council (NSDC) designed the survey to align to its national staff development standards. The survey is a self-assessment that is both valid and reliable (Appendix C). All certified teachers in the state of Kansas had an opportunity to complete the scaled survey. The data collected from the survey reflected teacher perceptions of professional development in a school district where a blended coaching model was present.

The research design allowed for a comparison of the mean of two different groups. The teacher perceptions of professional development in USD 232 were compared to the mean of a random sample of teachers from across the state of Kansas. A *t* test for independent samples compares the two means. The Kansas State Department of Education made the Standards Assessment Inventory (SAI) survey available to all Kansas schools during late February and early March of 2009. Schools had the opportunity to have their teachers complete the SAI and received building reports reflecting the results of the survey from the State of Kansas. The data collected from the state of Kansas were archived data that existed as a result of a study of staff development conducted by the Kansas State Department of Education. The raw data provided responses aligned to all 12 of the National Staff Development Council Standards on professional development. The

present study extracted and analyzed data from the same 12 strands specific to teachers from USD 232 data to compare to teachers from districts across the state to determine if there was a difference between the state sample and the USD 232 sample.

### Organization of the Study

The current study consists of five chapters to provide the reader with a comprehensive understanding of the research questions, research methodology, and findings of the investigation. The first chapter provides an introduction and rationale for the study. The second chapter contains a review of the literature that aligns to the research question that was defined in chapter one. Chapter two focuses on literature related to quality professional development and coaching models. The third chapter contains a description of the methodology used to conduct the research. Additionally, chapter three contains a detailed explanation of the setting, the blended coaching program, the Staff Development Assessment Inventory, and the statistical measures used to interpret the data. The fourth chapter presents the findings of the study. The fifth chapter interprets the findings, provides implications, states conclusions, and lists recommendations for future study.

## CHAPTER TWO

### REVIEW OF LITERATURE

#### Introduction

This chapter contains a review of literature and provides a summary of key concepts relevant to the study. The first section focuses on professional development by examining characteristics of effective professional development, evaluation of professional development, and teacher perceptions of professional development. The second section focuses specifically on coaching as a vehicle for professional development, including a review of the types of coaching models, characteristics of effective coaching models, and teacher perceptions of professional development where coaching models exist.

#### Professional Development

Recent research on professional development has raised questions about the effectiveness of the professional development practices utilized in the past. Danielson (2006) described the ineffectiveness of past professional development practices, including one-time workshops and university courses, concluding that these approaches do little to influence classroom practice. Sparks and Hirsh (1997) found that much of the staff development was ineffective because the professional development was created and delivered by someone from outside of the organization to a group of teachers who listened in a passive manner.

National policy and legislation, specifically the No Child Left Behind Act of 2001, has driven a significant amount of educational reform throughout the decade. The expectations for teacher learning needed to change along with the reforms that required a

new focus on student learning. Lieberman (1995) noted parallels between how students learn and how teachers learn, and he advanced that teachers must be engaged in learning that involves working with others in a practical way and that engages them in problem solving. Sparks and Hirsh (1997) suggested a paradigm shift in staff development and provided 11 major shifts that should be made to move away from the less effective traditional approach. These shifts included expanding professional development to include organizational development, focusing on the school rather than the district, ensuring job-embedded learning, allowing teachers to be the experts, including content-specific skills, exploring new roles for teacher leaders, and focusing on continuous improvement. These shifts align the focus of professional development to be rooted in improving teacher strategies and student learning. Effective professional development should reflect a focus on teacher strategies and student learning.

### *Effective Professional Development*

The approach to professional development that accompanied the reform movements of the 1990s and early 2000s required a more purposeful and strategic approach to professional development. Sparks (1997) identified the need for a shift from a fragmented, last-minute approach to a clear and coherent plan guided by the district's strategic plan. Sparks observed this shift has forced the curriculum and staff development departments of school districts to become support departments for schools, instead of offering standard professional development to all buildings

Research on effective professional development (Darling-Hammond, 1995; Little, 1993; Sparks, 2000) identified common components that should be evident in a district's

professional development program. Professional development should reflect the following principles:

1. The professional development should provide teachers with opportunities for collaboration and coaching.
2. The participants should be actively engaged in reflection, inquiry, research, and collective problem solving.
3. The professional development should be grounded in instructional practices, assessments, and results specific to the participants' content area or school improvement process.
4. The professional development should be ongoing, sustained, rigorous, and job-embedded.
5. The participants should have the necessary resources and opportunities to grow and learn effectively.

Guskey (2003) analyzed 13 different lists of characteristics of effective staff development from a variety of organizations and publications. Guskey found that the lists were inconsistent and at times contradictory and recommended more consistent and defined criteria were needed. Guskey concluded that there was not a common and accepted set of guidelines for implementing effective professional development.

The National Staff Development Council (NSDC) is an internationally recognized professional organization dedicated to the implementation of effective staff development. The NSDC developed a set of national standards for institutions to follow in 1995. In 2000, Dennis Sparks, Executive Director of NSDC, and Stephanie Hirsh, Associate Executive Director of NSDC, released a national plan for improving staff development.

Sparks and Hirsh (2000) called for a renewed focus on the importance of professional development in relation to teacher quality and student learning. The plan laid out the required changes that would be necessary to improve professional development nationwide and encouraged the analysis and measurement of the quality of professional development. The plan became the foundation for the revised standards in 2001.

The NSDC (2001) standards identify three sub-sets of standards. Context standards establish the importance for teachers to be actively involved in the design of the professional development. The process standards identify the types of activities in which teachers should immerse themselves to improve student learning. The content standards reflect the additional need for teachers to participate in professional development that is specific to their students, content, and community. These standards provide a foundation and framework for the delivery of effective professional development that is aligned to current research. The NSDC standards are found in Appendix A.

Through their research, WestED (*Teachers Who Learn, Kids Who Achieve*, 2000) found both internal and external factors in eight award-winning schools that had model professional development. The internal factors revolved around a culture of learning that existed in each of the schools. The book highlighted six internal components of this culture of learning: “student-centered goals, an expanded definition of professional development, ongoing job-embedded informal learning, a collaborative environment, time for learning and collaboration, and checking for results” (p. 12). Additionally, three factors from outside the schools were identified that supported the development and sustainability of the culture of learning: “external call to action, partnerships with external programs, and the allocation of fiscal resources” (pp. 39-44).

The structure of professional development must also be considered in this new vision of professional development. Birman, Desimone, Porter, and Garet (2000) conducted a survey of more than 1,000 teachers who were part of the federal government's Eisenhower Professional Development Program. From a review of the research and the survey data, the researchers identified three structural features that set the context for professional development and three core features that characterized the processes that occurred during a professional development activity. The structural features that were identified were (a) Form: how the activity was structured, either as a reform activity or more like a traditional workshop or conference; (b) Duration: how long the activity lasted and how long the participants worked on the activity; (c) Participation: what the teachers who participated had in common, or whether they worked individually or collaboratively. The three core features that were found to be effective were: (a) Content focus: how the activity deepened the content knowledge of the participant; (b) Active learning: the level of engagement of teachers in the meaningful analysis of teaching and learning; and (c) Coherence: how well the activities integrated into a larger program of teacher learning. The study found that the activities that were high in the three core features were more likely to be carried into the classroom and more effective in improving student achievement (Birman et al., 2000).

Research on the characteristics and components of effective professional development is abundant. However, response to current theory also requires changes in the structure and delivery of professional development. These changes create a climate from which new models of professional development can be grown. Districts and organizations also have invested a great deal more human and financial capital in chasing

the promise of effective professional development. Therefore, measuring the influence and success of professional development is crucial to ensuring its effectiveness. While the process is essential, effectively and appropriately evaluating professional development can be a daunting task.

### *Evaluating Professional Development*

Increased accountability in education does not stop in the classroom. Nearly every educational reform includes an investment in professional development as a key component of implementation. Therefore, the need to ensure that the professional development provided to the participants is effective has become greater. Guskey and Sparks (1991) explained that it is not adequate simply to document that training occurred or to ask teachers how they felt after an activity was completed. Guskey (2000) indicated that focusing only on the documentation of shallow evaluations that cover too short a time period has been a common mistake in the design of previous professional development evaluations. While the author recognized that evaluating professional development is complex, evaluation is identified as essential to the improvement and success of the professional development.

Guskey (2000) provided practical guidelines for evaluating professional development and divided the evaluations into five critical levels: participants' reactions, participants' learnings, organizational support and change, participants' use of new knowledge, and student learning outcomes. He went on to explain that each of the levels has specific types of evaluations that should be used to provide unique information to the planners of the professional development.

1. Level 1 evaluations should simply measure the participant's reactions to a specific activity.
2. Level 2 evaluations should focus on whether participants met the goals of the professional development activity. This requires that the objectives of the professional development be clear at the beginning of the activity and that the evaluations be developed prior to the activity.
3. Level 3 evaluations should focus more on the culture of the organization and the supports in place to promote professional development. These evaluations should not be about a specific activity, but instead about the organization or professional development structure as a whole. Evaluation results should provide the organization with information specific to the support and change necessary for all forms of professional development.
4. Level 4 evaluations should identify how much the participants use the new knowledge and skills that they learned,
5. Level 5 reviews ask what ultimate effect the teaching had on student learning (Guskey, 2000).

In all levels of professional development evaluation, the teacher is a key component of the evaluation. In levels 1 and 2, the teachers provide feedback on their reactions to the activities and explain what they learned from the activities. Guskey (2000) recommended that the questions provided to the participant should address the three areas the National Staff Development Council identified for their standards: content, context, and process. In level 3, the teachers provide feedback about the culture of the organization specific to professional development. Hirsh (2006) and the NSDC,

extended Guskey's research by developing a teacher questionnaire that could serve as a Level 3 evaluation for organizations around the NSDC standards. In levels 4 and 5, the professional development is evaluated based on the teachers' implementation of what has been learned and the ultimate result of their teaching specific to student achievement (Guskey, 2000). Therefore, teachers' perceptions of professional development are critical at evaluation levels 1, 2, and 3 to assess the effectiveness of a professional development program.

### *Teacher Perceptions of Professional Development*

The recipient of the professional development, like a learner in a classroom, should be the focus of any professional development activity. Therefore, the perceptions of those recipients are important in determining the success of a district's professional development program. A number of studies have been conducted to determine how teachers perceive professional development, both generally and in specific programs.

Knight (2000) examined the attitudes of middle school and high school teachers following an unsuccessful professional development session that he led. Knight wanted to identify possible contextual factors that might affect a teacher's perception or experience with a professional development session. Twenty-three teachers and two administrators who participated in the professional development were interviewed. The interviews were analyzed to identify commonalities specific to the frustration that teachers felt towards the professional development provided. Five contextual factors were identified through the analysis: (a) interpersonal conflict with other teachers, (b) a belief that professional development is impractical, (c) feeling overwhelmed by tasks that must be completed, (d) the top-down nature of the professional development, and (e) anxiety about change

occurring in the school. Knight recommended giving teachers choices specific to their professional development and conducting interviews with staff prior to workshops. The Knight study highlighted emotional factors that can affect the experiences and perceptions that teachers have about professional development.

Spicer (2008) researched teacher perceptions of professional development. The study was performed in Virginia, where an online survey was conducted to gather information about the teachers' perceptions of their professional development. The study included survey data from 218 teachers and provided analysis of whether experience or teaching assignment influenced their perceptions. The research was designed to analyze teacher perceptions of their professional development from three angles: first, to what extent did teachers perceive their professional development to be research-based; secondly, to what extent did they perceive that their professional development directly affected student achievement; and thirdly, to what extent did teachers perceive that their professional development met their content and grade level needs. Respondents were asked to answer in one of five categories: *not at all*, *to some degree*, *much of the time*, *most of the time*, or *all of the time*.

When measuring the teacher perceptions of how well their professional development aligned to research, Spicer (2008) found that teachers perceived research-based components were present, but not consistently. Only 45.8% of the respondents felt their professional development was high quality *much of the time*, *most of the time*, or *all of the time*. The perception of the delivery model was found to be more traditional: 68.8% of the teachers stated that the delivery was one-size-fits-all and 41.8% of the teachers responded *not at all* when asked how often the professional development was

differentiated for the adult learner. Additionally, the study found the professional development to be fragmented and that too much information was provided during a professional development session.

When Spicer (2008) looked at whether teachers perceived the professional development directly affected student achievement, she found 88.2% of the teachers believed that professional development affected student achievement to at least some degree, with 49.7% perceiving the professional development as affecting student achievement *much of the time, most of the time, or all of the time*.. A majority of the teachers (74.9%) perceived the professional development affected their personal knowledge of their content area to at least some degree.

Spicer (2008) also reported that while many times teachers do not perceive their professional development to be consistently effective, they do believe that it has a positive impact on student achievement and their personal knowledge of the content area. These findings supported the aforementioned research that in the eyes of teachers, the way the professional development is delivered leaves something to be desired, but that professional development can positively influence the quality of instruction and the achievement of students. This incongruity may have produced the environment and need for a number of new delivery models that have been developed in recent years to provide more effective professional development.

