REVEALING AND DEALING WITH THE "MESSY STUFF": THE ROLE OF NEEDS ASSESSMENT IN IDENTIFYING, NEGOTIATING AND PLANNING FOR COMPLEX DISTRICT LEARNING NEEDS

By

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ABSTRACT OF THE DISSERTATION

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Excellent teaching is key to improving schools (Haycock, 1998; Darling-Hammond, 2000; Taylor & Pearson, 2002), and effective professional development can have a positive impact on teaching practice (Borko, 2004). In order for it to be effective, professional development should be grounded in what we know about adult learners (Drago-Severson, 2011). In particular, adults need learning experiences that are relevant and based on their accurately-defined needs (Knowles, Holton, & Swanson, 2005). Identifying and addressing those needs can be a complicated social endeavor that is shaped by contextual influences and competing interests. While researchers agree that conducting a systematic needs assessment can significantly impact the overall effectiveness and quality of professional development (Goldstein & Ford, 2002; Kraiger & Auginis, 2001; McGehee & Thayer, 1961), effective needs assessments are rarely conducted as part of the planning process (Clarke, 2003; Taylor, 1998). If school leaders are to see needs assessment as a critically important tool for planning PD, and if they are to be prepared to deal with the layered and diverse learner needs and interests that emerge during the process, there is a need for research that describes how others have done so. The

purpose of this dissertation was to examine how one district used needs assessment to identify, negotiate, and plan for complex learner needs, and to examine the impact of contextual factors on the needs assessment and planning processes.

This case study used data originally collected by a K-12 school district as part of a needs assessment designed to inform its PD plan. Multiple data collection methods, including observations, document review, and interviews, were utilized by the district as part of the needs assessment and were later analyzed for this study using a systems thinking framework.

Findings showed that although the needs assessment was conducted without much incident and revealed a range of learning needs, leaders were constrained by contextual factors in their ability to address all needs. A systems thinking model for needs assessment in schools is proposed as a resource for dealing with the complexities of needs assessment and PD planning.

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DEDICATION

To my father, Edward Anthony Joseph, Sr., my first and best teacher

Every day, I'm more aware of how blessed I am to be your daughter. I miss you more than words can say but I know that, even from heaven, you're smiling and proud.

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CHAPTER 1: INTRODUCTION

School improvement is likely one of the most complicated and pressing issues facing our nation today (Mehta, Hess, & Schwartz; 2012). Educational reform agendas are increasingly prevalent and bring with them a sense of urgency for improving the quality of schools, classroom instruction and, ultimately, student achievement (Day & Sachs, 2004). School systems are charged with providing every child with a high-quality education and preparing them to perform the complex work of college and career, tasks that require deep levels of understanding and critical thinking. With globalization and advancements in technology have come increasingly complex problems, whose solutions require citizens capable of innovation and flexibility. Consequently, in this high-stakes climate of new and rigorous national academic standards and assessments, educators must prepare learners to perform in contexts and at levels unlike those previously expected of students in K-12 schools. These new expectations are “aligned with college and work expectations, include rigorous skills and content, and are informed by other top performing countries" (National Governors Association Center for Best Practices & Council of Chief State School Officers, 2010). Achieving these ambitious learning targets is no easy task, given the diverse needs, experiences, resources, challenges, practices, and other variables that are represented in classrooms, schools, and communities. It is no wonder that school reform remains at the center of public attention, and that a plethora of improvement initiatives have made their way to schools in the form of programs, policies, and laws (Bower, 2006). Despite the attention, reform efforts have yielded mixed results and there has yet to emerge

from research or practice a clear solution to addressing the issues that plague school systems.

In the school improvement literature, however, teachers' instructional practice is identified as one of the most significant factors impacting student learning. In other words, research suggests that good teaching matters and quality educators are the key to educational reform (Haycock, 1998; Darling-Hammond, 2000; Taylor & Pearson, 2002). Undoubtedly, high quality teaching is complex and draws on a multifaceted, complicated, and fluid set of skills (Bransford, Darling-Hammond &LePage, 2005; Ball & Cohen, 1999). Clearly, if teachers are to be able to acquire, refine, and effectively deploy them in order to produce sustained gains in student learning, they need adequate professional learning opportunities to enhance, at a minimum, their pedagogical skill and content knowledge (Elmore, 2002; Garet, Porter, Desimone, Birman& Yoon, 2001; Hawley &Valli, 1999). In essence, professional development is the way to equip teachers to respond successfully to the increasing and constantly evolving demands they face in the current educational environment. Ideally, professional learning should encourage and enable teachers to open up alternatives and introduce new and "potentially transformative" ways of thinking (Cranton& King, 2003, p. 34). Well-designed professional development can influence teacher practice and improve student performance (Borko, 2006; Lieberman & Wilkins, 2006), but designing and implementing attainable and sustainable programs for teacher learning is a significant challenge.

Decisions about the design of professional development should be influenced by several factors: the goals for learning, characteristics of the learners, their comfort with the learning process, their familiarity with the

content, the magnitude of the expected change, their work environment, and resources available to support learning (Cobb, McClain, Lamberg, & Dean, 2003; Little, 1994; Kruse, Louis, &Bryk, 1995; McLaughlin & Talbert, 2001; Lee, 2005; Garet et al., 2001; Learning Forward, 2011). Professional development should also be responsive to teachers' personal and professional needs (Learning Forward, 2011). While the quality of professional development provided is obviously of utmost importance, it is also critical that those needs are determined with accuracy if the PD is going to be effective and have a significant impact on learning (Igarashi, Suveges, & Moss, 2002). Needs assessment, the process of identifying and prioritizing performance needs in order to design appropriate interventions to address those needs (Kaufman, 1986, 1994; Rossett, 1987; Rothwell & Kazanas, 2004), is vital for planning professional development that will meet its educational goals and objectives, and for gathering data on which program designers can base decisions regarding PD program content, format, delivery mode, and audience (Queeney, 1995). Given the current high stakes and challenging context of public education, school leaders' ability to design high quality professional learning programs is more crucial than ever. Assessing teachers' learning needs through a needs assessment and planning a PD program to address those needs is not as simple and linear a process as may be described in research. Even though the literature consistently identifies characteristics of effective professional development programs, implementation of these interventions in schools does not often yield the anticipated results. Many reform efforts place PD as a central factor in improving schools. "One of the most persistent findings from research on school improvement is, in fact, the symbiotic relationship between

professional development and school improvement efforts. . . The two processes are so tightly woven that their effects are almost impossible to disentangle" (Hawley & Valli, 1999, p. 129). Despite the emphasis on school improvement and professional development initiatives, results of these efforts have been mixed (Vernez, et al., 2006; Banathy, 1991).

Bower (2003) surmises that the lack of success with improvement efforts can be attributed to strategies and approaches that ignore the history, structures and natural internal dynamics of schools, and do not take into account the manner in which schools function as complex systems. "Many problems with school reform stem from continuing to use mechanistic views to examine parts of problems rather than the whole and the context" (Bower, 2003, p.62). Mechanistic approaches are based on logic models of program planning, which depict a predictable " single, linear causal path of inputs, processes, outputs, outcomes, and impact" (Rogers, 2008, p.33) that imply that, once a resource or intervention is provided, planned activities can be accomplished, performance will be improved, and clients will benefit from the intervention (Kellogg, 2004). Simple logic models are often inappropriate for understanding and planning in education because their assumptions are too linear. Such models leave out other interacting factors that contribute to the observed outcomes, such as the implementation context, concurrent programs, and the characteristics of participants (Rogers, 2008). When leaders look to literature for examples of PD models, if the designs are based on simplistic logic models, the information is not as useful to those looking to replicate the intervention in their own contexts. Programs and interventions are oftentimes unsuccessful because researchers and practitioners fail to holistically view the

school system and consider the complex interactions among system components in determining needs that have an impact upon the interventions' successes and failures. This study uses a systems approach to holistically examine needs assessment implementation in a school district, and to focus on the ways in which stakeholders, data collection methods, and other system characteristics influence and are influenced by each other. I approached the understanding and examination of needs assessment and program planning in this way to allow others who are interested in implementing and studying needs assessment to take into account how contextual factors might impact implementation in different environments. Being able to do so increases the likelihood of successful implementation of needs assessment initiatives.

Viewing Complex Interactions through Systems Thinking

Systems thinking, a framework for seeing patterns and interrelationships in a complex system (Senge, 2000), allows for more complete understanding of complex processes than linear approaches because it focuses on the interaction of multiple components and on both the whole and the parts to form a more complete understanding of the system (Dyehouse, et al p. 188). Additionally, systems thinking offers tools for understanding the ways in which interventions and programs can be introduced, sustained, and used to improve schools (Keshavarz, et al., 2010). It allows school leaders to analyze the school system holistically and to strategically consider alternatives and outcomes (King & Frick, 1999).

In light of all of the attention on school change, if progress is to be made and improvement achieved, there must be a change in how school leaders view the relationships between problems and solutions. Cabrera (2006) suggests that

our thinking about system improvement must evolve towards a systems viewpoint, and states that practitioners should seek to learn more about the impact that components have on changing the behavior of the system. If school leaders are to successfully select, design, and implement professional development interventions to improve their schools, they must be able to learn from cases in which programs have previously been enacted and consider the host of contextual factors that yielded those particular results. Then, school leaders must be able to evaluate their own system's dynamics which include the multifaceted relationships between various stakeholders, and the often conflicting needs, interests, and perspectives they hold. Leaders must foresee the potential influence of specific interventions on the school's behavior, and be careful not to exacerbate the very issue at the root of the improvement effort (Forrester, 1978).

The purpose of this case study is to explore, using Systems Thinking as a theoretical framework, one K-12 district's design and implementation of a needs assessment initiative that was developed to inform the planning of a professional development program. This research will focus on the specific context within which the initiative was enacted, and examine how the needs assessment process and program planning were influenced by the contextual factors. Program Planning Theory will provide a basis for looking at the ways in which school leaders uncovered, negotiated, and addressed the needs and interests of various stakeholders during the needs assessment and program planning processes. Systems thinking as a framework will provide the tools that allow us to make sense of these complicated and political endeavors by making

visible the interactions that take place between stakeholders within their internal school system.

A system can be defined as “a complex set of interacting components together with the relationships among them that permit the identification of a boundary-maintaining entity or process” (Laszlo &Krippner, 1998, p.7). Ackoff (1999) provides a simpler definition when he describes a system as a set of two or more interdependent, interacting components that are so connected that independent subgroups of them cannot be formed, and the behavior of each has an effect on the behavior of the whole. As such, schools, businesses, and other human endeavors are systems (Senge, 2006). Schools are open systems in that they interact with their environments and structure themselves to deal with forces in the world around them (Lunenberg, 2010; Scott, 2008). A closed system, by contrast, is sufficiently independent to solve its own problems through its own internal forces and without taking into account the external environment (Lunenberg, 2010, p. 1).

Systems can be further categorized based on the degree of their complexity and the degree to which cause-and-effect relationships can be predicted (Kesharvarz et al., 2010). A simple system is comprised of a small number of interacting components that behave according to very simple laws (Rickels, Hawe, & Shiell, 2007). A complicated system can have many interacting components that make its behavior not simple, but still relatively predictable (Rickels, Hawe, & Shiell, 2007). On the other hand, complex systems are highly intricate, comprised of very large numbers of mutually interacting components whose patterns of interactions are unpredictable and, over time, "result in rich, collective behavior that feeds back into the behavior of

the individual parts" (p.2). Complex systems can be adaptive, meaning they are able to respond to environmental changes or changes in its interacting parts, or non-adaptive or non-changing (Axelrod & Cohen, 2000). Schools can be most accurately classified as complex adaptive systems; complex in that they are diverse and made up of multiple interconnected elements, and adaptive in that they have the capacity to change and learn from experience (Axelrod & Cohen, 2000; Keshavarz et al., 2010; Senge, 2006).

The complex adaptive system of schools is made up of embedded subsystems, each with its own system dynamic and patterns of behavior. “There are three nested systems at play, all deeply embedded in daily life, all interdependent with one another, and all with interwoven patterns of influence. These systems—the classroom, the school, and the community—interact in ways that are sometimes hard to see but that shape the priorities and needs of people at all levels” (Senge, 2000, p. 11). Hargreaves (2010) likens the functioning of such multilayered systems to "dynamic and complex webs of interactive loops, where small changes often have complex and unforeseen effects" (p.76). Fortunately, by understanding the patterns that shape system behavior, we can avoid intervention designs and other actions “that, in many instances, feed our problems and cause us to fail” (AASA Center for System Leadership, 2008, p.9).

System dynamics, or system-wide patterns of behavior, emerge during the interaction of system components and shape the system's behavior over time (Forrester, 1969). Understanding the dynamics of a system is essential to any efforts to change the behavior and functioning of the system. This is especially true in the case of school improvement initiatives. The design,

implementation, impact, and result of an intervention such as a needs assessment and the resulting PD program, are inextricably related to the dynamics of the system within which it is enacted (Patton, 2008; Hargreaves, 2010). The more complex, interactive, and unstable the dynamics of a situation or intervention, the more helpful it is to use systems thinking in planning, implementing, and evaluating that intervention (Hargreaves, 2010; Wasserman, 2010).

Systems thinking is also useful for studying the actual process of implementation of change initiatives in schools, because it can help form a more complete picture of what happens during the implementation, how and why it happens, and what transpires after or as a result of the initiative. When the system under study involves human behavior and interactions, systems thinking is particularly beneficial as a general frame of inquiry because of "its concern with the holistic and integrative exploration of phenomena and events" (Lazlo & Krippner, 1998, p.7). For that reason, in seeking to fully understand and illustrate the behavior of a school system as it engaged in the multifaceted process of needs assessment and program design, a systems approach makes possible the in-depth "process of analyzing, designing, producing, evaluating, and implementing instructional systems or components thereof" (Molenda, 1987, p. 3). This research study, consequently, relies upon a systems approach as an analytic framework through which this case of needs assessment can be deeply understood.

Needs Assessment: The Neglected Part of Planning

Conducting a comprehensive needs assessment can significantly impact the overall effectiveness and quality of training and development programs (Goldstein & Ford, 2002; Kraiger & Auginis, 2001; McGehee & Thayer, 1961). As a result, planners of professional development in K-12 public schools are clearly encouraged and, in some cases, required to include needs assessment in district PD plans (Learning Forward, 2011; USDOE, 1996). These mandates, however, rarely include guidelines for selecting, conducting, and using needs assessment to design professional development programs, nor do they prepare professional development planners and designers for the challenges that emerge during the process of conducting a needs assessment. What little guidance there is emphasizes that there is no one most appropriate way to conduct a needs assessment and suggests organizations choose assessment measures that most appropriately fit their goals and culture. This suggestion seems to take too lightly the challenge of doing so with little technical know-ho, or understanding of the impact that choice of method has on the needs assessment process. Not surprisingly, school leaders often shy away from doing needs assessment because of an underestimation of its importance, leaders' insecurity about conducting "research", and the perception that the process will be costly and complicated (Queeney, 1995).

Another factor in the underutilization of needs assessment is that sometimes organizational leaders feel they already know the source of and solutions to the problem they have targeted for professional development (Russ-Eft & Preskill, 2009). Additionally, the purpose and role of needs assessment are often misunderstood by staff members who may fear the impact of the

findings. Because little is known about how needs assessments can be designed and implemented to benefit all levels of the organization, and without guidelines for its practical application, needs assessment for the purpose of designing professional development is rarely done; when it is, it is often poorly implemented (Knox, 2002; Hill, 2004; Pennington, 1980). However, there is little likelihood that school leaders can provide the types of professional learning programs that will meet the challenging, unique, and varied needs of teachers and, by extension students, without the data acquired from a well-conducted needs assessment.

Professional development planners have been generally left to figure out implementation of needs assessment on their own. They tend to do so in simplistic ways, perhaps because the literature on needs assessment, a significantly complex endeavor, is too often described in a simplistic and linear manner that inhibits implementation in diverse contexts because the descriptions fail to account for the sociopolitical and cultural factors that influence the evaluation process (Clarke, 2003). Additionally, differing notions among stakeholders of what constitutes need, and beliefs about the relationship between needs, interests, wants, lacks, and deficiencies can further complicate the process. Understandably, schools and other organizations view the process of conducting needs assessments as a daunting one. If school leaders could develop a better understanding of how needs assessments have been conducted within environments similar to theirs, and become cognizant of issues that may influence the process, needs assessment is likely to be seen as more practicable and, as a result, may become more frequently and effectively utilized. Systems thinking is a means to gaining the perspective required to do so. Even though

the needs assessment for the case used in this study was not designed using a systems approach, systems thinking approach can be used to analyze and learn from it as a way to design other needs assessment in similar contexts for similar purposes. Systems thinking provides a tool for exploring what happened in a specific context and why, and yields a better understanding of how needs assessments are designed and to what end. This understanding can have a significant impact on a school leader's ability to anticipate the outcome of introducing certain components of a needs assessment and it can serve to enhance decision making during the program planning process.

A Systems Framework for Viewing the Needs Assessment Process

Needs assessment can be viewed as a developmental or formative evaluation particularly when it is conducted as part of the process of developing a professional development program (Sleezer, Kelsey & Wood, 2008; Rus-Eft & Presskill, 2001; Scriven, 1991). In fact, Patton (1994) uses the term "developmental evaluation" to describe the collaborative practice between evaluators and program designers of gathering and analyzing data during the design process, a description which sounds very similar to needs assessment. Although the term "evaluation" can mean any type of judgment, Williams (2002), defines it as "seeking to answer accurately, validly and usefully the following three questions: What happened (or is happening)? So what? Now what?" (p.3). Indeed, these questions are at the heart of a needs assessment implemented to contribute to the design of professional development. Furthermore, the very process of identifying needs involves making value judgments about a desired state of performance, the current performance of individuals and groups of stakeholders within the school district, and the

difference between the two (Sork; 1998, 2001). Moreover, when determining professional learning needs, subjective evaluations are made regarding which individuals or groups within the district are "doing it right", and which are not performing adequately. Likewise, determining which needs get prioritized and warrant the investment of professional development resources requires leaders to make judgments about needs and any intervention options that may be employed to address them. In short, a needs assessment used to design professional development is a type of evaluation (Gupta, Sleezer, & Russ-Eft, 2007; Scriven, 1991). Therefore, I will rely upon the evaluation literature, and often refer to it as such, to add to the discussion of needs assessment in this research.

Russ-Eft and Preskill (2005) cite three critical factors that are often overlooked when evaluating programs like professional learning series. Evaluation, like needs assessment, occurs in a complex, dynamic, and fluid environment; evaluation is inherently a political activity; and evaluation needs to be implemented in a purposeful, planned, and systematic manner. When these factors are not considered in planning and implementing needs assessment or evaluation, the results may be invalid or useless (Clarke, 2003; Russ-Eft & Preskill, 2005). To acknowledge these critical factors and ensure that the program meets the learning needs of teachers, students, and the school at large, it is important that the assessment be conducted within a systems framework (Russ-Eft&Preskill, 2005; McClelland, 1992). Such a framework takes into account the dynamic manner in which social, political, and cultural variables may affect not only the design of the needs assessment but its implementation and how its findings are used. Variables that influence

the execution of a needs assessment and subsequent utilization of its results include internal factors such as school culture, leadership, and evaluator characteristics, as well as external factors like legal requirements, consumer expectations, and technology. A Systems Model of Evaluation (Russ-Eft & Preskill, 2005) is an example of a framework that centers on the complexity of evaluation and can be applied within schools. It can be useful in planning, implementing, and examining needs assessment through a systems approach, which maintains that any process or function within an organization is impacted by an external environment that is shaped by variables, such as laws, technology, and competition. Many times, these variables influence how the learning needs of individuals within the organization are perceived (Russ-Eft&Preskill, 2005). A Systems Model of Evaluation provides a structure and language to describe, analyze, grapple with, and understand the complex activity that transpired in the district throughout the evaluation procedure. The needs assessment being studied in this research will be described using the systems model.

Negotiating Complexity in Evaluation and Program Planning

The typical approach to program planning often follows a linear, prescribed, four-step pattern of assessing training needs, setting learning objectives, selecting learning activities, and evaluating whether the objectives were achieved (Rosof & Felch, 1986; Brookfield, 1985; Sork, 1990). Likewise, evaluation is too often viewed through a logic model, based on assumptions of linear relationships between resources, activities, and outcomes (Dyehouse, 2009). However, such approaches do little to capture the complex relationships within larger, multifaceted programs, and they ignore the politics inherent in

program planning and the influence of the external and internal environment on the process (Altschuld&Witkins, 2002; Cervero & Wilson, 1994). Traditional logic models may be too limiting to appropriately interpret program effects in a complex system (Dyehouse, 2009 p. 189).

However, systems thinking provides a lens for understanding the decisions of program planners, particularly decisions about the allocation of resources; the definition, identification, and prioritization of needs; who receives the training and development; and how voices of individuals and groups are represented during the planning process (Ayers, 2011; Sork, 2001; Queeney, 1995; Davidson, 1995 Queeney, 1995). Since adult educators and adult learners are motivated by a variety of goals and may envision success in different ways, even defining "what should be" and the subsequent identification of needs is a value-laden, subjective process (Queeney, 1995, Sork, 2001). The process of identifying needs is messy and can have a contentious affect on the relationship between the evaluator and the evaluated. "When we consider that evaluation frequently surfaces conflicts in values and interests, and that evaluation often leads to changes that some may or may not welcome, we can appreciate why some may be leery of formal evaluation processes" (Russ-Eft & Preskill, 2009, p.113). The process is essentially "a political enterprise in which the negotiation of power and interests is paramount" (Igarashi, Suveges, & Moss, 2002, p. 59) Balancing power relationships is, in and of itself, complicated enough. In addition to those challenges, Senge (2006) confirms that deeply examining the functioning and needs of any system will unearth substantial complexity that will have to be managed in the needs assessment is to be successfully implemented. The tools

of systems thinking, such as models and causal loop diagrams, can allow for more explicit analysis of the components of the system and can be used to more precisely represent and interpret the program, as well as guide program understanding and modification (Dyehouse, 2009).

It is challenging to successfully design and implement school improvement interventions. However, because of the multiple variables that influence the process, and in light of the presence of multiple stakeholders with potentially disparate interests and conceptions of need, school leaders must work to identify and negotiate such complexities if they are going to be able to effectively design and implement quality programs of professional learning for teachers (Taylor, O'Driscoll, & Binning, 1998). Before they can be negotiated, however, these factors must be unearthed and acknowledged through the systematic planning and implementation of needs assessment. Leaders must be able to take into account the intricate relationships that exist between system components and anticipate the potential benefits and challenge that specific programmatic decisions may have on the system as a whole, as well as on its components. If we are to encourage the use of this critically important tool, educators need to have a clear and comprehensive picture of how needs assessment can be conducted and to what end. They need to know more about the contexts in which needs assessment has been conducted, how system dynamics influence the needs assessment process, including implementation, use of the results, and subsequent program planning. This knowledge and information will prove valuable as leaders face decisions about design and implementation of needs assessment in their own school systems.

School leaders could benefit from the case studies of organizations that have implemented needs assessment (McLean, 2000). A strength of the case study approach is it holistically describes complex social events through analysis of a range of complex cause and effect relationships (Reilly & Lind, 2010). Therefore, cases in which school districts have employed needs assessment as an integral part of planning educational programs for adult learners can provide much needed guidance to others in the field seeking to enhance the design of professional development and foster teacher learning. Such examples, especially those that give attention to the challenges and complexities that emerge during the process and illustrate how organizations manage these challenges, are useful in helping leaders fully understand the process and guide their decisions in implementing a needs assessment in their own districts. Because case study research is done by giving special attention to completeness in observation, reconstruction, and analysis of the case under study (Zonabend, 1992), it is a useful methodology for learning about implementing needs assessment by describing one in detail. It provides the "type of context-dependent knowledge which makes it possible to move from the lower to the higher levels in the learning process" (Flyvbjerg, 2001, p. 71). The case study can serve as a guide for what to do and what not to do. This guidance would be decidedly valuable and timely, for needs assessment that appropriately account for complexity by taking a systems approach can "revolutionize the program development process" and help the educational leader work through complex decisions associated with designing effective and responsive professional development plans (Queeney, 1995).

Statement of the Problem

Needs assessment is a data collection and analysis activity that should underpin professional development design, but little is known about how planners conduct and use needs assessment to inform planning, particularly in terms of identifying, prioritizing, and addressing the diverse and layered needs and interests of various stakeholders within complex organizations. The existing body of literature does not offer much guidance beyond a general consensus on the importance of needs assessments and normative prescriptions about how programs should carry them out. A majority of the program planning literature prescribes what planners should do while ignoring the reality of what they actually do (van Loo & Rocco, 2006; Glardy, 2008). There are no empirical studies that actually describe the implementation of a needs assessment or that examine how the planning process is, in turn, influenced by the cultural and political context within which it is conducted (McLean, 2000). Furthermore, the needs assessment literature is markedly lacking in studies that address the implementation of needs assessments in K-12 school districts. There is a need for more research, particularly case studies, that document the actual implementation of needs assessments in organizations (Sleezer, Kelsey, & Wood, 2008). Studying these cases can help point to how to address the complex nature of needs assessment—how needs assessments are used, how needs are defined and addressed across various levels of the organization, how methods are selected and utilized, who gets to participate in the process, what planning decisions are made as a result of the needs assessment, and how political and sociocultural influences shape the assessment and planning initiatives. This information is imperative in helping planners consider their

own systems and make more informed decisions in designing initiatives in their schools.

This study illustrates some of the challenges of actually implementing needs assessment and describes how they were addressed in one situation. Although the experience of the needs assessment process in this case study cannot be generalized, it may provide some guidance in helping others to develop a deeper understanding of potential challenges and begin to anticipate possible approaches to addressing them. Nevertheless, Stake (1995) contends that the value of a case study is in offering readers thick description of the case and context so that they may draw their own interpretations about the specifics of the case and the transferability of the findings to their particular contexts.

Design and implementation guidance has been notably absent from the research literature but is much needed by practitioners who seek to design learning experiences based on actual expressed needs of participants, rather than intuition, external assessments of need, or the results of a simple survey which tend to keep needs assessment on the surface of the system. According to program evaluation research, understanding the context in which the case is situated is essential to comprehend the texture and experience of the system under investigation and to explain its workings. Responsiveness to the context is a key determinant of the success or failure of innovation. Consequently, understanding the relationship between context and the intervention is critically important. This case study, with its focus on context and systems thinking, will provide data that helps school leaders design needs assessment interventions and plan professional development programs that truly have the

potential to help teachers meet the current demand for complex thinking and problem solving skills.

Purpose of the Study

This dissertation study begins to address the dearth of literature which acknowledges the complex nature of needs assessment and program planning and the need for informative descriptions by examining the case of a K-12 public school district whose leaders utilized needs assessment to identify, prioritize, and address various district learning needs. Given the lack of research describing the needs assessment process in complex organizations such as a school district, there is little known about what the implementation of an actual needs assessment looks like, how the information from the assessment is used, and how staff members participate in the process.

In short, using systems thinking as a theoretical framework, and a Systems Model for Evaluation as an analytical framework, the purpose of this study was to help establish a more comprehensive picture of how a needs assessment can be enacted, and provide a clearer depiction of the diverse and layered needs and other complexities that emerge and need to be overcome in its implementation. Moreover, this study examines the interaction of various elements of the system and how they influenced the needs assessment throughout the process. Additionally, this study focuses on how leaders negotiated the various complexities that emerged during the needs assessment process. This information may be especially valuable for practitioners seeking to utilize needs assessment, not only for planning professional development programs but also for informing decisions at all levels of the organization.

Context of the Study

It was through my involvement as participant in a university consultancy with a K-12 school district in January of 2012 that I became aware of the case described in this dissertation. In an effort to enrich the existing needs assessment practices in the district, and in an effort to respond to a significant drop in students' standardized language arts test scores by trying to unearth underlying causes, the administrators of the Pleasant Heights School District (pseudonym) entered into a consultancy with a local university professor, renowned for her expertise in literacy learning and teaching, to assess the need for improvement. Although Pleasant Heights School District (PHSD) leaders had begun to collect data related to the performance gaps, they also wanted an outside, expert who could assess literacy instruction in its elementary classrooms. Therefore, a major component of the consultancy and needs assessment was classroom observations conducted by a team of literacy specialists assembled by the university professor. The observations took place over a four-week period beginning in February. The planned use of the results of this needs assessment by district leaders was to inform instructional program planning for elementary students, revise curriculum, select new resources, and design a professional development program for teachers.

Other components of the consultancy included a presentation to all district teachers that described its goals and design before the observations began. Teachers were also surveyed by the professor regarding their feelings about the needs assessment and consultancy as well as thoughts about their learning needs and the district's approach to providing professional development. Additionally, interviews with the district's administrative staff

were conducted in order to gain a detailed picture of their objectives and intentions, and to share the various data collection methods that would be used by the observers. Principals of the elementary schools and the English Language Arts supervisor were also interviewed to get a sense of what information they had already gathered in preparation for their annual PD plan, and how the information had been collected. The district also shared their current English Language Art curriculum and asked for feedback on its contents. Given all of these data sources, the university professor and her observation team compiled a report of the findings and made recommendations to the district administration based on the district's priorities, strengths, and needs that came to light during the process.

It was while working with the team to synthesize and report our findings that I became interested in studying this case as the subject of my dissertation. I realized that there was much to learn from analyzing the how, what, and who of the needs assessment endeavor in this district. I immediately reached out to the district administrators and university professor to request permission to use the data collected during the needs assessment and consultancy processes for my dissertation research. The extant data, which was gathered between February and April of 2012 in preparation for the district's professional development plan, included the results of a district-administered teacher survey on professional development interests, a summary of building needs from each elementary school created by the building principal and school-based PD team, the final, board-approved PD plan that was submitted to the Department of Education, a pre-consultancy survey distributed by the professor, and the report of the findings from the classroom observations. I was given access to

these district data sources by the district's Superintendent after the presentation of findings on May 17, 2012. The professor's data (teacher surveys, administrator interviews, and report to the district) were made available to me shortly thereafter.

I believe that my inability to locate a single study focused on the needs assessment process as it was enacted within an organization indicates a significant gap in the literature. The need for descriptive cases that account for the complex sociocultural and political influences on the needs assessment and planning processes is evident. As such, this study addresses the gap in literature and offers significant insight into how needs assessment can be used to reveal needs and deal with complex issues that emerge during the evaluation and planning processes.

Based on extant data originally collected by PHSD to inform the creation of its annual professional development plan (which includes data resulting from the district's involvement in a consultancy project), this qualitative case study contributes to the existing body of research by providing exploratory and descriptive data focused on the complicated and contextually-influenced nature of needs assessment used for program planning in school districts. The research questions guiding this study are:

1) How do diverse and layered needs and interests of a school district emerge during the implementation of a needs assessment?

- Who needs what? As defined by whom?
- Through what methods are needs identified?
- How do district leaders prioritize and negotiate to meet a wide range of needs and interests?

2) In what ways did context influence the design and implementation of the needs assessment, as well as subsequent program planning?

3) Which tools and processes were especially effective in revealing the divergent and layered needs and interests of various stakeholders?

Limitations of the Study

This study was confronted by several limitations. First, the fact that the study uses extant data collected for non-research purposes limits the scope of the study in that data collection methods, such as surveys and interviews were not specifically designed to answer these particular research questions. While the district personnel expressed willingness to provide additional data as necessary, a purposeful development of interview protocols and surveys to address specific research questions would have surely yielded information more seamlessly designed to answer them. I was able to go back and fill in gaps in the data that emerged through analysis, but this opportunity was not unlimited because the needs assessment was studied more than a year after the initiative ended. Participants' memories may have faded.

The multi-observer approach used in this study may also create some limitations because the observers, who have been literacy specialists, instructional coaches, building administrators, and university adjunct professors, bring with them their own ideas about “what should be” because of these varied experiences. Although we each used the structured observation form to guide our observations in an effort to standardize the collection of data, there was undoubtedly some inconsistency in what we observed and how we described it. At the time of data collection, there was no specific effort made to ensure consistency.