#### Teacher Leaders

While the philosophical changes regarding professional development are important, the responsibilities of school leaders have also had to be revised to ensure that schools, districts, and organizations have built the capacity necessary to provide a new

and improved type of professional development. Danielson (2006) described three forces driving the increased need for quality teacher leadership in schools: the managerial imperative, the school improvement imperative, and the professionalization of teaching. The managerial imperative refers to the increasing management responsibilities of school principals. These responsibilities rest in the expanding demands of national, state, and district policies. The school improvement imperative refers to the increased pressure on schools to improve results for all students. Accountability to meet the needs of all students has increased at all levels of the organization. The professionalization of teaching reflects the generally accepted belief that the most important factor contributing to student learning is the quality of teaching. Teacher leaders work with the teachers to improve their teaching, with the ultimate goal of improved student achievement.

Schools and districts must make student learning the primary focus of the organization. Danielson (2006) reasoned that the purpose and centerpiece of any school must be teaching and learning. An organization focused on student learning must effectively provide teachers with the resources and support necessary to affect student achievement positively. The accompanying need for resources and support exposed the need for a new approach to leading professional development.

An increasing number of school districts have established programs to develop and train their own teacher leaders. Danielson (2006) suggested that school systems that are committed to improved teacher learning embrace programs that promote the development of teacher leaders and provide opportunities to develop such leadership skills. Schools and districts continue to develop and establish programs and positions that

can support the need for effective, job-embedded professional development (Danielson, 2006).

Harrison and Killion (2007) identified roles of teacher leaders. These roles are not administrative or evaluative, but instead fall under the generic title of teacher leaders. Harrison and Killion identified 10 roles that teacher leaders may serve in to increase a school's capacity to improve. These ten roles include resource provider, instructional specialist, curriculum specialist, classroom supporter, learning facilitator, mentor, school leader, data coach, catalyst for change, and learner.

In 2007, the Kansas State Department of Education established the Kansas Educational Leadership Commission (KELC). This 18-member commission began by evaluating the research specific to the essential role of leadership in trying to increase student learning. The commission was charged with making policy recommendations specific to the design, implementation, and improvement of educational leadership for the state of Kansas. One of the policy recommendations developed by KELC was to focus on teacher leadership by developing state standards and licensure guidelines for teacher leaders in the state of Kansas (Teacher Leader Committee, 2009). The following are the eight recommended standards developed in the State of Kansas for teacher leaders.

Standard 1: The teacher leader is able to apply strategies of adult learning across teacher leadership activities.

Standard 2: The teacher leader is able to advance the professional skills of colleagues by demonstrating and applying expertise in observational skills and in providing quality feedback to support reflective practice focused on improving curriculum, instruction, and assessment.

Standard 3: The teacher leader is able to improve the quality of colleagues' collaboration and interaction with families and other stakeholders.

Standard 4: The teacher leader is able to initiate and facilitate colleagues' design and implementation of action research and analysis of data for individual and group decision-making.

Standard 5: The teacher leader is able to develop and support collaborative teams and promote collegial interactions that improve the effectiveness of practice.

Standard 6: The teacher leader is able to identify and assess opportunities for educational improvement, and advocate effectively for them within and beyond the school community.

Standard 7: The teacher leader is able to inform and facilitate colleagues' selection or design, use, and interpretation of multiple assessments, along with other available data, to make informed decisions that improve the quality of instruction and student learning.

Standard 8: The teacher leader is able to inform and facilitate the design and implementation of coherent, integrated, and differentiated professional development based on assessed student and teacher needs (Teacher Leader Committee, 2009).

These standards reflect the increased recognition and role of teacher leaders in the educational environment in the state of Kansas. While teacher leaders can serve under a variety of formal and informal positions, the most prevalent type of teacher leader that supports the professional development of teachers appears to fall within the category of coaches. Providing quality professional development requires teacher leadership. Effective professional development should be embedded in the work of the school,

should engage teachers in professional conversations, and should include follow-up and coaching (Danielson, 2006). Coaching is one strategy districts have implemented to provide ongoing professional development, through teacher leadership.

### Coaching

Coaches have the primary professional responsibility of working with classroom teachers instead of students to support teachers in implementing research-based practices that will positively affect student learning (Kowal & Steiner, 2007). School districts have developed a number of coaching models to increase the quality of professional development. The job descriptions of coaches vary greatly, but most models support the professional development of teachers. Kowal and Steiner explained that, “there is not a standard model or uniform definition of an instructional coach” (2007, p. 2). However, they indicated the increased use of coaching is a promising strategy to improve instruction and therefore improve student learning.

While coaching has been a part of other industries such as business and athletics for years, coaching in education is a newer development. The history of coaching in education is a recent movement, and the numbers of programs that have been developed reflect great variance. Therefore, defining coaching in the educational context is difficult. Neufeld and Roper (2003a) framed coaching as a strategy of professional development designed to engage educators in collaborative work that positively contributes to the development of intellectual capacity within schools (p. 1). This definition indicates that coaches focus on the professional development of educators, and it is generic enough to encompass many of the models that have been implemented and researched.

The variance among coaching models is in part a result of the uniqueness of each of the districts or organizations responsible for developing or implementing the coaching program. No two districts or schools are alike in history, context, or current initiatives. Simons (2006) explained that such lack of consistency among the models has made studying the effectiveness of coaching difficult. Coaching models vary greatly. Poglinco et al. (2003) explained that coaching models could be external coaches hired to work in a school or peer teachers working together. Sweeney (2003) added that some models employ teachers to work on a full- or part-time basis to support fellow teachers. The number of coaching programs has created the need for a structure to categorize coaching programs.

#### *Categorizing Coaching Programs*

The number of coaching models continues to grow rapidly, with each model reflecting the needs and uniqueness of the location where it is implemented. Therefore, there is a need to sort coaching models into more generic groupings. Joyce (2002) classified coaching models into two groups. While both focus on instruction, the first group of models focused on the implementation of new strategies in the classroom, while the second group focused on how to improve existing practices. The group that focused on the implementation of new teaching strategies included technical and peer coaching. The group that focused on the refinement of current practices included cognitive, transformational, and instructional coaching (Joyce, 2002).

Neufeld and Roper (2003a) identified two different categories of coaching models: change coaching and content coaching. Change coaches focus their efforts on improving the instructional leadership in the school through school improvement

strategies. Change coaches work with both administrators and teachers in the building to utilize data from assessments, maximize resources, and bring a whole-school focus to teaching and learning in the building. Content coaching focuses more specifically on teachers and their instructional methods. Specifically, content coaches focus on discipline-based instructional improvements, and in some cases, content coaches may focus on a specific area or content such as literacy or math (Neufeld & Roper, 2003a). Change coaches work in collaboration with both principals and teachers to develop instructional leadership and knowledge throughout the organization, while content coaches work more exclusively with teachers to improve instruction methods.

Second, change coaches tend to work across grade levels and content, looking at whole-school reforms, while content coaches tend to focus more specifically on content-specific knowledge and instructional practices. These explanations of organization provide some clarity to coaching models and the responsibilities of coaches (Neufeld & Roper, 2003a). Additional coaching models that have been implemented and can be sorted into these categories include peer coaching, instructional coaching, and reform coaching (see Table 2).

Table 2

*Coaching Model Classification*

Change Coaching	Content Coaching
Reform Coaching	Peer Coaching
	Instructional Coaching
	Facilitative Coaching

*Change coaching models.* Neufeld and Roper (2003a) further defined the roles of change coaches by discussing the types of activities in which change coaches may engage as part of their responsibilities. Change coaches look for opportunities to develop and highlight leadership potential within teachers and quality instruction in the building to drive whole-school reform. They develop strategies to support principals and teachers in preparing and reflecting on collaborations, meetings, and professional development sessions, to ensure that effective shared decision-making occurs.

The change coach must be able to model leadership skills for teachers and principals that focus on finding solutions to problems, being open to suggestions, and embracing collaboration. Change coaches also identify ways to maximize the professional collaboration that can occur among teachers by adjusting the schedule to provide common planning time for teachers. Overall, change coaches engage both principals and teachers in implementing the changes necessary to create a school culture that can continuously improve to meet the accountability measures of recent legislation.

A number of coaching models have been developed as a result of the reform movement that has increased accountability in recent years. Examples of change coaching are the reform coaching models described by Warren (2008). Warren suggested that such coaching models were developed to organize and engage in whole-school reform. Warren reported that in reform coaching, just as in most coaching models, the coach is the individual responsible for ensuring that improvement efforts are in place and functioning.

Warren (2008) stated that some reform models, primarily those developed by external agencies, seem to have greater focus on the transmission of knowledge to teachers instead of working with the teachers to make sustainable change. The approach recommended by such models seems to be specific to a content area or program. Other reform coaching models are more centrally focused on providing collaborative opportunities for teachers. The coach is a facilitator, not a disseminator of information. These reform models tend to be more reflective of contextual factors, and they are organized around local initiatives to meet the requirements of current legislation.

*Content coaching models.* Neufeld and Roper (2003a) described content coaching as focusing more closely on teacher instruction and content knowledge. Content coaches support teachers in translating new instructional strategies to bring into their classrooms. Content coaches establish an environment and culture that support teachers trying new strategies in an environment where they can feel comfortable. Additionally, content coaches may model instruction or provide opportunities for teachers to see other teachers utilizing effective instructional strategies. Content coaches provide small group professional development activities that are specific to teacher needs in the areas of curriculum, instruction, assessment, and learning materials. Two coaching programs that fit into the content coaching category are peer coaching and instructional coaching.

Showers and Joyce (1996) developed one of the first effective content coaching models in education, which has evolved from its inception to provide professional development effectively. Showers and Joyce developed the peer coaching model after they began investigating professional development research specific to the implementation of new instructional strategies. The research and their experiences led

them to conclude that teachers transferred new strategies into the classroom at a higher rate when teachers collaborated, modeled, practiced in a simulated situation, practiced in the classroom, and then received feedback. During the time of the Showers and Joyce study, coaching models did not exist, so teachers worked with peers to implement the strategy. In the early 1980s, Showers and Joyce tested the hypothesis that coaching after initial trainings would result in a higher level of implementation specific to the learned skill.

Showers and Joyce (1996) began to expand their peer coaching model from pairs of teachers or small groups of teachers to whole faculties that were willing to implement peer coaching building-wide. The growth provided the context for the researchers to evaluate peer coaching as a school improvement model. Since the initial development of the peer coaching strategy, the component of verbal feedback has been dropped as a key component, as it was found to affect the teacher relationships negatively. Instead, the model shifted its focus to more collaborative planning and less feedback. Showers and Joyce reported that the change did not negatively affect the level of implementation or student growth. The peer coaching strategy became the foundation for future coaching research and design.

The strategy of instructional coaching was discussed by Makibbin and Sprague (1997), who suggested that the coach serves as a resource for both the principals and teachers to implement instructional practices to increase student achievement. Sweeney (2003) suggested an instructional coach must provide customized professional development to the staff to meet the needs of each teacher, but that the support must be utilized as means to help all teachers meet a common set of goals and expectations. Both

peer coaching and instructional coaching support teachers in enhancing their instructional practices and student achievement.

Bloom (2005) alleged that for coaching to be successful, it must provide two kinds of support, and then developed a coaching model that combined two components of the learning process. The first type of support provides teachers with opportunities to reflect and evaluate their beliefs, current understandings, and behaviors. Such coaching was referred to as facilitative coaching. The second type of coaching is instructional coaching, which Bloom suggested supported the teachers in implementing the new practices identified because of the facilitative coaching. Without changes to individual understandings and beliefs, the teacher will not be interested in implementing the practices that align with those beliefs. Bloom's model focuses on both the cultural and reflective aspect of coaching and integrates the need to support teachers in the implementation of new instructional strategies and techniques.

The Neufeld and Roper (2003a) categories highlight the cultural and instructional roles that most coaches play in learning organizations. The categories also provide a structure by which to sort other coaching models. Additionally, the research identified common characteristics of effective coaching models.

#### *Characteristics of Effective Coaching Models*

Recent literature has helped in organizing the vast number of coaching models that exist. However, additional research has looked for common characteristics of effective coaching programs. Such research has provided recommendations for implementing and sustaining an effective coaching model. These recommendations

include design and implementation, professional development for coaches, and evaluation.

*Design and implementation.* The successful implementation of a coaching program begins with how the program is designed. Neufeld and Roper (2003b) shared that the process of implementation is complex and should not be implemented without considerable thought. Two primary recommendations emerged, specific to the design and implementation of the program. First, the coaching program should provide opportunities for coaches to work with teachers. Makibbin and Sprague (1993), Poglinco and Bach (2004), and Knight (2006) all stressed the importance of providing opportunities to work with teachers.

Neufeld and Roper (2003a) provided practical questions to consider prior to implementation that would influence the coach's opportunities to meet with teachers. First, the district must consider how the coaches will be allocated, based on the number of coaches, the number of buildings, and how much time would be spent in each building. Secondly, the district must decide if they want coaches to serve in a building where they have recently taught and whether they want coaches to continue to teach as part of their responsibilities. Thirdly, the district must identify ways to provide professional development to coaches while providing them with a schedule that allows them to do the work necessary to be successful. Fourthly, Neufeld and Roper indicated the district must arm coaches with the skills to handle resistant teachers and to manage the relationship with the principal of the building effectively. The quantity and quality of opportunities for collaboration between the coach and teacher are a key component of effective coaching programs.

The second recommendation specific to the successful design of a coaching program is to define the role of the coach clearly for all stakeholders. Coaches must have their roles clearly communicated and protected to ensure that they have the opportunity to spend their time fulfilling the role they were hired to fill (Neufeld & Roper, 2003b). However, Poglinco and Bach (2004) cautioned that lack of understanding specific to the appropriate roles among coaches, teachers, and principals could become an issue for the coach's effectiveness. Simons (2006) recommended that the clarification of the coaching role must begin with a detailed job description. A clear job description helps the coaches and those they work with to understand this unique position.

Neufeld and Roper (2003b) recommended that when designing a coaching program, a great deal of consideration should be given to ensure that district and building administrators, as well as the coaches, support common reforms in the schools. The coaches' job is unique as they not only have to work effectively with teachers, but they must also with administrators. How the coach interacts with the principal and other administrators can have a significant impact on their work with teachers. Makibbin and Sprague (1993) and Knight (2006) both specified that coaches must not be in a position to evaluate teachers. However, the coach must work closely with administrators to focus on improved teacher and student learning; therefore, effective models clearly define the coach and principal relationship as well.

Knight (2006) recommended that coaches be non-evaluative, but also stated that it is necessary for the coach and principal to work closely to support student learning. Simons (2006) suggested that clarity with regard to the teacher-coach relationship was important not just to the coach, but also to the principal. Simons pointed out that it is

essential that the building principal understand the job of the coach, and more importantly, understand the appropriate benefits and challenges that exist with the position. When designing and implementing a coaching program, teachers, administrators, and coaches must be clear about the role the coach will play in the school.

*Professional development for coaches.* Coaches support teacher and student learning in a variety of ways. However, successful coaching programs must also support coaches by providing them with appropriate professional development. The research continuously highlighted the importance of training coaches. The development of coaches is essential to sustaining effective coaching programs.

Makibbin and Sprague (1993), Neufeld and Roper (2003b), Knight (2006), Simons (2006), and Kowal and Steiner (2007) all identified the training of coaches as a characteristic of effective coaching programs. Kowal and Steiner expressed that a district must invest in ensuring that coaches are provided with the professional development necessary to do their jobs effectively. Such professional development should be specific to coaches and unique to their position. Additionally, Kowal and Steiner suggested that the professional development should provide coaches with a chance to collaborate with other coaches.

Knight (2006) agreed that professional development should focus on coaching practices, but also emphasized the need to support coaches in developing a strong understanding of research-based instructional practices. Simons (2006) focused, instead, on the need to provide support in understanding adult learning theory and being able to differentiate their support to teachers effectively at a variety of experience levels. The

training and professional development provided to coaches is evident in effective coaching models.

*Evaluation.* Evaluation is the final component identified by research as a characteristic of effective coaching models. While the evaluation of any program is important, it is essential to the success of a coaching program because of the numerous roles the coach plays and the investment necessary to sustain a coaching program. Successful coaching programs work to evaluate their coaches and the coaching program.

Knight (2006) identified the importance of having an evaluation system in place to help coaches improve. However, Knight suggested that the evaluation of coaches could be difficult because those being asked to evaluate coaches have probably never been a coach themselves. Therefore, Knight recommended developing the evaluation guidelines and tools through collaboration with the coaches to ensure that the evaluation is appropriate and professional.

Kowal and Steiner (2007) identified key questions that must be asked in evaluating the coaching program. First, do teachers value their coaches? Second, are teachers changing their practices and improving? And third, is student achievement increasing? All three of these questions should be answered to get an accurate picture of the effectiveness of the coaching program. The first of these three questions highlights the need to evaluate a coaching program based on the teacher perceptions of the coaches' contributions.

Purposeful planning by the district prior to implementation, effective professional development for coaches, and evaluations of both the coach and the program are themes that run throughout the research on effective coaching models. Effective coaching models

have the potential to provide high quality professional development to teachers. Therefore, coaching models have been utilized increasingly as a key component in the delivery of professional development to teachers. Through the evaluation of the programs, it is important to determine if the teachers perceive the professional development as effective.

### *Teacher Perceptions of Professional Development Coaching*

Evaluation is a critical component in assessing the effectiveness of coaching programs and professional development. Kowal and Steiner (2007) stressed the importance of evaluation in three areas when evaluating a coaching program: teacher perceptions of the coaches, changes to instructional practices, and student achievement. Guskey (2000) stated that teacher perceptions of professional development activities, as well as of the overall professional development program, must be a part of a district's evaluation of professional development. Recent studies have researched how teachers perceive coaching as a strategy for professional development.

Even-Ascencio (2002) studied the implementation of instructional coaches in relation to the establishment of professional learning communities. Specifically, he studied the perceptions of the coaches, teachers, and administrators regarding the role of the instructional coach in the development of the professional learning community. Even-Ascencio found that if the culture of a school was not ready for the development of a professional learning community, the culture would not be accepting of the contributions of an instructional coach. Even-Ascencio suggested that the success of a coach or coaching program was not based on the coach or the professional development activity, but instead was deeply rooted in the culture, context, and student achievement data of the

school where the coach was assigned. Even-Ascencio concluded that the effectiveness of the model or the coach is significantly affected by the professional environment.

Furthermore, Marzolf (2006), when studying a third-party coaching model that supported whole-school reform, highlighted four key roles of coaches. One of those roles was as a facilitator of staff development. Thirty-eight teachers were interviewed regarding their perceptions of the coaches. Seventy-five percent of the teachers viewed the coach as playing a substantial role in providing helpful professional development activities. Through interviews, teachers reported that professional development was differentiated to a greater variety of needs after the coaches were involved. Additionally, the teachers perceived their professional development was more engaging, focused, and aligned with their priorities. However, some teachers criticized the professional development provided by coaches, suggesting that the coach dominated too much of the conversation and the development reflected a stand-and-deliver model. In conclusion, Marzolf noted that the role most associated with the coaches was that of the facilitator of staff development. It was not only the most highly identified role, but it was also viewed positively by the teachers.

Coggins (2005) studied the impact of the implementation of a coaching strategy that focused on improving teacher practice through internal coaches at the building level and strengthening connections between the central office and the buildings through coaches who were not employees of the district. The type of coaching implemented was reform coaching, but Coggins found the coaches in some cases seemed to serve as a coordinator between levels of the school district, more than a coach of teachers. Coggins found that the internal coaches were much more effective than the external coaches were,

because they were closer to point where the teaching and learning was implemented and they could therefore effectively communicate what was occurring to other stakeholders.

Coggins (2005) also studied the interaction between the internal coaches and teachers. Elementary teachers participated in coaching at 95.7% rate while high school teachers participated at only 22.6%. When teachers were asked to rate the effectiveness of the coaches in their work, teachers valued the coaches' efforts to increase school collaboration as their greatest contribution, at nearly a 55% teacher value rating. Teachers valued the reform work at 52% and felt that coaches supported them in using data at 42%. Overall, the value the teachers found in the coaching varied greatly by level.

### Summary

This chapter reviewed the pertinent literature specific to the present study in the area of professional development and instructional coaching. Professional development was analyzed from a historical context and the characteristics and standards for effective professional development were identified. The importance of evaluating professional development was highlighted, specifically in the area of measuring teacher perceptions, because of the role that teacher perceptions play in evaluating professional development. Coaching was identified as recent model of expanding teacher leadership, and strategies for categorizing different coaching models were shared. Finally, characteristics of effective coaching models were summarized and studies that measured teacher perceptions of professional development provided by coaches were highlighted. In the next chapter, the methodology of the study is described.

## CHAPTER THREE

### METHODS

Chapter three describes the methodology design and the specific procedures the researcher utilized to conduct the study. This chapter contains seven major parts: research design, population and sample, instrumentation, measurement, validity and reliability, data collection procedures, data analysis and hypothesis tests, and limitations. Research design describes the type of research conducted and the rationale and appropriateness of the selection. The present study utilized survey research to determine if a difference was present in teacher perceptions of professional development between a district where a blended coaching model was used, as compared to other school districts across the state.

#### Research Design

The research design section summarizes the method of research utilized in the study. The rationale for the choice is explained and applied to the specific purpose of the current study. In addition, the variables of the study are identified.

The researcher chose a quantitative methodology to conduct the study. More specifically, the study utilized survey research. Gall, Gall, and Borg (2005) defined survey research as “a form of descriptive research that involves collecting information about research participants’ beliefs, attitudes, interests, or behavior through questionnaires, interviews, or paper-and-pencil tests” (p. 180). This study of teacher perceptions focused on teacher perception of professional development as the variable of interest. In the current study, the presence or absence of the unique blended coaching model was the independent variable. The dependent variable was the teachers’ perceptions of professional development.

The researcher chose this type of methodology because it allows a statistical comparison between two samples. The USD 232 teachers ( $N = 425$ ) and a group of randomly selected teachers from across the state of Kansas ( $N = 441$ ) represented the two groups in the study. The methodology allowed the researcher to determine if the presence of a unique blended coaching model in one district caused a difference to exist between USD 232 and the state baseline regarding perceptions of professional development.

One additional reason the researcher chose the methodology of comparing the means on the Standards Assessment Inventory (SAI) was that it allowed a quantitative analysis to be conducted on a topic that has usually been studied qualitatively. This study was made possible because of a study conducted in Kansas by the Kansas State Department of Education, where this unique coaching model exists. The state study provided an opportunity to determine if a difference existed between perceptions of the professional development model in USD 232, where the blended coaching model existed, and perceptions of professional development in other districts across the state.

The researcher utilized survey research to conduct the quantitative study. This methodology enabled the researcher to measure teacher perceptions of professional development and then to compare the two samples through quantitative statistics. The next section describes the population and sample studied.

### *Population and Sample*

Roberts stated that this section should “include a description of the individuals who participated in the study and the procedures used to select them” (2004, p. 134). The following section defines the population and samples for the study. The number of surveys within the population and samples are presented.

Kindergarten through twelfth grade teachers comprised the population of interest for the present study. Two samples were in the study. Respondents to the state survey of professional development comprised the first sample and responding teachers in USD 232 comprised the second sample.

In the first sample, the teacher surveys were submitted as part of a professional development study conducted by the Kansas State Department of Education (KSDE). Every district in the state of Kansas had the option to have staff participate in the SAI survey. The KSDE received 2763 responses from teachers in districts from across the state, excluding USD 232. The sample of teachers included all grade levels, all content areas, and both general education and special education teachers.

The second sample consisted of certified teachers in USD 232 who responded to the survey. The respondents included teachers from all grade levels, kindergarten through twelfth grade, both core and elective subject areas, general education and special education teachers, and teachers from every school building in the district. The KSDE received 425 completed surveys from USD 232. The next section provides the criteria for selecting the samples.

### *Sampling Procedures*

Sampling procedures detail how each of the samples was chosen. This section first addresses the sampling of the teachers from school districts across the state of Kansas. Next, the sampling for the teachers from USD 232 is explained and the rationale for the criteria and procedures is provided.

The sample of teachers from school districts across the state of Kansas was randomly selected by the Statistical Package for Social Sciences (SPSS) software. The

researcher utilized the software to select at random a percentage of the total surveys from across the state. The selection of teachers from across the state was chosen to provide a sample similar in number to the USD 232 sample. The teachers from USD 232 were excluded from the random sample to ensure that respondents were not included in both samples. The goal of randomly selecting the first sample by a percentage was to ensure similar sample sizes for the statistical analysis.

The sample of teachers from USD 232 came from a pool of 560 certified staff members. Within the district, 425 certified teachers submitted surveys to KSDE. All certified teachers, in USD 232, were eligible to complete the SAI and to submit their survey responses to KSDE, as long as

1. The teachers had a teaching certificate or an equivalent on file with the human resources department.
2. As part of their job, they worked in one of the 11 school buildings in USD 232.
3. They worked in the district for the 2008-2009 school year.
4. Their primary responsibility was teaching or instructing students.

The first sample was a random set of teachers who responded to the state survey from school districts across the state. The survey sample was designed to be similar in size to the second sample. The second sample consisted of certified teachers from USD 232 who responded to the state survey on professional development. The two samples were both selected from the data files built by KSDE from its professional development study. The study employed an instrument to measure teacher perceptions of staff development.