The purpose of this study was to give an account of what happens when an organization implements a needs assessment as part of the program planning process, and to contribute to the body of knowledge informing program planning. The results of needs assessment, however, will always be context-specific and not generalizable. In addition, case studies, by definition, are context-bound, so the findings are specific to the context from which they are generated and cannot be representative of other cases.

Overview of this Dissertation

In Chapter One, I have described the need for case study research on the implementation of needs assessment that informs professional development planning in K-12 schools. I offered systems thinking as a theoretical framework for understanding the complex way in which divergent needs and interest are brought to light, as well as how they are negotiated and addressed by school leaders.

In Chapter Two, I review the literature of systems thinking and highlight the branches of the field that inform the use of a systems approach for studying needs assessment and program planning. I also describe the tools of systems thinking that can be used to more simply represent, understand, and describe the complex nature of needs assessment in schools. Next, the needs assessment literature is reviewed to inform the discussion of needs assessment models that utilize a systems approach for assessing needs across several levels of an organization, and to examine how changes in one level of a system impact the others. The final section of Chapter Two introduces the program planning literature and makes a distinction between linear approaches and those that are more recursive and responsive in nature. A major purpose for the

discussion of the program planning literature is to highlight the political nature of planning professional development and to bring to the forefront the steps that planners can take to ensure that the planning process is democratic, ethical, and reflective of the diverse needs of stakeholders.

Chapter Three details the research methodology used in this research study, while Chapter Four presents the findings and interpretations. Chapter Four explicitly answers the research questions posed in Chapter One and describes how teachers' diverse learning needs are revealed by the needs assessment and how district leaders planned to address those needs through professional development. Using the narrative methods of organizational storytelling, I use a systems model as a map for grounding the telling of the needs assessment and PD planning processes that took place in the district's enactment of a needs assessment.

Finally, in Chapter Five, I provide a brief summary of the study, followed by an interpretation of how the study adds to the knowledge base about needs assessment in schools. Finally, I discuss the implications of this research study and make recommendations for future research.

CHAPTER 2: LITERATURE REVIEW

This study focuses on the implementation of a needs assessment initiative and subsequent program planning in a K-12 public school district. Needs assessment, as a process, can be multifaceted and messy (Gupta, Sleezer, & Russ-Eft, 2007). Yet, it is a critically important aspect of designing effective professional development programs. Understanding the needs assessments process in a school system context, therefore, is essential to empowering school leaders to design and implement needs assessment in their own districts. Likewise, the professional development program planning process is equally complicated and is influenced by a host of contextual and political variables (Cevero & Wilson, 1994). In order to fully explore and understand the phenomena that occur within schools, a multidimensional view of the school as a system, its multiple components, and the complicated manner in which these components interact with each other and upon the system is necessary (Cabrera, 2006; Corlett, 2001). Systems thinking provides the school, its staff and leadership, and researchers a conceptual framework within which to study complex processes like needs assessment in relationship to professional development program planning in school settings. Being able to study the connections between the different elements of the system, as well as the behavior of the whole, gives a more comprehensive illustration of what happens during the implementation of interventions in schools (Galanakis, 2006) and allows school leaders to consider the individual factors that may affect an outcome and the causal relationship between them (Smith, Felderhof, & Bosch, 2007). “The systems view helps us to understand the true nature of education as a complex, open, and dynamic human activity system that operates in ever-

changing multiple environments and interacts with a variety of societal systems" (Banathy, 1992, p.21)

This chapter introduces the literature in the field of systems theory and presents systems thinking as a framework for studying phenomena within complex systems. The composition of the existing body of systems thinking literature is described, as is the criteria for selecting the research included in this review. I briefly describe the evolution of systems thinking and how it came to be applied to the study of education system. Following that is a discussion of the various conceptualizations of systems thinking with a focus on those perspectives most beneficial for studying complex phenomena in schools. Next, a review of the needs assessment and program planning literature is presented, with special attention being given to aspects of each that validate the use of systems thinking as an appropriate framework for analyzing these processes. While an overall review of research in included, the main purpose is to highlight literature linking needs assessment and a systems thinking perspective. Later, the same approach is taken in the analysis of the program planning literature.

Search Criteria and Makeup of Literature

Cabrera (2006) notes that, due to the proliferation of systems ideas throughout many fields of study, an all-inclusive review of systems thinking literature is impracticable. Likewise, within the field of education, there are many embedded branches of study with vast volumes of research that makes an exhaustive review of education literature on this topic unfeasible. Therefore, a detailed description of the method employed for including and excluding various research is appropriate.

To somewhat limit the scope of this review, two processes were utilized. First, I specifically looked for literature at the intersection of systems thinking and education research (Cabrera, 2006). Although systems thinking has been applied to education, there is not a large amount of research available, particularly as it relates to using systems thinking as an analytical tool for understanding schools. The second strategy used was "the network of citations that are created from a set of related publications" (Cabrera, 2006, p.11). By keeping note of and following up on the bibliographical information and author's citations in relevant literature, I was able to link publications through their references until there was "closure in the citation network" and the list of citations, or a point of saturation was achieved.

The initial literature surveyed for this review was primarily identified through database searches via Academic Search Premiere and Education Resources Information Center (ERIC) using "systems thinking" as a keyword. This initial search resulted in approximately 2,000 multidisciplinary articles in 25 peer-reviewed academic journals. Many of these results contained some combination of the words "systems" and "thinking" but did not relate to the concept of systems thinking that is the basis of this study. This mismatch was evidenced when I filtered the results by those associated with keywords "systems approach". This filtering yielded 224 articles, most of which focused on systems thinking as an instructional tool or referred to teaching methods and ways of developing systems thinking skills. Only 43 of those articles were classified as research reports, 22 of which were published within the past five years, indicating a rise in popularity of applying systems thinking to issues in education. Ten research studies proposed systems thinking models for fostering

systems thinking in school staff, students, and leaders. The 43 research articles included seven case studies, 25 theoretical papers, three quantitative studies, three mixed methods studies, and five comparative analyses.

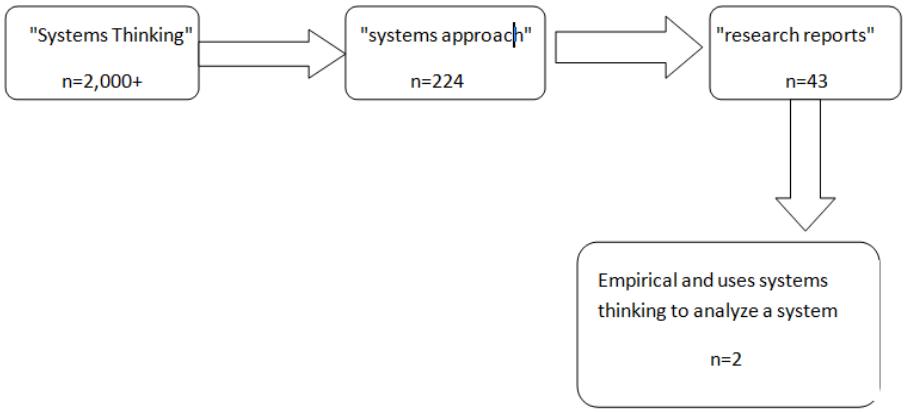

Fig. 2.1 Process for identify systems thinking literature for this review

To strengthen the validity of the literature selection process, an additional search was conducted using the EBSCOhost database and keywords "systems thinking" and "education". This search resulted in 330 articles. Over half of these articles were descriptive or theoretical in nature. Approximately one quarter were classified as research reports. The remaining papers represented a mix of evaluation reports, opinion pieces, and reviews. After eliminating research that focused on classroom instruction or developing systems thinking skills in learners, I was able to identify only two empirical studies that related to using systems thinking to analyze and understand complex systems in schools. These two articles were also identified through the first search. Of these two studies, one used a mixed methods design (qualitative and quantitative); and the other used qualitative (semi-structured interviews and document analysis). In addition to these two empirical studies, this literature review incorporated over 25 theoretical and descriptive papers.

One of the empirical studies identified in the literature review used systems thinking to examine schools as complex adaptive systems. Keshavarz, Nutbeam, Rowling, & Khavarpour (2010) analyzed the behavior of schools to determine if they displayed characteristics of complex adaptive systems. The primary data for the study came from semi-structured interviews of 26 principals and teachers and the review of publically available school documents. The researchers analyzed the data to determine whether schools fit the description of complex adaptive systems expressed in the literature and found that schools do exhibit most of the characteristics. This study suggested that by understanding schools as complex adaptive systems, we may be better able to explain some of the challenges of introducing and sustaining initiatives in schools. A better understanding of schools, then, may lead us "to adopt more sophisticated approaches to the diffusion of new programs in school systems that account for diverse, complex, and context-specific nature of individual school systems" (Keshavarz et al. 2010, p.1467).

Dyehouse, Bennett, Harbor, Childress, and Dark (2009) compared the usefulness of linear approaches to systems thinking approaches for program evaluation in a K-12 school district and acknowledged the limitations of linear logic models in capturing the complex relationships within larger, multifaceted programs. This case study illustrated the researchers' use of a systems thinking approach to model a complex educational program. Dyehouse et al. (2009) used system models to represent system components in ways "that enhance the interpretation of quantitative and qualitative data" (p.187).

These two studies are foundational to my research project because each identifies the usefulness of systems thinking and its tools for describing,

representing, and analyzing complex activities that occur within schools. Using systems thinking as an analytical framework to richly describe what happened during the course of the need assessment initiative and during the design of the professional development program is supported by these studies.

The application of systems thinking is very broad. Some of the disciplines to which systems thinking has been applied are Organizational Management, Human Resources Development, and Instructional Systems Design. Because many concepts from these fields are also applicable to education, the literature from these fields was included in the review of the systems thinking literature.

Synthesis of the Literature

This section synthesizes the existing body of systems thinking and related literature. It also briefly explains how various systems constructs evolved and how they are defined or interpreted in the literature. This section highlights the various systems thinking perspectives that make it particularly useful as an analytical framework for this study.

During the review, I found that quite often different studies or models cover similar, almost indistinguishable concepts. Where such redundancy occurred, I only selected literature that was potentially applicable to the context of this study. The following types of literature were used for this literature review:

- Guides for applying systems thinking to organizations (Edson, 2008; Hargreaves, 2010)
- Reviews of theoretical foundational literature (Lazlo & Krippner, 1998; Checkland & Scholes, 2000; Watson & Watson, 2011; Reynolds & Holwell, 2010; Midgley, 2002; Davidz, 2006)
- Theory advancing/model proposing (Wasserman, 2009; Cabrera, Colosi, & Lobdell, 2008; Senge, 1999; Checkland, 1999; Bertalanffy, 1968;

Forrester, 1969); Gharajedaghi, 1999; Flood, 1990; Ulrich, 1983; Ackoff, 1981; Banathy, 1996)
- Descriptive (Morgan, 2005; McClelland, 1992; Lunenberg, 2010; Rogers, 2008)

Origins of Systems Thinking

Systems thinking evolved from General Systems Theory. Austrian biologist, Bertalanffy (1968), worked with researchers from various fields including mathematics, biology, and economics, in an effort to address the tendency toward reductionism in science. Because the world's problems were becoming increasingly complex, scientists had begun to reduce complex phenomena down to individual components that could be studied in isolation, and would then focus on the linear relationships between the components as a way to describe the entire system (Lazlo & Krippner, 1997; Bertalanffy, 1968). As an analytical process, reductionism allowed researchers to tackle the complexity of many systems, including human systems. Human activities could be broken up into their component parts or elements (e.g. roles, structures, resources, etc.) and then analyzed from the perspective of the behavior of and the forces acting upon each one (Morgan, 2005). The cumulative findings from the analysis of system parts could be examined to learn something substantial about the whole system. However, Bertalanffy argued that reductionism failed to provide an accurate picture of the intricate nature of the system, making it ineffective for examining and solving problems in complex contexts. It establishes a closed systems view of the world that situates system and context as separate from each other. Cause and effect is approached linearly. Scientific reductionism led to segmentation among scientific disciplines, with researchers in each discipline operating in isolation and duplicating research.

Bertalanffy (1968), using knowledge gained from observing naturally occurring systems and the principles of biology, physics, and engineering, advanced a set of widely applicable principles for understanding systems of organization (Lazlo & Krippner, 1997). These principles formed the basis of a general theory that could be applied to all types of systems in many fields of research, and could be useful for illuminating relationships among system components.

Although it originally grew out of organismic biology, general systems theory as a field of inquiry became widely applied to the humanities because of its concern with "the holistic and integrative exploration of phenomena and events" (Lazlo & Krippner, 1997, p.7). Various systems approaches emerged from the interdisciplinary application of systems ideas. The various sciences and frameworks that have developed from systems theory are too numerous to summarize. To recapture some of the wider influences and "cross fertilizations" that continue to influence the development of systems approaches, several researchers have shared models showing the connections between branches of systems ideas (Lazlo & Krippner, 1998; Reynolds & Holwell, 2008).

In discussing the development of systems approaches, Lazlo and Krippner (2008) make the distinction between two branches: the development of systems ideas generally and the application of systems ideas within an existing discipline. Cabrera (2006) makes a similar distinction in his discussion of knowledge-about-systems, which is knowledge about existing and observable systems; and systems thinking, the general conceptual "habits-of-mind" that can be derived from the knowledge about systems (p.13). Systems thinking, then, is more an orientation or worldview than a theory or model. It is a way of

framing how we view the world (Edson, 2008; Morgan, 2005; Senge, 2006). It can be used for both the development and understanding of a system and as an approach designed to solve a problem (Edson, 2008). Systems thinking is a conceptual framework, an orientation to the world, and a model for thinking about and learning about systems of all kinds (Cabrera, 2006).

The term "systems thinking" is often used generally to indicate any one of a group of related systems sciences and perspectives. While there are differences among the various branches of systems thinking, there are far more similarities. Davidz (2006) notes that the definitions of systems and systems thinking are driven by the particular application or discipline of interest. As scholars in various fields propose systems thinking models and definitions, they do so in a "self-referent and insular" model, even though they share a similar systems orientation. Systems scholars are often "situated in single or arbitrary isolated fields.... more often than not unaware of each other" (Cabrera, 2006; Reynolds & Holwell, 2008). The result has been a proliferation of very similar systems conceptualizations with different names. This redundancy has served to complicate the attainment of a single, overarching definition of systems thinking. "There are many different strands of systems thinking, and different perspectives on how to group them. So much so that whilst professing to deal with the complexities of real world situations in a manageable manner, we may well have inadvertently created complex clutter of systems approaches (Reynolds & Holwell, 2008, p.9).

To understand the systems thinking perspective, it is important to first define the "system" in systems thinking. Although there are a variety of definitions, a general explanation for system is “a complex set of interacting

components together with the relationships among them that permit the identification of a boundary-maintaining entity or process" (Laszlo &Krippner, 1998, p.7). Ackoff (1999) describes a system as a set of two or more interdependent, interacting components that are so connected that independent subgroups of them cannot be formed, and the behavior of each has an effect on the behavior of the whole.

Systems Thinking Definition	Reference
An epistemology which, when applied to human activity, is based upon the four basic ideas: emergence, hierarchy, communication, and control as characteristics of systems.	Checkland (1999)
Systems thinking is the art and science of making reliable inferences about behavior by developing increasingly deep understanding of structure.	Richmond (1994)
Systems thinking is using modal elements to consider the componential, relational, contextual, and dynamic elements of the systems of interest.	Davidz & Nightingale (2008)
Systems thinking is the discipline for seeing wholes. It is a framework for seeing interrelationships rather than things, for seeing patterns of change rather than static snapshots…it is a discipline for seeing the "structures" that underlie complex situations, and for discerning high and low leverage change.	Senge (2006)
It puts the system in the context of the larger environment of which it is a part and studies the role it plays in the larger whole	Gharajedaghi (1999)

Table 2.1 Systems Thinking Definitions

Likewise, systems thinking has been conceptualized in several, yet related ways. Table 2.1 shows some examples of the various definitions.

Systems Thinking in Organizations

Systems thinking has become popular in social science fields like human resources technology, organizational management and education because of its potential for dealing with problems involving complex issues, those that depend a great deal on the actions of others, and those stemming from ineffective coordination (Aronson, 1996). "Systems thinking allows people to make their understanding of social systems explicit and improve them in the same way that people can use engineering principles to make explicit and improve their understanding of mechanical systems" (Aronson, 1996, www.thinking.net.). Its recent application in the performance improvement field can be attributed to Senge's (2006) work on learning organizations. Senge sees systems thinking as a crucial aspect of organizations, serving as a way of thinking about, and a language for describing and understanding, the forces and interrelationships that shape the behavior of the system. Taking a systems view of organizations is important because an organization behaves as a system, regardless of whether it is being managed as a system (Rummler &Brache, 1995). Organizations, like biological systems such as the human body, are interconnected and have interrelated and interdependent parts that make up the whole (Bertalanffy, 1968). They are living systems that rely on feedback to self-correct. Systems thinking establishes the organization as a complete system in which even small activities, interventions, or changes in one component have an effect on other components, and on the organization as a whole. Organizational leaders need to increase their capability to understand, communicate, and address the increasingly complex environment in which they operate so that effective decisions can be made. For the organization, systems thinking emphasizes

examining problems more completely and accurately before developing and implementing solutions.

Systems thinking focuses on:

• The organization as a whole

• Interactions between parts, not the parts themselves

• The way systems affect other systems

• Reoccurring patterns rather than just individual events

• Change over time

• How feedback affects the parts

Peck and Carr (1997) caution that educational change efforts must be preceded by systems thinking if conversations among stakeholder groups are to lead to effective action and real change. Systems thinking can equip stakeholders with tools that are essential for recognizing the potential impact of interventions on the system. "Better understanding schools as systems and better understanding of the operation of that system offers scope for improvement in the introduction and management of multi-level interventions in schools (Bond, Clover, Godfrey, Butler & Patton, 2001). Banathy (1991) also draws attention to systems thinking in schools by suggesting two stages for modeling education systems. First, we observe and study various systems and their behavior in order to identify the common concepts, and probe to find relationships among concepts to establish a set of principles that govern them. Secondly, we internalize systems models that we create and apply them to real life situations. These models can then be used to analyze a particular activity system.

There are several models that can be used to look at an educational activity system and understand, describe, and analyze it as an open, dynamic, and complex social system (Banathy, 1991, p.21). The systems-environment model or systems-context model examines systems in the context of their environment and organizes concepts and principles in alignment with this examination. The systems-context model is most relevant for examining the case under study in this research because it provides valuable insight into system activity, and the purpose of this study is to analyze the system activity of conducting a needs assessment.

Multiple Systems Approaches

General Systems Theory led to a wide range of systems approaches for solving complex problems closely associated with the concept of systems thinking."Systems approaches aim to simplify the process of our thinking about, and managing complex realities that have been variously described as messes (Ackoff), a swamp (Schon), wicked problems (Rittel), or in relation to environmental issues, resource dilemmas (Roling)" (Reynolds & Holwell, 2010, p.5). The purpose of this literature review, however, is not to detail each system approach. Table 2.2 provides a brief outline of several major approaches.

Systems Branches and Contributors	Key Concepts
General systems theory (Bertalanffy, 1968)	General systems theory, open systems, equifinality
Soft Systems Methodology (Checkland, 1981)	"Hard" versus "soft" systems thinking, process for examining management situations, action research. Identifies "hard" systems thinking as structured methods that assume systems' problems are well-defined, have a single, optimal solution, and respond well to a scientific approach to problem solving. Identifies "soft" systems thinking as relation to systems that cannot easily be quantified, especially those involving people holding multiple and conflicting frames of reference
System dynamics (Forrester, 1971 ,Richmond 1987; Senge, 1990)	Approach to understanding complex systems through causal loop diagramming
Complexity theory (Levy, 1994Kauffman, 1993)	Approach to reconcile the unpredictability of non-linear dynamic systems with a sense of underlying order and structure
Critical System Heuristics (Ulrich,1983)	A framework for systems thinking based on critiquing boundaries for political issues

Table 2.2 Systems Branches and Contributors

For the purpose of this study, I will focus on three main approaches relevant to applying systems thinking to organizations to manage complexity. Soft Systems Methodology; Critical Systems Thinking, and System Dynamics. These approaches are useful for examining complex social behaviors, and they provide tools for modeling system process that otherwise would be too complicated to illustrate. The needs assessment in this research is one such process. The following section describes the systems thinking shifts from which these approaches resulted.

Evolution of Systems Thinking

The evolution of systems thinking can be described in three phases: hard systems thinking, soft systems thinking, and critical systems thinking (Reynolds & Holwell, 2010). Checkland (1981) began to apply a systems engineering approach (hard systems thinking) to management situations. He made a distinction between "hard" systems thinking where systems are viewed as existing entities that can be engineered, and soft systems thinking, a process of inquiry, a process for dealing with the world. Hard systems methodology, according to Checkland, is a systems-based methodology for tackling real-world problems in which an objective or end-to-be achieved can be established as a given. A system is then engineered to achieve the stated objectives. Soft systems methodology can be used for tackling real-world problems by systemic system of inquiry. Soft systems thinking applied to human activity allows exploration of cultural and psychological processes of human activity. "It views a social system as constructed by individuals and attempts to understand and interpret the viewpoint of those in the system rather than studying the system as if observed from an outsider's perspective" (Watson, 1991, p.65).

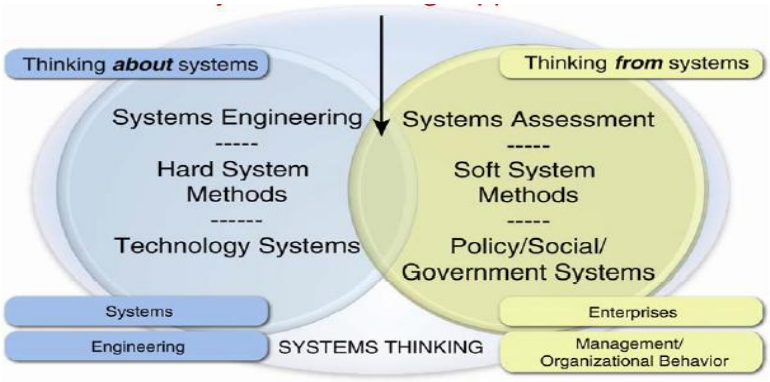

Fig. 2.2 The emphasis and approach of the hard and soft systems community. Edson, R. (2008). Systems Thinking. Applied. A Primer. Analytic Services Inc. Reprinted with Permission.

Soft systems methodology. Soft systems methodology was developed as a modeling tool but has since come to prominence as a learning and sense making tool. The process involves developing models of real world situations and using systems rules and principles to structure thinking in order to make sense of complexity in a manner that allows for timely decision making. The situation under study is examined from multiple perspectives in a rather unstructured way. Fortunately, the conceptual representations of real-world issues and possible responses of soft systems methodology are useful for managing difficult situations.

Soft systems methodology allows the practitioner to examine a real world area of concern through the relative safety of conceptualizing in the systems world. Soft systems methodology is useful when deep insights are needed when the system being studied is very entangled and contains multiple goals, different views and perspectives, and multiple stakeholders. Therefore, it is an appropriate methodology for studying the needs assessment and program planning processes enacted in schools. It can help school leaders understand the perspectives of all stakeholders and consider the potential impact decisions may have upon the system.

Critical systems thinking. Critical systems thinking (CST) is the part of the soft systems shift that draws attention to the inadequate consideration of power relations typical of hard approaches and other soft methodologies (Reynolds & Holwell, 2010). It is "a theory that merges systems thinking with a critical lens that can provide practical methods to the qualitative researcher for understanding changing systems with inequalities" (Watson & Watson, 2001, p.64). The need for a critical approach in systems

thinking arose from contexts where "there is little common interest shared between stakeholders, there is fundamental conflict, and the only consensus that can be achieved arises from the exercise of power" (Jackson, 2001, p.237). Given the chaotic nature of social systems and the nature of their issues, hard methodologies are inappropriate (Churchman, 1970), so critical systems thinking becomes a more viable option for mediating the chaos.

The principles of CST are founded on a commitment to critique, emancipation, and pluralism (Watson, 2011). The concept of critique is based on the idea that systemic judgment is necessary for understanding data (Churchman, 1970). The researcher must consider every aspect of research including methods, practice, and underlying theory, and move away from hidden assumptions (Watson & Watson, 2011). Without attention to boundaries, power relations, judgments, and interests, the research is limited (Churchman, 1970). Since there can be no one optimal, absolutely correct answer to system problems (Churchman, 1970), critical reflection is essential if decision makers are to act ethically and responsibly (Ulrich, 1983; Cervero & Wilson, 1994). In essence, the commitment to critique requires constant reflection, questioning, and consideration of alternative assumptions (Ulrich, 1983). Given the chaotic nature of social systems and the nature of their issues, hard methodologies are therefore inappropriate (Churchman, 1970).

Although critical systems thinking has only recently been applied to educational systems (Banathy, 1996; Senge, 2006; Watson, Watson, & Reigeluth, 2008), Watson & Watson (2011) recommend its incorporation into educational system analysis. They cite Carspecken (1996) in discussing the need for systems analysis in critical qualitative research as central to acquiring

a holistic understanding of human experiences and their relationship to larger cultural and communicative systems. The critical lens is important for examining the experiences of the district stakeholders in this research study because it makes it possible to explore power relationships and negotiation within the political systems of needs assessment and program planning.

System dynamics. System dynamics is an approach to understanding the behavior and structure of complex systems over time through building and analyzing systems models (Forrester, 1956). This methodology evolved from the need for a better way of testing new ideas about social systems in ways similar to those used in engineering. System dynamics help define the important variables of a system and reduce confusion and distracting complexity. Because of its usefulness within organizations in helping stakeholders achieve a collective understanding and analyzing system models, the use of system dynamic methodology has become more prominent over the past 20 years.

Any concept that can be clearly described in words can be incorporated into a conceptual model (Forrester, 1971). System dynamics utilizes a variety of tools to transform "rich text" into structured diagrams in which the principal concepts can be identifiable. These tools can help practitioners focus on patterns of system behavior over time rather than on isolated events. Leveraging the tools of system dynamics to construct powerful models of education affords us the ability to understand the current dynamics and the design stronger policies and interventions going forward (Groff, 2013). System dynamics tools include causal loop diagrams, stock and flow diagrams, and systemigrams, which are useful for summarizing processes complex processes. A systemigram (Boardman, 1994) facilitates the analysis of systems that have

first been described in written form. Lengthy documentation, then, is reduced to concentrated prose covering salient points of the system (Edson, 2008). A visual systemigram is concentrated down to individual but related threads, showing the flow of information, resources, and actions. The systemigram is a powerful tool for story telling which is used to facilitate understanding of a system and provide common foundation for group discussion.

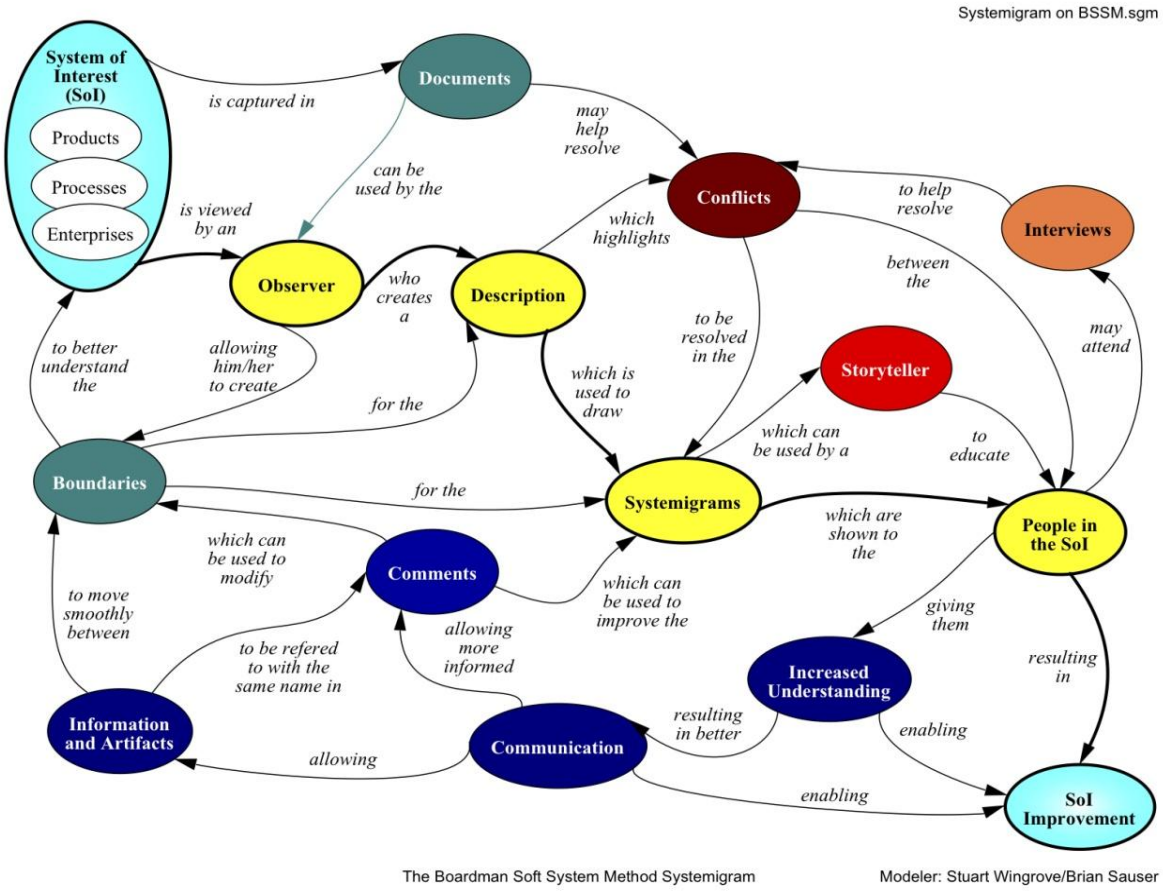

Figure 2.1 Example of Systemigram. Stuart Wingrove & Brian Sauser. Retrieved on February 26, 2014 from http://www.boardmansauser.com/Worlds_of_Systems/Systemigrams.html

While generally used for solving problems within complex systems, systemigrams and other soft systems methodologies are appropriately used to model, better understand, and communicate the structure and processes of

complex systems. Therefore, these tools can be beneficial to studying systems such as needs assessment and program planning.

By employing the mindset and tools of systems thinking, organizations build a shared perception of dilemmas, enhance collaboration, foster a learning environment, avoid counterproductive actions, and increase idea generation. Groups within the organization learn together, generating knowledge and understanding beyond what any one person already knows (Crookes, 2007). The information gathered through the use of these tools becomes the focus of the discussion, rather than someone's personal opinion or perception of the problem. As a result, defensiveness about the causes and solutions of organizational issues is reduced and new ideas are allowed to emerge (Senge, 2006).

Needs Assessment

Needs assessment is a formal process used to obtain information on two states of organizational results (current versus desired), compare them, identify gaps, and arrive at needs-based priorities for organizational action (Altschuld & Lepicki, 2010). Essentially, it is a systematic exploration of the way things are and the way they should be (Stout, 1995). Organizational leaders can identify and prioritize many types of performance gaps by conducting a needs assessment (Kaufman, 1994; Rothwell & Kazanas, 2004). While practitioners generally recognize needs assessment as a useful tool for addressing educational needs (Fulop, Loop-Bartick, & Rossett, 1997), they do not always use them when planning adult learning programs. Pennington and Green (1976) documented this gap in planning practice, during a time when the educational climate was less charged than it is currently. Even in the 1970s,

"most planners gave lip service to the importance of a needs assessment, but very few followed through" (p. 20). Things have not changed significantly since then.