### *Instrumentation*

The instrumentation section details the instrument that was used to collect the data. This section describes the instrument that was utilized to collect the teacher perceptions of professional development. The description includes who created the instrument, the content of the instrument, and the rating scale of the instrument.

The researcher chose the Standards Assessment Inventory (SAI), developed by the National Staff Development Council (NSDC) as the instrument to utilize in the study. The SAI measures teacher perceptions of professional development. The items reflect the NSDC standards developed to outline quality professional development. The NSDC standards are organized into three categories: context, process, and content. There are 12 NSDC indicators: three indicators in the context category, six indicators in the process category, and three indicators in the content category. The NSDC provides a definition for each of the 12 indicators. The definitions listed below for the 12 indicators used in this study describe characteristics of how each indicator is used.

*Learning communities.* Organizes adults into learning communities whose goals are aligned with those of the school.

*Leadership.* Requires skillful school and district leaders who guide continuous instructional improvement.

*Resources.* Requires resources to support adult learning and collaboration.

*Data-driven.* Uses disaggregated student data to determine adult learning priorities, monitor progress, and help sustain continuous improvement.

*Evaluation.* Uses multiple sources of information to guide improvement and demonstrate its impact.

*Research-based.* Prepares educators to apply research to decision making.

*Design.* Uses learning strategies appropriate to the intended goal.

*Learning.* Applies knowledge about human learning and change.

*Collaboration.* Provides educators with the knowledge and skill to collaborate.

*Equity.* Prepares educators to understand and appreciate all students, create safe, orderly, and supportive learning environments, and hold high expectations for their academic achievement.

*Quality teaching.* 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.

*Family involvement.* Provides educators with the knowledge and skills to involve families and other stakeholders appropriately (Southwest Educational Development Laboratory, 2003, pp. 16-18).

Each of the 12 indicators has five questions on the SAI, and the questions aligned to each indicator are scattered throughout the survey. The complete survey has 60 questions. The response categories provided on the SAI remain consistent throughout the administration. Respondents are asked to respond to each item on a rating scale that corresponds to a numeric value: *Never* = 0, *Seldom* = 1, *Sometimes* = 2, *Frequently* = 3, or *Always* = 4. The mean score on each of the five items is averaged to establish a mean score for each indicator. An abbreviated sample of the SAI is provided in Appendix B.

The SAI instrument was developed by the NSDC to measure teacher perceptions of professional development against the criteria of the 12 standards. The 12 standards

were summarized and the rating scale for the instrument was documented. The next section establishes the appropriateness of this instrument for the study.

*Measurement.* Measurement establishes why the Standards Assessment Inventory is an appropriate instrument for this study. Information from the developer of the instrument is included. The section summarizes why the researcher chose this specific instrument.

The SAI was appropriate because it measured teacher perceptions of staff development within the context of the NSDC standards. Hirsh (2006) stated, “NSDC Standards Assessment Inventory provides educators with a picture of the quality of their professional development as defined by the NSDC standards and as viewed by a school’s faculty” (p. 63). Additionally, the inventory was designed to measure teacher perceptions of the professional development provided to them against these standards. The Kansas Department of Education also chose the SAI as the instrument for its professional development study because the Kansas State Staff Development guidelines reflect the NSDC standards.

The SAI was appropriate for this study because it was developed to by the NSDC, an internationally recognized leader in staff development research. The survey aligns to a clear set of standards and it was utilized by the Kansas State Department of Education for their professional development study. The validity and reliability of the instrument are established in the next section.

*Validity and reliability.* The section on validity and reliability presents information to display that the instrument used in the study measures what it is intended

to measure. The first portion of the section focuses on reliability. The second portion addresses validity including both content and criterion validity.

For each of the 12 indicators, the SAI is both reliable and valid. The Southwest Educational Development Laboratory collaborated with NSDC to analyze the instrument over a period of 2 years. Reliability is defined as “the degree to which your instrument consistently measures something from one time to another. If you measured the same thing again, would you find the same results?” (Roberts, 2004, p. 136). The NSDC utilized three pilot studies to measure the reliability of the instrument. After the process of measuring the reliability of the SAI, Hirsh (2006, p. 63) stated, “Instrument reliability was consistent and high across all three pilot studies for the overall scale, and consistently good for the 12 sub-scales.” Each sub-scale aligns to an indicator that reflects the NSDC standards. Refer to Appendix C for specific results of validity and reliability testing.

Roberts defined validity as “the degree to which your instrument truly measures what it purports to measure. In other words, can you trust the findings from your instrument are true?” (2004, p. 136). The SAI was analyzed for both content validity and criterion validity. Gall et al. defined content validity as how well “the content of the test’s items matches the content that it is designed to measure” (2005, p. 137). Salkind (2008, p. 389) defined criterion validity as how well a test reflects some criterion that occurs in either the present (concurrent) or future (predictive). Hirsh (2006, p. 166) reported, “The instrument (SAI) demonstrated good content validity through the process of soliciting expert advice on the instrument’s clarity and relevance to the characteristics of each of the standards and to the experiences of school faculties.” The survey had criterion-rated

validity, which indicated that when teachers used the instrument to rate their professional development program using NSDC standards, it was comparable to the ratings of experts studying the same schools using the same instrument (Hirsh, 2006). The summary report of the development process and psychometric properties of the NSDC Standards Assessment Inventory is provided in Appendix C.

The instrument used in the study met standards for both reliability and validity. Specific information about the scores for reliability and validity are included in Appendix B. The next section provides information on the collection of data.

#### *Data Collection Procedures*

Data collection procedures detail the steps taken during the study to gather the data for analysis. The section explains how the researcher received access to the data. The archived data was secured by accessing public records available by request.

The SAI was made available to school districts and data were collected by KSDE in late February and early March of 2009. The survey was completed electronically by teachers, and KSDE collected the results of the survey through the KSDE Department of Research. All data from the SAI were archived by KSDE. The researcher contacted and met with the Director of the KSDE Department of Research and shared the purpose and design of the study. During the scheduled meeting, the researcher was granted permission to work with the KSDE Department of Research to request and receive the data necessary to complete the study. After working with a data analyst at KSDE to specify exactly what data were needed for the study, the data files were provided to the researcher.

The researcher obtained the data from the KSDE Department of Research. All data received had been collected through the professional development study the State of

Kansas had completed in February and March of 2009. Once the researcher received the data files, the data analysis and hypothesis testing were conducted.

### Data Analysis and Hypothesis Testing

This data analysis section chronicles the steps taken to analyze the data in the study to test the hypotheses. The research hypothesis establishes what the study measured. Group statistics that were analyzed are provided and the type of statistical analysis and a rationale of that analysis are explained.

Once the researcher had secured the raw data files from the Kansas Department of Education, the researcher removed the incomplete surveys from the data set. From the completed surveys, the researcher isolated the 425 responses from USD 232. Random samples of 20% of the remaining completed surveys were selected through SPSS software to identify a similar sample size to the USD 232 sample. The state sample consisted of 441 surveys. Additionally, the data reflected the school level of the respondents, which allowed the researcher to report what percentage of the teachers, from each sample, were from elementary, middle, or high schools. The two samples were then analyzed to test the hypothesis. Research hypotheses reflect what the study measures. The research hypothesis for the study is listed below:

$H_A$ : There is a statistically significant difference between teacher perceptions of professional development, as measured by the Staff Development Assessment Inventory at the .05 level of significance, in districts across the state of Kansas and in a district where a blended coaching model exists.

The research hypothesis was addressed with 12 separate hypothesis tests, one for each of the 12 NSDC standards. To test these 12 hypotheses, independent sample  $t$  tests

were conducted to determine if there was a significant difference between the mean scores of teachers from USD 232 and the sample taken from the districts across the state. SPSS software was utilized to test the samples and provide the researcher with group statistics, including the mean and standard deviation on each of the 12 indicators on the SAI. SPSS was utilized to conduct an independent samples test that provided the  $t$  value, degrees of freedom, and  $p$ -value. The researcher's rationale for the  $t$  test was to determine whether a difference existed between the USD 232 group and the state group. An independent samples  $t$  test is appropriate when a researcher examines differences between two independent groups (Salkind, 2008). The researcher set the level of significance at .05, which indicates there is a 5% chance that the researcher will reject the null hypothesis when it is, in fact, true (Salkind, 2008).

The researcher chose to take steps as part of the data analysis to create a random sample of surveys from districts across the state. The group statistics that were analyzed included mean and standard deviation. Additionally, data were gathered on the level of school where the respondents taught. Finally, the rationale was explained to justify the choice of an independent samples  $t$  test to analyze the 12 hypotheses.

#### Limitations

Limitations are characteristics identified by the researcher that may negatively affect the outcome or findings of the study (Roberts, 2004). The researcher identified the following three limitations for this study.

1. Participation in the state study was voluntary; therefore, the data represent only districts that chose to participate in the SAI survey.

2. Respondents to the KSDE survey might not have worked in districts where an instructional coaching model existed. While the unique blended coaching model does not exist anywhere else in the state, the researcher cannot guarantee that the state sample did not include teachers who had the support of coaches in their building.
3. The questions on the SAI focus on the perceptions of teachers regarding their professional development. Many people provide professional development to teachers, in addition to the learning coach. Therefore, the amount of influence that the learning coach had on each certified teacher is impossible to know through the study.

#### Summary

Chapter three described the design and procedures the researcher utilized to conduct the study. The Standards Assessment Inventory was described and the research hypothesis was presented. The survey research conducted compared the means of the two samples through a *t* test of independent variables. Chapter four provides the reader with the results of the statistical analysis to determine if there is a significant difference between the sample of teachers where the blended coaching model existed and the sample of teachers from across the state.

## CHAPTER FOUR

### RESULTS

Chapter four presents the results of the statistical analysis of the data. This chapter provides descriptive statistics and a summary of the results of the hypothesis tests. Finally, a statement regarding the acceptance or rejection of the null hypothesis is provided. These results establish the foundation for the analysis and recommendations in chapter five.

#### Descriptive Statistics and Hypothesis Testing

A sample of teachers in USD 232 and a sample of teachers across the state of Kansas were the two groups whose perceptions of staff development were evaluated and analyzed. The USD 232 sample consisted of 425 certified teachers, which represented 75.8% of the certified teachers in the school district. Further, the sample represented 11 school buildings: two high schools, three middle schools, and six elementary schools. Of the 425 respondents, 29.4% came from the high schools, 30.1% came from the middle schools, and 40.5% came from the elementary schools.

The state sample of teachers, randomly selected from school districts across the State of Kansas, consisted of 441 certified teachers. The sample represented approximately 20% of the teachers who completed the survey statewide, outside of USD 232. In addition, the sample represented between 1 and 37 respondents from 76 school districts across the state. Of the 441 respondents, 30.6% came from the high school level, 20.1% from the middle school level, and 49.3% from the elementary level. The following table reflects the strand mean and standard deviation results for each of the 12 indicators on the survey.

Table 3

*Strand Mean, Standard Deviation, and Significance Results*

Indicator	State Sample <i>N</i> = 441		USD 232 <i>N</i> = 425		<i>p</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Learning Communities	2.2490	.71258	2.2631	.71637	.772
Leadership	3.0327	.73350	3.1332	.73475	.044
Resources	2.6571	.61378	2.6193	.65207	.379
Data Driven	2.7823	.69737	2.8405	.66194	.379
Evaluation	2.2667	.03550	2.3788	.03580	.026
Research-Based	2.8000	.62972	2.8348	.61775	.412
Design	2.7397	.66421	2.7962	.62267	.197
Learning	2.4249	.67663	2.4259	.69634	.984
Collaboration	2.7370	.03373	2.7727	.03396	.455
Equity	3.0893	.58628	3.2386	.49680	.000
Quality Teaching	2.6707	.65829	2.6936	.62990	.601
Family Involvement	2.4522	.73528	2.5412	.72178	.073

*Note.* Survey Scale: *Never* (0), *Seldom* (1), *Sometimes* (2), *Frequently* (3), *Always* (4)

*Hypothesis Tests*

The following paragraphs summarize the results of each of the 12 hypothesis tests. For each of the 12 strands, the summary contains the *t* statistic, degrees of freedom,

and significance. In addition, information about the items is provided, as well as whether there is enough evidence to support the research hypothesis.

Strand 1, learning communities, references “items [that] tap teachers meeting as a community to discuss teaching improvements, observing other teachers’ classrooms, mentoring new teachers, providing collegial feedback on classroom practices, and examining student work” (Vaden-Kiernan, Jones, & McCann, 2009, p. 10). An independent samples  $t$  test was conducted ( $t = .290$ ,  $df = 864$ ,  $p = .772$ ). The analysis failed to produce enough evidence to support the research hypothesis. On average, the responses for USD 232 specific to the learning communities strand were not significantly different from the rest of the state.