Sometimes there are contextual factors such as characteristics of organizational leaders, limited resources, or lack of buy-in that prevent the use of a needs assessment or that limit the types of methods used to identify needs. Additionally, in the absence of any single method of needs assessment applicable to all situations, school leaders and program planners may be apprehensive about selecting an appropriate method for assessing learning needs of teachers. Many times, they resort to using familiar methods such as questionnaires, surveys, and observations as ways to determine what educational activities should be offered to teachers (Rossett, 1997; Fulop, Loop-Bartick, & Rossett, 1997). These techniques, however, often provide inaccurate or incomplete information about the educational needs of teachers and do little for the design of effective programs (Altschuld & Witkins, 2000; Barbulesco, 1980; Gupta, 1999; Knox, 2002; Pennington, 1980; Queeney, 1995) at least in part because they do not employ systems thinking. Needs assessment is a complicated process that cannot easily be reduced to quick and easy data collection strategies.

In the past few decades, dozens of models for needs assessment have been suggested and implemented with varying success (Watkins, Leight, Platt, and Kaufman, 1998). While a proliferation of models might seem to be advantageous to practitioners, the conflicting conceptions of needs assessment and the inconsistent definition of key terminology by proponents of differing models have been problematic (Leigh, Watkins, Platt, & Kaufman, 2000). For

example, the wide and varied use of the term need and the mislabeling of any direction-seeking endeavor as needs assessment make it difficult to establish a consistent conception of the needs assessment process, assert its benefits, and describe its challenges (Leigh, Watkins, Platt, & Kaufman, 2000). A clear agreement from the field about what is and is not needs assessment may improve practitioners' understanding of the process, as well as their willingness to conduct them. However, arriving at a common definition has been challenging. Following is a discussion of the complexities surrounding the establishing of a common conceptualization of "need", and the benefits of conducting needs assessments in organizations. Then, I will present systems-centered needs assessment models that are useful for revealing diverse learning needs.

Complexities of Defining Needs

The concept of need is the most "deceptively complex, basically significant, and far reaching in its implications of all major terms in the vocabulary of the adult educator" (Aherne, Lamble, & Davis, 1998, p.9). One factor that may explain this issue is that adult educators, learners, and stakeholders use differing methods for perceiving, defining, and representing needs (Ayers, 2011), and they may not distinguish between needs, wants, and demands in the same way (Queeney, 1995). With good reason, Davidson (1995) cautions adult educators to approach the idea of needs and needs assessment in a more critical manner, and to acknowledge that the concept of needs is socially and politically loaded. Although the commonly accepted definition of needs is that they are gaps in individual, small group, organizational, or societal results (Leigh, Watkins, Platt, & Kaufman, 2000), Wiltshire (1973)

critiques the idea that needs "are objective and observable entities existing out there in the real world, and that we have only to ascertain what they are and then to match our course or programs to them" (p. 28). Sork (1998, 2001) points out that a need exists only when a subjective act—a value judgment—is made. Because those making the value judgments and decisions in adult education are not often the learners, program planners committed to democratic and ethical principles should be prepared to navigate issues stemming from organizational and political power. At the very least, planners should incorporate methods to include stakeholders' voices in the identification of their needs and planning interventions.

Cervero and Wilson (1994, 2001, 2006) emphasize the necessity of having learners at the planning table to negotiate needs, the ways they are identified, and their conversion to program objectives. Even still, the voices of others—those with power—are often prioritized above the learners' in defining educational needs (Ayers, 2011; Tyler, 1949; Knowles, 1970). Along similar lines, Knowles, Holton, and Swanson (2005) pose a key question whose answers may serve to illustrate some of the complexities of the needs assessment and planning processes: "Who needs what, as defined by whom?"(p.175). One needs assessment study (Mathews et al., 2001) that ranked the importance of specific elements to assessing training needs within an organization found that senior management decisions and supervisors' opinions were ranked higher in importance than any other element. Noticeably, leaders matter most in determining professional learning needs (Gupta, Sleezer, & Russ-Eft, 2007). This can be problematic because professional development should have an empowerment function for the learner. While supervisors may be qualified to

define performance goals and identify gaps in current levels of knowledge and skills, the concept of need is multifaceted and not easily defined; it should not be defined by just one type of stakeholder. Relying on a single, limited, and technical perspective of need is irresponsible and likely dooms the resulting plan to less than full success. Furthermore, excluding the perspective of the learner from decisions about his need and related interventions is neither democratic nor ethical. Using systems thinking as a way to ensure the inclusion of multiple perspectives and to consider the impact of different alternatives in addressing needs is crucial (Gupta, Sleezer, & Russ-Eft, 2007; Senge, 2006; Cervero & Wilson, 2001).

Conducting a good needs assessment is not a neat, simple process. In fact, it will unearth challenging questions and bring to the surface complex issues, such as the diverse perceptions of needs held by different stakeholders within the organization, to the forefront. In addition, many factors can influence how the challenging questions raised by a needs assessment are answered (Gupta, Sleezer, & Russ-Eft, 2007). However difficult and messy, these complexities must be uncovered and addressed if leaders are to be responsive to learners' needs through the design of instructional programs. If leaders are aware of the effects of contextual variables on these processes, they can be prepared to negotiate and mitigate their influences. In other words, leaders can become better equipped to handle the "messy stuff" that comes with being involved with a complex, political, social activity such as needs assessment and program planning. Selecting a model that is capable of making the messiness visible and approachable is key.

Needs Assessment Models

Needs assessment models for organizational development and training come from a variety of professions and applications. For example, the fields of Instructional Systems Design, Human Performance Technology, and Human Resource Development rely on needs assessment as a critical aspect of performance improvement and program planning (Rossett, 1987; Kaufmann, 1997; Malachowski, 2002). There are many available models of needs assessment but most address the process in a linear, rational way. Very few are helpful for systematically viewing the performance and needs of individuals, teams, functional units, and whole organizations, and exploring the interrelatedness of learning and performance needs at various levels. The lack of systems-based models is problematic because needs assessments are typically implemented in complex systems. Consequently, a change in one level or element of the system can affect other levels and elements (Gupta, Sleezer, & Russ-Eft, 2007). Therefore, needs assessment models that recognize the organization as consisting of interdependent units influenced by many contextual factors and situated within a larger dynamic system are especially valuable to organizational leaders seeking to address needs at societal, organizational, and individual levels. Acknowledging the value of a systems approach to needs assessment, Kaufman, Oakley-Browne, Watkins, and Leigh (2003) stress the importance, though, of maintaining a holistic view of system that begins with a focus on larger, societal goals instead of defining the system as the organization in and of itself. Although the organization is a system comprised of smaller, interdependent sub-units, the symbiotic relationship between the organization and society should not be ignored. For that reason,

needs assessment models that take into account the relationship of needs across and within multiple levels of the organization are needed.

Rossett (1995) pointed out the importance of the needs assessment as a driving force affecting every other aspect in the instructional design system, (i.e. design, development, use and evaluation), but also recognized the potential for needs assessors to become overwhelmed by the amount of data and data sources available to them. In her Four Opportunities for Performance Analysis model, Rossett (1999) maps out a series of four stages or opportunities for conducting a performance analysis and gives clear directions about from whom assessors should gather data and of what type during each of the four opportunities. The four opportunities for performance analysis, according to Rossett (1999) are (1) the rollout of a new process system or technology; and when (2) improving the performance of an organization or a sub-unit of that organization; (3) developing specific personnel, and (4) developing organizational strategy. For this case study, which provides the opportunity to improve the performance of the school district, elementary schools, and classroom teachers, Rossett (1999) might suggest the performance analysis begin with a discussion with the organizational leaders about the impetus, desired outcome, and attitudes toward the needs assessment in order to refine and understand the nature of the problem. Then, organizational artifacts should be collected and examined for additional information about the problem, and relevant literature reviewed to examine barriers and best practices. Next, discussions with internal experts and decision makers should take place and help determine the optimal performance outcome. Finally, assessors should find out what performers and their supervisors have to say about the problem, its root causes, and solutions

they may have, and whether they see the same priority as the leaders do. Although valuable, this model does not account for how needs and results at the individual level influence the organization and society. The following models, however, do account for the interrelatedness of needs across levels of an organization to varying degrees.

One of the first needs assessment models to focus on multiple levels of need was McGehee and Thayer's (1961) O-T-P (Organization-Task-Person), a three-tiered approach to assessing the training and development needs of organizations by analyzing the needs of the organization, task, and individual person. Assessment at the organization level "identifies the knowledge, skills and abilities that employees will need for the future, as the organization and their job evolve or change" (Brown, 2002, p. 572), and considers other factors such as worker demographics and the laws and regulations that impact the organization. Assessment at the operation or task level determines "tasks that have to be performed; conditions under which tasks are to be performed; how often and when tasks are performed; quantity and quality of performance required; skills and knowledge required to perform tasks; and where and how these skills are best acquired" (Brown, 2002, p. 573). Assessment at the individual level examines how particular employees are performing their jobs, identifies individuals' levels of skills and knowledge, and uncovers gaps in skills and knowledge of individuals as compared to those required by the job. The performance at each level has an impact on the others. The O-T-P model has been influential because of its focus on assessing needs across levels. However, it does not explicitly acknowledge the relationship between organizations and

society. More contemporary models have been built upon McGehee and Thayer's model.

Rummler and Brache (1995), for example, developed a model that examines performance at three levels (organization, process, and individual jobs or performers), provides a description of the variables that influence performance, and acknowledges how changing one variable in a system will have an effect on other variables within the system. This model, Performance Improvement by Managing the White Space (Rummler & Brache, 1995), focuses on the analysis of organizational processes as a way of improving performance. Because many organizational processes can be cross-functional (ranging across several levels, departments, or functions), they span the “white space” between the boxes on the organizational chart where processes can fall apart (Rummler & Brache, 1995). Performance can be improved, then, by managing the interactions across levels, departments, and functions through performance analysis. Rummler and Brache's model is relevant to understanding this research study because the needs assessment in this district involved performance analysis and draws attention to variables that influence performance.

Perhaps one of the most significant system-centered models for needs assessment and planning is Kaufmann and Watkins’ (1996) Organizational Elements Model (OEM). OEM sets needs assessment and strategic planning as a means to define an organization’s desired external and internal results and examine three basic levels of needs and results: The mega level encompasses the needs of society and the larger environment; the macro level represents the needs and results at the institution or organizational level; and micro level

involves the needs of individual and small groups. The five elements of the model include inputs, or the resources used by an organization; processes, the internal methods or activities used by the organization to achieve results; products, the results produced within an organization; outputs, the end results delivered outside and organization; and outcomes, the effects or payoffs for clients and society. With its attention to the nested nature of the three systems, the Organizational Elements Model is one of the few models that focuses on defining and linking results from the mega, macro, and micro levels. OEM informs this research study because it allows us to consider how a district's aligning of resources, selection of means, methods, and programs can influence performance results and stakeholder needs.

In summary, effective needs assessment that uses systems thinking must focus on establishing need at multiple levels within a system of interrelated parts and should account for the complex contextual factors that impact the design of professional learning programs (Kaufman, 1998; Desimone, 2002). Models such as those described above that are based on a systems approach, or those that combine elements of these models, can be beneficial for designing an approach to needs assessment that meets the specific needs of an organization.

Methods of Identifying Needs

Within each model, there are a host of methods available to school leaders planning a needs assessment. Planners can select specific methods for determining and analyzing various types of needs based on the goals of the needs assessment. Because there are different goals for conducting assessments, it is unlikely that a single method for identifying and analyzing

would suffice for all purposes. Task analysis, for example, pinpoints the expertise required to perform a specific job-related task, while job analysis brings forth information on the scope, tasks, and responsibilities of a job. Competency analysis, another method for determining need, explores the characteristics of employees that enable them to perform a job, while a knowledge and skills assessment identifies the knowledge and skills necessary to perform effectively on a job (Gupta, Sleezer, & C. M., Russ-Eft, D. F., 2007). Two methods in particular were utilized by the school district described in this study: performance analysis and training needs assessment. Performance analysis, through the collection of formal and informal data, uncovers multiple perspectives on a problem or opportunity, determining any and all drivers towards or barriers to successful performance, and proposes a solution system based on what is discovered (Rossett, 1999). A training needs assessment is a "systematic study that incorporates data and opinions from various sources in order to create, install, and evaluate educational and informational products and services"(Rossett, 1999, p. 230). Each method of analysis targets a different type of need so needs assessments can be tailored to address those needs prioritized by organizations through choice of method.

Queeney (2000) suggests that the selection of needs assessment methods should be based on a combination of the following considerations: 1) Purpose--Is the needs assessment intended to uncover broad deficiencies across the profession, specific discrete needs, or individual practitioners' weaknesses? Often, more detailed methods are required to identify specific needs, while simpler methods suffice for general needs; 2) Scope--For what time period, what population, and what content areas are needs to be assessed? Determination of

the scope of a needs assessment has major ramifications regarding needs assessment design; 3) Level--Which methods are suitable for the task at hand? The simplest method that can accomplish the specific needs assessment at hand should be used. Unnecessary complexity should be avoided; 4) Appropriateness for the profession-- Which assessment methods can reasonably be applied to evaluating the type of work done? In other words, the nature of teaching and the content areas being assessed should influence choices of assessment methods for school or district based needs assessments.

Watkins, Meiers, and Visser (2011) warn that an organization's purpose for and beliefs about the function of needs assessment can influence the selection of methods used for analyzing needs as well as the manner in which the resulting information is used to identify, define, and prioritize needs. While leaders are encouraged to choose needs assessment methods that are aligned to their specific cultures and goals, the ways in which those choices can shape the assessment and planning processes cannot be ignored. In order for them to select the most appropriate methods for their contexts, leaders need to examine the cause and effect relationship of methods and contexts in other cases, which might give insight on how particular methods may work in their own contexts.

A Systems Framework for Analyzing the Needs Assessment Case

Needs assessment can be viewed as a developmental or formative evaluation because it is usually conducted as part of developing training or human resource development (Sleezer, Kelsey & Wood, 2008; Rus-Eft & Presskill, 2001; Scriven, 1991). Likewise, Gupta, Sleezer, and Russ-Eft (2007) note that, since the "requests for learning, training, and performance improvement initiatives must be evaluated and 'merit, worth, or value' (Scriven,

1991, p. 139) of the various options must be analyzed,… needs assessment is a type of evaluation" (p.16). Therefore, a Systems Model of Evaluation (Russ-Eft & Preskill, 2005) is a useful framework for identifying factors influencing the success and outcomes of a needs assessment. The Systems Model "considers a number of variables that may affect not only the design of the evaluation but its implementation and the extent to which, and the ways in which, the evaluation findings might be used" (Russ-Eft & Preskill, 2005, p.73). A systems approach recognizes that any process or function within an organization is impacted by an external environment that is shaped by variables, such as laws, technology, and competition. Many times, these variables influence how the learning needs of individuals within the organization are perceived (Russ-Eft & Preskill, 2005). Figure 2.2 shows the interaction of these external factors with the organization's characteristics.

According to Russ-Eft and Preskill (2005), the organization's culture and infrastructure shape its ability to conduct a successful assessment . If people are to take the needs assessment seriously and respond honestly to the data collection instruments, the organizational structure must encourage collaboration, problem solving, risk taking, and participatory decision-making. As depicted in the boundary representing the organization's infrastructure, leadership must support the assessment initiative and commit to use its findings to improve the organization's performance; the performers' work must clearly relate to the organization's mission, vision, and strategic goal; and there must be a willingness to communicate the findings of the needs assessment and make information available to the stakeholders (Preskill & Russ-Eft, 2003; Preskill & Torres, 2000).

In Russ-Eft and Preskill's (2005) systems model, the design and implementation of the assessment is shown within the circle. Its success is influenced by the political context within which it is conducted, as well as the leader's motivation and purpose for implementing the needs assessment. Evaluator characteristics, such as credibility and experience, are still more factors that influence the effective design and implementation of an assessment (Russ-Eft & Preskill, 2005). These complexities do not even include those that emerge once divergent needs have been identified.

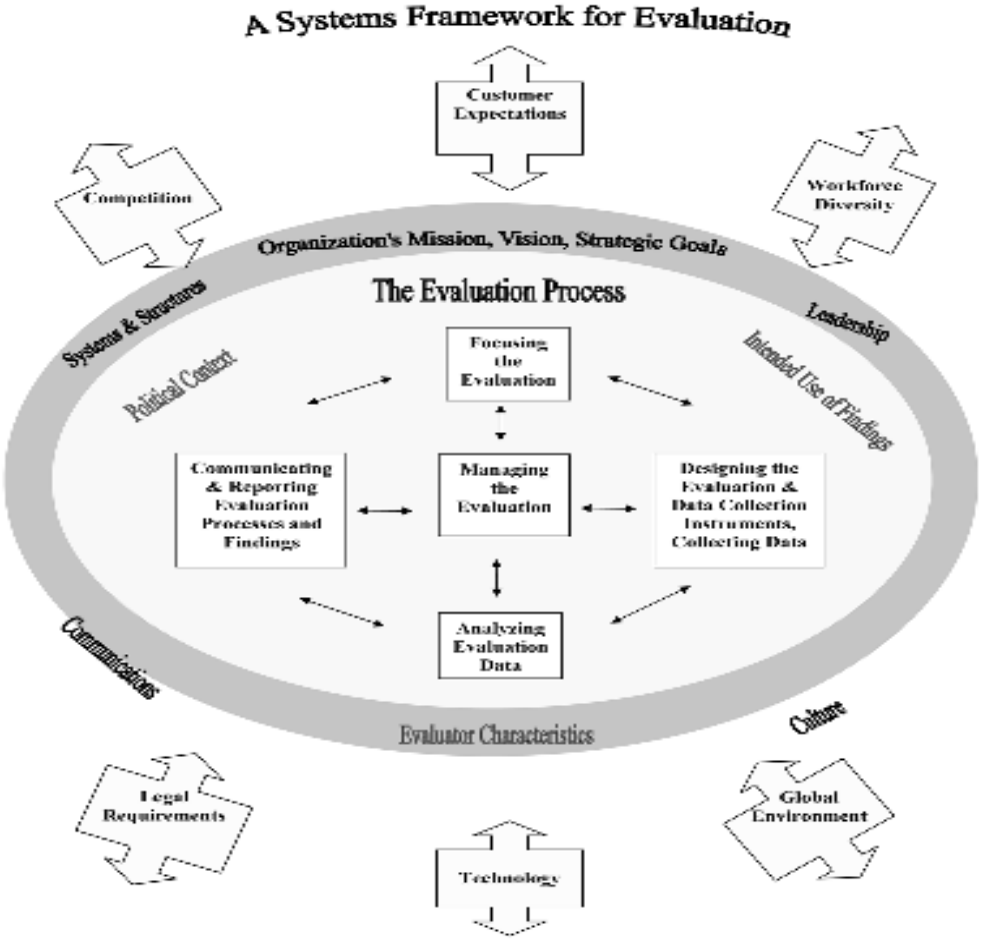

Figure 2.2 A Systems Model of Evaluation (Russ-Eft & Preskill, 2005). In Search of the Holy Grail: ROI evaluation in HRD. Advances in Developing Human Resources, 71-85. Reprinted with permission.

It is evident that needs assessment occurs within a complex, dynamic, and fluid environment that is impacted by many factors, and that bringing to light the influence of these factors on the design and implementation of needs assessment is vital for adequately addressing the needs of the organization and society (Russ-Eft & Preskill, 2005).

Data Collection Tools

In each of the needs assessment models described above, data gathering is an important step. In training needs assessment, the quality and relevance of the data source drives the effectiveness of the needs assessment (Smith, Delahaye and Gates, 1986). Using multiple sources of data improves the quality of the assessment. Qualitative and quantitative data can both be used effectively to identify needs (Watkins, Meiers, and Visser, 2011). "Most people who use systems thinking in their work acknowledge that no single systemic tool depicts the whole truth about a situation" (Gupta, Sleezer, Russ-Eft, 2007, p. 39). Therefore, it is important to incorporate multiple methods and to examine what is revealed by which tool.

Although wildly popular in assessing needs for professional development, a survey is but one approach to gathering data. While surveys provide some insight into learners' needs, other sources of data should be culled in order to form a full picture of needs. In addition to surveys, these include extant data and documents, interviews and focus groups.

Surveys. Surveys are paper/pencil or electronic/email questionnaires that ask a respondent a series of what should be carefully formulated questions (Tobey, 2005). Survey questions can be in the form of yes/no, checklist, scaled, and open-ended. Surveys are the most widely used method of data gathering

used for needs assessment, probably because they are inexpensive and easy to administer (McClelland, 1994). Gathering data on self-identified learning needs is the simplest form of needs assessment. Doing so is beneficial in involving learners in the process, but also limiting in that individuals may not be able to adequately understand their own needs (Queeney, 1995). Additionally, surveys are not particularly useful in revealing complexity. However, the perception of needs conveyed by teachers through surveys, when compared to needs expressed by other stakeholders and revealed through other data collection sources, may expose some important areas of need as well as challenging issues of how to respond to conflicting needs.

Extant Data/Documents. Existing records, reports, and historical data are also sources of data for assessing needs. Documents including job descriptions, competency models, budgets, lesson plans, grievances, performance appraisals, professional development evaluation data, and suggestion box feedback are valuable sources of information about needs. An advantage of using extant data is that it has already been collected and is fairly easy to obtain. However, because it contains information that was not necessarily collected specifically for needs assessment, assessors must extrapolate from the data to find relevant indicators (Tobey, 2005). This can be a highly inferential task with a wide margin of error.

Interviews. One-to-one discussion can be used to elicit the reactions of the interviewee to carefully focused topics (Tobey, 2005). Interview questions must be planned ahead and should be carefully structured to capture the information needed. What questions are asked, the way a question is asked, who asks it, and where the questions are asked (location of the interview) will

all have an impact on the data that can be collected (McClelland, 1994). Additionally problematic, completing a large number of one-on-one interviews may be too time consuming and expensive for many organizations. Phone interviews are an alternate option that can save time and travel expense but the assessor loses the benefit of being able to see body language and facial expressions (Stoneall, 1991). Interviews are useful for discussing complex issues that require explanations (Gupta, Sleezer, & Russ-Eft, 2007).

Focus groups. A focus group is a group interview with five to twelve purposefully chosen participants. A benefit of this method is that it "provides rich data regarding the participants' job environment, current level of skill and performance, and their perceptions of desired skill and performance level" (Tobey, 2005, p. 58), but has the added benefit of collecting information through the interaction of participants. Group dynamics play a large role in the data gathering success or failure of a focus group. Participants may actually feel more comfortable opening up within a small group rather than in a one-on-one interview. "The group setting encourages greater spontaneity and candor, fewer inhibitions, and greater anonymity and security than individuals might feel one-on-one" (O'Donnell, 1998, p. 72). If group members feel more comfortable, it is more likely they will address complex issues and questions that arise, and allow the researcher obtain a more solid picture of such issues. Focus groups are particularly useful when used in conjunction with other data-gathering methods (McClelland, 1994).

These methods enable school leaders to unearth the diverse needs of their organizations. This research study examines the way different methods were used to reveal a range of needs. Appropriate method selection, along with

the systems thinking perspective, can give leaders the opportunity to understand the way needs at one level of the organization impact and are impacted by the needs of others. It also enables administrators to explore potential causes of need, as well as possible interventions for addressing learning gaps.

Program Planning

Many needs assessments are not designed to determine solutions. Rather, after identifying gaps, organizations then identify the root cause(s) of those gaps before considering approaches to address them (Watkins, Leight, Platt, and Kaufman, 1998). Components of the needs assessment initiative studied in this research, on the other hand, were specifically designed to function as a training needs analysis; the results of the needs assessment were intended to inform the planning of the district's professional development program. It is for that reason that I introduce the program planning literature. Program planning is as political and complex an endeavor as needs assessment. How can district leaders determine which needs get addressed in the PD program? How are final decisions about the program made? What happens when the needs surpass the district's resources? How can leaders negotiate power to ethically address the needs and interests of staff members? The literature can offer insight into approaches that may facilitate responsible and critical program planning. This insight, in conjunction with a systems view of the school district and of needs assessment and planning, can enable educational leaders to tackle the messy and political nature of identifying needs

across organizational levels and effectively respond to them with appropriate programs.

Program planning is a critical part of adult education practice, but the advancement of theoretical models has been relatively slow (Cho & Kim, 2004). Although scholars in adult and continuing education have promoted a number of models for program planning that are founded on theories of adult learning, many of these models reflect Tyler's 1949 seminal core principles of planning work in curriculum development (Kaufman, et al., 2009). Generally, these models can be categorized into several approaches: traditional or technical/rational, naturalistic, and critical or political (Wilson,1999; McLean, 2000; Houle, 1972; Walker, 1971) . Each model presents challenges and benefits. In this section of the review, I present literature that details the utility of these approaches in equipping program planners with a series of steps. More importantly, though, I present literature that unveils the limitations of such approaches and establishes the benefit and necessity of critical approaches to program planning.

Technical-Rational Program Planning Approaches

Sork and Buskey (1986) and Sork and Caffarella (1989) uncovered the preponderance of traditional models of planning in the literature. The traditional or technical/rational approach has been most prevalent in literature related to program planning in adult education (Mabry & Wilson, 2001). The approach is founded on Tyler's (1949) planning structure which incorporates four critical components: 1) educational purpose; 2) learning contents; 3) organization of learning contents (methods); and 4) evaluation. These components are based on four fundamental questions, which need to be

answered when developing any curriculum and plan of instruction. Planners should ask (a) What educational purposes should the program seek to attain? (b) What educational experiences can be provided that are likely to attain these purposes? (c) How can these educational experiences be effectively organized? and (d) How can we determine whether these purposes are being attained? Traditional models based on Tyler's work typically consist of a set of at least four steps, stages, elements, decision points, or clusters that are logically connected. Conventional theorists in adult education have elaborated and refined the traditional approach to planning by adding steps such as analyzing planning contexts and administering programs but have not fundamentally altered the prescribed "sequentially and logically ordered set of tasks in which educational planners first assess learning needs, then develop learning objectives from assessed needs, next design learning content and instructional formats to meet learning objectives, and finally evaluate learning outcomes in terms of whether the objectives were achieved" (Wilson, 2005, p. 525).

One example of the technical rational approach is Knowles, Holton, and Swanson's (2005) andragogical-based planning model, which has been frequently used in the field Human Research Development (HRD). Knowles et al. (2005) identify the phases of the adult learning planning process as 1) Need—determine what learning is needed so as to achieve goals; 2) Create—Create a strategy and resources to achieve the learning goal(s); 3) Implement—Implement the learning strategy and use the learning resources; and 4) Evaluate—Assess the attainment of the learning goal and the process of reaching it. Although models like this one have offered to planning practice a "scientifically-based procedural logic of completing certain planning tasks as a way of optimally

ordering and directing planning activities" (Wilson & Cervero, 1997a, p.85), they fail to address the sociocultural and political complexities involved in the planning process (Wilson & Cervero, 1997a). In the past decade, several models have begun to address the need for flexibility, a non-linear approach to planning, with a focus on and strategies for contending with contextual influences and the diverse needs represented in organizations.

For example, to tackle the limitations of technical-rational planning models, Caffarella (2002) introduces the planners' role and reflective practice into the planning process and offers an interactive model as a flexible, recursive guide rather than a linear prescription. "The 12-component model…provides a map of the terrain of the planning process, but the map often changes in contour, content, and size" (pg. 21). Like traditional models, Caffarella's approach consists of multiple steps or elements that include the following: discerning the context; building a solid base of support; identifying program ideas; sorting and prioritizing program ideas; developing learning and program objectives; designing instructional plans; devising transfer of learning plans; formulating evaluation plans, making recommendations and communicating results; selecting format, schedules, and staff needs; preparing budgets and marketing plans; and coordinating facilities and on-site events. With no clear beginning or ending, unlike technical-rational approaches, the interactive planning model allows the program planner to begin with any of these planning elements, complete them in any order, and make planning decisions that account for the specific contextual factors of the organization. Deliberative and naturalistic approaches further emphasize the need for planners' practical reasoning in decision-making. Essentially, planning theory has shifted from an

argument over the preferred sequential performance of planning tasks to a conception of planning as a recursive, human decision making process within the constraints of specific contexts (Caffarella, 2002; Sork, 2000; Sork and Newman, 2004).

Deliberative and Naturalistic Planning Approaches

Proponents of the deliberative traditions (Schwab, 1969; Houle, 1972; Walker, 1971) posited that planning was best understood as a process of practical (as opposed to instrumental) reasoning. Practical reasoning as a deliberative process requires analyzing the context and then making the best judgments possible about what to do, given the restrictions and possibilities of the specific set of circumstances. Given this approach, Houle (1972, 1992) believed that planners may neither need to complete all the steps of the traditional approach nor address them in the sequentially prescribed order. Similarly, Walker (1971) describes his naturalistic approach as a series of decisions to be made throughout the planning process. The process consists of three elements: platform, where stakeholders' beliefs about practices are expressed honestly; deliberation, where conditions are explored, alternatives generated, feasible solutions selected, consensus reached; and design, where planners make decisions about specific content, instructional strategies, and materials. A defining characteristic of Walker's (1971, 1990) deliberative approach is that it recognizes the variety of beliefs, aims and images that participants possess. Thus, arriving at consensus and making planning decisions is a process of negotiation among those with different points of view and value systems in order to find a satisfying solution (Banathy, 1987).

While deliberative and naturalistic approaches account for practical action within contextual constraints, the methods have been criticized as being quite similar to the traditional approach to program planning and its idea of rational problem solving (Wilson & Cervero, 2006). “Deliberation essentially represents the decision-making aspects of implementing rationalist problem-solving steps” (Cervero and Wilson, 2006, p. 246). Additionally, it fails to name more precisely how people act in context, what defines context and how it works to constrain or enable, or whose values should matter (Rubenson, 2011; Jarvis, 1995). Critical traditions, however, address these very issues in program planning.

The Critical Approach

Researchers in the critical or political vein have argued that program planning should be understood as a social activity in which adult educators negotiate personal and organizational interests within relationships of power (Cervero & Wilson, 1994; Archie-Booker, Cervero & Langone, 1995). They assert that the political nature of the activity of planning often inhibits the use of technical/rational techniques and, therefore, cannot be ignored.

Forester (1982) was among the first to point out the political and social aspects of planning and their influence on the design process and, ultimately, the program of learning. Because planning involves people, planners must recognize that there are multiple, sometimes incongruent, needs and interests which cause tensions among those involved. Planners must anticipate conflicts and deal with power struggles effectively or they may undermine their own power to influence others. Cervero and Wilson (2006) see power as the “capacity to act”(p. 85) and those with power exert it to determine educational and

political outcomes. Power is always present, often unbalanced, and regularly negotiated (Johnson-Bailey and Cervero, 1997, p. 87). Therefore, responsible program planners must be vigilant in their efforts to unearth and navigate the negative influences of organizational power, to increase awareness of its potential influence and seek to mitigate its effects on the planning process.

Cervero and Wilson's (1994, 1996, 1998) work demonstrates that interests are causally related to which programs get planned, and several additional studies confirm the significance of negotiating power and interests in program planning (MacLean, 1997; Archie-Booker, Cervero & Langone, 1995). From this body of research, we know what planners do but know much less about how adult educators negotiate multiple and often conflicting interests in practice (Mabry & Wilson, 2001).

To illustrate the complexity of negotiating that can take place, Cervero and Wilson (2006) have used the metaphor of the "planning table", which can be a real, physical or a metaphorical place where decisions are made about educational programs (p.81). There are four dynamics that take place between people at the planning table: (a) power relations either enable or constrain people's access to the table; (b) people represent other's interests at the table; (c) ethical commitments define who should be represented at the table; and (d) negotiation between people takes place at the table. Stakeholders in the organization come to the planning table with diverse interests, needs, motivations, and purposes that they want addressed. Also, in many cases people at the planning table are representing the interests of others who may or may not be at that table. These dynamics make the planning process a messy

one and are representative of the complex challenges that are faced in program planning.