Strand 2, leadership, references “items [that] tap principals’ beliefs about teacher learning, teachers’ influence on principals’ decisions, principals’ commitment to teachers’ opportunities to improve instruction, principals’ ability to foster a culture of instructional improvement, and whether the principals are perceived as empowering staff” (Vaden-Kiernan et al., 2009, p. 10). A sample statement on the survey aligned to the leadership strand is “Our principal believes teacher learning is essential for achieving our school goals” (Southwest Educational Development Laboratory, 2003). An independent samples  $t$  test was conducted ( $t = 2.014$ ,  $df = 864$ ,  $p = .044$ ). The analysis provided evidence to support the research hypothesis. On average, the responses for USD 232 specific to the leadership strand were significantly different from the rest of the state. USD 232 teachers responded that these events occurred more frequently in their school than did teachers from the rest of the state.

Strand 3, resources, references “items [that] tap resources available to implement new instructional practices, opportunities to learn new technologies for instruction, availability of substitutes to cover teachers who are engaged in professional development, creativity used to expand human and material resources, and whether school goals determine resource allocations” (Vaden-Kiernan et al., 2009, p. 10). An independent samples *t* test was conducted ( $t = .880$ ,  $df = 864$ ,  $p = .379$ ). The analysis failed to produce evidence to support the research hypothesis. On average, the responses for USD 232 specific to resources strand were not significantly different from the rest of the state.

Strand 4, data-driven, references “items [that] tap teachers’ knowledge on using student improvement data to assess student needs, evaluating the effectiveness of professional development, planning for professional development programs, discussing instruction and curriculum, and analyzing improvements in student learning with other teachers” (Vaden-Kiernan et al., 2009, p. 10). An independent samples *t* test was conducted ( $t = 1.258$ ,  $df = 864$ ,  $p = .379$ ). The analysis failed to produce evidence to support the research hypothesis. On average, the responses for USD 232 specific to the data-driven strand were not significantly different from the rest of the state.

Strand 5, evaluation, references “items [that] tap the design of evaluation prior to professional development, the number of sources used to evaluate professional development, time set aside to discuss professional development experiences, the use of professional development outcomes to plan for future choices, and the use of student performance to evaluate professional development” (Vaden-Kiernan et al., 2009, p. 10). A sample statement on the survey aligned to the evaluation strand is, “at our school, evaluations of professional development outcomes are used to plan professional

development choices” (Southwest Educational Development Laboratory, 2003). An independent samples  $t$  test was conducted ( $t = 2.224$ ,  $df = 864$ ,  $p = .026$ ). The analysis provided evidence to support the research hypothesis. On average, the responses for USD 232 specific to the evaluation strand were significantly different from the rest of the state. USD 232 teachers responded that these events occurred more frequently in their school than did teachers from the rest of the state.

Strand 6, research-based, references “items [that] tap the use of educational research to select professional development programs, the use of research on effectiveness of school improvement efforts to decide on strategies, evidence of improvement programs’ effectiveness for student achievement gains, and the effectiveness of improvement programs in schools with similar student populations” (Vaden-Kiernan et al., 2009, p. 10). An independent samples  $t$  test was conducted ( $t = .821$ ,  $df = 864$ ,  $p = .412$ ). The analysis failed to produce evidence to support the research hypothesis. On average, the responses for USD 232 specific to the research-based strand were not significantly different from the rest of the state.

Strand 7, design, references “items [that] tap teacher learning through a variety of strategies, the design of improvement strategies based on clear outcomes for teacher and student learning, teacher learning as part of the school improvement plan, consideration of teachers’ prior knowledge and experience when designing staff development, and commitment to sufficient time with improvement initiatives to result in changes in instructional practice and student performance” (Vaden-Kiernan et al., 2009, p. 10). An independent samples  $t$  test was conducted ( $t = 1.292$ ,  $df = 864$ ,  $p = .197$ ). The analysis failed to produce evidence to support the research hypothesis. On average, the responses

for USD 232 specific to the design strand were not significantly different from the rest of the state.

Strand 8, learning, references “items [that] tap opportunities to practice new skills, support for implementing new skills, promotion of deep understanding of a topic, learning through a variety of methods, and teachers’ choice of the type of professional development they receive” (Vaden-Kiernan et al., 2009, p. 10). On the strand specific to learning, an independent samples  $t$  test was conducted ( $t = .020$ ,  $df = 864$ ,  $p = .984$ ). The analysis failed to produce evidence to support the research hypothesis. On average, the responses for USD 232 specific to the learning strand were not significantly different from the rest of the state.

Strand 9, collaboration, references “items [that] tap learning about effective ways to work together, structuring time for teachers to work together to enhance student learning, teaching and learning goals dependence on staff ’s ability to work together, leaders encouraging sharing responsibility to achieve school goals, and principal modeling effective collaboration” (Vaden-Kiernan et al., 2009, p. 10). An independent samples  $t$  test was conducted ( $t = .747$ ,  $df = 864$ ,  $p = .455$ ). The analysis failed to produce evidence to support the research hypothesis. On average, the responses for USD 232 specific to the collaboration strand were not significantly different from the rest of the state.

Strand 10, equity, references “items [that] tap adjusting instruction and assessments to meet the needs of diverse learners, showing respect for all of the student subpopulations, expecting high academic achievement for all students, creating positive relationships between teachers and students, and teachers receiving training on curriculum and

instruction for students at different learning levels” (Vaden-Kiernan et al., 2009, pp. 10-11). A sample statement on the survey aligned to the equity strand is, “teachers at our school expect high academic achievement for all of our students” (Southwest Educational Development Laboratory, 2003). An independent samples  $t$  test was conducted ( $t = 4.035$ ,  $df = 864$ ,  $p = .000$ ), and through the analysis the researcher found evidence to support the research hypothesis. On average, the responses for USD 232 specific to the equity strand were significantly different from the rest of the state. USD 232 teachers responded that these events occurred more frequently in their school than did teachers from the rest of the state.

Strand 11, quality teaching, references “items [that] tap teachers having opportunities to gain deep understanding of subjects, professional development models, instructional strategies to be used in classroom, teachers’ use of research-based instructional strategies, professional development teaching effective student assessment techniques, and school administrators engaging teachers in conversations about instruction and student learning” (Vaden-Kiernan et al., 2009, p. 11). An independent samples  $t$  test was conducted ( $t = .523$ ,  $df = 864$ ,  $p = .601$ ). The analysis failed to produce evidence to support the research hypothesis. On average, the responses for USD 232 specific to the quality teaching strand were not significantly different from the rest of the state.

Strand 12, family involvement, references “items [that] tap provision of opportunities to learn how to involve families in children’s education, prioritizing the communication of the school’s mission and goals to families and community, work done by school leaders with community members to help students achieve academic goals, the

principal as a model of building relationships with students' families, and teachers' work with families to help them support student learning at home" (Vaden-Kiernan et al., 2009, p. 11). On the strand specific to family involvement, an independent samples *t* test was conducted ( $t = 1.797$ ,  $df = 864$ ,  $p = .073$ ). The analysis failed to produce evidence to support the research hypothesis. On average, the responses for USD 232 specific to the strand of family involvement were not significantly different from the rest of the state.

### Summary

Chapter four reported the findings of the research study. Descriptive statistics provided information about the two samples. In addition, descriptive statistics and the hypothesis tests were reported for each of the 12 indicators. The results showed that three of the 12 indicators reflected a difference between the two samples. These results are the focus and foundation for the major findings in chapter five, where the findings are then related to the literature.

## CHAPTER FIVE

### INTERPRETATION AND RECOMMENDATIONS

Chapter five provides the reader with an interpretation of the results of the study presented in chapter four. Chapter five contains the major findings, which are related to the literature. Finally, conclusions are drawn through the study's implications, and recommendations for future research are presented.

#### Study Summary

This study was structured to measure teacher perceptions of professional development in a district where a unique blended coaching model existed and to compare those findings to other districts across the state. USD 232, in De Soto, Kansas, implemented a coaching program 5 years ago. The unique coaching model reflected aspects of both content and change coaching. The current quantitative study analyzed whether there was a significant difference between teacher perceptions of professional development where the blended coaching model existed, as compared to teachers from a random sample from across the state of Kansas.

#### *Overview of the Problem*

Many districts continue to develop coaching programs as a way to provide quality professional development to teachers. Neufeld and Roper (2003a) referred to coaching as a promising strategy that districts use to provide quality professional development. While the numbers of coaching programs and models are on the rise, evaluating the programs for effectiveness remains complex. Simons (2006) explained that the lack of consistency among the variety of models implemented has increased the difficulty of studying the effectiveness of coaching as a strategy. The research on the effectiveness of coaching

programs regarding professional development is limited; quantitative studies are especially limited. Qualitative studies based on interviews and focus groups comprise most of the research base specific to the evaluation of coaching programs. Using conversations with those who work in the program, these studies reflected the uniqueness of each coaching model and the characteristics of each school district. However, prior to the present study, there was no quantitative research measuring teacher perceptions of professional development as a means to evaluate a coaching model.

Blended coaching models are unique and reflect characteristics of at least two instructional coaching models. Neufeld and Roper (2003a) identified two types of coaching: change coaching and content coaching. The unique model that was researched in this study was a combination of the two models.

#### *Purpose Statement and Research Question*

The purpose of the study was to measure teacher perceptions of professional development when delivered through a blended coaching model and to compare those perceptions to teacher perceptions of professional development in the state of Kansas. The research question for this study was, “Is there a difference between teacher perceptions of professional development at the state level and in a district where a blended coaching model exists?”

#### *Review of the Methodology*

Survey research was utilized for this study. The Standards Assessment Inventory (SAI) was used to measure the teachers’ perceptions of the professional development provided by learning coaches. The National Staff Development Council (NSDC) designed the survey to align to its standards. The research design allowed comparison of

teacher perceptions of professional development between two different groups. Perceptions of professional development of teachers in USD 232 were compared to the mean of a random sample of teachers from across the state of Kansas. The data provided responses aligned to each of the 12 NSDC standards. The study analyzed data from the same 12 strands specific to teachers from USD 232 data to compare the results and determine if there was a significant difference between the USD 232 sample and the other districts across the state. Statistical Package for Social Sciences (SPSS) software was utilized to provide the researcher with group statistics, including the mean and standard deviation on each of the 12 indicators on the SAI. Additionally, SPSS was utilized to conduct 12 independent samples  $t$  tests that provided the  $t$  value, degrees of freedom, and  $p$  value of significance. The rationale for the  $t$  test was to determine whether a difference existed between the USD 232 sample and the state sample.

### *Major Findings*

The results of the study indicated differences on three strands between the perceptions of teachers where the blended coaching model existed and the sample of teachers across the state. Of the 12 strands, the three strands that showed a difference were leadership, evaluation, and equity. In each of these strands, the USD 232 teacher perceptions suggested that the events cited on the survey occurred more often in USD 232 than they did in other districts from the state sample. Therefore, it can be reasonably concluded that teachers in USD 232 viewed their professional development more favorably in the three areas identified than did teachers across the state. In the other nine strands, there was not a significant difference between the teachers in USD 232 and the teachers from the state sample. The nine strands that did not show a difference were

learning communities, resources, data-driven, research-based, design, learning, collaboration, quality teaching, and family involvement.

### Findings Related to the Literature

The findings of this study are related to the research specific to professional development. The National Staff Development Council (NSDC) developed the Standards Assessment Inventory to measure teacher perceptions of their professional development on each of their 12 standards. The NSDC (2001) standards are separated into three categories: context standards, process standards, and content standards. The researcher identified three standards showing a significant difference between the teachers in USD 232 and the random sample of teachers from across the state: leadership, evaluation, and equity. Each came from a different category: leadership (context), design (process) and equity (content).

A significant difference did not exist between the two samples on the strand identified as learning communities. This finding supports the research of Even-Ascencio (2002), who found that the presence of coaching did not necessarily guarantee the development of effective professional learning communities. Neither the coaching model studied in Even-Ascencio's study nor the blended coaching model seemed to enhance the establishment of learning communities.

The responses of teachers on the topic of evaluation aligned with the research of Guskey (2000) because the items connected to the evaluation indicator reflected the critical levels of evaluation, referenced in chapter two, from Guskey's research. Results suggest USD 232 teachers perceive that evaluations of professional development exist and that the evaluations are analyzed. For instance, the SAI survey asked teachers to

respond to how often evaluations were developed prior to professional development activities and whether professional development was evaluated by a variety of sources (Vaden-Kiernan et al., 2009). The SAI survey results showed that USD 232 teachers perceived the events aligned to the evaluation of professional development to be happening more frequently than did the teachers from the state sample.

In the evaluation strand, statements on the survey were specific to evaluations of professional development goals being utilized for future professional development offerings and teachers having an opportunity to discuss what they had learned during their professional development. Teachers were asked on the SAI survey whether the evaluations of professional development were related to professional development goals and whether teachers had an opportunity to discuss the activities in between professional development sessions (Vaden-Kiernan et al., 2009). The findings suggest that teachers in USD 232 perceived that these events occurred more frequently in their schools than did the sample of teachers from schools across the state.