Since program planners design the educational programs that have the potential to change lives, they must possess a commitment to ethical behavior, and constantly consider these two questions: Who benefits in what ways? And, whose interests should be represented at the planning table? According to Cervero and Wilson (2006), the planning table is a place where democratic negotiation of power and interests can and should take place, especially because learners may otherwise have little voice or power in the process. Ethical commitments help to keep issues of access at the forefront of the planning process and equalize unbalanced power relations within the social, cultural, and political systems of the organization.`

Warren (2003) clearly sums up the state of program planning in adult education: "Planning has moved from the realm of the educator working in a vacuum of sorts isolated from external factors to change a learner's behavior into the realization that many factors influence the educator, learner, and sponsoring organization and that while all negotiate toward intended outcomes, there are also unintended outcomes which must be acknowledged in the process. Program planning has evolved from product focus to process focused" (p.5). Identifying these factors and unintended outcomes is a vital function of a high quality needs assessment.

Research on program planning grounded in the principles of adult learning unfailingly identifies the crucial function of needs assessment to designing programs of adult education. For schools in particular, professional development that is responsive to the intrinsic needs of teachers to be more

productive and critical, that encourages change in perspective and improvement of practice, and that accurately identifies learning needs is vital. Determining the goals, content, main activities, and structure of professional development for teachers is a complicated, multi-faceted, social practice that school leaders cannot afford to get wrong. Because the interrelated factors that impact student achievement, teacher learning, and the design of effective professional development can be confounding, accurate and relevant information about learning needs must be utilized for programmatic decision-making. Planning in advance of assessing such needs is negligent and counterproductive.

In this research study, district leaders acknowledged the importance of assessing learning needs and were committed to providing a responsive and relevant PD program. Every decision that was made, however, was significantly influenced by the current educational climate. Resources were limited but demands were limitless. Leaders in these situations can make sound, ethical decisions about PD planning by embracing models that recognize the responsibility of planners to include the voice of the learners in the process, and to take a critical stance in the allocation of resources and negotiation of diverse needs and interests of their organizations. The program planning literature can inform such decisions about planning, while systems thinking brings to the forefront the need for program planning that is non-linear, includes perspectives of multiple stakeholders, and provides space for negotiation in the decision making process. In addition, systems thinking makes visible the interconnectedness of programming decisions, learning needs, organizational structures and other components of the school system.

Situating the Study

The work of teachers is now probably more difficult than ever. Demands for high student performance have increased and the standards bar has been raised. The high levels of student learning and high-quality teaching required by the Common Core State Standards are difficult to attain in the face of the vastly diverse needs, limited resources, and abundant challenges that exist in schools. Excellent teaching is key to improving schools, and powerful professional learning opportunities can improve teaching practice (Borko, 2004). In order for professional development to be effective, however, it has to be centered on what we know about adult learners. Adults need learning experiences that are relevant and based on their accurately-defined needs, and they need to be involved in assessing needs and planning for their learning (Guskey, 2003). Planners of professional learning programs rarely conduct effective needs assessments for planning, even though they are encouraged to do so (Clarke, 2003; Taylor et al., 1998).

The systems thinking literature perpetuates a holistic understanding of the needs assessment and program planning processes and their relationship to larger cultural and communicative systems. The use of systems thinking tools, such as models and causal loop diagrams, in needs assessment design, implementation, and use of results helps leaders work through the complexity of these processes. It becomes possible to consider causes of district needs and visualize the consequences of decisions about assessment and planning methods. The needs assessment literature illustrates the importance of evaluating need across multiple levels of the organization and taking into account how changes at one level of the system influences and is influenced by

what happens at another. Therefore, this study relies upon systems thinking and the needs assessment literature to explore, understand, and describe the role of needs assessment in allowing school leaders to reveal layered needs and interests. The program planning literature is used to inform the discussion of the district's response to the needs assessment through the planning of a PD program. More specifically, I refer to the critical program planning literature to consider how planning decisions were made and with whose interests in mind.

CHAPTER 3: METHODOLOGY

The needs assessment literature provides prescriptive plans that describe how needs assessment should be conducted, but rarely describe any cases in which needs assessment was effectively conducted in functioning organization. Additionally, it is challenging to find descriptive cases that account for the sociocultural and political influences on the needs assessment and planning processes. If we are to encourage practitioners to see needs assessment as the valuable tool it is, we need additional research that describes how needs assessment is used to reveal needs but that also acknowledges the complex issues that emerge during the process.

As described in Chapter One, the purpose of this study was to richly describe the needs assessment implementation as it unfolded in a public K-12 school district. This research was designed to provide insight related to the design and implementation of needs assessment in such a setting, specifically how contextual factors influenced the process. Moreover, this study was aimed at detailing how teachers' diverse learning needs are assessed and addressed, and through which data collection tools and methods they were identified.

A qualitative design was used for this study because of its usefulness in understanding and describing participants' experiences and behaviors. Qualitative methods are highly appropriate for studying a process like needs assessment because it allows the researcher to look at how something happens, rather than examining outcomes, and to describe the context in which the process is centered (Patton, 2002). Because this study posed questions that explore a phenomenon in a natural setting, qualitative methods were most

useful for describing the real-life context in which the intervention occurred (Bogdan & Biklen, 2003; Merriam, 1998). Specifically, a case study (Yin, 2003; Creswell, 1998; Merriam, 1998) was used in this research to investigate and describe the implementation of a needs assessment program in a specific setting, while providing multiple perspectives of participants with various roles in that setting. Case study is an ideal methodology when a holistic, in-depth investigation is needed (Feagin, Orum, & Sjoberg, 1991). Specifically, this research is an exploratory, intrinsic, practice-oriented case study (Yin, 2003; Fox, 2003). It is exploratory because the collection of data occurred before theories or specific research questions were formulated, allowing me to explore any phenomenon in the data of interest (Yin, 2003). Exploratory case studies are useful for seeking new insights and generating ideas and hypotheses for new research (Runeson & Host, 2008). Additionally, this case is an intrinsic one because the case itself the primary interest in my exploration of it (Grandy, 2010). "The intrinsic case offers an opportunity to understand particularities. The researcher is interested in context and is seeking both depth and breadth in her exploration....[It] strives to capture the richness and complexity of the case" (Grandy, 2010, p.3). Finally, this case is practice-oriented, in that involves inquiry into methods, systems, programs, and policies of professional practice (Marshall, 2010). One characteristic of practice-oriented research is that it allows the research to be squarely situated in reality, bringing to light real life problems and relationships involved with implementation. Such an approach "provides rich or 'thick' descriptions that includes details of the contextualized situation of the case under study, thus facilitating transfer to or comparison

with one's own practice" (Marshall, 2010, p.4). The case under study in this research is the needs assessment process enacted within the district.

Site

The site for this study is a public school district in central New Jersey that serves students from Pre-K through Grade 12 within three K-4 elementary buildings, one intermediate school for students in grades 5 and 6; a middle school for seventh and eighth grade students; and one high school. The district, Pleasant Heights School District (pseudonym) also houses a comprehensive Adult High School and an Adult Community School which offer educational programs for community residents. The district's seven schools have an enrollment of approximately 3,300 students and 300 classroom teachers, making the student-teacher ratio 11:1. The ethnic makeup of the student population indicates the Pleasant Heights School District (PHSD) is fairly diverse. Over 40% of the total student body is of Hispanic descent, 50% are White, and the remaining 10% are African American, Asian, and students identifying with two or more races (National Center for Education Statistics, 2012).

According to the NJ Department of Education's socioeconomic classification system, the district has been designated as District Factor Group "DE", the fifth highest of eight groupings, meaning it falls more or less in the middle group of schools so in the state. Approximately 40% of students are not native English speakers and speak a language other than English at home. State assessment data indicate that the district has had difficulty achieving reading proficiency in most tested grades.

The three elementary schools, which are at the center of a significant portion of this research study, range in size. The smallest school has approximately 250 students and a student teacher ratio of 11.6 to 1. The largest of the elementary school serves 560 students with a student teacher ratio of 12 to 1. About 60% of the elementary school teachers have earned a Master's degree. The average number of years of experience for teachers in Pleasant Heights is 10.9 years.

Participants

The participants in this research included five district administrators (superintendent, assistant superintendent, language arts supervisor, two building principal—another principal failed to respond to correspondence) and 22 classroom teachers who teach first or second grades in the elementary buildings. Although not originally intending to be the focus of a research study, the district itself was a self-selected focus of an intrinsic case (Stake, 1994). District leaders, in a sense, determined the participants and the focus of this study because much of the data for this study was previously collected by district administrators for the needs assessment program. Stake (1994), in his discussion of case study methodology, identifies intrinsic case study research as a case that is pre-specified and sample chosen by default because the case already existed. "Intrinsic casework regularly begins with cases pre-specified. The doctor, the social worker, the program evaluator receives their cases; they do not choose them" (p.243). Consequently, I did not formally choose the participants of this case study.

However, to gain additional perspectives on the assessment of teachers' needs and professional development in the district in relationship to the needs

assessment findings, I convened a focus group of four content area teacher leaders that work in the elementary schools in the district and had been identified as possessing expertise in language arts or mathematics instruction. These teachers serve dual roles as teacher leaders/instructional coaches and classroom teachers. I asked these teachers to participate in additional data collection because the nature of their job responsibilities gives them a unique perspective on the planning process, and because they have a clear understanding of the instructional context in addition to understanding the district's vision of effective instruction.

Data Collection Procedures

This case study utilized multiple forms of data collection. Collecting more than one type of data contributes to both the validity and the richness of the study. Glesne (2006) submits that "ideally, the qualitative researcher draws on some combination of techniques to collect data, rather than a single technique" (p. 36). The district's own planning process and the needs assessment including the consultancy project yielded several forms of data that were analyzed for this study in order to capture the participants' experiences and perspectives.

Stake (1995) suggests that "two principal uses of case study are to obtain the descriptions and interpretations of others" (p. 64). A case study helps to portray the multiple views of those involved in the context being described. To this end, I collected and analyzed data through several data collection methods, including interviews and documents. Although the needs assessment project included observations, those observations took place before the design of this study and, therefore, are not specifically mentioned as a method of data collection. However, the summary report of observation findings that was

provided to the district at the end of the consultancy was collected and included in the document analysis. Following is a brief description of how the observations at the center of that report were conducted.

Observations. Classroom observations in were conducted as part of the district's needs assessment project. Each member of the observation team spent one full school day (approximately six hours) with first and second grade teachers. My role during the observation was passive observer. While in the classrooms, my two colleagues and I did not participate in the lessons. At times, though, we interacted with students to ask questions about their work. The classroom observations provided the team with first-hand knowledge of classroom instructional practices and allowed us to create detailed field notes. We used a structured observation form (See Appendix B) created by the university professor after meetings and interviews with district administration to guide our observations. The form addressed factors such as the classroom environment, the structure of the literacy block, the integration of other content areas into language arts, and classroom management. The field notes collected during these observations by each of the three observers and the observation forms were collected and analyzed for the purpose of the consultancy and district's needs assessment.

Interviews. As part of the observation team, I met with five district administrators during the development stages of the consultancy project to gain insight about the district's instructional programs, approach to professional development, and goals for the needs assessment project. Each semi-structured interview lasted approximately 60-minutes and was focused on understanding how these school leaders who function in different capacities (Superintendent,

Assistant Superintendent, building principals, and content-area supervisor) identify teachers' needs through various methods. A second purpose of the interviews was to learn how the Pleasant Heights School District planned professional development for teachers each year, and how planning decisions reflect the needs identified by district staff. Although the interview format was flexible and allowed for follow-up questions to be asked in response to participants' comments, I asked three specific questions of each interviewee: (1) What, in your perception, are the learning/professional development needs of elementary teachers, particularly in the area of language arts? (2) How do you (in your particular position) determine teachers' needs? (3) By what process does the district plan teachers' professional development? The interview questions emerged during a meeting of the observation team and university professor as we began to share our findings from the observation, before conclusions were presented to the district. In response to each interviewee's remarks, additional questions were posed. Audio recordings of these interviews were made (and were transcribed). The recordings, transcripts, and notes from those semi-structured interviews were acquired with permission from the university professor in charge of the project, as well as district administrators. The team noticed marked differences in teachers' needs across and within grade levels in the same school, as well as between the three schools. The disparity of needs related to observations in classrooms within this cohesive district raised questions about the consistency of professional learning activities across schools, and the nature of the needs identified by teachers and district leaders.

Although this research study was designed around the analysis of extant data, additional data was collected during a group interview. The focus group

consisted of four content area teacher-leaders that work with both teachers and students in the elementary schools. Their roles incorporate peer coaching as well as instructional duties. Therefore, the teacher-leaders have particular knowledge about students' instructional needs, different types of teachers' professional learning needs, the district's professional development program (what gets offered and to whom?), and its planning process. Because the data for this research study is largely pre-existing, the data collection instruments were not designed to specifically address the research questions of this study . Therefore, the focus group was instrumental in filling in some gaps in data that emerged during preliminary data analysis. Additionally, follow-up interviews with PHSD administrators were also conducted to address gaps. For example, in order ascertain how the needs assessment results were used, and what needs were identified throughout the project, I conducted follow up interviews in February of 2013.

Documents. The New Jersey Department of Education requires all districts to submit a professional development plan each year. The district PD plan is comprised of two main sections: The first section requires the district to develop a profile that incorporates school level information for the overall district professional development plan. The second part contains seven subsections that include the following: A. Reflection; B. Needs Assessment; C. Professional Development Goals; D. Professional Development Activities; E. Professional Development Resources; F. Ongoing Assessment and Evaluation of the Professional Development Plan; and G. Summaries of School Professional Development Plans. The instructions for section two state that "local committees and other staff involved in developing the plan are asked to reflect

on previous professional development in the district and answer questions about the leverage points that could be used to strengthen professional development across the district and the challenges anticipated this year in implementing professional development" (NJDOE, 2008, p.6). The district's plan, which was submitted to the NJDOE on May 5, 2012, was analyzed for this study. In preparation for writing the plan, the PHSD's planning committee solicited from building principals a summary of building-based needs for professional development. The building summaries were based on formal and informal methods, including a review of teacher surveys, additional needs and interests expressed by teachers to the school-based professional development committee, PLC logs, and needs identified by the principal as a result of teacher performance evaluations. These summaries and results of the teacher surveys along with a description of the professional development program from Pleasant Heights' teacher orientation handbook were analyzed for this research study. Additionally, a district checklist outlining professional development expectations for teachers before receiving tenure was included as data for this study.

Other document sources were two different teacher surveys. In late January of 2012, a brief survey was distributed by the university professor as part of the consultancy to determine teachers' feelings about the language arts programs, their learning needs, and the district's approach to providing professional development. In April, the district's planning committee distributed a different survey to assess teachers' interests and self-identified professional learning needs. The survey contained topics that were pre-selected by the district supervisors in consultation with the district's professional development

committee. The pre-established topics, included the following: technology, class management, differentiated instruction, language arts literacy, Special Education, cultural differences, mathematics, and lesson development. The survey included a section for “other areas” where teachers could write in additional topics of interest. Both surveys were included in the data analyzed for this study.

Data Analysis Procedures

Triangulation of analytical techniques on a single data set was important for this research. Evers and van Staa (2010) recommend using a combination of inductive and deductive approaches. Therefore, a combination of Strauss and Corbin's inductive, thematic analytical process of open, selective, and axial coding; Miles and Huberman's strategy of using graphic representations such as data matrixes and charts; and the modeling tools of Systems Thinking were used for data analysis. The need to organize data in a structured, deductive way built by theoretical notions and frameworks was addressed by using the Systems Framework for Evaluation Model (described in Chapter Two).

I first followed Cresswell's (2007) recommendations for case study analysis: I read through all data, and made margin notes. I immersed myself in the raw data by listening to the interviews, reviewing transcripts and field notes, and examining documents in order to list key ideas and recurrent themes which I recorded in memos. Then, I created a chart listing all of the data and describing what information was provided by each data source. See Table 3.1.

Next, I used a process of open coding, where codes were developed on the spot while reading the data. I reviewed the data several times as a whole,

rereading transcripts and documents to identify all of the relevant ideas in the text, and rearranged the data according to codes identified. Then, I followed Charmaz's (2003) recommendation of asking a series of questions to facilitate thematic coding: What is going on?; What are the people doing?; What is the person saying?; What do these actions and statements take for granted?; How do structure and context serve to support, maintain, impeded, or change these actions and statements? (Charmaz, 2003, p.94-95). Thematic coding involves recording or identifying passages of text or images that are linked by a common theme or idea allowing you to index the text into categories and therefore establish a "framework of thematic ideas about it" (Gibbs 2007, p. 38)

I added the list of open and thematic codes to the Dedoose web application for qualitative and mixed methods research, and imported text and audio files to my project within the system. After the files were uploaded, I was able to code excerpts of text and audio based on the list of identified codes. Although I engaged in a process of open coding, I did create codes that aligned with the phases of the system model for needs assessment. In a sense, I conducted the open coding and thematic coding simultaneously. Then, codes were merged into broader themes or split up into subcodes, as appropriate. After I was confident no more merging or splitting could be done, I retrieved the excerpts associated with each code, one by one. For example, one code was "administrators' perceptions of district's PD program". There were 43 excerpts associated with this code. I carefully analyzed all 43 to look for patterns within the code. As patterns and trends became apparent, I jotted down key terms, phrases, or quotes on sticky notes. Then, I looked for evidence of themes within and across codes, using an array to display and organize the notes. Using the

sticky notes allowed me to physically move the data and graphically represent the information for a better interpretation of the data. I continued this process for all 16 codes. Once I was unable to further reduce the notes down to patterns and themes, I arranged the remaining themes on top of a poster-sized version of the systems framework, and placed each note within the phase of the needs assessment process it was describing.

The phases in the systems framework accurately reflect the steps that occurred in the needs assessment being examined in this research study. The stages described in the inner circle of the Systems model include focusing the evaluation; selecting data collection methods; collecting and analyzing data; communicating evaluation processes and results; and responding to evaluation findings. This framework allowed me to form and analyze categories of data related to the implementation process as well additional categories of negotiation, contextual factors, and evidence of diverse needs. See Figure 3.1

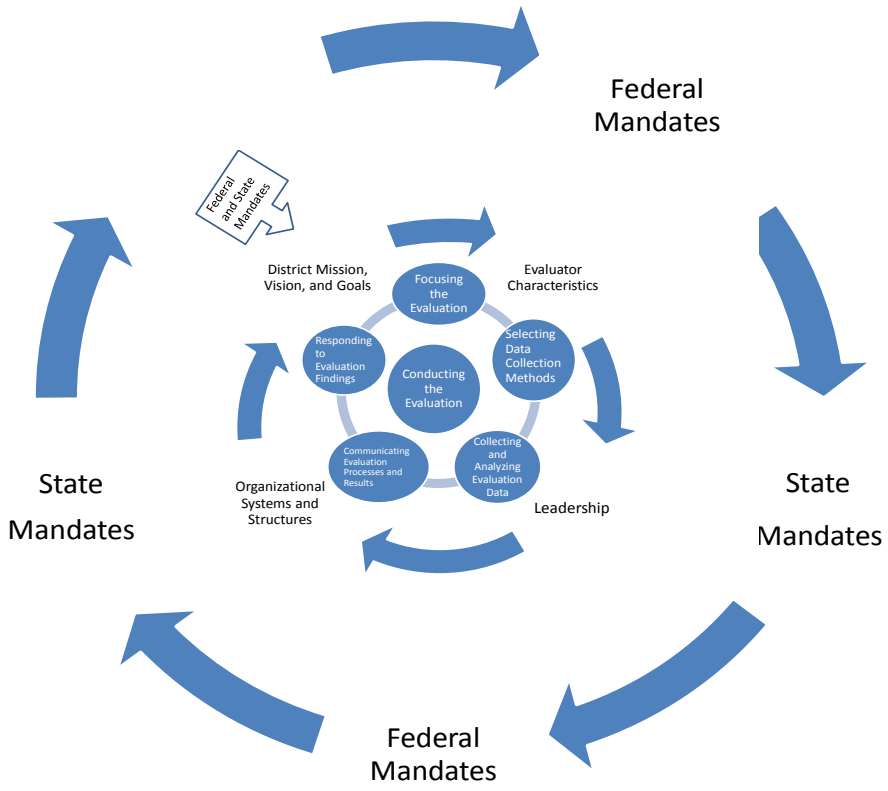

Figure 3.1 A Systems Framework for Needs Assessment Process (Adapted from Russ-Eft & Preskill, 2005, A System Model for Evaluation)

This multi-method analysis helped to form holistic understanding of this phenomenon, such as the types and levels of need identified in the process, the different perceptions of teachers' needs expressed by participants in various roles and their similarities and differences, and the nature of the challenges that emerged in uncovering and mediating between competing interests and perceptions of need, and responsibly planning professional development to address them.

Document analysis of the district PD plan, description of professional learning from the new teacher orientation manual, building-based summaries of need contributed by principals, and the checklist of professional learning

expectations relating to teachers who receive tenure, were used to understand how teachers, administrators, and state and federal mandates, contributed to identifying needs for professional development and subsequent program planning to address those needs. Taken together, these data illustrate the complex nature of needs assessment and planning by answering some of the following research questions: Who needs what? As defined by whom? Through what methods were needs identified? What data collection methods were used to identify cultural factors that influence the process? Moreover, analysis of these documents shows how district leaders prioritize and negotiate to meet a wide range of needs and interests.

Limitations of the Study

This study was confronted by several limitations. First, the fact that the study used extant data collected for non-research purposes limited its scope in that data collected through surveys and interviews were not specifically designed to answer the research questions. While the district personnel were available to provide additional information throughout the data collection and analysis processes, purposeful development of interview protocols and surveys to address specific research questions would have surely yielded information more seamlessly designed to answer them. I was able to go back and fill in gaps in the data that emerged through analysis, but that opportunity was not unlimited as the needs assessment process took place nearly two years ago and the moment has long passed.

The observation method used in this study created some limitations because the observers, who have at one point been literacy specialists, instructional coaches, building administrators, and university adjunct

professors, brought with them their own ideas about "what should be" because of these varied experiences. Although we each used the structured observation form to guide our observations in an effort to standardize the collection of data, there was undoubtedly some inconsistency in how observation were conducted and notes composed. At the time of data collection, there was no specific effort made to ensure consistency.

The purpose of this study was to give an account of what happens when a complex K-12 school system implements a needs assessment as part of the program planning process, and to contribute to the body of knowledge informing adult education program planning. The results of needs assessment, however, will always be context-specific and not generalizable. In addition, case studies, by definition, are context-bound so the findings are specific to the context from which they are generated cannot be representative of other cases. While I do not feel that my participation in the consultancy as an observer placed any limitations on this research study, it was challenging to do a study of a study. At times, it was difficult to orient my researcher self to the data and data collection methods that were specific to my observer self. When I thought about observation as a data collection method, for example, it took some time for me to conceptualize that the observation was a data collection method related to the study (the district's needs assessment), and not my study of the study (this research).

Credibility

Several methods for ensuring credibility can be employed in qualitative research. According to Merriam (1998), the qualitative investigator's goal of establishing credibility deals with how congruent the findings are with reality.

Choosing appropriate research methods that adequately address the research questions and that have been well established in qualitative investigation can increase credibility. Yin (1994) stresses the importance of incorporating appropriate measures for what is being studied. Therefore the first strategy employed to increase credibility is that this study relies on the use of accepted data collection sources and techniques.

Having knowledge of the culture of the participating organization before the first data collection dialogue takes place is another method of improving credibility (Guba & Lincoln, 1995). As part of the external observation team, I had the opportunity to engage with the district leadership and teachers in several meetings and presentations before the start of the consultancy project and later for the eight days I spent observing in classrooms before this research study was conceived. I also brought some familiarity with and knowledge of the district to the project because I have worked and/or lived in its vicinity for much of the past 15 years.

Triangulation is another method to increase credibility which was used in this study. Triangulation, in this case, involved the use of multiple data sources, multiple data collection methods, and multiple analytical approaches. "Multiple triangulation is a way to confirm the breadth and accuracy of the data set and its interpretation... When one is studying complex social phenomena, multiple strategies combined may address unique angles or contribute multiple viewpoint" (Evers & van Staa, 2010, p. 4). Likewise, according to Guba (1981), and Brewer and Hunter (1989), the use of different methods in concert compensates for their individual limitations and exploits their respective benefits. In particular, this study was based on observation, focus groups and

individual interview data, which are the major data collection strategies for much of qualitative research. Furthermore, supporting data was obtained from documents to provide historical background that helped to explain the attitudes and behavior of research participants and to verify particular details that participants supplied.

Lastly, opportunities for scrutiny of this research by colleagues and peers were solicited, and feedback from peers was incorporated during the study. For feedback, I shared my field notes and manuscript with the two other observers from the team, the university professor involved in the consultancy, and the district administrators. Their questions and observations enabled me to refine my methods, develop a greater explanation of the research design and strengthen arguments in the light of the comments made (Shenton, 2003). This chapter reintroduced the purpose of the study and provided descriptions of the site and participants of this study. The data collection methods and data analyses approaches were discussed, as were the limitations posed by this research. In the next chapter, I will discuss in detail the results of the data analysis process.

CHAPTER 4: FINDINGS

The purpose of this study was to analyze and describe the implementation and use of needs assessment in a K-12 school district referred to in this dissertation as Pleasant Heights School District. It illustrates how context influenced its design, implementation, and subsequent program planning. The needs assessment results made clear that diverse and layered needs and interests of multiple stakeholders in a school district emerge when needs assessment is treated as a complex task designed with a systems perspective. By studying such a case, the field gains insight into the ways in which needs assessment may be utilized, the challenges that occur during the implementation process, and how school leaders can deal with such challenges in light of contextual constraints that may exist. Such insight sets the stage for additional theory-building research. More importantly, it may provide guidance to school leaders seeking to replicate this type of needs assessment or make decisions about designing and selecting an approach more suited to his or her specific context.

In this chapter, I present the story of the needs assessment process as it unfolded in the Pleasant Heights School District (PHSD). First, I will describe the background and political context within which this case was situated, paying particular attention to the multiple data collection methods used in conducting the needs assessment. Then, I will describe each phase of the needs assessment, detailing the roles and perceptions of stakeholders in the process. Throughout the chapter, I illustrate the various ways that teachers' learning needs were assessed, the tools used to do so, and the decisions that were made to prioritize goals to be addressed through professional development.

Additionally, I bring to light negotiation among stakeholders about whose needs and interests make it to the professional development "planning table"(Cevero & Wilson, 1994). Finally, at the end of this chapter, I will explain the manner in which the needs assessment project influenced the districts' professional development design.

Preface

Traditional story structure has a beginning, middle, and ending. Storytellers artfully depict settings and thoughtfully introduce and develop characters throughout the text. Their craft moves involve creating an engaging plot, complete with a problem, solution, conflict, and major events that carry the characters along a journey. If they pay attention, readers can often also ascertain a moral from the story that brings to light some lesson about the human condition (Coleman et al., 2000).

The story of needs assessment can be told in many different ways and with as much complexity or simplicity as the writer chooses. If I were to attempt to illustrate this case using a typical, simple story structure, and if I summarized that story using a story map, it would look something like Figure 4.1. Telling the story in this way, however, only provides a surface, simplistic glimpse of what took place during the design and implementation stages of the needs assessment and it does not capture the multifaceted and messy aspects of the process. My theoretical framework, systems thinking, with its concept of emerging complexity, underscores the appropriateness of conveying PHSD's needs assessment story in a nonlinear fashion.

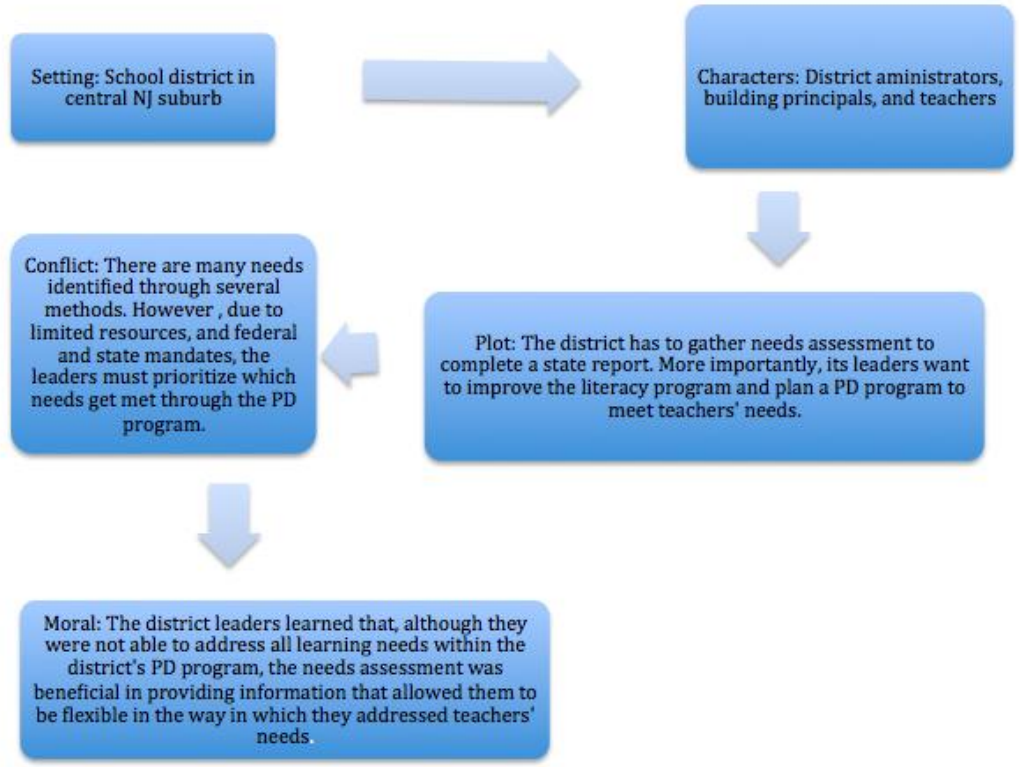

Figure 4.1 Needs Assessment Summary Represented in a Simple Story Map

This particular story of needs assessment is somewhat different from this traditional story line. Its beginning and end aren't clearly identifiable. The characters aren't the focus of the story. Rather, the events, or scenes, and process are most significant.

A more accurate depiction of the complex, political endeavor that took place during the needs assessment is represented by the model below, in Figure 4.2. This model is based on Russ-Eft and Preskill's (2005) Systems Model of Evaluation and uses a systems thinking framework to depict the complex nature of the needs assessment implemented in the Pleasant Heights School District. It is appropriate to view the needs assessment process in this district as a type of developmental or formative evaluation because it was conducted as part of training or human resource development (Sleezer, Kelsey & Wood, 2008;

Rus-Eft & Presskill, 2001; Scriven, 1991). Accordingly, a Systems Model of Evaluation (Russ-Eft & Preskill, 2005), a useful framework for identifying factors influencing the success and outcomes of a needs assessment, was used to describe needs assessment that took place in the Pleasant Heights School District. I revised Russ-Eft and Preskill's (2005) model several times. The version illustrated in figure 3.1 depicts federal and state mandates as having a somewhat limited impact on the needs assessment process. After analyzing the data, it became apparent to me that the needs assessment was much more heavily influenced by mandates. Therefore, figure 4.2 was designed to reflect the influence of federal and state mandates on PHSD's needs assessment.

Describing a systems approach to needs assessment is limited by the confines of the linearity of traditional prose conventions. The challenge of trying to convey systems' actions on paper is one reason why the use of models is such an important aspect of systems thinking (Senge, 2006; Forrester, 1971). What cannot be conveyed in text can be more accurately depicted in models. At first glance, this system’s representation may seem overly intricate with its multiple phases, overlapping and recursive layers of activity, and external influences. This level of complexity, however, depicts the interrelated and multidirectional flow of activity that occurred within the system and among its components. Although this model does not necessarily make telling the story of needs assessment easy for the researcher, it does provide the reader with a visual reminder of the system in its entirety while reading about any one component being described.

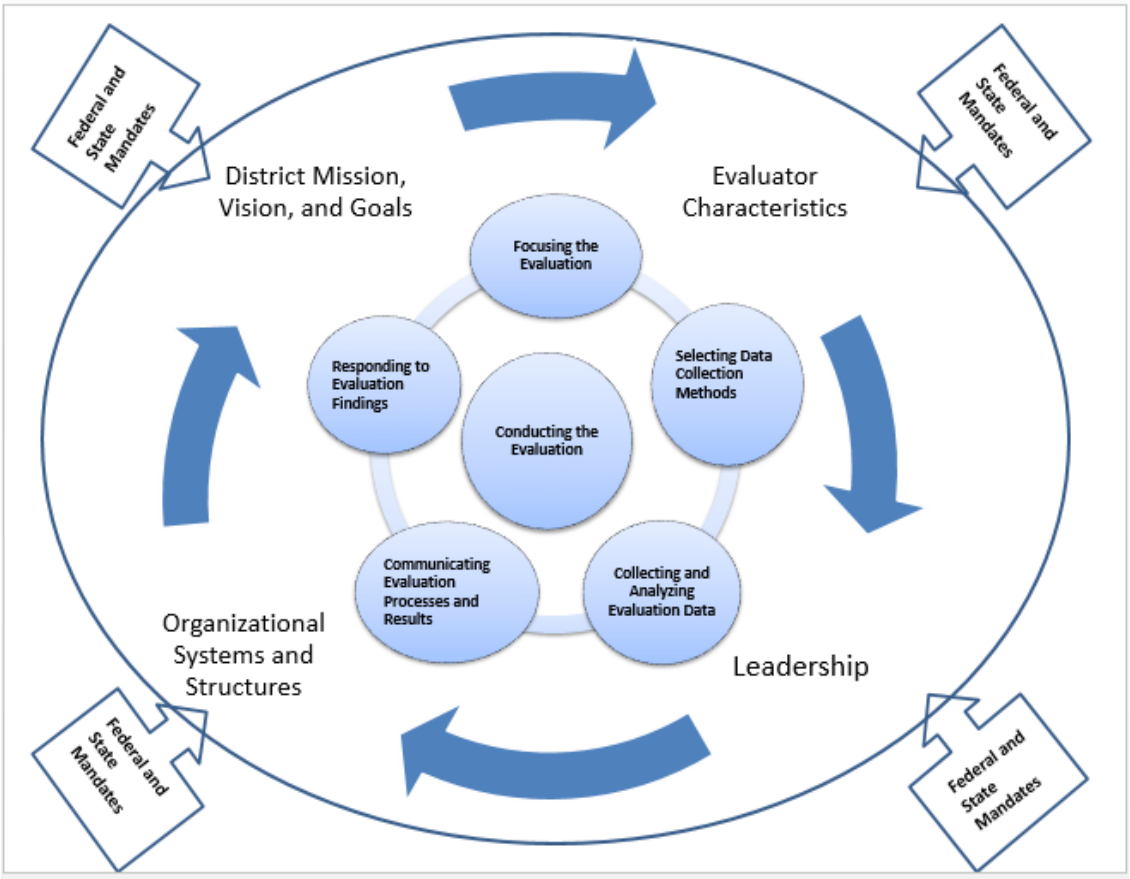

Figure 4.2 A Systems Representation of the Needs Assessment Project

Because there is no way to accurately capture in writing the complexity and layered reality of this story, I have had to settle for presenting it sequentially, rather than in its actual layered form. Systems thinkers would have cautioned me against trying to represent such a dynamic process in a simplistic, linear fashion. They would caution that the moment in which I attempted to break apart the system into its isolated, more manageable components, I invited oversimplification into the discussion. However, the options for representing this process on paper are few. Therefore, I am using phases in the needs assessment to anchor the telling of the story in the PHSD. By doing so, the model serves as a table of contents or a map of the story helping the reader

move from one a descriptive “scene” to a view of the larger “story” and then on to the next “scene”.

The systems model in figure 4.2 represents the needs assessment process that occurred in the Pleasant Heights School District and will guide the discussion of the results of this research. The evaluation process in this case unfolded in the non-linear stages depicted in the model. Each phase of the model represents a “scene” in PHSD’s needs assessment story. To tell the story, I rely upon the narrative methods of organizational storytelling, a technique of using stories a tool to understand complex organizational life (Boje, 1991). Storytelling as a qualitative method is “especially rich as a vehicle to study processes and material conditions occurring inside the organization” (Rosile et al., 2013, p. 557). It is steeped in interpretivist methodology, which requires the researcher to interpret social action. Storytelling, therefore, is a kind of sense making.

To this end, I will use a range of narrative techniques to tell the story of the needs assessment. The systems model, as an illustration, will serve to name the parts of this story. First, the prologue will acquaint the reader with the broad outlines of the story. Then, I will use narrative structures to highlight findings and summarize particular themes in analysis and interpretation (Ely, Vinz, Downing, & Anzul, 1997). Specifically, vignettes will be used to make sense of the needs assessment process. “A vignette restructures the complex dimensions of its subject for the purpose of capturing, in a brief portrayal, what has been learned over a period of time” (p.70), and it is a portrait “created through condensing and compiling” (Ely, Vinz, Downing, & Anzul, 1997p. 74). In other words, the events conveyed in the vignettes may not have occurred in

one instance in time and the subject of the vignette may not have actually uttered the exact words ascribed to them. Rather, the words spoken in the vignettes represent the presentation of a collection of analyzed and interpreted data from several sources. For instance, the information reported through a single vignette may have been gathered from a participant or several participants across multiple instances and from a range of data sources (i.e., interviews, document review, etc.) Likewise, details from district documents and other data sources may be used as a basis for creating the statements in the vignettes, although no participant actually spoke the words during interviews. The vignette represents, in essence, a compilation, synthesis, and interpretation of all of the research data. I chose to use vignettes of this kind to tell the story because it enables a holistic view of a system to understand it, and "by analyzing the entire story as told, retold, shared, and passed down from one person to another, researchers will gain a deeper more meaningful understanding of the organization and its members"(Kendall & Kendall, 2012, p.164). The voices of participants of this study are used to tell the story of the needs. Actual interpretations of the data and findings, on the other hand, are conveyed in a more conventional and straightforward manner.

In their discussion of storytelling as a qualitative tool, Kendall & Kendall (2012) stress the importance of using a systems thinking approach to understanding stories. The vignette then is a tool that is compatible with the systems thinking framework. It makes it possible to view a holistic yet orderly portrait of the complex system.

Prologue

At PHSD, in a suburban New Jersey town, the administrators decided to take a thorough look at its organization's learning needs. They designed and implemented a multi-method needs assessment to gain insight on how to plan an effective and responsive professional development program for its staff. This district, however, embarked upon this needs assessment initiative in a tumultuous political climate.

An important starting place for understanding the context or setting within which this story takes place is the educational policy climate at the time the needs assessment was undertaken. In a discussion of politics and public education, Thomas (2012) states, "public education is by necessity an extension of our political system, resulting in schools being reduced to vehicles for implementing political mandates. For example, during the past thirty years, education has become federalized through dynamics both indirect ("A Nation at Risk" spurring state-based accountability systems) and direct (No Child Left Behind and Race to the Top.)" (Thomas, 2012, para. 4). No Child Left Behind, for example, brought with it concepts such "Adequately Yearly Progress", which equates students' test scores with proof that schools are doing their jobs. The federal government, under the banner of holding public schools accountable for the success of all students (as measured solely by standardized assessments), has established requirements that have had an impact on a range of local school functions including programs and budgets. This story takes place during a climate that Guskey (1998) refers to as the "Age of [our] Accountability". New, controversial, and rigorous standards were recently adopted by a vast majority of states in the country. Along with the new standards have come "next

generation" assessments that will challenge students and staff alike. Tenure reform in New Jersey has added yet another level of stringent requirements. Districts had to adopt, from a list of approved models, a new system for evaluating teachers' performance. This year, 2014, these new evaluations, along with the results of student assessment, will be used to rate teacher effectiveness. The regulations require tenure charges, legal actions brought against a teacher for “inefficiency, incapacity, conduct unbecoming or other just cause” (N.J.A.C.6A:3.5.6, 2013), be brought against teachers who are not rated as effective in this way for more than one year.

Implementation of many of the mandates associated with these changes, although costly, is unfunded at either the federal or state levels. Districts must accomplish more than ever with the same or less funding. The Age of Accountability is a challenging time for public education. It is within this tumultuous environment that Pleasant Heights School District and the needs assessment initiative it undertook are situated.

While it may serve a variety of purposes, needs assessment in public education has most recently become popular as a means of gathering data in order to identify teachers' learning needs. This data is intended to be used to design appropriate interventions, such as professional development programs, aimed at addressing the identified needs. In essence, needs assessment and professional development have become almost inseparable. Many districts administer surveys to get a sense of teachers' interests in particular topics or strategies. Others may assess needs by analyzing trends in teacher evaluation data to determine topics to be addressed in professional development.

The major contributor to the current popularity of needs assessment may be No Child Left Behind (NCLB) (SEDL, 2011). NCLB is the current incarnation of the Elementary and Secondary Education Act of 1965 (ESEA), whose purpose was to raise achievement and close achievement gaps. It encompasses Title I, the federal government's aid program for disadvantaged students and Title II--the Improving Teacher Quality States Grants. Any district receiving federal funds through these grants is required to consult with teachers and school leaders to determine their appropriate use for professional development based on needs assessment data (USDOE, 2006). Therefore, for many districts, conducting a needs assessment is required and failing to do so may have significant monetary and punitive consequences. In 2013, the federal government spent over 3.3 billion dollars on the Improving Teacher Quality portion of NCLB alone (Federal Education Budget Project, 2014). With such incentives tied to them, federal regulations undoubtedly influence the states' departments of education. The $3.3 billion disbursed for improving teacher quality came in the form of state grants, and the state departments of education are surely clear about expectations for districts to meet the grant's requirements. For example, New Jersey districts must submit an elaborate professional development plan yearly, within which they must detail the process used to identify and address teachers' learning needs. The NJDOE states that the function of the PD plan is to "help the Local Professional Development Committee (LPDC) think systematically about the key elements needed to create a quality professional development plan that supports the needs of all staff members" (NJDOE, 2009, p.4). It follows, then, that the district's use of needs assessment is strongly influenced by federal and state regulations. The federal

and state influence on district needs assessment is represented in the systems model (figure 4.2) by the outer circle of arrows and will be discussed in more detail in the following section.

Within the broader societal context is the organizational context—the characteristics of the district's environment that shaped the needs assessment and planning processes described in this story. It is first important to recognize that "whatever system (such as program or intervention) any organization implements, it will always be situated within a larger organizational context that is, and will be, influenced and affected by external forces" (Preskill, 2007, p. 405).

In this chapter, throughout my discussion of the phases, I will highlight the interaction between the context and the evaluation. The context is described in terms of the district mission, vision, and strategic goals, leadership, organizational systems and structures, evaluator characteristics, and other contextual factors.

District mission, vision, and strategic PD goals

The methods of data collection for the needs assessment initiative and the professional development program were selected because of their alignment with district goals. In other words, when school-based teams create school goals, they must reflect the district's established goals. Likewise, when teachers set professional goals for themselves, they must be able to demonstrate the connection between individual and district goals. Therefore, all of the activity of the needs assessment and program planning systems are driven by the priorities reflected in the district's mission, vision, and goals. In the Pleasant Heights School District, the mission statement reads:

> The Pleasant Heights School District recognizes the diversity within our learning community and respects the individuality of each student. We are committed to providing twenty-first century technology, fostering intellectual development, establishing self-esteem, and encouraging personal responsibility. We realize the need for all students to become independent, lifelong learners prepared to successfully meet the demands of a changing world.

The district's vision statement was not posted on its website but its strategic professional development goals were listed in the professional development plan. The PD goals reflect priorities including: understanding and attending to community's cultural needs; connecting out-of-district PD to the district's PD goals; increasing technological literacy; training staff in DuFour's PLC model (Dufour & Eaker, 1998); and continuing to adhere to federal and state mandates. The connection between the decisions made during the needs assessment and planning work and these goals will become apparent as the process is described throughout the chapter. The district's leadership also influenced the needs assessment.

Leadership

PHSD's superintendent and assistant superintendent had ultimate control over the design of the needs assessment. In essence, the superintendent determined the scope of the evaluation, the manner in which this was communicated and implemented, and the use of its findings. The characteristics of the district leadership, as a result, shaped the needs assessment process. The leaders were in a position of power and influence which they exercised, but also attempted to share the power by engaging stakeholders in the needs assessment. For example, each building had a school-based professional development committee that was responsible for gathering information about professional learning needs from the building staff

and, as part of the district's PD committee, sharing the information. Pleasant Heights' administrators also included teachers' input in the identification of needs through the use of a professional development survey in addition to teachers' analysis of student assessment data. The leaders' design decisions had an impact on the way the needs assessment was enacted.

Although the district leaders had control over the design of the needs assessment and professional development program, they never intentionally abused their power. In fact, throughout the needs assessment initiative and during data collection for this research study, the superintendent and her administrative staff showed themselves to be progressive in their approaches to improving student performance and teacher learning. They were passionate about making a difference in students' lives and in teachers' professional growth. Certainly, PHSD's leaders were gracious in extending themselves and their district in agreeing to be the subject of this research. The Pleasant Heights staff, from administrators to teachers, was hard working and conscientious. The reporting of the results of this study is in no way meant to disparage the efforts of these dedicated professionals.

Organizational systems and structures

That the district had the capacity and the will to arrange the resources of time, space, and personnel to support the implementation of a needs assessment had a further impact on its design. To do a multi-method needs assessment, organizational structures had to be able to support the process. For instance, the classroom observations that were conducted by outside consultants would not have been possible or prioritized in many districts. In PHSD, however, the staff was open to having visitors, and the administrators

had the resources to invest in the consultancy. The organization's structure also supported communication about the needs assessment processes. The consultant hired to oversee the implementation of the observations and analyze the data collected as a result was able to address the entire staff several times in person and via email. In addition, because there was an expectation that the results of the needs assessment would be used, the district's structures had to be relatively flexible in order to accommodate revision and implementation of suggested practices. If the needs assessment indicated, for example, that teachers need to have more time for collaboration, the district's schedule or resources for release time would need to be able to support the recommended additional time. Pleasant Heights' organizational structures were accommodating, for instance, of changes in schedules for meetings and external observers. As a result, the district's staff was able to go beyond the typical PD needs assessment survey and implement the multi-methods approach to assessing needs.

Evaluator characteristics

Patton (1987) states that "evaluators need to know a variety of methodological approaches in order to be flexible and respond in matching research methods to the nuances of a particular evaluation" (p. 136). Characteristics, such as levels of experience and education of evaluators involved in the needs assessment, may potentially impact their decisions about method and design. Likewise, research suggests that evaluators' positions in the organization (internal or external) may relate to the methods they use and the extent to which they involve stakeholders (Azzam, 2011, p. 377). In this study, the decisions about the needs assessment design, implementation, and

use of findings were made by the assistant superintendent and the superintendent. While I have no data related to their experiences as evaluators, both have over 30 years of experience in the field of education. These two leaders, referred to as Walter and Pam, were described by staff members as being “open” and “gracious”, and having a respect for learning. This characterization, though, does not necessarily convey their stances towards evaluation or reveal exactly how they made decisions about the evaluation. It can be inferred that, because these district leaders consulted with an external observation team, they have a level of openness to critique and a desire to receive alternative perspectives. Those are characteristics that could have shaped Walter’s and Pam’s evaluation style. The district’s leaders were joined by the external observation team, which added another set of evaluators with vastly different experiences and characteristics. Because the identification of needs is a political and subjective activity, it is a process unavoidably shaped by evaluator characteristics.

Other contextual factors

The evaluation processes were also impacted by additional contextual factors. Teachers' disposition towards professionalism and improving their practice was a critical factor. For much of the duration of the needs assessment, teachers were involved in a tense contract negotiation and job action. In fact, during my first day of observations, one of the teachers explained that, as part of the job action, teachers were told to enter the building no earlier than the time they were contractually required to be at work. The teacher indicated her desire to be in her classroom early, preparing for her students, and reported that she felt guilty about not being able to do so.

Similarly, after the introductory presentation of the guided expert review, some teachers' surveys indicated that they were looking forward to gaining insights about gaps in instruction from the expert's findings and recommendations. Administrators were also able to confirm teachers' commitment to professional learning, especially after unforeseen factors impacted the district's ability to provide all of the professional development they had planned. One supervisor noted, "When I've been out observing, there are teachers who are doing, who took it upon themselves to learn about Daily 5 and CAFE; they're doing it, either through PLCs, or study groups, or with peers." This demonstrates teachers' commitment to professional learning, given that teachers took on these activities which required time outside of their contractual hours in the middle of a union job action.

There can be no understanding of a needs assessment process without first considering context. Context is critical to the design, implementation, and understanding of needs assessment because it frames the evaluation system" in ways that influence our perceptions and interpretations, and which in turn, affect our decisions and actions"(Ferris et al., 2008, p. 147). Therefore, before discussing how the needs assessment was conducted, it was important for me to draw attention to the context in which it was implemented.

What follows is the story of the needs assessment project that took place in the Pleasant Heights School District. The district administration did not purposely set out to conduct a systems-based needs assessment, but in some ways the needs assessment reflects aspects of a systems thinking approach. In

each scene of this story, the characters (stakeholders) are introduced through the use of vignettes. These vignettes (distinguished from the other written prose by italics), advance the needs assessment narrative by describing how the project was conducted, what went well, and what could have been done differently. The story is presented in scenes, which is the development, through dialogue and action, of a complete idea that moves the plot along toward the planned conclusion.

Scene One: Focusing the Evaluation

This phase of the needs assessment is most critical to success or failure of the process (Russ-Eft & Preskill, 2009). It is here that the needs assessment plan is created, its rationale and purpose established, its stakeholders identified, and key questions developed. As part of this process, before conducting the needs assessment, school leaders are encouraged to discuss the background and history of what is being assessed, why it is being assessed, what questions the needs assessment should address, and who the intended users of the needs assessment's findings will be (Russ-Eft & Preskill, 2009,p.142). It is counterproductive to hastily select a design and methods without clearly understanding the purpose of the needs assessment and key questions it should answer. For needs assessments intended to inform professional development, this phase of the process is crucial. Without thoughtfully focusing the evaluation, it is unlikely that leaders will end up with accurate and useful information for making decisions about what might work or need to be changed in the design of the professional development program (Russ-Eft & Preskill, 2009). "The task of focusing the evaluation becomes one of clarifying the program's underlying assumptions, activities, and resources,

short-and long-term outcomes, as well as the stakeholders' needs and expectations for the [needs assessment]"(Russ-Eft & Preskill, 2009, p. 144). The way in which the focusing phase of the needs assessment accomplished these tasks is described below.

Following are two vignettes that reflect different perspectives of what occurred in the focusing phase of this needs assessment. They describe how the PHSD determined the goals of the needs assessment and established questions to guide the needs assessment. They also describe how, mid-evaluation, the project's goals evolved. The first vignette encapsulates the perspective of the superintendent's office and is told from the viewpoint of Walter, the assistant superintendent. The second quote reflects what was shared by the superintendent with the university professor/consultant, Dr. Gwendolyn.

Walter, Assistant Superintendent

As the assistant superintendent, I have the job of pulling together all of the needs assessment data for the professional development planning. I worked with a committee comprised of supervisors, teacher representatives, and principals to develop the professional development plan. We identified areas from the needs assessment and the things we want to pursue during the year whether for in service days or other PD.

The needs assessment is something we do every year. The professional development plan template we have to use for our PD plan has certain requirements. First we have to start with our definition of student achievement and come up with student learning priorities. What is it that we believe about students and their learning? What do we want them to know and to be able to do? In order to come up with priorities we have to look at how we're doing as a

district compared to these definitions of student learning. What does our data say? Where are the gaps in learning? What are the possible gaps in instruction related to the learning? How can we address both kinds of gaps? And this is where the needs assessment comes in, so we can answer those questions to help us plan PD. This year, we wanted to get a clearer picture about how classroom instruction was really impacting the student learning, more than a surface, broad view.

For the most part, [The needs assessment] came from analyzing students' NJASK scores. The language arts results were not good at all. And we tried to figure out, I mean, we're always thinking about what might be causing the scores to be low. We looked at the results and thought, "Okay. We know one year there was a new test, so that was recalibrated. Another year, there's a new test and that was recalibrated. What do we do with these recalibrations? And how do they affect the test results? Then, when PARCC, the new standardized test, comes, we're going to be getting ready for a whole other test. So when it was time to get ready for the needs assessment to create the PD plan, the professional development committee, along with Pam and I thought about what we really needed to know from the needs assessment, some key questions to focus the needs assessment. Eventually, we agreed that we needed to know the needs of the entire teaching staff, K-12. From the surveys, we knew what professional development topics they wanted, but that is only one aspect of figuring out what teachers need. Interest in a topic isn't always related to what's happening in the classroom. We needed to know more about district needs. Then, of course, the conversation went to literacy instruction. We wondered, how is it happening in all of the schools? And what about our programs? Are they right for what we need to

improve student achievement? Professional development in literacy instruction for elementary teachers, if we're going to be looking at curriculum, has to be addressed. What PD do teachers need to be able to implement the literacy programs? Finally, we want to know what other professional learning opportunities teachers would like to have. That's a lot, I know, but that is information I think we need to design PD that will enable us] to see improvements.

As a result of PHSD staff coming to the conclusion that more knowledge about the district's literacy instruction was needed, Walter and Pam decided to hire Dr. Gwendolyn to do a guided expert review focused on the elementary literacy program. In the following vignette, Dr. Gwendolyn describes what she saw as her task and how she explained it to the team of observers she hired.

Dr. Gwendolyn, University Professor

Basically, the superintendent is looking to see which of the literacy programs they have are teachers implementing and what help they might need. The classroom observers will have a list of things to look for and then will make general comments about the classroom. I've met with the district administrators and there are some questions they would like us to focus on. First, what is the organization of the school day? How do children work independently and move from one place to another? How is reading taught and organized throughout the day? How is differentiation handled? When children need intervention, how does it take place? How is content-area material integrated into the language arts block? What roles do different adults in the room play? When and how does collaboration with the staff and teachers take place? The administrators would love to include everyone in the observations, but the budget and time constraints

won't allow for that. So, after the observations in 1st and 2nd grades in all three elementary schools, I'll be working with the staff to establish goals for literacy instruction and that will involve taking a close look at the curriculum and making recommendations for revision.

As demonstrated by the vignettes, in the case of Pleasant Heights' School District's needs assessment, the evaluation was focused to a great extent by the requirements of the NJDOE. Each year, districts are required to submit a professional development plan to the Department of Education. The overall goals as indicated by the state's PD plan template were to identify gaps in student learning and determine what teachers need in order to address those gaps. Within the plan, the district's reflections on the previous year's PD goals and progress are included. School leaders also provided detailed information about how the district's learning needs were identified. The plan requested documentation of how the student learning priorities were communicated to schools and whether administrators sought input for district priorities for PD from other stakeholders. Leaders were expected to identify the data that were used to provide evidence of adult learning needs based on student needs. The final step of the needs assessment of the PD plan required districts to explain what the analysis of the needs assessment showed to be district priorities.

The vignettes also show that the leaders sharpened the focus on the needs assessment as data was gathered and preliminarily analyzed. The purpose of those adjustments was to determine what was happening at the classroom level in the elementary schools in terms of program implementation. In other words, the overarching goals driving the needs assessment were to identify gaps in student learning, determine what teachers need to address

those gaps, and determine what is happening in classrooms compared to district expectations of instructional practice. The first two goals were implicit in the state's PD plan document. The third was identified as a priority by the PHSD administration. Based on these broad goals and data from interviews with district staff, I have deductively identified some key sub-questions the PHSD needs assessment was developed to answer. The questions are noted in table 4.1.

Objectives and Key Questions

The focus of the needs assessment, as established by the NJDOE, was to use a variety of formal and informal data collection strategies to identify adult learning priorities that could help them address student learning gaps. In order to identify adult learning priorities, the district had to reduce the overall goal to specific sub-goals. Although not articulated by PHSD leadership, these key questions represent the information sought by the district through the needs assessment: What are the district learning needs? What are the needs of teachers? How are the district's literacy programs being implemented across schools? How can the current programs be revised to better address learning needs of students? What professional learning experiences are necessary to equip teachers to implement the programs? What additional professional learning experiences do teachers desire?

Evaluation Stakeholders

In PHSD, the stakeholders with a vested interest in the design and results of the needs assessment included district administrators, building principals, teachers, students, and parents. However, the primary stakeholders were the superintendent and assistant superintendent because of their roles in

the district. They are responsible for the overall success of the district and they must justify programs and decisions to their board of education and the NJDOE. The members of the teaching staff were also important stakeholders. Decisions about program and curriculum that were made based on the results of the needs assessment directly impacted the teachers. Furthermore, the teachers were basically the subjects of the needs assessment. Their classrooms and instructional practices were under scrutiny and the results of the needs assessment would be directed toward them. Even though student assessment data was examined, the results and related interventions were directly connected to teachers' needs, not students'. Secondary stakeholders were the supervisors and principals because they supervise the teachers. These administrators wanted to ensure that PD activities met the needs of staff and brought about improvements in practice and student achievement. Students were also secondary stakeholders because, although they are not directly impacted by decisions about professional development, potential changes in instruction, curriculum, and resources do (or should) affect students. Parents were tertiary stakeholders in this case. The design of professional development and instructional programs shape the instruction received by students. Because of parents' inherent interest in their students' achievement, they are stakeholders.

PHSD included stakeholders from all three levels as participants in their needs assessment. While the DOE guidance document/PD template asked whether the district sought input in creating the professional development plan, the inclusion of specific stakeholders was not dictated. The district leaders included measures and activities to incorporate a variety of stakeholder

participation in the needs assessment process. The ways in which stakeholders participated will be discussed throughout this chapter.

In summary, the focus of the needs assessment evolved throughout the process, fluidly shifting as data analysis led district staff to pursue more information or different angles on the information they had. The initial focus of the needs assessment was dictated by the NJDOE professional development plan. As Pleasant Heights' staff engaged in needs assessment activities, however, the data led planners to narrow the focus and zoom into the needs of a particular group of teachers. The focusing the evaluation phase of this district's needs assessment was influenced by a commitment to compliance with mandates such as the ones related to developing the PD plan, a desire to establish clarity of expectations for classroom instruction across schools, a goal of increasing consistency in practice across buildings, and the desire to open the lines of communication among various stakeholders.

Reflections

During this phase, according to literature, it can be complicated to figure out the purpose and focus of the needs assessment (Russ-Eft & Preskill, 2009). In the case of PHSD, however, as in many New Jersey school districts, that process is basically handed to districts from the NJDOE in the form of PD requirements, particularly the plan template. As a result, it seems that the district did not engage in any formal planning of the needs assessment. Throughout the process, as will become clear, the goals of the needs assessment expanded and evolved. This is a likely an effect of not having a carefully established plan before moving into the needs assessment design and implementation phases but also reflects openness to learning and flexibility on

the part of the district leadership. They were open to following leads indicated by early data analysis.

The focusing stage of Pleasant Heights' needs assessment revealed areas that could be strengthened in the future. Beginning the focusing phase during the year prior to developing the professional development plan would have provided adequate opportunity for district leaders to create a needs assessment plan that included a clearly articulated scope and purpose. Mid-evaluation, the superintendent brought new goals and data sources into the process. Being able to identify those areas of interest earlier in the process would have enabled leaders to identify all appropriate data sources and data collection methods which would have yielded more accurate and usable information. It would have also improved communication about processes because PHSD administration would have been able to communicate with stakeholders about all methods of data collection at one time, instead of having to figure out how to do so when new needs assessment activities were added.

The creation of a logic model is also a recommended aspect of the focusing phase because of its fostering collaboration among stakeholders (Russ-Eft & Preskill, 2009). In addition, from a systems thinking perspective, the development of the logic model becomes more important than the resulting model. The development process "is typically an iterative and collaborative process, in which the needs assessment planner involves the stakeholders in generating a series of 'if-then' statements of the type: If event X occurs, then event Y will occur'" (Russ-Eft & Preskill, 2009, p. 158). This iterative process is crucial for a systems-based understanding of how decisions about the needs assessment plan and implementation may affect the school system.

Scene Two: Selecting Data Collection Methods

Schools are replete with data sources, but selecting the most appropriate method of collection and the most relevant data to collect is important. “Too often, selecting the data collection method comes as an automatic response to a request for evaluation without any consideration of the strengths, weaknesses, or appropriateness of individual methods” (Russ-Eft & Preskill, 2009, p. 210). It is important to consider the issues related to a method, as well as the questions each potential data source may address, before deciding to use it. Guidance documents from the New Jersey Department of Education state that the professional development plan must include "activities derived from assessments of staff needs; input from parents, community members, and local business leaders; and contents of school-level plans". It does not, however, suggest which data sources should or can be used to gather this input. In the following vignettes, district administrators describe how data collection methods were selected and utilized by the district.

Yvette, District Supervisor

Since so much of the needs assessment and PD planning begins with the teacher survey, I guess that’s as good a place to start describing our needs assessment process as any. Every spring, the [district] professional development committee, which is made up of representation from each of the school-based PD committees, comes together to put together a survey of needs and interests. In the past, we would create the survey to be pretty open, and teachers could include what they wanted. Well, that did not go well for a few reasons. The first thing is that the same topics would come from the same group every year, even though the district had been providing PD in those areas. The other thing was that there

would be such a range of topics that there was no way to reach any sort of consensus. Sometimes, there would be 30 or 40 different ideas generated from the survey. There's no way a PD program can support that type of variety. So, we tried something different this year. We looked at the goals we had identified on last year's PD plan. Did we meet them? If not, those topics were put on the survey. But you know what? The thing we did was base the choices on concerns we have been noticing at the district level, things like differentiation, working with students with special needs. The big one now, especially with the very high population of English Language Learners, is understanding cultural difference and becoming familiar with community resources. Those are the kinds of things we put on the survey (Appendix C).

There's also the data collection that we do all year. It's so much a part of what we do every day that I don't really think of it as part of the formal needs assessment process. But yeah, we look at a lot of different sources, of course the NJASK and HSPA and classroom assessments like the DRA and quarterlies. There wasn't a collection process really, not for those tests. The state reports are sent to us, and we right away make sure teachers, parents, students, the community—we make sure that everybody gets those results. You know, we get them kind of late, though. The state wants us to use the data and make action plans, but sometimes getting the assessments after the start of the year, that makes it harder. So, our tests, grades, and other student information are kept in Genesis, our online student information system, and the teachers can run the reports they need. We have that data on hand, so there really isn't a formal selection and collection method. Really, it's what we do all the time—looking to see if students are learning what we are trying to teach.

Tracey, Elementary Principal

I can tell you about how we collect data for the needs assessment at the school level. I know that I'm constantly thinking about what teachers need, from walkthroughs, from evaluations, from what they do in PLCs for which they keep a log. The logs are great as far as communication between me and them in that I'm able to see exactly where they are. What product did they analyze? What were their resources? What's their current focus, challenge, and concerns? What's got to go? And we do a lot of assessing [teachers' needs] through observation—formal and informal. And being able to see student data, formal and informal, as I walk through the building or hear from the PLC teams—those needs that are similar keep coming up throughout the building. So, it's great that teachers keep those logs and submit them to me after meetings. It's part of our procedures.

I know that toward the end of last school year Pam was interested in knowing what parents and students thought about the high school experiences, what types of activities they would like to see more of, and what kinds of support they would like to see. I know that as a district, and this is aligned with our strategic goals, we were interested in knowing their plans for after high school. How many planned to go to college? 2-year? 4-year? A trade school? Basically, I think, the focus group was about seeing if our parents and students believe we are helping them to achieve their goals.

Although these two vignettes do not describe every data source, they do reflect that a variety of data sources were selected by the superintendent and assistant superintendent. Some data sources, like the document review of student testing reports and the teacher survey, were already in place. They have been used historically for strategic planning and completing the professional

development plan that is submitted to the NJDOE. This needs assessment initiative, however, was the district's first comprehensive, multi-method approach to revealing teachers' learning needs. In addition to what Tracey and Yvette describe, it was also the first time the needs assessment process included a guided expert review. Data from classroom observations simultaneously addressed several key questions, particularly those related to needed revisions in the literacy curriculum and its implementation. In other words, selecting multiple methods that could address more than one key question helped school leaders form a more comprehensive and complex picture of teachers' needs than what had been possible in previous years from conducting a survey alone.