These perceptions were counter to the findings in the Spicer (2008) study, whose participants reported their professional development was fragmented, not sustained, and not connected to a larger professional development plan. The Spicer study did not refer to coaches being present in the buildings where the teacher perceptions of staff development were measured. However, in the Marzolf (2006) study, external coaches were present. Teachers in the Marzolf study recognized that professional development was more engaging, focused, aligned with priorities, and differentiated when coaches were involved in the professional development.

This section related the findings of this study to the current research base on professional development. Overall, in analyzing the findings of the study, with one exception, the findings seemed to align with much of the research on professional development. The next section concludes the study by focusing on implications for action and recommendations for future research.

## Conclusions

### *Implications for Action*

This research provides information to schools or districts that are considering the creation of a coaching program or that are trying to evaluate their current program. While only three of the 12 standards showed a significant difference, the difference each time suggested that teachers more positively viewed their professional development where the blended coaching model existed. No standards showed a significant difference where the USD 232 teachers viewed their professional development less favorably than did teachers across the state. The standards that did not show a difference should be analyzed further to determine if the blended coaching model is falling short in any areas that the program was developed to enhance, such as supporting teachers in analyzing data, implementing research-based instructional strategies, or promoting collaboration. Analysis of all the standards should provide information that can be utilized by school districts that are planning to implement a coaching program or that already have a coaching program. However, the implications for action primarily focus on the three standards that showed a significant difference: leadership, evaluation, and equity.

First, in the strand of leadership, USD 232 teachers viewed their administrators more favorably regarding the support and professional development they received where

this unique blended coaching model was present. Teacher perceptions in USD 232 on the survey events that were aligned to leadership were significantly different from those from districts across the state. Leadership addressed how teachers viewed their principal's support for teacher learning, ability to foster a culture of instructional improvement, and willingness to empower the staff (Vaden-Kiernan et al., 2009). The teachers in USD 232 viewed these events as occurring more often in their buildings than did teachers in districts across the state. It is possible that the coaches contributed to this perception because of the conduit of communication the coaches provided between the teachers and the administration ("What Does a Learning Coach Do?" 2007). The responsibilities of the learning coach reference contact and communication with both teachers and administrators. This interaction may have helped the coach to support both teachers and administrators in focusing on a student learning. Districts should recognize the implications a blended coaching model may have on how teachers view their principal specific to instructional leadership. The blending coaching model may enhance the role of the principal as an instructional leader. Therefore, districts should consider implementing a blended coaching model as one strategy to enhance the principal's role as an instructional leader within the school.

Second, there was a statistically significant difference between the two samples on the events specific to the strand associated with evaluation of professional development activities. Evaluation addresses the development of evaluations prior to the activities, whether time is set aside for teachers to discuss their experiences, and how evaluations are used for future planning (Vaden-Kiernan et al., 2009). The USD 232 teachers perceived these events to occur more frequently than did teachers from the

random sample of teachers in districts across the state. The coaches in USD 232 played a significant role in the planning and evaluation of professional development (“What Does a Learning Coach Do?” 2007). This role may contribute to ensuring that objectives and evaluations were developed prior to the occurrence of the professional development. Districts should not ignore the positive impact of coaches on the evaluation and planning of the professional development program. Furthermore, districts should consider the implementation of a blended coaching model as a strategy for developing and implementing a coherent, job-embedded, and ongoing professional development program. Many districts invest significant resources in professional development, and districts should consider this study to assess what impact having coaches may have in ensuring that professional development is effective.

Third, there was a statistically significant difference between the two samples on the events specific to the strand associated with equity. The USD 232 teachers perceived that the events associated with the strand of equity occurred more often than did the sample of teachers from districts across the state. Equity addressed how the professional development supported teachers in handling diverse learners, having high expectations for all students, and establishing a culture of respect throughout the school (Vaden-Kiernan et al., 2009). The blended coaching model may have contributed to the self-efficacy of teachers by providing them with opportunities and suggestions through professional development on how to meet the needs of all students. This support from the coach and colleagues helped teachers feel confident about their ability to meet the needs of all students. The unique blended coaching model supported a culture of high expectations for student learning, and their support empowered teachers in finding ways

to meet the needs of diverse learners. Districts should consider the impact this support for teachers might have on the development of their teachers, and ultimately, on the achievement of their students.

These findings should support schools or districts in determining if a blended coaching program is appropriate for their individual situations. The findings could also help districts or buildings to determine how teachers might accept or value having this type of coaching model in their schools. Specifically, this research could help to inform both teachers and principals of the possible benefits of having a coach in their buildings. Ultimately, the findings provide districts and schools with additional information about the impact that a blended coaching model may have on the success of professional development.

#### *Recommendations for Future Research*

While the present research was unique in that it was specific to a blended coaching model and was quantitative in nature, additional research is necessary to mirror and assist in evaluating the increased number of coaching programs being implemented within the education community. Future studies should extend the research to measure the impact of coaching programs. Following are three recommendations for future research.

First, this study should be extended by pairing the quantitative methodology with a qualitative methodology. Teachers could be interviewed after the data from the SAI are collected to isolate the specific role that teachers see for the blended coaches in the context of their building. The results would allow the research, through both quantitative and qualitative methods, to identify the contributions of the coach that led to the

differences found in the survey data. Ultimately, these findings should extend to student achievement. Specifically, the research should focus on whether student achievement is higher in schools where the teachers perceive coaches as making a positive contribution.

Second, this study could provide a foundation for research that examines more deeply the teacher perceptions of principals where coaching programs exist. The research could explore whether perceptions are more positive for a specific reason, or try to determine if having a coach present in a school makes a principal more effective. Such a study should go beyond the discussion of the roles of each to determine if principal leadership is actually enhanced because of the presence of a coach.

Third, the results of the survey showed that the strand of equity reflected the most significant difference in the perceptions of the teachers. The difference on the equity strand should be explored further. Future research could evaluate these perceptions further by measuring the self-efficacy of teachers in schools where a blended coaching model exists. These recommendations provide ideas that could lead to additional and purposeful research specific to the impact of coaching programs.

### Concluding Remarks

This study contributed to the growing research on instructional coaching programs. The investment to develop and sustain such programs is significant, but the investment in professional development and the potential growth of teachers is even greater. The common component in each of the significant strands in this study indicates a clear alignment to a culture that is focused on teacher and student learning. The presence of this particular coaching model seems to help teachers and administrators stay focused on student learning. The findings provide evidence that the presence of a blended

coaching model contributes to a culture where teachers have high expectations for both their learning and student learning. In addition, the presence of a coach with both change and content responsibilities supports the premise that the relationship between teachers and administration is enhanced specific to professional development. While coaching is a recent development and every program and environment is unique, the blended coaching model provides a model to support teachers and to develop the culture necessary to improve the quality of teacher and student learning.

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APPENDIX A

NATIONAL STAFF DEVELOPMENT COUNCIL STANDARDS

## Context Standards

Staff development that improves the learning of all students:

- Organizes adults into learning communities whose goals are aligned with those of the school and district. (Learning Communities)
- Requires skillful school and district leaders who guide continuous instructional improvement. (Leadership)
- Requires resources to support adult learning and collaboration. (Resources)

## Process Standards

Staff development that improves the learning of all students:

- Uses disaggregated student data to determine adult learning priorities, monitor progress, and help sustain continuous improvement. (Data-Driven)
- Uses multiple sources of information to guide improvement and demonstrate its impact. (Evaluation)
- Prepares educators to apply research to decision making. (Research-Based)
- Uses learning strategies appropriate to the intended goal. (Design)
- Applies knowledge about human learning and change. (Learning)
- Provides educators with the knowledge and skills to collaborate. (Collaboration)

## Content Standards

Staff development that improves the learning of all students:

- Prepares educators to understand and appreciate all students, create safe, orderly and supportive learning environments, and hold high expectations for their academic achievement. (Equity)

- 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. (Quality Teaching)
- Provides educators with knowledge and skills to involve families and other stakeholders appropriately. (Family Involvement)

## APPENDIX B

## SAMPLE QUESTIONS FROM THE STANDARDS ASSESSMENT INVENTORY

# NSDC Standards Assessment Inventory

**Directions:** Thank you for taking the time to complete this survey. It is best to complete this survey alone. When marking your responses, please fill in bubbles completely. You may use either a pen or pencil. Completing this survey will take about 15-20 minutes.

Please mark the responses that most accurately reflect your experiences at your school.

*National Staff Development Council's Standards Assessment Inventory*  
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	<i>Never</i>	<i>Seldom</i>	<i>Sometimes</i>	<i>Frequently</i>	<i>Always</i>
1. Our principal believes teacher learning is essential for achieving our school goals.	⓪	①	②	③	④
2. Fellow teachers, trainers, facilitators, and/or consultants are available to help us implement new instructional practices at our school.	⓪	①	②	③	④
3. We design evaluations of our professional development activities prior to the professional development program or set of activities.	⓪	①	②	③	④
4. Our school uses educational research to select programs.	⓪	①	②	③	④
5. We have opportunities to practice new skills gained during staff development.	⓪	①	②	③	④
6. Our faculty learns about effective ways to work together.	⓪	①	②	③	④
7. Teachers are provided opportunities to gain deep understanding of the subjects they teach.	⓪	①	②	③	④
8. Teachers are provided opportunities to learn how to involve families in their children's education.	⓪	①	②	③	④
9. The teachers in my school meet as a whole staff to discuss ways to improve teaching and learning.	⓪	①	②	③	④
10. Our principal's decisions on schoolwide issues and practices are influenced by faculty input.	⓪	①	②	③	④
11. Teachers at our school have opportunities to learn how to use technology to enhance instruction.	⓪	①	②	③	④
12. Teachers at our school learn how to use data to assess student learning needs.	⓪	①	②	③	④
13. We use several sources to evaluate the effectiveness of our professional development on student learning (e.g., classroom observations, teacher surveys, conversations with principals or coaches).	⓪	①	②	③	④

APPENDIX C  
RELIABILITY AND VALIDITY OF THE STANDARDS ASSESSMENT  
INVENTORY

## Reliability

Reliability refers to the consistency of measurement. With respect to measuring the degree of adherence of a school’s professional development program to the NSDC standards, we examined the reliability (or consistency) of the SAI for measuring the various components that characterize the standards. Reliability was investigated using Cronbach’s alpha (Cronbach, 1971), which is a measure of the internal consistency of an instrument. Internal consistency assesses the extent that all items in a scale (or all items within subscales) correlate with each other. An alpha coefficient ranges from 0 to 1. Higher coefficients indicate higher levels of instrument consistency. Both overall reliability and subscale reliability were assessed on the SAI. Overall instrument reliability was consistent and high across all three pilot studies achieving an alpha coefficient of .98 in each study (see Table 1). This analysis also showed stability, or consistency for the SAI as a measurement tool across the three pilot studies.

**Table 1**  
**Overall Instrument Reliability**

	$\alpha$	N/Items	N/Cases
<b>Pilot #1</b>	.98	100	411
<b>Pilot #2</b>	.98	63	444
<b>Pilot #3</b>	.98	60	297

**NOTE:**  $\alpha$  = coefficient alpha; N = number.

Subscale reliability was also analyzed to examine how well the items in each subscale grouped together and differed from items in other subscales. Alpha coefficients ranged from .71 to .92, signifying good to strong subscale reliability across the three pilot studies (see Table 2). While smaller coefficients are seen for the third pilot study, they still indicate good reliability and may be an effect of the smaller sample size for that pilot study. The analyses also indicate stability, or consistency in measurement across the three pilot studies.

**Table 2**  
**Subscale Reliability**

	<b>Pilot #1</b>	<b>Pilot #2</b>	<b>Pilot #3</b>
<b>Learning Communities</b>	.89	.84	.79
<b>Leadership</b>	.84	.89	.85
<b>Resources</b>	.76	.83	.71
<b>Data-Driven</b>	.84	.92	.84
<b>Evaluation</b>	.77	.84	.81
<b>Research-Based</b>	.86	.90	.84
<b>Design</b>	.86	.90	.83
<b>Learning</b>	.87	.88	.80
<b>Collaboration</b>	.87	.91	.83
<b>Equity</b>	.88	.86	.77
<b>Quality Teaching</b>	.86	.88	.81
<b>Family Involvement</b>	.88	.85	.76

**NOTE:** Reported scores = alpha coefficients.

## Validity

Examining the validity of an instrument answers the question of whether the instrument is a true measure of what it claims to be measuring. Several types of validity are appropriate to investigating the soundness of the SAI for measuring the adherence of schools' professional development programs to NSDC standards. The three types of validity discussed for this instrument are content, criterion-related, and construct validity.