Overall, the methods that were selected were those that allowed the PHSD to use data that was already on hand, artifacts of their practice. The standardized assessment reports, classroom level data available in the web-based data system, and PLC logs are examples of the on-hand data. Additional collection methods included focus groups, which allowed the superintendent to gather information specific to the district's NA goal of identifying student learning needs. Pam, the superintendent, convened two focus groups aimed at gaining students' and parents' perspectives and feedback about the district's instructional programs and students' needs. The questions that formed the basis of the focus groups emerged from concerns identified from the analysis of a parent survey that Pam administered in the fall of 2011. Those questions were geared toward ascertaining whether students felt challenged and supported in their academic endeavors, and to determining what could be done by the district to increase the level of support provided to students. The specific set of

questions used for the focus groups were not available to me at the time I collected data for this research study.

Parents attending PTO meetings were invited to participate in the focus groups. Seven parents attended; it was facilitated by the superintendent. The focus group session was held in a conference room at the board of education office and lasted for approximately 90 minutes. During the opening, Pam welcomed the participants, gave some background about the purpose and context of the focus group, and explained how the session would be conducted. She took notes to document responses during the session.

The student focus group followed a similar structure, except that the questions were not selected until after the parent focus group had been convened. Based on the results of the parent group, questions were designed to follow up on concerns and issues that arose from the parents. In November 2011, student participation was solicited during English classes and across tracks (performance levels). The response was not tremendous. There were ten student participants who met at the superintendent's office at the high school for about an hour after school. This focus group proceeded in the same manner as the parent group. At the end, Pam told students that their input would be used to make changes to the schools' programs. Because of the time that passed between the facilitation of the focus groups and data collection for this research project, the raw focus group data and certain details about the process were not available to me.

Table 4.1 associates data sources and collection methods with the key needs assessment questions. However, this is inferred as a result of my analysis and was never explicitly articulated during the needs assessment process.

School leaders chose a wide range of data to analyze because they wanted to implement a needs assessment that included a wide range of perspectives to inform professional development design. In this case, to identify what teachers would need to improve student outcomes, district administrators began with an analysis of student assessment data. The document review of a range of testing reports provided the leaders with a rich source of information about student strengths and weaknesses, and by extension, their learning needs. These same reports were used during grade-level PLC team meetings, during which teachers looked at data to ascertain whether students had demonstrated mastery of specific skills and proficiencies. In this district, teachers documented their PLC activities in logs that were regularly submitted to the principal. The logs, thereafter, were selected for the needs assessment as a data source by which district staff could identify the learning needs of students and, by extension, teachers.

Another data collection method selected by the superintendent's office, in addition to analysis of student learning data and the teacher survey described in Yvette's vignette, was the guided expert review that included classroom observations. This data collection procedure was selected because district leaders felt that, as a team, administrators had observed classrooms for quite some time but were interested in getting feedback from an outside expert regarding their literacy program and classroom instruction.

Key Questions	Collection Method(s)
What are the district learning needs? What are the needs of teachers?	Document review-student assessment data, PLC logs; surveys; focus groups; guided expert review
How are the district's literacy programs being implemented across schools?	Document review--Building-based summary of PD needs submitted for district plan; PLC logs; performance observation
	Survey
	Observations
How can the current programs be revised to better address learning needs of students?	Document review of student assessment data, lesson plans, PLC logs
	Observations, guided expert review
	Survey, Focus groups
	Observations, document review of curriculum, student assessment data
What professional learning experiences are necessary to equip teachers to implement the programs?	Survey
	Focus group
	Guided expert review
What additional professional learning experiences do teachers desire?	Survey
	Focus group

Table 4.1 Methods of Data Collection Used to Address Key Questions of the Needs Assessment

Additionally, having observers spend an entire school day with one class was something completely impractical for administrators, so the observations gave principals a more detailed description of classroom instruction than they would ever be able to have gotten on their own. As the external team conducted the observations, they compared the practices observed in the classrooms to those outlined in an observation checklist (Appendix B). Those practices, which concentrated on literacy instruction and content-area integration, were outlined in Dr. Gwendolyn's vignette.

Interestingly, some administrators saw the implementation of the teacher survey as the beginning of professional development planning, although the testing data was reported in the PD plan as part of the needs assessment

process. This is evidence that the needs assessment and PD planning processes are closely intertwined in purpose and function. It is clear, though, that the professional development survey was a heavily relied upon component of the needs assessment. In fact, when I asked staff members about the district's approach to needs assessment, most people spoke only about the PD survey until I explicitly asked them about other methods. For many, other data collection methods were not necessarily considered to be part of a formal approach to assessing learning needs.

Timeline of data collection

Like much of this needs assessment project, the collection of data was an ongoing process. The timeline below shows when, throughout the school year, data was collected. There was not a time during the year that district staff was not involved in some sort of data collection. This is not surprising because in PHSD assessment data is always being collected, and assessment is an inherent part of the district's functioning. However, it was the district leaders' decision to systematically pull together data sources and view them with a specific purpose—to synthesize findings of multiple data sources to identify needs, prioritize those needs based on district goals and resources, and respond to those needs in a program of professional development—that shaped the needs assessment process and transformed extant assessment data into data sources for the evaluation.

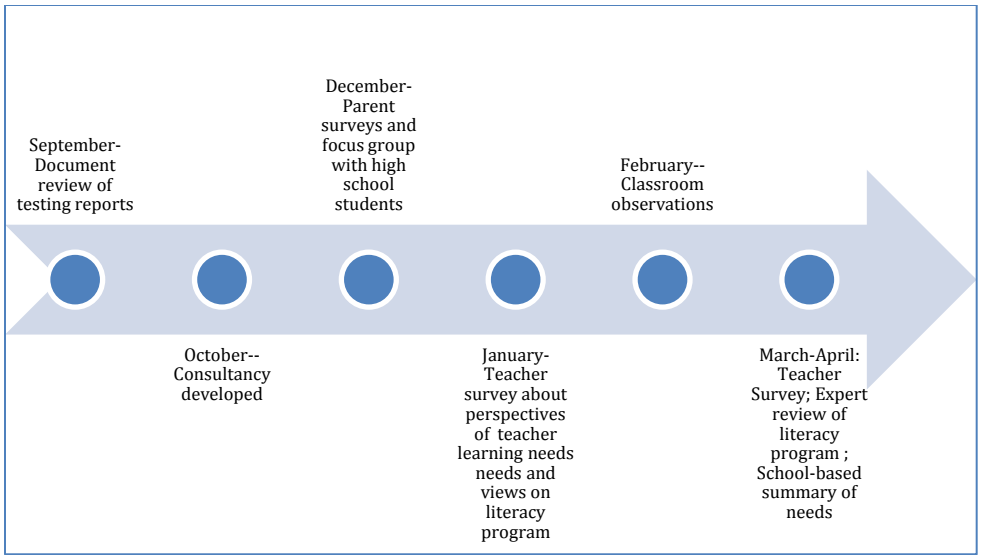

Figure 4.3 Timeline of Data Collection

Reflections

In this phase of a needs assessment, Russ-Eft and Preskill (2009) suggest that organizational leaders think about the likelihood that particular methods will generate desired information as well as the challenges that could be encountered in implementing certain data collection procedures. In the case of the Pleasant Heights School District, one method that was a bit challenging to use was the teacher survey. The response rate was low. Of the three elementary schools, one school returned 33% surveys, one returned 40%, and the other returned none. The intermediate, middle, and high schools returned 53%, 20%, and 10% of the surveys, respectively. The low response rate indicates that the teacher survey, as currently administered, is not an effective method of assessing teachers' needs. Very few teachers, it seems, are actually taking part in the conversation about their professional development needs. The rate of return on the survey distributed by Dr. Gwendolyn after she gave a presentation on the consultancy was much higher, most likely because teachers were given the survey during the session and it was collected as they left the

room. It seems that emailing the survey and making teachers responsible for returning it is not effective. In addition to procedural problems, the return rate may be so low because teachers do not see the surveys as having any significance in the district's decisions about the professional development program. Therefore, they do not see any point in completing them.

During the data collection phase, as needs became more apparent, school leaders sought additional sources of data as a way to better understand the root cause of the needs that were emergin. For example, the decision to conduct classroom observations was influenced by the preliminary analysis of student testing data which indicated a specific area of need in students' literacy learning. Specifically, students' performance in language arts literacy was particularly low, which caused school leaders to seek additional information about possible causes. In other words, throughout the needs assessment process, the collection of data led the administration on a journey to uncover more specific information related to learning needs. From a systems thinking perspective, it makes sense that the data collection process was so fluid. Teachers' needs do not exist in isolation and were, therefore, more identifiable from multiple perspectives and through multiple sources. Uncovering the need in one data source also revealed its connection to other parts of the system.

Scene Three: Analyzing Evaluation Data

This section chronologically describes the processes by which data were analyzed. The district utilized a variety of formal and informal methods of analysis. The following excerpt from the district's PD plan gives an overview of how the district begins its data analysis process for determining needs. District

K-12 curriculum supervisors, the superintendent and the assistant superintendent of schools along with the building principals monitor the academic progress of students in each of the grade levels and cohorts by analyzing student test scores on the state-required standardized tests as well as data obtained from district benchmark assessments. In addition, supervisors work closely with building staff, Language Arts, Math and Technology Facilitators, parents and students in the identification of learning gaps. Once a gap is identified in any of the districts buildings, it is brought to the attention of the administrative team.

Student assessment reports were the most frequently analyzed data source in PHSD. Assessment reports were reviewed in order to identify trends in learning gaps on the assumption that this type of data should be a key driver of professional learning design. Staff members at every level first reviewed the reports to get a general sense of students' performance in the major areas by asking how the students performed, overall, in mathematics and language arts. Then, they looked to see if the performance was low in particular sub-areas within those two subjects. For example, they examined if there was a difference between students' performance in reading versus writing. From there, staff members looked for more specific information. For instance, did students struggle with analyzing text more than responding to text?

To structure and guide this process, the school staff used a resource published by the New Jersey Department of Education and the National Staff Development Council entitled Collaborative professional learning in school and beyond: A tool kit for New Jersey Educators (2006). This document contained data analysis protocols, informal (Appendix E) and formal (Appendix F), and

other resources to assist schools in planning effective professional learning programs. These resources were initially used to analyze standardized testing data, but principals reported that they are used continuously by teachers in PLCS in an ongoing data analysis and instructional planning cycle.

Overall, the student assessment data analysis process, as described by principals, was guided by data analysis protocols (Appendix E) and was designed to identify the following:

• Specific areas of learner deficit

• Specific knowledge and skills students need in order to overcome the deficit

• Specific students or groups of students for whom the deficit is most p prevalent

• Possible root causes of identified problems (NJDOE & NSDC, 2006)

Teachers met in grade level PLC groups to analyze data, establish student learning goals, plan instructional interventions, and evaluate progress toward goals. Based on the initial analyses of the student data, teachers created student learning targets to address performance deficits. Then, the teachers collaboratively identified or developed interventions designed to meet the objectives expressed in the learning targets. Upon completion of data analysis, the teachers in each PLC team were asked to identify their professional learning needs based upon the student needs identified as a result of the analysis. Teachers' needs were documented in their PLC logs and communicated to building principals. The logs were then analyzed for patterns and trends, which were incorporated into the principals' summary of school-based needs.

Additionally, principals reported that teachers and parents collaboratively examined data during PTO meetings, and worked together to pinpoint student needs and generate ideas for resources to support learning. I was only able to learn that teachers and parents engaged in the data analysis process together, but not specifically how they did it. This data was used as a way to strengthen the school-home connection. Teachers were able to provide some strategies that parents could use at home to support the areas of need, and because parents were involved in looking at the data alongside teachers, they had a better sense of their children's areas of need.

Analysis of data was an ongoing, job-embedded process which involved a range of stakeholders in Pleasant Heights. For example to analyze parent survey results, the district administrative team read the responses and looked for trends and patterns across the responses. The data from the superintendent's focus groups were analyzed by the administrative team to identify trends and patterns in her notes from the session. They looked to see what topics arose, and they analyzed quotes to gain a deeper understanding of the responses.

Members of the administrative team also led teachers in the analysis of curriculum. The curriculum documents were reviewed together by district supervisors, Dr. Gwendolyn, and teacher leaders. Prior to the review, teacher leaders were responsible for collecting feedback on the existing curriculum from teachers in each of their schools. The curriculum consisted of a large binder of program resources that supported teachers' literacy instruction. Within the binder, a section labeled District Literacy Programs and Procedures outlined guidelines for classroom assessments, procedures for analyzing student data,

requirements for students' literacy portfolios, writing prompts and scoring rubrics for test preparation, curriculum mapping and planning templates, the Common Core State Standards for ELA, and a description of several literacy programs available to teachers. Next, the binder was reviewed against a checklist of literacy topics and components that had been collaboratively created by the supervisor and teachers working on this committee under the direction of the assistant superintendent. The checklist was similar to the observation checklist used for the classroom observation in the first and second grade classrooms to ensure alignment between the most recent statement of ELA exemplars and the curriculum.

Data Source	Method of Analysis
Test scores: NJASK NJPASS HSPA DRA2	Formal and Informal Data Analysis Protocol
Teachers' PD Needs and Interest Surveys	No formal analysis methods. Focused on trends and patterns, frequency of selections
Focus Group notes and transcripts	Asked 'what information is here? What topics are evident? What information can we learn from quotes? Looked for trends, themes, and patterns.
PTO and Board of Education Meeting Agendas	No formal analysis method. Looked for trends or patterns in the responses.
PLC Meeting Logs	No formal analysis method. Looked for trends or patterns in the responses.
Elementary Literacy Curriculum	Document review process

Table 4.2 District Data Sources and Methods of Data Analysis

Reflections

The data analysis scene of this needs assessment story revealed two major outcomes. The data analysis process appeared to foster collaboration among stakeholders and demonstrated that data analysis was an ongoing activity that engaged a wide range of stakeholders within the school district. Within the collaborative function, a dedication to incorporating the perspectives of multiple stakeholders was evident.

Collaborative. The approaches to analysis fostered collaboration. Much of the analysis was conducted by groups of teachers, administrators, a combination of the two, teachers, and parents. In addition, the use of protocols and open ended discussions about the data encouraged the expression of a variety of stakeholder perspectives. For example, testing data was shared with parents who were provided an opportunity to have input in establishing district priorities based on their analysis. Document review took place in PLCs. Although the surveys revealed the perspectives of individual teachers, that information was later shared with the school-based PD teams and was synthesized with information from other data sources, which led to a collaborative, multi-perspective conceptualization of learning needs. In addition, the outside expert review yielded yet another viewpoint of teacher needs.

Ongoing. The methods used to analyze the needs assessment data were used in an ongoing and cyclical manner. For example, the data analysis protocols which were first introduced to analyze standardized assessment data later became part of the teachers' standard analysis practice in their PLC work. The protocol seems to have become a tool for grounding teachers' analysis of different types of data. The protocol questions were applicable to a variety of

data sources, and its increased use provided some level of continuity in the way that staff looked at data. To my knowledge, there was no district staff specifically trained in data analysis. The protocols mediated this gap for teachers and gave them a common language and tools with which to analyze and discuss student work. In other words, the use of the data analysis protocols promoted ongoing data analysis that could be sustained beyond the formal needs assessment project. From a systems thinking perspective, tools, such as the protocol used in the district, that allow organizations to discuss potentially controversial issues are valuable. There are few topics more controversial to teachers than those involving judgments about the effectiveness of their instructional practices, a topic likely to come up when looking at student data. The protocol played a critical role in guiding these discussions and a collaborative culture in the district supported its use. In this way, the expression of multiple perspectives that could contribute to needs assessment was encouraged. There was considerable consensus about the interpretation of data, but diverse perspectives are likely just as frequent and create a significant challenge for program planners tasked with reconciling them.

The data analysis phase of a needs assessment involves asking questions such as, to what extent were appropriate methods of data analysis used? To what extent did the analyses lead to reasonable interpretations, judgments, and recommendations? The analysis methods employed by the Pleasant Heights district appear to have been appropriate. None were overly complicated, yet district leaders were able to find answers to their needs assessment questions. From a systems perspective, utilizing methods that consider stakeholders' level of technical expertise has an influence on the ease of communication and help

to ensure that identified needs are relevant to the program. Likewise, the analysis of a single set of data in more than one way and by more than one group of people is an approach aligned to systems thinking.

Scene Four: Communicating Evaluation Processes and Results

This phase of the process involves identifying stakeholders who should receive information about the needs assessment. In this case, the district focused on communication between district leadership and board members, teachers, parents, and students. The description of the communication methods and content are discussed in terms of the capacity to communicate about the needs assessment processes before and during its implementation as well as results and outcomes following its completion.

Communicating Processes

During this phase, school leaders decided who would receive information about the needs assessment and how that communication would be implemented. As Preskill (2007) recommends as a way to maximize the utilization of results, a variety of communication methods were used to convey information about the needs assessment to a variety of stakeholders. However, in contrast to her assertion that different stakeholders need different kinds of information and formats, in this case there is no evidence that one method

Audience	Communicator(s)	Format	Content
Principals and Supervisors	Superintendent and assistant superintendent	Face-to-face meeting	Plans for needs assessment, including principal and supervisor responsibilities during the process
	External Expert	Face-to-face meeting	Format and purpose of classroom visits
Teachers	Superintendent and assistant superintendent	Email; face-to-face meeting	Overview of needs assessment, introduction of guided expert review
	Principals	Face-to-face meeting	Teachers' roles in analyzing data in PLCs; Reminders about teachers' self-assessment of needs
	Supervisor	Email; face-to-face meeting	Distribution of teacher survey; Inquiring about Literacy instruction needs
	External Expert	Face-to-face presentation	Presentation of guided expert review consultancy; included observation protocol and description of exemplary literacy block.
Students Board members	Superintendent, assistant superintendent	Focus group	Academic achievement activities
		Face-to-face meeting	State assessment results; guided expert review overview
Parents	Superintendent, assistant superintendent	Face-to-face meeting	State assessment results; solicit input for identification of needs
	Principals, Teachers	Face-to-face meeting	Analysis of state assessment results; collaborative identification of needs

Table 4.3 Communication Form and Content

of communication was more effective than another in communicating about needs assessment processes.

The above table (table 4.3) indicates that there was quite a bit of communication about how the needs assessment process would roll out.

Teachers were on the receiving end of most of the communication, and the majority of the communication was top-down. Figure 4.4 also depicts the flow of communication about the process. It indicates that much of the communication originated from the superintendent's office. In fact, the superintendent and assistant superintendent controlled the needs assessment conversation, making this flow unsurprising.

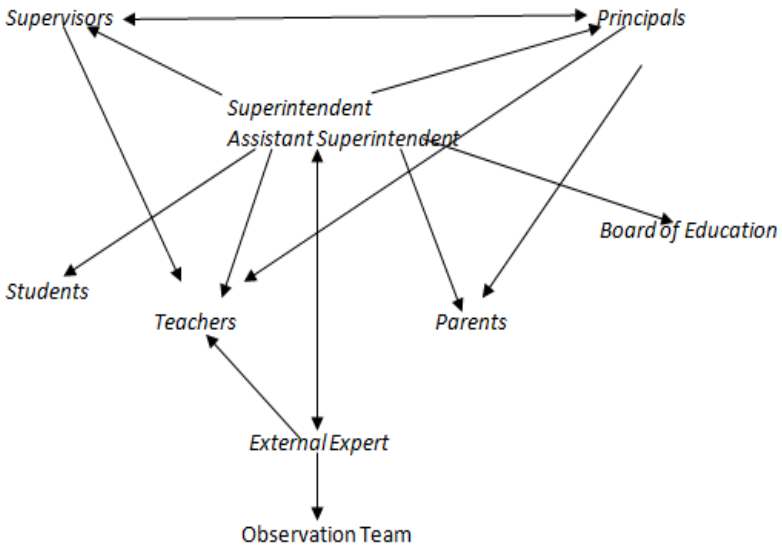

Figure 4.4 Flow of Communication about Evaluation Processes and Results

Communication about the needs assessment was an ongoing process. The first communication to teachers about data that would become part of the needs assessment process occurred in September, 2011 during a faculty meeting after the district received the previous year's standardized test results. Each principal facilitated a similar meeting in his or her respective building, informing teachers of how the school performed in general. The focus of the meeting was to set the stage for PLCs to examine the data for trends and

evidence of learning gaps. This same data was later shared at a board of education meeting by the superintendent and with the PTOs of each school by the principals.

The next communication related to the needs assessment occurred during the late fall of 2011 when the superintendent and assistant superintendent presented the consultancy project to principals and supervisors. In January 2012, teachers were informed of the consultancy, first during building-based staff meetings, and later in a district-wide presentation led by Dr. Gwendolyn. Even though the observations would only affect some teachers, Walter and Pam wanted all teachers to be aware of this aspect of the needs assessment. The information about the observation and curriculum review components of the consultancy was delivered using a lecture style presentation. During this session, the overall goal of the needs assessment and guided expert review was expressed as an effort to improve student achievement. Teachers were also informed of the names of the observers who would spend a full day in their classrooms and the observers were present so teachers could see us and get to know our faces. The presentation also conveyed that the initiative was a Pre-K to fifth grade effort although observations would only be carried out in grades one and two. The review of elementary literacy curriculum involved all grades from Pre-K to grade 5. Teachers were informed that the purpose of the observation was to describe current instructional trends and practices to inform discussions about goals for literacy instruction. Teachers asked questions for clarification, and Dr. Gwendolyn provided the responses. In general, the teachers were interested in knowing how the observations were going to be used. It seemed clear from their

questions that they wanted to be sure that they were not being "spied on" for evaluation purposes. Teachers also wanted to know if the observation team members would be interacting with students. At times, the district administrators chimed in when the questions focused on decisions and objectives at the administrative level. This presentation was one of the few times teachers were invited to ask questions about the needs assessment process.

Communicating results

The communication of results phase demonstrated far less activity than communicating about the evaluation processes. I could ascertain from the data only a few instances of when results of the needs assessment were discussed. The first communication was in the form of the completed professional development plan composed by Yvette (district supervisor), which was submitted to the NJDOE. School-based professional development committees received copies of the final plan, but it is unclear whether other teachers ever saw it. It is likely that parents and students never did, although they had participated in data collection that led to the development of this plan through the needs assessment. The communication of overall needs assessment results ended there. The finalized PD plan was presented to the board of education and published on the district's website. I was not able to determine from the data I collected for this research whether parents received specific communication about the PD plan and final needs assessment results.

The PD plan included the schools' building-based summaries of need, as well as the results of the teacher survey and analysis of student assessment data. However, results of the parent surveys and parent and student focus groups were only mentioned in passing in the plan, neither detailed information

nor results were included. The consultancy was not mentioned because, at the time the PD plan was finalized, the results of the guided expert review had not yet been shared with district leaders.

The second instance of communication of results occurred between the consultant and the districts' administration (supervisors, assistant superintendent, and superintendent) and focused on the results of the guided expert review. These were shared first in the form of a summary report of findings, and then during a face-to-face meeting in May 2012. A separate presentation of these findings was held for teachers in late June. The whole-group meeting with Pre-K to grade 5 teachers was held in a large, multipurpose room and was led by the consultant. It was the first time teachers had received any information about the project since the observations concluded in early March. This instance of communication was limited to only one aspect of the needs assessment, not the overall results. The following vignette features a district supervisor. It illustrates some of the ramifications of limited communication, although it focuses only on the consultancy and the issue of not communicating expectations subsequent to the findings being reported out.

Yvette, District Supervisor

I'd have to say that I'm disappointed at how things turned out in terms of being able to give some real follow up after the needs assessment. I know that there were teachers who were thinking, after Dr. Gwendolyn's presentation, "Yvette, so how are you backing me up with implementing this?" I think had the hurricane not happened, a lot of things would be different this year. There would have been a very clear time for us to get up there and say, "One of the findings from Dr. Gwendolyn was for you to have consistency in the way you transition

from centers. Some of you are using this practice. Others are using that practice. For the sake of consistency, how are we going to merge the practices?" There's clearly a lack of articulation. There was no chance to say, "We have these findings, so we're doing this for a day's in-service." If we have the in-service, then that part is about "how are we going to go out and make this happen?" I think that was one of the things we needed to have done, but it was totally out of our control. And teachers didn't really know what to make of Dr. Gwendolyn's recommendations. She gave the presentation and there was really no guidance that came from our administration [about what to do about it]. I know Pam and Walter had clear expectations for what came out of the observations. It's just that the expectations never made it down to the teachers. Honestly, I didn't even really know what to say when teachers asked what they needed to do in response to Dr. Gwendolyn's recommendations to prepare over the summer.

The hurricane, referred to in the vignette, which hit the east coast during the fall of 2012, may have had an impact on the district's ability to provide professional development on the practices recommended by Dr. Gwendolyn. It is not clear, however, how the hurricane hindered the PHSD's administrators from more effectively communicating the findings of the needs assessment and explaining their expectations for teachers' implementation of the recommended practices. Despite the missed opportunities for professional development caused by the hurricane, one of the recommended practices (implementing the Daily 5) was added to the elementary curriculum binder during the summer of 2012.

Reflections

Stakeholders were not often apprised of the progress of the needs assessment. In fact, there seems to have been a breakdown in communication. Interestingly, at the start of the needs assessment initiative, teachers were the recipients of most of the communication efforts. After the observations concluded, there was no further communication with teachers other than the presentation of the results of the consultancy. After the presentation, there was no further communications regarding the district administrators' expectations for implementing the recommendations, and no communication, other than the finished PD plan, which was not widely shared, about the results of the broader needs assessment occurred. Russ-Eft and Preskill (2009) describe the issues associated with poor communication during a needs assessment by asserting that

> A dangerous and limiting assumption is that the best time for communicating and reporting is at the end of the evaluation—when all the data have been collected and analyzed, and the findings compiled. Although this is clearly an important time to communicate, it is not the only time, nor should it be the first time. The most effective communicating and reporting takes place throughout the life cycle of the evaluation endeavor (p. 401).

Not only did district leaders not communicate any interim results, they neglected to make public the final results. This may have made it hard for teachers to make a connection between the needs assessment and the professional development they were offered. Many of the teacher reactions to the communication issue focused on the consultancy. There was some teacher resentment of the consultancy process, which may have led them to be closed off to the recommendations that emerged from it. They could not see its usefulness possibly, in part, because this was not effectively communicated.

And once it was concluded, the district failed to capitalize on the opportunity to have teachers involved in conversations about the recommendations during which they could have considered the implications of implementing the recommendations in their specific contexts or at the very least come to have a better understanding of expectations that resulted from the consultancy findings.

Findings were communicated during a district wide presentation. While it seemed that teachers understood the reasoning behind such an approach, they did not feel the format was appropriate. As one teacher explained,

> I think [we] just didn't know what to expect from [the presentation]. Some of [us] were okay with the findings. [But] I think [others] didn't like the report--the way it was reported out--because it was the end of the school year. I think, again, we had lost some days because of the hurricane. It was the end of the school year and there were 300 teachers in the community room....watching a Power Point, and I think they just felt overwhelmed--not so much by the information, just by the way it had to be reported out.

It is clear that, for teachers, a different reporting format would have been appreciated. Perhaps, after Pleasant Heights' administrators received the report from Dr. Gwendolyn, they could have attended faculty meetings at each of the schools to discuss the findings with staff.

Russ-Eft and Preskill (2009) recommend a full participatory approach to needs assessment and state that, beyond simply communicating findings, teachers should be included in the development of conclusions and recommendations so they are framed "in terms of local culture, values, and beliefs" (p. 405). Interestingly, of all of the phases of the PHSD's needs assessment, teachers seemed the least empowered during the communication phase, likely because what communication did take place was directed at teachers in a top-down fashion. Cervero and Wilson (1994) might say that the

teachers' place at the "planning table" at PHSD was actually an illusion. In reality they were watching the process from outside with their faces pushed up against the window. This is an unfortunate outcome for a process that was designed, in part, to empower teachers to make decisions about their own professional learning.

As the deadline for the state report approached, it became more difficult for district administrators to remain faithful to the collaborative, learning-driven, and multi-stakeholder informed process they had originally planned for their needs assessment. PHSD leaders found themselves pressed to meet state expectations. In this instance, the outer ring of the model, the federal and state mandates, pushed down on the needs assessment process so much that it was constricted and key stakeholders were "squeezed" out.

Scene Five: Responding to the Evaluation

This phase of the needs assessment process focuses on the actions that were taken as a result of the needs assessment. It addresses the following questions: What steps were taken to use the findings for decision-making and action? What obstacles, if any, were encountered in trying to implement the recommendations?

The findings of the needs assessment were acted upon in several ways. The first response came in the form of revisions to the elementary literacy curriculum. The updated curriculum included more structured guidelines for students' independent literacy practice and additional instructional resources for using informational texts for literacy instruction. The needs assessment findings also encouraged PHSD leadership to seek consistency in practice across schools. For example,

some teachers had discovered on their own the Daily 5, a framework for literacy instruction that focuses on students' independent practice of reading, writing, and word study (Boushey & Moser, 2006). The practice had been spreading quickly across classrooms within the district. In the interest of fostering consistency, the Daily 5 was included in the elementary literacy curriculum binder.

Another result of the evaluation process was a focus on preparing teachers to co-teach. One supervisor mentioned that it became clear, after receiving the consultancy team's observation findings, that co-teachers did not know much about each other and were often unsure about how to most efficiently work together in the same classroom. As a result, the committee recommended that the district make provisions for co-teachers to have time together before the start of the school year to become familiar with one another, as well as to get much needed support from the district on how to complement each other's work in the classroom.

Despite some issues with communication and follow up, overall, stakeholders had a positive perception of the needs assessment. On the one hand, the superintendent and assistant superintendent felt that the observations, in particular, provided them with important information regarding how to better support teachers in implementing the literacy curriculum. An added bonus of this activity was that the observers were able to identify teachers across the district who were particularly strong in implementing certain components of the literacy program. The district plans to encourage those teachers to assume more leadership in working with their peers, especially by opening their doors for peer observations.

On the other hand, there were teachers who found the needs assessment less than useful. Teachers' perceptions of the needs assessment were not unanimously positive. Some initially believed that the outcomes of the needs assessment would lead to a better understanding by administrators of the context in which teachers work and the demands that they face. Teachers were especially hopeful about what might happen as a result of having literacy specialists observe in their classrooms and were looking forward to "outsiders" having a glimpse of their daily realities. For example, in response to the survey distributed by Dr. Gwendolyn, one teacher said that she hoped the consultancy would allow observers to "see the constraints" under which she works. The absence of follow up, especially in terms of the guided expert review, however, left teachers feeling disappointed that they had held up their end of the collaboration by being open to the observations, but received nothing in return. Furthermore, teachers believed that judgments about their instruction were made by the consultants without any attempt to understand the context of individual classrooms and felt this was unfair. One teacher explained, "Then some of [the feeling] was, 'Why do we need this? We're doing okay.' Just wary of - 'okay, you're going to come in, it's going to be a snapshot in time, and you're going to make these recommendations, but you really don't know how we got here'.

Despite what happened later, the staff responded positively to the needs assessment in its initial stages. Teachers, especially, felt empowered by having a role in planning their own professional learning. Supervisors and principals were optimistic about the opportunities to uncover the strengths of their teaching staff as needs were being identified. These administrators also saw the

potential for fostering some consistency in literacy practices across the district's schools. As attention to the needs assessment waned, as evidenced by little communication about its processes and findings, so did teachers optimism about the ability of its findings to change the district's programs.

In summary, there were few examples of steps being taken to use the needs assessment findings for decision-making and action. The main focus of the needs assessment was to inform professional development design, which it did to some degree. For example, the approved topics for out-of-district workshops and after school professional development were related to the findings of the needs assessment. On the other hand, while the needs assessment was beneficial to the district in that it revealed teachers' learning needs, the lack of follow through based on recommendations and communications had a negative impact on the effectiveness of the initiative. In particular, the confusion about how teachers should respond to the recommendations from Dr. Gwendolyn resulted in very little being changed in the classroom. The changes that occurred were not consistent across schools, despite the fact that one of the goals established during the "focusing the evaluation" phase was to foster consistency. During the focus group interview, one teacher leader noted that if I had not requested to meet with her for the focus group, she would not have any evidence that the needs assessment had actually occurred. Conversations with administrators, on the other hand, revealed a perception that the needs assessment had been beneficial to the district in making improvements to programs and designing their professional development. One administrator gave the example of the integration of literacy across the curriculum as being a response to the needs assessment findings. It

seems that classroom teachers only responded to the guided expert review and did not acknowledge other components of the needs assessment. The disparity between teacher and administrator perceptions could be due to the lack of communication about findings and how the needs assessment information was used. Likewise, it could be that teachers responded to what they experienced most directly, while administrators were able to consider the multiple aspects of the needs assessment.

Scene Six: District-Wide Needs Revealed

For district administrators, this multi-method, multi-level needs assessment revealed a range of learning needs. In this section, I will describe what learning needs were revealed throughout the evaluation process and by which methods they were revealed. It is important to note, however, that the purpose of this study was not to focus on the findings of the needs assessment. Rather, it was designed to explore how (by which methods) needs were identified and what the challenges were in doing so. However, in order to explore the link between the needs assessment process and the professional development design that emerged as a result, it is important to first touch on the findings of the needs assessment itself. In the next section of this chapter, I will describe the needs that were identified, as well as the methods that were useful in identifying the needs.

District

The data collection strategy that yielded the most information about district-wide needs was the administrator interview. Overwhelmingly, the district learning needs identified were related to state policy and mandates.

Information about mandates is communicated from state officials to administrators in a series of email broadcasts. Therefore, administrators would be most familiar with them. In addition, given the roles and responsibilities of administrators to be responsive to the state department of education, responding to mandates remains at the forefront of their work, driving day-to-day operations and planning activities. It is concerning that administrators were unable to express learning needs focused on instructional issues not mandated by the state, even after conducting the needs assessment. Perhaps, it is because there is not time or energy in the planning or allocation of resources to get beyond the mandates to which they must respond.

Teachers

"New and better strategies for teaching writing" was identified through several data sources as a need for teachers across the district. Teachers indicated in their surveys that professional learning activities focused on writing instruction were a necessity. During interviews and in their summary of needs for the PD plan, principals concurred. They noted that professional development on writing is always needed, especially now as a result of new literacy standards. Likewise, the guided expert review revealed a need for more PD on writing. The consultants identified this need through observations. All of the other learning needs identified for teachers came to light through the PD survey. It is important to note, however, that each of those needs was identified from a list as choices from which teachers had to select. The topics were included on the survey as a result of recommendations received by the professional development committee from the school-based committees

and from the observations made by district administrators. Obviously a survey with pre-selected topics can only assess teachers' needs related to the pre-selected topics. This begs the question of the extent to which the process for identifying topics was itself based on needs assessment or perceptions and perspectives of a small group of decision makers.

Specifically with regard to elementary teachers, learning needs related to writing instruction, students' independent practice, guided reading, and balanced literacy emerged through both surveys (one from the consultant, the other from the district's professional development committee). However, the same needs were also identified by the guided expert review. The classroom observations, in particular, revealed a wide range of skills in this area within and across schools. Teachers attributed these needs to insufficient professional learning opportunities in balanced literacy instruction.

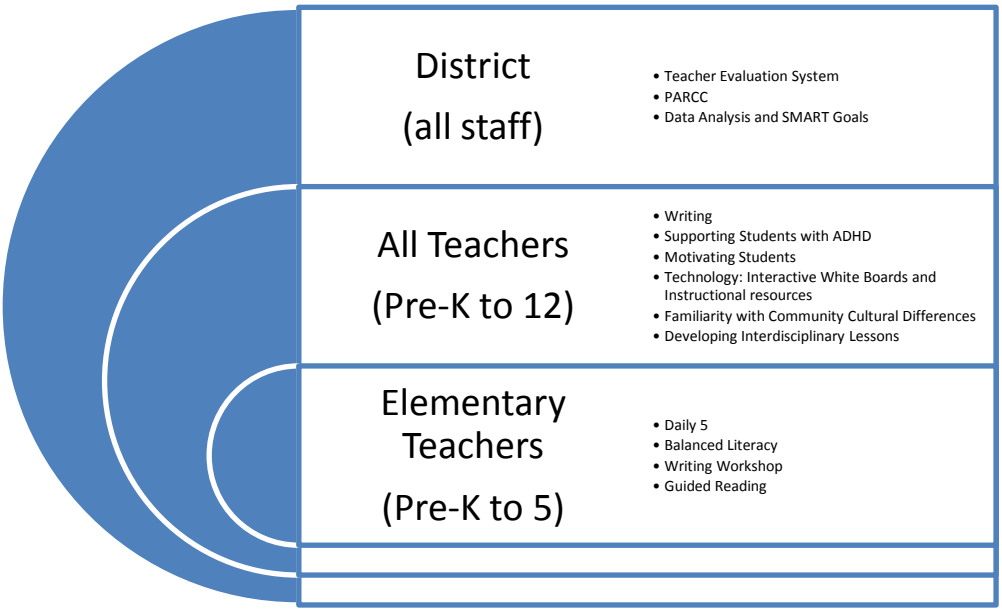

Figure 4.5 Learning Needs Identified across Levels

Figure 4.5 shows which needs were identified at various levels of the school organization. Elementary teachers, who were the focus of one component of the needs assessment, have the same needs that were identified for the K-12 teachers and the district staff. In addition, there was a subset of learning needs identified for the Pre-K to 5 teachers. It is interesting to consider how Pre-K to 5 teachers will be advised to prioritize attention to this extensive list of needs. The needs assessment process is not about simply revealing diverse needs. It is also about dealing with the range of needs that emerge.

Table 4.4 shows the methods by which needs at each level were uncovered. Notably, the analysis of student assessment data is the only method that revealed needs at each level of the organization. This is, perhaps, the result of school district culture in the "Age of Accountability," where every school employee is, in some way, tied to student achievement results.

District	Teachers	Elementary Teachers
• Document Review • Analysis of Student Data	• Observations • Surveys • Interview • Analysis of Student Data	• Observations • Guided Expert Review • Surveys • Analysis of Student Data

Table 4.4 Methods Useful in Identifying Diverse Learning Needs

Interestingly, some of the needs that emerged during the evaluation process were not related to the content of professional development. Rather, they were related to context and formats for

learning. For example, the survey results revealed that teachers need more time to meet together with colleagues and the flexibility to observe in each other's classrooms in order to improve their practice and implement the curriculum more consistently. They felt that they could learn more by working and planning with each other than they could in brief, scattered, one shot PD sessions. While those needs are related to the provision of professional development, they are not learning needs per se. While needs assessments customarily identify all types of needs (not just learning needs), Pleasant Heights' needs assessment had been designed more as a training needs analysis, meant to uncover learning needs. However, non-learning needs were also identified. This may indicate that an assessment focused on PD planning, while important, may have been necessary but not sufficient for tackling all of the districts' needs. Not all needs can be remedied by focusing only on learning content.

It's important, therefore, to take a systems view of needs and examine how a failure to address other, non-learning needs might hinder the remediation of learning needs. For example, the structural conditions that make room in the schedule for job-embedded professional development is critical, particularly since the district's PD plan indicates its goal to shift to primarily job-embedded, collaborative professional learning formats. Once learning needs are identified, the district may not be able to successfully address them without first attending to structural and scheduling issues. The lack of follow-through and long range planning in programming was another non-learning, curricular concern

that came out of the needs assessment. An administrator explained why she thinks this need emerged.

> I think teachers' needs are that they feel there's so much out there, they're not sure what to pick and focus on. So in other words, it's like a buffet. Take a little of this, a little of that. Let's try this, or you go to a workshop and it's like, 'Oh wow! That's a great idea. Bring it back'. And someone else goes out and it's like, 'Oh wow! That's a great idea. Bring it back'.

The need for more focus was particularly evident with regard to the literacy program. Teachers, administrators, and the consultant all agreed on this. Again, this need has more to do with professional learning structures than professional learning needs but is no less important. Because schools are institutions of learning, it is easy to think that every need is a learning need or that professional development is the only intervention needed to address instructional gaps. Pleasant Height School District's needs assessment was primarily designed to identify topical priorities for professional development, so it would have been easy for non-learning needs to get lost in the quest to design a professional learning program around specific content. However, the district's use of multiple methods of data collection and its attention to gathering input from various stakeholders allowed important, non-learning needs to come to light. The methods that were most useful for making those needs visible were the teacher survey administered by the consultant and the classroom observations conducted by the observation team.

Scene Seven: PD for Addressing Diverse Learning Needs

The needs assessment revealed a range of district learning needs. The professional development program design was developed to address those needs. In this section, I describe the design of the district's PD program and the ways in which it responded and failed to respond to the multilayered, sometimes disparate, district learning needs.

The professional development program is intended to respond to teachers' learning needs. However, when mandates "come down," the district administrators' responsiveness is directed at accomplishing the requirements of the mandates. When resources are reallocated towards mandated training, district leaders have fewer resources with which to meet the diverse needs of their teaching staff.

Prioritizing Needs for PD Planning

The existing structures of the PHSD provide limited opportunity for job-embedded PD, offered within the limits of the teachers' contracted work time. Outside of three full-day, in-service days and limited, professional development time for teachers to work in PLCs, there was not any time specifically designated for PD. That means that the in-service days were premium because they provided an opportunity to work with the entire staff for a block of time, which is crucial when addressing K-12 initiatives. However, district leaders and PD planners also sought to meet the range of district needs, small group needs, mandated training, and teachers' interest through a flexible, multi-pronged approach to PD.

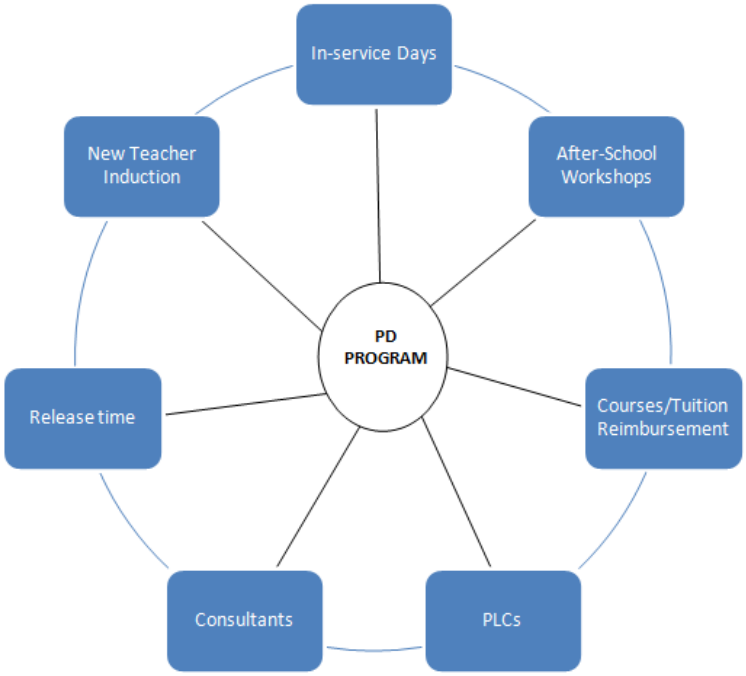

Figure 4.6 District's Multi-Pronged Approach to Professional Development

For example, after school workshops and courses were used to meet learning needs that the district was unable to accommodate during in-service days. In other words, district leaders used a multi pronged approach to PD in an effort to meet a diverse array of needs, interests, and requirements.

The PD Plan

The needs assessment revealed teachers' diverse learning needs. Because of the high-stakes accountability environment, it was more important than ever for Pleasant Heights' leaders to design and deliver professional development that could accommodate the range of learning needs within the limited school structures of time and resources. Leaders acknowledged and understood the existence of diverse needs that were revealed during the needs assessment and indicated a commitment to meeting those needs in a differentiated and

multifaceted manner, as is evidenced by the following quote from the professional development plan:

> The district will continue to provide a tiered practice of professional development that addresses the needs of the novice, experienced and master staff member. The administration recognize that staff function at different points along a continuum of professional growth and, therefore, will continue to offer the staff the opportunity to participate in classes, workshops, on-line learning, and team based learning both within and outside of the district. The staff will participate in opportunities that will enable them growth in: pedagogy, instructional technique, classroom management, curriculum development, technology and skills related to their individual professional development plans, school and district wide initiatives.

The results of the guided expert review had not yet been shared with district staff by the time the PD plan was submitted. In February 2013, however, I conducted follow-up interviews with the superintendent, assistant superintendent, supervisor, and building principals. I also convened a focus group of teacher leaders during the same time frame. Results of those interviews confirmed that the needs assessment methods brought to light a range of staff needs. Those needs, because they were so diverse, require professional learning formats that are equally diverse and that allow leaders to utilize different approaches and topics, based on teachers' specific needs. Pleasant Heights' multi-pronged approach showed great potential to do just that.

So far, this story has described the way the PHSD staff implemented a multi-method needs assessment and the way the methods utilized in the assessment led to the identification of divergent and layered learning needs. It is one thing to identify needs. It is another, challenging task to respond to the needs in a way that reconciles the diversity and quantity need with the limited PD resources with which they can be addressed. While the district leaders felt

they were accomplishing this and the multi-pronged approach would suggest that they were as well, teachers did not. One explanation may have been the communication breakdown. District leaders did not take the explicit opportunity to tell teachers how they were responding to the needs assessment, and teachers didn't see it on their own. Additionally, what district leaders may have perceived as PD, teachers may have seen as something else, obscuring their view of the district's response to their stated needs. No matter how many resources district leaders invest in conducting a multi-faceted approach to needs assessment, there needs to be shared understanding about the ways in which learning needs are responded to . The following vignette illustrates the differences of perspective between district leaders and teachers as well as a lack of communication about the issue.

Janis, Elementary Principal

Do I think teachers are empowered in determining their own professional development? Yes. They need to know they have the power and use that power by asking for professional development release time, by asking for reimbursements, by taking a graduate class, attending a seminar, doing a webinar. I mean I've released teachers from their work day, they stay in the building, but they go to a computer and attend the webinar. I don't know that they see that though as empowering them at professional developments, because I'm not sure whether they think of that as professional development or if they think a professional development is only what we require. You see what I'm saying?

I don't know that if you say to a teacher, "Well if you want opportunities, pick your own professional developments," that they're going to say 'no', but that

same teacher may be going back to school for their Master's. And we may be paying for 75 % of it, but they may not think of going back to school as professional development. Coming from another district, where you were limited on how many professional days you could use, here they're very gracious in professional development time. I think the fact that people know that they can be interested in something and that Pam or Walter or the principal or supervisor will say, "Okay, and let me see how you're going to use this," or "Tell me ahead of time why you want to do that." I have teachers that go to Holocaust education classes. I have teachers who go for writing programs, for reading. Most of them have at least one colleague that either goes with them or who they share the information with. That's what I like about our professional development in district is that we do have the ability to balance. OK, if more information has to go this way, well, then let's look to see what we have for our after school courses. Or let's see what we have for our….do we have to send more people out.

Oh, one thing I forgot to mention. When teachers do go out for the conference, what they're expected to do is to come back and turnkey that information at a faculty meeting. Then, we look to see what the professional development is offered after school. We also have money for professional development for conferences. So the teachers are encouraged to see if there's a conference. I'm always looking for a good conference for them. For example, there is a group of teachers that wanted to explore Lucy Calkins' writing program. Then we started telling teachers to alert the supervisor when something is coming up, like if there is some great program over the summer. That's something that they were given permission to attend over the summer. There's also that component

where they can go out to professional development conferences based on something that they're trying to do within the classroom.

Janis describes the multiple opportunities the district provides for teachers. She also expresses a concern that teachers do not view these opportunities as PD and, as a result, do not take advantage of them. The inability of teachers to discern the availability of professional development may be related to the district's issues with communicating with teachers.

Balancing Needs, Wants, and Musts

The responsibility of responding to a needs assessment is further complicated by administrators' having to prioritize and negotiate diverse district learning needs. This process can be seen as balancing needs, wants, and musts. Needs can be thought of as the necessary learning concepts that have been identified through the needs assessment process. Wants may have also been identified through the needs assessment as important to individual or specific groups of teachers, but they may be based on interests and preferences, as opposed to necessary for the effective performance of the staff. Wants may not be aligned to the district's strategic goals. Rather, they are felt and conscious (Scriven, 1999). The distinction between wants and needs is not new in the discussion of needs assessment or professional development program planning. In fact, one of the major challenges of conducting needs assessment is the lack of agreement in the field about how to define need and what constitutes a need versus a want. However, a third element in the balancing act emerged in this study: what I refer to as "musts" that are a direct result of the current policy climate. Musts are PD focused on state level requirements. For example the new teacher evaluation scheme in the state created PD musts as

districts have to ramp up to be ready to implement this mandate. Professional development musts are particularly difficult to deal with because districts have to address them within the same boundaries of their normal professional development program without any additional resources such as funding or time for PD. These musts are politically driven and can hijack a district's thoughtfully researched and planned professional development program. Instead of alleviating legitimate learning needs, "musts" may compete with them for limited professional development resources and win. The time associated with responding to mandates that "come down" from the federal or state departments can be onerous and take away from the potential to respond to more locally identified needs and wants. It seems that planning around mandates has become the norm for this district. While leaders acknowledged that attention to mandates is not the preferred way to use professional development resources, they have accepted that there is nothing that can be done, except to plan around the requirements as much as possible. Such a response can completely undermine a needs assessment process.

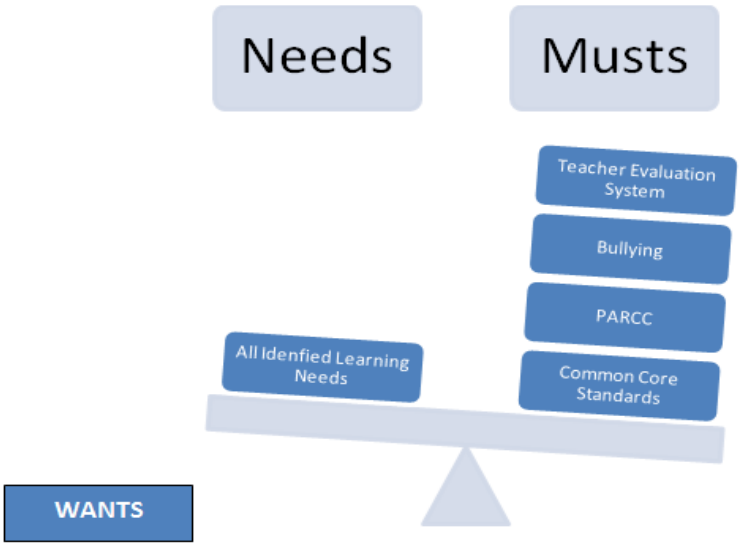

Figure 4.7 Balancing Musts, Needs, and Wants

The planning of the PD program is a rather messy act of balancing priorities and resources. The district administrators have developed structures to support a multi-pronged professional development program, as illustrated in figure 4.6. In this research study, Pleasant Heights' leaders have established alternate means of addressing teachers' needs and wants. That, unfortunately, was not always apparent to teachers. Teachers' perception of the PD program did not indicate that they realize that there were options for professional development. Survey results revealed that, overall, teachers felt the district PD program was insufficient for meeting their learning needs. Additionally, other constraints limited learning opportunities of any kind. It was not unusual for full day workshops to get condensed into 2 1/2 hours. Teachers felt there was very little implementation support or follow-up. According to teachers' survey responses, some of the PD presented content or practices at a basic level, which did not meet the needs of teachers who already had that information. They also felt there was no continuity in PD offerings because the district tends to jump from one program to another, without investing the time to build knowledge for one initiative before introducing another. When asked about their needs in Dr. Gwendolyn's survey, teachers said they need time to meet and work together, observe each other, and get support from administration. They reported a sense of "here. You need to do this? Sorry we can't give you PD".

During the focus group interview, one teacher expressed a similar sentiment when she explained, "there is no real follow up, coaching or support, so teachers are often left figuring things out for themselves." Overwhelmingly, teachers' responses in interviews and on the survey indicated that they feel a

need for more professional development, even those teachers who stated that the district provides them with lots of good PD. In essence, the district's response to the needs assessment did not leave teachers feeling that their needs were being met. This gap raises important and troubling questions about conducting a complex and multi-pronged needs assessment that takes a systems approach. The complexities reflected in this chapter make it clear that, without approaching the planning of a needs assessment from a systems view that allows for a collaborative, participatory process and that truly gives teachers voice in their own professional learning, the potential is there for even a seemingly thoughtful needs assessment to end up having no more effect than a simple survey.

Epilogue

The Pleasant Heights School District undertook a tremendous effort to conduct a multi-method needs assessment in order to inform the design of its professional development plan. Needs assessment, in and of itself, is a complex endeavor. Program planning further complicates the initiative implemented in this district. Since it was their first time using this approach, the district leaders made some mistakes and had some victories. Despite any missteps or missed opportunities, it was evident that Pleasant Heights' administrators embarked upon this journey with the best of intentions and with the highest regard for the teaching staff and students of the district. Pam and Walter, using the resources available to them, had the admirable goal of implementing a needs assessment program far beyond that typically seen in the public school setting. In the final vignette of this story, some advice to school leaders who are interested in implementing a needs assessment in their own districts is offered.

Pam, Superintendent

Of course, if I could conduct the needs assessment again, I would do it! I think that being able to involve my staff in the project showed them how important it is to make decisions about programming by examining data. I think it also revealed that Walter and I are committed to teachers' professional growth. Now, as a reflective practitioner, I would not dare walk away from the experiences without considering what I could have done differently, or advising my colleagues who may be interested in conducting a needs assessment of the pitfalls they may face in this sort of endeavor.

I would begin with approaching the first phase, focusing the evaluation, a little differently. I think the guidance that we received from the NJDOE in terms of creating a plan was good. We knew that we needed to get input into the PD planning process from other stakeholders and that out needs assessment needed to incorporate a range of formal and informal methods. What was missing, I believe, was a sense of ownership in setting the goals for the needs assessment. Before we began designing our program and selecting methods, I think our team would have really benefited from true reflection on the background and history of our professional development program. For instance, the leadership team here in Pleasant Heights places so much emphasis on our multi-pronged professional development program as a way to respond to teachers' needs and balance the need to provide training for state mandates. If we're honest, though, we would need to admit that teachers' response to the alternative PD formats has not been all that great. Why not? And what will make the response any different next year? Perhaps our needs assessment could have included a method of collecting data to determine why teachers don't take us up on courses, after school PD, etc. Really—let's face it—a professional development program is only as good as its ability to reach people. Our needs assessment really did not reflect what was known about our PD program, so the results could not really inform it in any significant way. There was a sort of disconnect between the two, although it was obvious that the processes of assessing needs and designing PD are intertwined.

I think we should have spent more time and developed an actual plan for the needs assessment—and planned for over and above what the state was asking of us. Yes, we incorporated the guided expert review at a later time and broadened the scope of the assessment. However, the absence of a plan

prevented us from really digging deeply into the needs of our district, learning and non-learning.

The consultants reported that teachers had mixed feelings about the observations. Many were "cautiously optimistic" that the observations would be helpful and that it was beneficial to have an expert, objective perspective on the literacy program. They felt that the team would be able to see gaps in instruction but would also be able to see the constraints under which teachers work. Others were skeptical about the observations because they believed in only seeing a "snapshot" of their work observers would get a skewed representation of their teaching reality. These teachers were worried that, without a fuller picture, the consultancy would lead to recommendations for "cosmetic versus substantive" changes. They feared that Walter and I would take the recommendations and say "do this" and use them as a "quick fix". In other words, they were doubtful their experiences would truly inform program decisions. This was really surprising to me. We are not looking for a quick fix. And I get that, given the fiasco, with there not being time to provide training to the Daily 5 before its implementation, it might look like teachers were right to be skeptical. Sometimes, there are things you have to deal with on the district level that teachers cannot see.

This needs assessment experience certainly revealed an issue with communication in Pleasant Heights. In my opinion, this was where we sort of fell short. I think there were some missed opportunities for keeping stakeholders, especially teachers, informed of the progress of needs assessment. More than informing them, I think we could have done a better job of including them. Because much of the communication came from my office, it suggested that although there was wide involvement in contributing to data collection, the

process was not as inclusive as we intended. The potential was there, in retrospect, to make the needs assessment a much more participatory endeavor. We could have designed an evaluation that really encouraged collaborative decision making about design and activities, and promoted collaborative interpretation of the findings. Remember, though, that we didn't set out with any particular model or blueprint. We were just a few committed administrators who wanted to make good planning decisions to benefit teachers and students.

The experience was not all bad. We were able to identify the diverse learning needs of our staff. And we think that our professional development approach has the potential to enable us to balance the requirements of state mandates with truly offering a tiered PD program for meeting district and teacher needs. If we work with teachers to identify obstacles to participating in the various types of PD offerings, I believe our needs and wants can be met. Finally, Pleasant Heights School District was able to form a valuable university-school partnership with the local university, which will allow us to continue to refine our approach to needs assessment and professional development.

Just like any story, the narrative of Pleasant Heights School District's needs assessment contains elements of triumph, disappointment, and surprise. Most importantly, it teaches a moral, a lesson that can be derived from PHSD's experience. It is in Chapter 5 that I will make those lessons and how they can inform the practice of needs assessment in schools.

CHAPTER 5: DISCUSSION

In this chapter, a brief summary of the results of this research is provided. I present key findings from data analyses and highlight the lessons learned from studying the case described . A discussion of the applications of this research to the utilization of needs assessment for program planning in education is provided and recommendations for practice based on this case and systems thinking are made. Finally, I discuss the implications of this research for future studies.

The purpose of this research was to describe and analyze the implementation and use of needs assessment designed for professional development program planning in a K-12 school district. Using a systems thinking framework as an analytic tool, this study detailed the needs assessment process as it unfolded and illustrated the manner in which the process was influenced by contextual factors. A major focus of this research was to explore how teachers' learning needs were revealed and how district leaders used the findings of the needs assessment to address those needs through professional development. This study was designed to answer several key questions:

1) How do diverse and layered needs and interests of a school district emerge during the implementation of a needs assessment?

- Who needs what? As defined by whom?
- Through what methods are needs identified?
- How do district leaders prioritize and negotiate to meet a wide range of needs and interests?

2) In what ways did context influence the design and implementation of the needs assessment, as well as subsequent program planning?
3) Which tools and processes were especially effective in revealing the divergent and layered needs and interests of various stakeholders?

The needs assessment process in this study was analyzed from a systems thinking framework, even though the PHSD did not design and implement the needs assessment using this approach. Research indicates that needs assessment should be done with systems thinking in mind (Russ-Eft & Preskill, 2009), but even when it is not, systems thinking can still be applied as a tool for making sense of what occurred during the implementation of a needs assessment. In particular, systems thinking was useful for making visible the complexities of designing, implementing, and using the results of a needs assessment within a politically-charged environment that required school leaders to balance the politics associated with current educational mandates with their responsibility to provide effective, potentially transformative programs of professional learning. Systems thinking and the phases of the needs assessment process described in Chapter 4 will guide my discussion of the results of this research and will serve as a lens for illustrating the opportunities that were both taken advantage of and missed by the PHSD staff.

Summary of Findings

The needs assessment process as it occurred in Pleasant Heights was conducted using a rather straightforward strategy of collecting and analyzing data, determining needs, and planning professional development to address learning needs. As described in Chapter 4, the primary goals of the needs assessment were accomplished, at least on a surface level. The needs

assessment was conducted without much incident and the resulting PD plan was completed and submitted to the state in a timely fashion. The assessment revealed a range of learning needs but administrators were constrained in their ability to address all needs.

By applying a systems thinking framework to my analysis of this case study, I discovered that what actually occurred in Pleasant Heights was not all that simple. This fact became apparent when I considered some of the districts' other goals for the needs assessment. For example, a secondary yet important goal of including teachers in a collaborative and participatory process through which they could have voice in the identification and prioritizing of their learning needs was not completely realized. Pleasant Heights' staff faced some issues during the needs assessment as well as during the planning and execution of the professional development plan that stifled their participatory and collaborative goals. Multiple stakeholders were much more involved in the early stages of the needs assessment than they were in the process of collaborative analysis and recommendation development.

Opportunities Embraced and Missed During the PHSD Needs Assessment

Despite the challenges, PHSD's need assessment initiative provides some strong points from which other educational leaders can benefit. In this next section, I will highlight the strengths and challenges that were evident during each phase of Pleasant Heights' needs assessment. Recommendations for how PHSD's assessment process could have been strengthened using systems thinking approaches are offered with implications for practice later in this chapter.

Finding a focus. The act of focusing and carefully planning a needs assessment journey is critical to the success of that journey. The superintendent and assistant superintendent of PHSD embraced the opportunity to use the preparation of the state-required PD plan to do something new and improved to better address the needs of the district's teachers and students. Even with a large part of the focus of the needs assessment process set because of the state mandated PD plan process, district leaders incorporated some needs assessment methods and collaborative practices that had not been previously used throughout the district's long history of conducting needs assessment. This year was the first time these leaders utilized methods beyond the teacher survey. The guided expert review, in particular, was an aspect of NA selected by the district to find causes and solutions to performance gaps brought to light by examining state testing data. Pleasant Heights' administrators sought more than the cursory information regarding interests typically gathered for the PD plan.

For a district with budgetary issues, including Dr. Gwendolyn's expert review as part of the needs assessment was certainly a sacrifice. It was an investment in time, as well as money. It was worthwhile investment, however, because it allowed stakeholders to form a more complete and multilayered understanding of what was happening in classrooms and what the professional development needs were.

This year's needs assessment was of interest to study because PHSD attempted to design and conduct a collaborative and participatory NA using approaches recommended in NA literature (Cervero & Wilson, 1994; Sork, 2001), and, as a result, seized the opportunity to include the perspectives of

diverse stakeholders. The decision to involve parents, students, and teachers not only fostered buy-in for the needs assessment, but it added to the districts ability to form a more complete picture of learning needs within the district. Furthermore, by partnering with the local university through the consultancy with Dr. Gwendolyn, PHSD gained access to resources and knowledge about current research and practices that could be used to enhance teaching and learning.

There were some missed opportunities during this phase, as well. Although district leaders were clear that their needs assessment would incorporate multiple methods and stakeholders, a formal and extended period of time for deep reflection about the history of NA in the district was notably missing from the planning that took place during the focusing phase of PHSD's needs assessment. In this case, reflection about history would include a focus on purpose, goals, and the outcomes of previously enacted needs assessments, as well as the manner in which those results were ascertained and used. The decision making process for professional development program design should also be considered as part of the district's history. Such a planning period would have allowed for establishing a clear scope and focus for the assessment, the deliberating staff members' underlying assumptions related to the district's needs assessment and PD programs, and identifying limitations such as inadequate resources and other constraints that would impact the assessing, planning, and developing implications processes. This time would have also allowed for the collaborative development of a needs assessment model with stakeholders, instead of the design decisions made solely by district administrators. As it happened, there was little attention actually given to

planning a genuinely collaborative, organization-specific evaluation and the implications of doing so within the current mandate-driven educational environment.

From a systems thinking viewpoint, the focusing phase of a needs assessment is where competing agendas for the needs assessment can be uncovered, negotiated, and resolved (Russ-Eft & Preskill, 2009). In Pleasant Heights, there certainly were competing agendas: getting the state PD plan completed and submitted versus designing responsive professional development based on an accurate assessment of teachers' learning needs. The reality was that much of what drove the needs assessment in Pleasant Heights was related to leaders having to complete the state-required PD plan. This imperative was never far from district leaders' concerns throughout implementation of the entire needs assessment process. Despite the administrators' interest in expanding the scope of the needs assessment, it seems their familiarity with the usual process of preparing for the PD led the district's leaders to jump right into the needs assessment process, additional methods and all, without a systematic effort to collaboratively focus it. By neglecting to approach the focusing phase more concretely and planfully and with the engagement of multiple stakeholders, Pleasant Heights missed opportunities for designing a needs assessment that could have both responded to mandates and acknowledged the needs expressed by teachers.