### Content Validity

Content validity refers to how well the items on the SAI represent the practices of good professional development programs as outlined in the NSDC standards. According to Allen & Yen, "Content validity is established through a rational analysis of the content of a test, and its determination is based on individual, subjective judgment" (1979, p.95). As discussed in the above sections on item construction and procedures, the process for refining the SAI item content included rewording and clarifying items to reflect the most accurate description of the NSDC standards according to NSDC experts. Discussions were held between experts and ES instrument developers to ensure that the developers clearly understood the intent of the standards. Teacher-reviewers provided input on how teachers would perceive and interpret the items, and suggested wording and other changes. Continued input of this nature was solicited by the developers during each pilot study of the instrument. Content validity for the SAI was achieved through this process.

### Criterion-Related Validity

A second type of validity that was examined was criterion-related validity, which is an appropriate assessment "when scores can be related to a criterion" (Allen & Yen, 1979, p. 97). This analysis assessed the degree to which the SAI responses by school staff compared to an external measure or criterion (expert raters) of the extent to which schools' professional development programs adhered to the NSDC standards. A discriminant function analysis was performed on each set of pilot data to examine evidence of criterion-related validity. Discriminant function analysis is a process that results in the creation of groups – in this case, high or low with respect to adherence of a school's professional development program to the NSDC standards. It then reveals how well a measure categorizes the variable. In this analysis teacher school ratings were categorized and compared to the expert school ratings.

As noted earlier, individuals with knowledge about various pilot schools' professional development programs and the NSDC standards were asked to rate the schools (high, medium, low) on the extent to which the programs demonstrated an alignment with various components of the standards. School scores, as rated by experts, were divided into two groups (high/low) because few experts scored school professional development programs as low. Since most were rated medium or high, the two naturally occurring categories were used and were dichotomized as "high" and "low" for analyses. Ratings were totaled for each school and then schools were classified into two groups divided at the 50<sup>th</sup> percentile. Expert scores that fell below the 50<sup>th</sup> percentile were categorized as "low," and those above the 50<sup>th</sup> percentile as "high."

For purposes of the discriminant function analysis, only cases with a complete set of ratings were used. In pilot study #1, the original sample size was 535. However, 166 cases were excluded from the analysis because of missing data resulting in a total sample for the analysis of 369. For pilot study #2, the original sample size was 444 with 68 cases being excluded due to missing data. In pilot study #3 the original sample size was 364 and 75 cases were dropped due to missing data. Missing data were randomly scattered throughout the groups (high/low) and showed no discernable patterns in non-responses. Table 3 displays the range of expert ratings and the number in the high and low groups for each pilot study.

**Table 3**

	<b>Range: Expert Rating Total Score</b>	<b>N – High Group</b>	<b>N – Low Group</b>
<b>Pilot #1</b>	69-118	130	239
<b>Pilot #2</b>	42-126	185	191
<b>Pilot #3</b>	41-126	150	139

**NOTE:** N = number.

**Pilot Study #1.** The discriminant function analysis showed statistically significant mean differences between the high and low groups (Chi-square:  $X^{2(12)} = 53.36$ ,  $p < .001$ ). Subsequently, the correlation matrix was analyzed to determine which subscales significantly discriminated between the groups.<sup>1</sup> Correlations on nine of the instrument subscales achieved statistical significance at a moderate level, reliably separating the high and low groups: Learning Communities, Leadership, Resources, Research-Based, Design, Learning, Collaboration, Equity, and Quality Teaching. In other words, expert ratings and school staff ratings were in line with each other on these nine subscales as evidenced by statistically significant correlation coefficients. Table 4 displays these findings.

The discriminant function analysis also provided a classification index; that is, it indicated how well group membership (high/low – as rated by experts) was predicted by teachers’ school ratings. Each teacher rating was compared to the expert’s rating for a given school. As shown in Table 5, approximately 88% of the time (210 of 239), teacher ratings correctly classified their school, which is 38% over what would occur merely by chance. However, high group membership was correctly classified only 40% of the time (52 of 130), which is 10% lower than what would occur by chance. This finding may have resulted from a lack of clarity or relevance of some of the items (which had limited refinement at this point), or from the nature of the sample (which was positively skewed, having more low expert ratings than high). However, as will be seen in the analyses of

<sup>1</sup> Correlations range between +1.00 and –1.00. The closer a correlation coefficient is to absolute 1, the stronger the association. Cohen (1988) provided a scale for interpreting correlation coefficients as follows: .01-.03 = small, .03-.05 = moderate, greater than .05 = large. Hopkins (2003) extends the interpretation to include .05-.07 = large, .07-.09 = very large, .09-1 = nearly perfect to perfect.

pilot studies 2 and 3, the classification rate improves. The stability of these findings was checked through a cross-validation sample. This was a random sample of the data that was rerun to replicate/validate the results. The cross-validation confirmed stability at  $\pm 4\%$ .

**Table 4**  
**Group Means and**  
**Correlation Coefficients of Expert Rating and School Staff Ratings**

<b>Instrument Subscales</b>	<b>High Group Means</b>	<b>Low Group Means</b>	<b>Correlation Coefficients</b>
<i>Learning Communities</i>	67.13	62.34	.50*
<i>Leadership</i>	43.96	42.04	.32*
<i>Resources</i>	44.34	41.70	.44*
<i>Data-Driven</i>	40.74	39.55	.20
<i>Evaluation</i>	19.97	19.12	.22
<i>Research-Based</i>	44.96	42.04	.43*
<i>Design</i>	32.84	31.00	.38*
<i>Learning</i>	35.34	32.73	.45*
<i>Collaboration</i>	48.43	46.21	.33*
<i>Equity</i>	69.37	66.74	.36*
<i>Quality Teaching</i>	33.31	31.42	.42*
<i>Family Involvement</i>	44.09	44.34	-.03

**NOTE:** \* =  $p < .01$ .

**Table 5**  
**Classification Index**

		<b>Predicted Group Membership</b>			
		<b>Low</b>	<b>High</b>	<b>Total</b>	
<b>Original Sample</b>	<b>Low</b>	<b>210</b> (87.9%)	29 (12.1%)	239 (100%)	
	<b>High</b>	78 (60.0%)	<b>52</b> (40.0%)	130 (100%)	
<b>Cross-validated Sample</b>		<b>Low</b>	<b>High</b>	<b>Total</b>	
	<b>Low</b>	<b>206</b> (86.2%)	33 (13.8%)	239 (100%)	
	<b>High</b>	82 (63.1%)	<b>48</b> (36.9%)	130 (100%)	

**Pilot Study #2.** The discriminant function analysis showed statistically significant mean differences between the high and low groups (Chi-square:  $X^{2(12)} = 57.33$ ,  $p < .001$ ). The correlation matrix was subsequently analyzed to determine which subscales significantly discriminated between the groups. All of the subscales achieved statistical significance indicating that expert ratings and school staff ratings were comparable in designating high or low status on the schools' professional development programs. The three subscales that emerged as the best predictors for distinguishing between high and low

adherence to the standards were Data Driven, Design, and Learning Communities. These results are shown in Table 6.

**Table 6**  
**Group Means and**  
**Correlation Coefficients of Expert Rating and School Staff Ratings**

<b>Instrument Subscales</b>	<b>High Group Means</b>	<b>Low Group Means</b>	<b>Correlation Coefficients</b>
<i>Learning Communities</i>	30.68	26.09	.80*
<i>Leadership</i>	29.38	25.96	.64*
<i>Resources</i>	31.94	27.95	.73*
<i>Data-Driven</i>	28.08	23.52	.84*
<i>Evaluation</i>	20.69	15.25	.57*
<i>Research-Based</i>	27.61	24.07	.72*
<i>Design</i>	33.64	28.96	.81*
<i>Learning</i>	27.41	23.86	.71*
<i>Collaboration</i>	34.84	30.95	.63*
<i>Equity</i>	30.16	27.07	.70*
<i>Quality Teaching</i>	28.34	24.63	.76*
<i>Family Involvement</i>	25.64	22.52	.62*

**NOTE:** \* =  $p < .001$ .

The classification index (of group membership as rated by experts) indicated that membership in the low group was correctly classified by teacher ratings approximately 59% of the time (112 of 191), which is 9% over what would occur merely by chance. High group membership was correctly classified approximately 70% of the time (129 of 185), which is 20% higher than what would be expected by chance. The stability of these findings was checked through cross-validation and was confirmed at  $\pm 3\%$ . These results are displayed in Table 7.

**Table 7**  
**Classification Index**

		<b>Predicted Group Membership</b>			
		<b>Low</b>	<b>High</b>	<b>Total</b>	
<b>Original Sample</b>	<b>Low</b>	<b>112 (58.6%)</b>	79 (41.4%)	191	(100%)
	<b>High</b>	56 (30.3%)	<b>129 (69.7%)</b>	185	(100%)
<b>Cross-validated Sample</b>	<b>Low</b>	106 (55.5%)	85 (44.5%)	191	(100%)
	<b>High</b>	60 (32.4%)	125 (67.6%)	185	(100%)

**Pilot Study #3.** The discriminant function analysis showed statistically significant mean differences between the high and low groups (Chi-square:  $X^{2(12)} = 43.25$ ,  $p < .001$ ). The correlation matrix was subsequently analyzed to determine which subscales significantly

discriminated between the groups. Only two of the subscales achieved statistical significance indicating that expert ratings and school staff ratings were comparable in designating high or low status on the schools' professional development programs for those two subscales. The two subscales that emerged as the best predictors for distinguishing between high and low adherence to the standards were Equity and Resources. These results are shown in Table 8.

**Table 8**  
**Group Means and**  
**Correlation Coefficients of Expert Rating and School Staff Ratings**

<b>Instrument Subscales</b>	<b>High Group Means</b>	<b>Low Group Means</b>	<b>Correlation Coefficients</b>
<i>Learning Communities</i>	18.77	18.47	-.03
<i>Leadership</i>	24.72	24.83	.10
<i>Resources</i>	22.95	23.47	.31*
<i>Data-Driven</i>	20.38	19.03	-.11
<i>Evaluation</i>	18.57	17.38	-.09
<i>Research-Based</i>	20.02	19.49	.03
<i>Design</i>	20.99	20.26	.03
<i>Learning</i>	19.73	18.89	.11
<i>Collaboration</i>	23.00	22.75	-.002
<i>Equity</i>	22.93	24.31	.43**
<i>Quality Teaching</i>	20.13	19.77	.02
<i>Family Involvement</i>	18.44	19.40	.26

**NOTE:** \* =  $p < .05$ ; \*\* =  $p < .01$ .

The classification index (of group membership as rated by experts) indicated that membership in the low group was correctly classified by teacher ratings approximately 68% of the time (95 of 139), which is 18% over what would occur merely by chance. High group membership was correctly classified approximately 68% of the time (102 of 150), which is also 18% higher than what would be expected by chance. The stability of these findings was checked through cross-validation and confirmed stability at  $\pm 6\%$ . These results are displayed in Table 9.

**Table 9**  
**Classification Index**

		<b>Predicted Group Membership</b>		<b>Total</b>
		<b>Low</b>	<b>High</b>	
<b>Original Sample</b>	<b>Low</b>	<b>95 (68.3%)</b>	44 (31.7%)	139 (100%)
	<b>High</b>	48 (32.0%)	<b>102 (68.0%)</b>	150 (100%)
<b>Cross-validated Sample</b>	<b>Low</b>	<b>86 (61.9%)</b>	53 (38.1%)	139 (100%)
	<b>High</b>	52 (34.7%)	<b>98 (65.3%)</b>	150 (100%)

**Summary of Pilot Studies #1, #2, and #3.** As seen from the above discussion and tables, the discriminant function analyses detected statistically significant differences between high and low groups in all three pilot studies. These analyses also indicated where school staff ratings and expert ratings were comparable (i.e., which subscales) for both high and low groupings of schools’ demonstration of components of the NSDC standards in their professional development programs. Subscale correlations differed, as did the strength of correlations for subscales across pilot studies (Table 10 displays a comparison of the subscale correlations across the three pilot studies). Since the twelve subscales represent each of the twelve NSDC standards, this finding is not unexpected. Schools often differ in their emphasis on particular aspects of their professional development programs, perhaps due to school/administrator focus and/or differing levels of available resources. It is also noteworthy that most of the correlations in Pilot Study #3 were small with only a few reaching a moderate level. These findings may be a result of the small sample size in this pilot study. However, a 4<sup>th</sup> pilot study is planned and the results of the analyses will aid in clarifying previous pilot study findings. Nevertheless, the discriminant function analyses on the three sets of pilot data show acceptable support for the criterion-related validity of the SAI.

**Table 10**  
**Comparison of Subscale Correlations**  
**for Pilot Studies #1, #2, and #3**

Pilot #1		Pilot #2		Pilot #3	
Learning Communities	.50	Data-Driven	.84	Equity	.43
Learning	.45	Design	.81	Resources	.31
Resources	.44	Learning Communities	.80	Family Involvement	.26
Research-Based	.43	Quality Teaching	.76	Learning	.11
Quality Teaching	.42	Resources	.73	Data-Driven	-.11
Design	.38	Research-Based	.72	Leadership	.10
Equity	.36	Learning	.71	Evaluation	-.09
Collaboration	.33	Equity	.70	Learning Communities	-.03
Leadership	.32	Leadership	.64	Design	.03
Evaluation	.22	Collaboration	.63	Research-Based	.03
Data-Driven	.20	Family Involvement	.62	Quality Teaching	.02
Family Involvement	-.03	Evaluation	.57	Collaboration	-.002

### Construct Validity

Allen and Yen define construct validity as “the degree to which [a test] measures the theoretical construct or trait that it was designed to measure” (1979, p. 108). The SAI was developed to measure the extent to which schools’ professional development programs adhere to the NSDC standards. The NSDC standards are asserted to be “best practices” for school professional development programs and consist of twelve areas of focus.

The construct validity of the SAI was examined by performing a factor analysis on each set of pilot data to determine if the items separated into twelve distinct “factors,” or areas

of focus. This would be expected if the items well-characterized the standards and if there are indeed twelve independent standards. Using a principal components analysis and varimax rotation procedures, eigenvalues of one or greater were used as the criteria for factor extraction. In the first pilot data set, a seven-factor structure accounted for approximately 54% of the total variance. For the second pilot data set, a six-factor structure emerged accounting for approximately 67% of the total variance. A five-factor structure, accounting for about 59% of the total variance was found in the third sample. These findings suggest that there are only five to seven distinct categories that are represented by the SAI items.

Ideally, the reproduction of a structure pattern of twelve factors would have indicated that there were twelve separate categories/areas of focus that the SAI items represented. However, the data analyses suggest that only five to seven areas exist. These results may indicate that the items need to be revised to better reflect the focus of each of the standards. However, it is more likely that several of the NSDC standards overlap with one another. To investigate this explanation, a careful examination of the factor loading patterns is required. In addition, the wording of the standards should be examined for overlapping descriptions, and a solution might perhaps rest in the consolidation of some of the standards to more succinctly embody the critical elements of “best practices” for school professional development programs.

## Conclusion

This report discussed the instrument development process and the results from tests of reliability and validity in three pilot studies. Reliability was investigated using Cronbach’s alpha (Cronbach, 1971) and found to be consistent and high across all three pilot studies for the overall scale, and consistently good for the 12 subscales. These findings indicated that the SAI is a reliable measurement tool.

Several types of validity were examined to assess the soundness of the SAI as a measure of the degree to which schools’ professional development programs demonstrate an alignment with components of the NSDC standards. The SAI demonstrates good content and criterion-related validity. Expert advice during the development process and refinement of item content was solicited to ensure that the instrument would clearly reflect various actions or activities relevant to each standard and the experiences of school staffs.

Criterion-related validity is supported by the results of discriminant function analyses. Teacher ratings and expert ratings of the degree that the components of schools’ professional development programs reflected the NSDC standards were comparable for schools grouped as both low and high in adhering to the standards.

Construct validity for the SAI was not supported by the twelve-factor model suggested by the NSDC standards. Factor analyses indicated a five to seven factor model as most appropriate. These findings suggest that overlap exists within the twelve subscales of the

SAI and that a further examination of the model of the NSDC standards should be undertaken.

While issues regarding construct validity need further investigation, the analyses of the psychometric soundness of the SAI indicate that it is a reliable and valid measure of the degree that schools' professional development programs reflect the actions/activities set out in the NSDC standards.

APPENDIX D

CORRESPONDENCE WITH KANSAS STATE DEPARTMENT OF EDUCATION

**From:** Phyllis Clay [mailto:pclay@ksde.org]  
**Sent:** Tuesday, May 19, 2009 1:59 PM  
**To:** Bret Church; Ron Wimmer  
**Subject:** RE: Follow-Up to Our Phone Conversation

Bret, I apologize this is so late. Just received the raw data from NSDC's vendor for DeSoto. The district reports (on line) are not yet available – they are making some last minute changes to them.

The responses are as follows:

0 = Never  
 1=Seldom  
 2=Sometimes  
 3=Frequently  
 4=Always

The questions are attached (one of them is listed by indicator)

Hope you have time to do something with it!  
 Phyllis

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August 17<sup>th</sup>, 2009

Dr. Foster,

Thank you again for getting back to me today; I appreciate your willingness to help me. I have been looking on the website for the appropriate request for data form, and the only one that I can find is specific to identifiable student data. In this case since it is teacher data and unidentifiable data, would I fill out the same request? If not could you send me the appropriate request for this type of data?

Previously, when I met and worked with Phyllis, I was under the impression that she would be sending me the additional data within the last couple months. However, I understand the amount of transition currently occurring. I am trying to graduate in December, and this data is the last piece of the puzzle for me to write my last couple chapters, so if there is anything I can do to expedite the process please let me know.

I apologize for the confusion and appreciate your time, I know it is valuable.

Bret Church

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August 18<sup>th</sup>, 2009

Tom Foster has assigned me to fulfill your data request. As a result of staff re-assignments I have not been successful in finding your original request. Please contact me via email or phone and I will be happy to personally provide you with the data you need on an expedited basis. I completely understand your need to complete your thesis and graduate in December.

Michael L Wallis  
 Kansas State Department of Education  
 Research and Evaluation

APPENDIX E

INSTITUTIONAL REVIEW BOARD (IRB) REQUEST AND APPROVAL



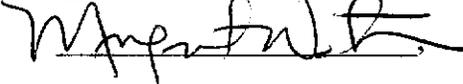
SCHOOL OF EDUCATION  
GRADUATE DEPARTMENT

Date: 8/21/09  
IRB PROTOCOL NUMBER \_\_\_\_\_  
(IRB USE ONLY)

IRB REQUEST  
**Proposal for Research**  
**Submitted to the Baker University Institutional Review Board**

**I. Research Investigator(s)** (Students must list faculty sponsor first)

**Department(s)**      School of Education Graduate Department

- | Name                            | Signature  |                  |
|---------------------------------|--|------------------|
| 1. <u>Dr. Elizabeth Sanders</u> |  | Faculty Sponsor  |
| 2. <u>Peg Waterman</u>          |  | Research Analyst |
| 3. <u>Dr. John Laurie</u>       |  |                  |
| 4. <u>Dr. Lowell Martinie</u>   |  |                  |

Principal Investigator: Bret Church  
Phone: 913-322-8988  
Email: [bachurch@spgsmail.bakeru.edu](mailto:bachurch@spgsmail.bakeru.edu)  
Mailing address: 5807 Lakecrest Drive  
Shawnee, KS 66218



Faculty sponsor: Dr. Elizabeth Sanders  
Phone: 913-344-1227  
Email: [esanders@bakeru.edu](mailto:esanders@bakeru.edu)

Expected Category of Review:  Exempt     Expedited     Full

**II: Protocol Title**

The Effect of a Blended Instructional Coaching Model on Teacher Perceptions of Professional Development

**Summary**

The following summary must accompany the proposal. Be specific about exactly what participants will experience, and about the protections that have been included to safeguard participants from harm. Careful attention to the following may help facilitate the review process:

**In a sentence or two, please describe the background and purpose of the research.**

The purpose of this study is to measure the professional development perceptions of teachers, in De Soto USD 232. This study measures teacher perceptions of professional development in a district where a blended coaching model is used to provide professional development. The blended coaching model combines both change and content coaching. Change coaches concentrate on building the capacity of the whole school to focus on learning. Content coaches engage teachers in curricular and discipline-based instructional coaching. The study will compare the perceptions of professional development in the De Soto school district where this unique blended coaching model exists, versus the baseline of the rest of the state. Benefits to this study are to increase the body of research in the area of professional development and coaching. The findings could provide evidence that facilitates informed decision making with regards to the design and implementation of professional development models.

**Briefly describe each condition or manipulation to be included within the study.**

There is no condition or manipulation, however, some teachers taking the survey had access to professional development through the blended coaching model and others did not. The study compares the two groups using a survey research design and utilizing archived data from a study conducted by the Kansas State Department of Education.

**What measures or observations will be taken in the study? If any questionnaire or other instruments are used, provide a brief description and attach a copy.**

Professional development perceptions were measured by the Staff Development Assessment Inventory (SAI). The Kansas State Department of Education (KSDE) made this survey available state-wide during the 2008-2009 school year. For a comparison, the data gathered will be collected from KSDE both for the teachers from USD 232 as well as the state-wide data minus USD 232. KSDE is using the SAI for an analysis of the professional development being provided in districts where there is a high performance on the state assessments. The questions from the survey are attached.

**Will the subjects encounter the risk of psychological, social, physical or legal risk? If so, please describe the nature of the risk and any measures designed to mitigate that risk.**

The subjects will not encounter any psychological, social, physical or legal risk in this study.

**Will any stress to subjects be involved? If so, please describe.**

No stress will be experienced by any of the subjects in this study.

**Will the subjects be deceived or misled in any way? If so, include an outline or script of the debriefing.**

The subjects will not be deceived or misled in any way in this study.

**Will there be a request for information that subjects might consider to be personal or sensitive? If so, please include a description.**

The data gathered from the teachers involved in this study will only reflect their answers from the SAI, and their primary organizational level teaching assignment, ie...elementary, middle, or high school. There will be no information that delineates from which district the data is gathered or that identifies the district in any way. The one exception will be the data gathered specifically from USD 232 – De Soto. The data gathered from USD 232- De Soto will simply have the raw data and the level at which the teacher is assigned, either elementary, middle, or high school. The data will not include teacher or building names.

**Will the subjects be presented with materials that might be considered to be offensive, threatening, or degrading? If so, please describe.**

The subjects will not be presented with materials that might be considered offensive, threatening, or degrading for this study.

**Approximately how much time will be demanded of each subject?**

No time will be demanded of the subjects. The researcher is utilizing archived data that has already been collected through the professional development study conducted by KSDE.

**Who will be the subjects in this study? How will they be solicited or contacted? Provide an outline or script of the information which will be provided to subjects prior to their volunteering to participate. Include a copy of any written solicitation as well as an outline of any oral solicitation.**

The subjects in this study are all K-12 teachers in the state of Kansas. The SAI was an online assessment and the directions that accompanied the assessment were specific to the study that KSDE was completing. There will be no additional solicitation.

**What steps will be taken to ensure that each subject's participation is voluntary? What if any inducements will be offered to the subjects for their participation?**

All districts had the option of participating or not participating in the original KSDE study. No additional participation will be necessary for this study.

**How will you ensure that the subjects give their consent prior to participating? Will a written consent form be used? If so, include the form. If not, explain why not.**

Subjects will not be contacted for this study and therefore a written consent is not necessary. Both the state department and district have been aware of the study.

**Will any aspect of the data be made a part of any permanent record that can be identified with the subject? If so, please explain the necessity.**

No data will be made a part of any permanent record from this study.

**Will the fact that a subject did or did not participate in a specific experiment or study be made part of any permanent record available to a supervisor, teacher or employer? If so, explain.**

Archived data will be used for this research study. No data, from this study, will be made a part of any permanent record.

**What steps will be taken to ensure the confidentiality of the data?**

All data given to the researcher will remain confidential and will only be reviewed by the researcher.

**If there are any risks involved in the study, are there any offsetting benefits that might accrue to either the subjects or society?**

There are no risks to this research study.

**Will any data from files or archival data be used? If so, please describe.**

Yes, all data used is archival data collected from the Kansas State Department of Education.

01 September 2009

Bret Church  
5807 Lakecrest Drive  
Shawnee, KS 66218



**BAKER**  
UNIVERSITY

Dear Mr. Church:

The Baker University IRB has reviewed your research project application (M-0071-0809-0901) and approved this project under Exempt Review. As described, the project complies with all the requirements and policies established by the University for protection of human subjects in research. Unless renewed, approval lapses one year after approval date.

The Baker University IRB requires that your consent form must include the date of approval and expiration date (one year from today). Please be aware of the following:

1. At designated intervals (usually annually) until the project is completed, a Project Status Report must be returned to the IRB.
2. Any significant change in the research protocol as described should be reviewed by this Committee prior to altering the project.
3. Notify the OIR about any new investigators not named in original application.
4. Any injury to a subject because of the research procedure must be reported to the IRB Chair or representative immediately.
5. When signed consent documents are required, the primary investigator must retain the signed consent documents for at least three years past completion of the research activity. If you use a signed consent form, provide a copy of the consent form to subjects at the time of consent.
6. If this is a funded project, keep a copy of this approval letter with your proposal/grant file.

Please inform Office of Institutional Research (OIR) or myself when this project is terminated. As noted above, you must also provide OIR with an annual status report and receive approval for maintaining your status. If your project receives funding which requests an annual update approval, you must request this from the IRB one month prior to the annual update. Thanks for your cooperation. If you have any questions, please contact me.

Sincerely,

A handwritten signature in black ink, appearing to read 'Marc L. Carter'.

Marc L. Carter, PhD  
Chair, Baker University IRB

CC: Elizabeth Sanders