Selecting data collection methods. During this phase of the needs assessment process, Pleasant Heights embraced the opportunity utilize multiple data collection strategies and varied data sources. The use of focus groups, surveys, document analysis, and guided expert review were key to revealing and

understanding important learning needs of teachers. The leadership team selected data sources that could each be used to address more than one focus area of the needs assessment. For example, the results of teachers' performance observation were helpful in shedding light on how the district's literacy programs were being implemented across the district as well as providing insight into the types of professional learning experiences necessary to equip teachers to implement the programs. As noted in Chapter 4, each data source and collection method was useful in uncovering a range of needs. For example, analysis of student testing data and the review of curriculum documents were useful in identifying learning needs at the district level, while observations and surveys uncovered the needs of classroom teachers. As a result, the needs assessment yielded much more information than it had in previous years when a single collection method and data source was used.

Although Pleasant Heights' staff decided to identify learning needs through multiple data collection methods, the teacher survey, a major tool for collecting teachers' perspectives about their own needs, was somewhat limiting. The district leaders' decided to change the design of the teacher survey to include pre-selected topics from which teachers had to select their interests and needs. Unfortunately, the potential of the interest survey results to accurately inform PD planning was constrained in two ways. First, the applicability of the information gathered was limited as a result of the low response rate. Second, the survey's pre-specified topics were selected by administrators based on priorities related to district goals, which automatically limited its scope and potential to accurately reflect teachers' needs. There was an "other topics" category where teachers could record additional PD needs. It was clear,

however, that by the very design of the survey, district-selected topics were prioritized over teachers' self-identified needs and, therefore, the survey did not provide an accurate picture of teachers' needs. Even though Pleasant Heights' leaders attempted to improve upon previous years' needs assessments and program planning, they were not completely successful in doing so. Had PHSD's leadership approached the selection of methods from a systems thinking perspective, which emphasizes the importance of multiple perspectives about need, the design of and communication about the survey would have been accomplished in a manner that gathered and responded to teachers' voices and their roles in determining their own needs.

It is obvious that Pleasant Heights' administrators did not anticipate the limitations of the teacher survey. Perhaps they did not see any issue with its design or consider its impact on the overall needs assessment or resulting PD plan. Brookfield (1986) suggests that evaluating the effectiveness of any program must begin with "the preeminence it accords to predetermined objectives" (p.211). In other words, if preselected objectives play a prominent role in a program, the effectiveness of the program is diminished by the reductionist nature of its design (Brookfield, 1986). Systems thinking was first developed to combat this very type of reductionism. This is not to say that school districts should ignore district priorities or state mandates. However, in planning programs, especially professional development, there should be negotiation of goals taking place throughout the learning process (Robinson & Taylor, 1983). Learning identified in advance and by the institution rather than the users is not likely to be complex and reflective (Brookfield, 1986).

School leaders are required by federal mandates to align their professional development choices to district goals so it is understandable that those goals are reflected in PD planning process. In Pleasant Heights, the influence of the mandates had an obvious influence on the district's survey. Consequently, it is not surprising that getting to the heart of what teachers perceived as their professional development needs was more successfully accomplished through the survey administered by Dr. Gwendolyn. In it, teachers honestly discussed their feelings about the district's approach to professional development and identified their professional learning and school structure needs. The table below illustrates the differences between the needs that were identified for elementary teachers in particular and the needs identified by teachers in the two different surveys. Table 5.1 shows that the district survey led to the identification of broad learning goals that were for the most part prescribed to teachers by the district leaders who were influenced by state and federal mandates. These needs were also prescribed when administrators prioritized them as options on the district survey. The results of Dr. Gwendolyn's survey (Appendix D), on the other hand, yielded topics specific to teachers' literacy practices and generated by teachers. The discrepancy between the results of these two surveys is essentially between the felt needs of teachers and the needs prescribed to them by district administrators.

District Survey	Dr. Gwendolyn's Survey
•Supporting Students with ADHD •Motivating Students •Interactive White Boards •Understanding Cultural Differences •Developing Interdisciplinary Lessons •Writing	•Time to learn •Guided Reading •Balanced Literacy •Writing Workshop •The Daily 5

Table 5.1 Comparison of Results from Two Surveys Used in the Needs Assessment

The fact that the two surveys resulted in vastly different responses indicates that it depends on who is asking about needs, and the manner in which the answers are solicited. This occurrence represents a significant complexity in the needs assessment process. Asking about needs in just one way does not necessarily identify the most significant ones. Furthermore, the answers that are given depend upon who has the power to establish the parameters of need, resulting in the voices of those with power and influence being prioritized over the voices of learners (Davidson, 1995; Cervero & Wilson, 1994). District leaders possessed the power and shaped the conversation about needs, especially through the design of the district survey.

Collecting and analyzing evaluation data. During this phase, Pleasant Heights' needs assessment reflected several practices recommended in the research literature. First, the PHSD staff was able to utilize a range of formal and informal data analysis protocols that allowed them to analyze a single set of data in more than one way. The use of the protocols also allowed stakeholders with varying degrees of technical expertise in data analysis to participate in the

analysis process. Overall, the data analysis phase was collaborative in nature, fostered a partnership between teachers and parents, and allowed teachers working together in professional learning communities to discuss each other's data without judgment. In PLCs, data analysis became an ongoing, job-embedded activity that was connected to the teachers' specific classroom contexts.

Another strength of PHSD analysis phase was that it involved multiple stakeholders in the analysis process. Teachers, parents, district administrators, building principals and external experts all played a part in evaluating the data. Additionally, more than one stakeholder group analyzed the same sets of data, which provided richer and more complete interpretations. For example, district administrators' analysis of NJASK data led them to notice overall trends across schools in the district. Teachers, on the other hand, were able to examine the same data at the classroom level and look for trends in performance within each classroom.

The analysis phase could have been even more effective if not for the linear thinking reflected by stakeholders. At each level of the organization, from district leaders to the outside experts, assumptions about causality were made from a non-systems perspective and presumed predictable cause-and-effect relationships. As a result, stakeholders tended to overlook the impact of other variables on data, such as those gathered from standardized test scores and classroom observations. For instance, Dr. Gwendolyn's observation team spent a full day in some of PHSD's elementary classrooms. In analyzing the observation data from those visits, the team used the absence of certain instructional practices as the basis for recommendations to the district. This

type of analysis is based on two assumptions: if the practice was not observed during the visit, it was likely not taking place in the classroom; and if the practice was not observed, teachers needed professional learning to enhance their knowledge of it. Erroneous assumptions about needs can have a negative impact on the district's ability to effectively respond to them.

Communicating evaluation processes and results. One strong point of the communication phase of Pleasant Heights' needs assessment was the administrators' early and specific communication to many stakeholders about the purpose of the assessment project. Dialogue began with Dr. Gwendolyn's presentation where district goals were outlined and teachers had the opportunity to pose questions and voice concerns, both orally and via Dr. Gwendolyn's survey. The district's leadership team also used multiple methods of communication, including meetings, presentations, and email, throughout the process.

An analysis of this phase indicated, however, that there was a later breakdown in communication about the needs assessment project between district leadership and its teachers. Unfortunately, communication declined significantly after the initial introduction of the project. When it occurred, communication was a sporadic, one-way, top-down process directed at teachers. Significant time passed before teachers heard anything about the status or results of the needs assessment. It was not until June when Dr. Gwendolyn made her presentation of findings and recommendations that teachers received any communication about the needs assessment. Even then, there was no clear communication to teachers about what leaders expected teachers to do with Dr. Gwendolyn's recommendations.

Responding to evaluation findings. Fortunately, PHSD offers a range of professional development opportunities within an organizational structure that supports after school PD, PLC time, tuition reimbursement, and out-of-district workshops. Several administrators rightly touted the district's flexible, multi-pronged PD approach as the way in which they are able to balance the demands of state mandates with meeting teachers' individual learning needs. However, the disconnect between the administrators' perception of their PD program and how teachers perceived the program was glaring. While the district certainly offers a range of PD opportunities in a variety of formats, teachers do not view several of those opportunities as PD, as was indicated in focus group and survey responses. As a result, teachers feel their needs are not being met.

Although they participated in the analysis of data, worked in collaborative groups with peers and parents, and appeared to be involved in a participatory needs assessment and program planning endeavor, there were no observable opportunities for teachers to take ownership in a conversation about their needs and decisions about their professional learning program. Cervero & Wilson (1994) stress the importance of the learner being at the "planning table" when program decisions are being made. In the case of Pleasant Heights' planning process, there was a ceremonial "place card" for teachers on the planning table. They were never invited in, however. That teachers were excluded from the decisions about the district's response to the needs assessment data was evident in that what eventually got offered in the district's PD program did not reflect teachers' self-identified learning needs. Rather, mandate-related training was prioritized and received the bulk of PD resources.

Program planning should be understood as a social activity in which adult educators negotiate personal and organizational interests within relationships of power (Cervero & Wilson, 1994; Archie-Booker, Cervero & Langone, 1995). Systems thinking tools helps equip organizational leaders to handle the "messy stuff" that comes with being involved with a complex, political, social activity such as needs assessment and program planning. However, when the process is not approached from a systems perspective, programs are incapacitated by complexity and leaders may be powerless to do much about it. Table 5.1 provides a summary of opportunities embraced by the district through each phase of the needs assessment, as well as those missed during the process.

Issues Faced by Pleasant Heights' Administrators

There were two major issues that had an impact on the NA process and contributed to missed opportunities discussed in the previous section. PHSD's needs assessment and planning processes were driven by linearity in thinking and an underestimation of the impact of external factors on the process.

Prevalence of linearity. Despite leaders' good intentions for conducting needs assessment, it was frequently based on a linear, rational approach to program planning in education despite arguments that this is a poor fit with the realities of complex systems such as schools (Brookfield, 1996). A close look at the process used by Pleasant Heights' staff in their needs assessment suggests they unintentionally employed a linear approach in the design of the needs assessment and subsequent planning of professional development. For instance, when leaders noticed a decrease in standardized test scores of third grade students, it prompted them

Phase of Needs Assessment	Opportunities Taken	Opportunities Missed
Focusing the Evaluation	• Being open to learning and flexible in the design and implementation of NA • Improving upon previous NA for PD • Seeking outside expertise • Including multiple stakeholders	Lack of: • Formal planning period with time devoted to thorough reflection on history of NA • Clearly articulated scope and focus • Collaborative development of a model with stakeholders, working though potential issues • Identification of strengths and weaknesses of previous NA processes
Selecting Data Collection Methods and Data Sources	• Incorporating multiple data sources across multiple levels of the organization • Selecting data sources that ddress several different goals of the NA	Limiting factors: • Use of survey with pre-selected objectives • Design of survey did not reflect limitations on the district's ability to respond with PD • Very low response rate for district survey
Analyzing Evaluation Data	• Analyzing a single set of data in more than one way • Involving stakeholders in the analysis process • Using methods that fostered collaboration • Making analysis a job-embedded, relevant activity	Linear thinking in considering causes and factors impacting data results and performance gaps.
Communicating Evaluation Process and Results	• Early communicating to stakeholders about the purpose of NA • Using multiple means of communicating	Top-down nature of communication; Informing vs. including stakeholders Lack of : • Interim communication about needs assessment activities or purpose publication of final results • Communication about expectations for implementing recommendations • Communication about how the results were actually used
Responding to Evaluation Findings	Organizational structure that allows for multiple pronged approach to PD, including job-embedded PLC	Failure to: • Include teachers in developing conclusions and recommendations • Address needs identified by teachers in the PD program • Consider alternatives for delivering mandated trainings • Base types of PD offerings on teachers' learning preference

Table 5.2 Overview of Opportunities Embraced and Missed in PHSD's Needs Assessment

to look at classroom instruction for answers without first systematically considering the potential influence of other factors. Similarly, the guided expert review of classroom practices resulted in changes in the elementary curriculum, on the assumption that there was a direct and predictable relationship between the absence of particular practices and the written literacy curriculum. A systems perspective would have allowed leaders to consider the multiple factors that may have had an impact on students' test scores for instance, such as changes in the learning needs of the particular group of third grade students or changing expectations placed upon the school system by external sources.

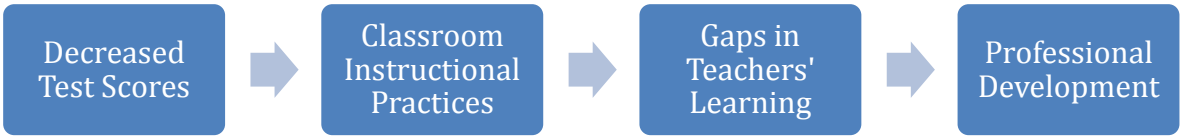

Figure 5.1 Example of Linearity in PHSD's Needs Assessment Implementation

A similar linear logic can be seen in the district's response to the state's adoption of a new teacher evaluation system. Although it was a fact that all teachers were required to become familiar with the evaluation model and that school leaders were responsible for communicating that information, administrators' immediate response was to allocate valuable in-service days to accomplish this task. There is no indication that district leaders thought about alternatives to using these limited number of full day sessions for informing teachers about the new evaluation system. As a result, the district's ability to address the actual learning needs related to practice that were expressed by teachers was hindered. There was simply not enough structured and dedicated PD time to devote to non-mandated topics.

Likewise, it seems that a lack of systems thinking led district administrators to assume a linear relationship between identified needs and the type of PD offered as a response to them. Although Pleasant Heights' administration described to me a range of professional development opportunities and formats available to staff, teachers did not have much say in determining the type of PD they received in response to particular needs. For example, survey data indicated that teachers would find peer observation sessions the most effective activity for learning more about the Daily 5 and writing instruction. However, decisions about the format of such PD were made by district leadership and often resulted in afterschool sessions or faculty meetings dedicated to these topics. These decisions were made despite the indication from research that professional learning is more effective when teachers have input into its design (Knowles, 1982; Brookfield, 1985; Garet et al., 2001; Learning Forward, 2011).

Drawbacks associated with linear models of program evaluation and planning include a limited ability to discern multiple influences on participants' decisions and actions and a failure to show how outcomes are dependent upon multiple interacting variables (Dyehouse et al., 2009). Furthermore, linear thinking hinders the ability to form a complete picture of contextual factors and to account for the dynamic nature of the influence on those factors upon the system. For example, teachers' reception of Dr. Gwendolyn's presentation of findings and recommendations was impacted by the time of the school year, particularly because several instructional days had been lost due to a hurricane. Even the format of the presentation influenced teachers' opinions of the needs assessment and Dr. Gwendolyn's recommendations. Sometimes

actions have unintended consequences but these can be anticipated with the use of systems tools such as modeling.

Forrester (1968) noted that organizational leaders often inadvertently perpetuate the very problems they are trying to solve when they do not begin with modeling the system in order to see consequences of actions, especially those that do not occur right away. Figure 5.2 presents a causal loop diagram depicting how unintended outcomes can impact a system. Systems thinking focuses on the interaction between system parts rather than the parts themselves and modeling the system using a causal loop diagram is one way to visualize the interaction between system parts. In figure 5.2, an action taken in response to a perceived gap is introduced into the system which is meant to improve the current state of performance. At the same time, the action perpetuates a consequence that is not yet evident but will eventually increase the gap in performance between the current and desired states of the system. An example of unintended consequences in Pleasant Heights could be the change in the elementary literacy curriculum. It is possible that the changes in that program may lead to a decrease in students' science achievement, for example or may not in fact improve literacy outcomes. Modeling the needs assessment system can help bring these consequences to light during the planning and implementation of the needs assessment.

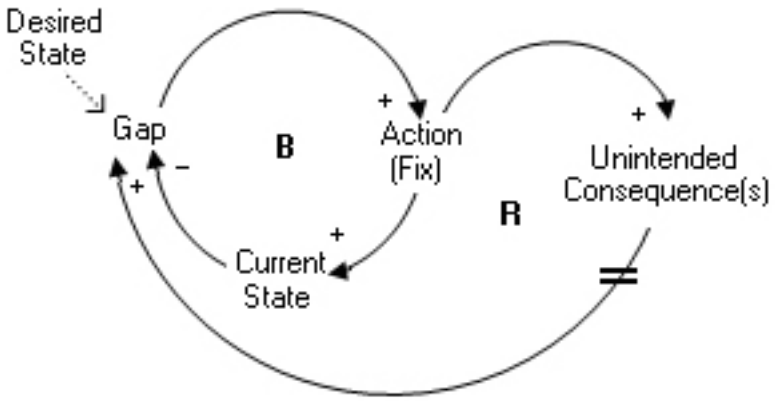

Figure 5.2 Fixes that Fail—A Causal Loop Diagram Showing Unintended Consequences of an Intervention (Sherrer, 2010) Reprinted with Permission.

During the PHSD's needs assessment, the effort was clearly directed toward looking at parts of the system, such as test scores, curriculum, and professional development. The process did not take into consideration the manner in which those parts influenced each other or were influenced by contextual factors. Instead, there was significant evidence of linear thinking: the assumption that X will cause Y to happen. One linear sentiment expressed in the district's response to the needs assessment data was "if we change the elementary curriculum, student learning will improve". Similarly, the same sort of logic was evident in the way that professional development priorities were identified. Professional development was utilized to fill in gaps, communicate information, and fix deficits in teaching rather than to provide the space for teachers to engage in learning. The PD program reflected no real conceptualization of what would actually help teachers improve either their own or their students' learning.

Underestimating the influence of external factors. When the systems thinking framework was retrospectively applied to analyze PHSD's needs assessment and planning project, the analysis revealed more about district dynamics and sociopolitical influences than it did about teachers' specific learning needs. It uncovered complex dynamics that shaped the needs assessment process well before implementation began and well after findings were reported. Although leaders were aware of certain political influences on the process, such as the needs engendered by new teacher evaluation systems, new standards and curricular expectation, and the pending arrival of new and rigorous assessment, that knowledge did not seem to be reflected in the district's approach to needs assessment. The NA was designed and conducted as if external factors were not constricting PD efforts, and leaders seemed to underestimate the influence on context on their planning decisions. Figure 5.3 depicts the impact of mandates on PHSD's needs assessment, the belt wrapped around the system representing the mandates putting a tight squeeze on the entire system, which includes the district's response to the needs assessment results with PD.

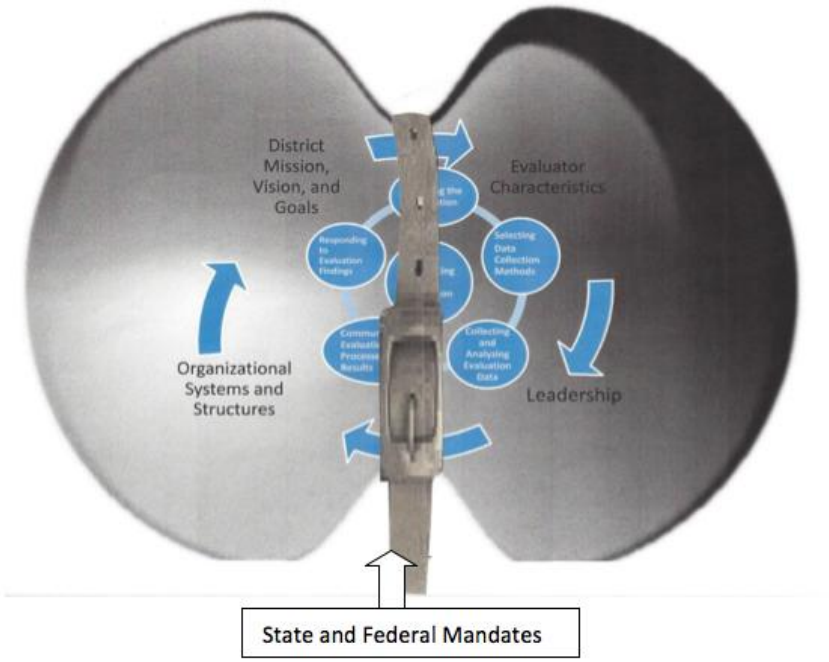

Figure 5.3 Impact of External Mandates on Needs Assessment Process

Day and Baskett (1982) describe the inevitability of programming issues when context is underestimated.

> It may well be that no matter how careful we are in developing need-oriented programmes which meet all the criteria of program planning, the exercise will be irrelevant because it will be unable to take into consideration contextual variables of professional practice which are not under the [adult] educator's control (p.146).

In essence, because PHSD's leadership did not take into account during the development of the needs assessment and the design of the PD plan the influence state mandates would have on these activities, the resulting program was not truly responsive to teachers' needs. Their efforts did not yield a lot of useful and actionable information. The unbalanced influence of the external environment smothered out parts of the PD design that leaders had included to make the process more participatory and the program more responsive. Although multiple stakeholders were involved in some way with the needs assessment--contributing their perspectives or analyzing data--the final

decisions about PD planning were made by a small, non-representative group of leaders and did not include teachers nor was it responsive to all the data that were collected.

It is possible to design a good needs assessment that yields information about teachers' learning needs, but difficult to plan PD to meet the identified needs when mandates receive priority status, resources, and attention. Although serendipitously there was much needed complexity to the NA design, because leaders did not have a systems perspective on the task, there were missed opportunities for using stakeholders' needs to drive the PD design. The model in figure 5.3 was retrospectively applied as an analytical framework to account for the messiness of conducting a needs assessment within a complex system. However, results of this study indicate that this systems model based on Russ-Eft & Preskill's (2005) Systems Framework for Evaluation does not sufficiently account for the complexities associated with needs assessment and PD planning in the K-12 school setting. The suffocating and limiting effect of external factors on the NA and PD processes is clear. Therefore, in this next section, I explain how the lessons learned from the Pleasant Heights case study can be used to propose a new systems model to specifically address the issues brought to light in the PHSD.

Implications for Practice

There is much to be learned from the Pleasant Heights School District's needs assessment. One of the most significant lessons is that linear thinking, despite attempts to engage in collaborative and participatory assessment and program planning practices, can very easily dominate these processes and limit their success. Systems thinking may serve as a tool for circumventing the limitations that come from using rational, traditional approaches to assessing learning needs and designing professional development. There were certainly aspects of PHSD's needs assessment that, given a systems perspective, could have been enacted differently. Recommendations to Pleasant Heights' leaders, lessons learned from studying this case, and Russ-Eft & Preskill's original systems model form the basis for A Systems Thinking Model of Needs Assessment to Inform PD Design in Schools (Figure 5.4).

Any model that is to be used by school leaders to negotiate the diverse learning needs of teachers in light of political constraints must be based on an acknowledgement of context and a clear understanding of how those constraints impact leaders' ability to plan responsive programs of professional learning. While it is untested, I propose this model as an approach for conducting needs assessments for the purpose of professional development design in schools whose contexts support such an endeavor. A Systems Thinking Model of Needs Assessment to Inform PD Design in Schools shows the needs assessment process centered within a complex social and political context. The context is influenced by state and federal mandates (legal requirements, etc.) on one side and district culture and characteristics on the other. Culture and characteristics include factors such as the district's mission,

vision, and goals, leadership characteristics, systems and structures, staff characteristics, and evaluator characteristics.

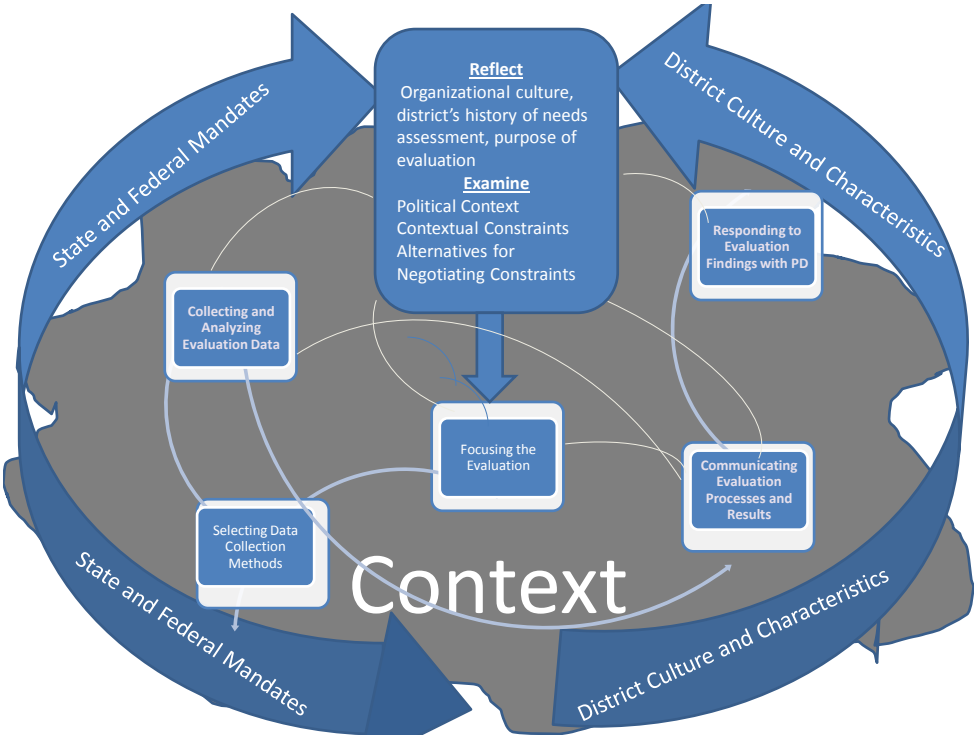

Figure 5.4 Systems Thinking Model of Needs Assessment to Inform PD Design in Schools

Overview of A Systems Thinking Model of Needs Assessment to Inform PD

Reflection and examination are two continual processes that initiate the needs assessment. It is here that questions about history and background are posed and investigated. It is also important to focus on the questions related to purpose for these are the foundation of the needs assessment. Once purpose is established and after the political context has been evaluated, school leaders can move into the "focusing the evaluation" phase as described by Russ-Eft & Preskill (2009). Once this phase has begun, the entire needs assessment process becomes an iterative process, with nonlinear movements back and forth between phases. How the needs assessment proceeds depends greatly on what

happens during previous phases. For instance, if a data collection method proves to be unsuccessful in targeting certain information during the "collecting and analyzing" phase, practitioners may return to the "selecting data collecting methods" phase to find a more appropriate method or data source. Similarly, as leaders move into the "communicating" phase, they may want to once again return to reflecting on history and background of the district. Which methods of communication have been most successful or problematic in the past? Which stakeholders have historically been excluded from the conversation? Does the planned method of communication allow for multidirectional dialogue? This model not only allows for recursive movement through phases; it is positioned as critically important.

Rationale for Revising the Russ-Eft & Preskill's Systems Model

Russ-Eft & Preskill's (2005), A Systems Model of Evaluation is geared toward Return on Investment (ROI) in Human Resource Development (HRD). While there are similarities between HRD and professional development, schools bring with them certain particularities. The responsibilities of working with children and the nature of regulations and accountability in schools are just a few issues unique to the school setting. It serves to reason, then, that a needs assessment model for schools should be designed to address concerns related to that particular context. A Systems Model of Evaluation was useful mapping out the implementation of the needs assessment, grounding analysis of data and reporting of results, and in making visible the influences on the system across several organizational levels. Likewise, it was beneficial in illustrating the way the organization's culture and infrastructure shape its ability to conduct a successful assessment (Preskill & Russ-Eft, 2003; Preskill

& Torres, 2000). However, the phases of the needs assessment as depicted in this model are too linear and equally prioritized to accurately reflect what should have happened in Pleasant Heights' initiative. Russ-Eft and Preskill's model combined with the PHSD case brought to light aspects of needs assessment enactment that were missing from both. As a result, my proposed model is based on Russ-Eft and Preskill's model and is informed by analyzing the problems that occurred in Pleasant Heights. It represents the needs assessment process in a much more recursive and "messy" manner, which illustrates what should have happened in order for the needs assessment to achieve its goals in PHSD.

One important consideration in revising the original systems model was to incorporate the response to the results of the needs assessment. This research investigated what actually happened as a result of the needs assessment and that includes the resulting PD program and other programmatic changes. In K-12 schools, it is difficult to separate professional development design from the needs assessment process, given state and federal PD requirements. Russ-Eft & Preskill's model did not account for response. Therefore, a revision was warranted.

The revised model zooms in on the focusing phase to highlight the importance of the actions that should take place during that part of the process. Findings from this research indicated a need for more in-depth actions during the focusing stage especially as a way to alleviate some of the limitations caused by external factors. It is during this stage of the needs assessment the culture, history, purpose, context, constraints and alternatives are uncovered, considered, and drawn upon in the effort to balance needs, wants, and musts.

In addition, this model situates external factors squarely at the center of the reflections process and begins the design of the NA program with awareness of constraints instead of being depicted merely as influences.

Finally, the revised systems model depicts communication continuously flowing throughout the phases of the needs assessment. In Pleasant Heights' case, lack of communication was an issue that teachers cited as negatively impacting their perception of the needs assessment. As a result of these findings, communication is emphasized as ongoing and multidirectional.

A Systems Thinking Model of Needs Assessment to Inform PD Design in Schools is offered to school leaders in Pleasant Heights and other school districts seeking to implement a multifaceted needs assessment to guide plans for professional learning. The model, along with the following recommendations, are the implications for practice related to this research.

Sharpen the Purpose and Focus of the Evaluation

In advance of the proposed needs assessment, school leaders should put considerable effort into establishing a clear purpose, goals, expectations and limitations of the needs assessment. Factors that have historically impacted needs assessment in the district, as well as potential issues of contention should be revealed and examined. Sharpening the focus of the evaluation in this manner is a significant element of the proposed model, as is indicated by the "reflect" and "examine" processes at the center of the model. Patton (2008) offers a series of questions that may be useful in sharpening the purpose and focus of the evaluation as recommended in the proposed needs assessment model because the questions encourage leaders to expose and face head on potential pitfalls related to the implementation of the needs assessment and the

intended use of its results. He recommends those designing and conducting a needs assessment ask and answer candidly the following questions (p.147):

- What decisions, if any, are the evaluation findings expected to influence?
- When will decisions be made? By whom? When, then, must the findings be presented to be timely and influential?
- To what extent has the outcome of the decisions already been determined?
- What data and findings are needed to support decision making?
- What is at stake in the decisions? For whom? What controversy or issues surround the decisions?
- What's the history and context of the decision-making process?
- What other factors (values, politics, personalities, promises already made) will affect the decision making? What might happen to make the decision irrelevant or keep it from being made? In other words, how volatile is the decision-making environment?
- How much influence do you expect the evaluation to have--realistically?
- How will we know afterward if the evaluation was used as intended?

In particular, addressing these questions may have helped to focus the PHSD needs assessment in a way that took into account the constricting contextual factors they faced, requirements related to providing training for the new teacher evaluation system, as well as the district-identified needs represented on the survey by preselected topics. Bringing these "musts" to the forefront of the conversations with teachers would have opened up dialogue between teachers and administrators. This dialogue could have potentially revealed alternatives for getting the necessary information to teachers in formats that

were respectful of their time. Making space for these conversations in advance of planning and conducting the needs assessment may have resulted in data that was actually usable in designing the professional development program and enabled district stakeholders to build a needs assessment, at least in part, around the reality of the impending arrival of the new teacher evaluation system by asking teachers what they felt they needed related to it. In other words, administrators could have acknowledged the constraints as part of the needs assessment process and built a needs assessment around the them but informed by the local context and local needs.

Model the Needs Assessment System

With multiple stakeholder groups, collaboratively build a model of the needs assessment system that can be used to illustrate the proposed program and to investigate potential consequences of its implementation. A model, such as Figure 5.5 (Dyehouse et al., 2009), can be useful in seeing the unintended consequences of needs assessment actions on the needs assessment as a whole. It can also facilitate collaboration between stakeholders as the model is used to design a context-specific needs assessment program.

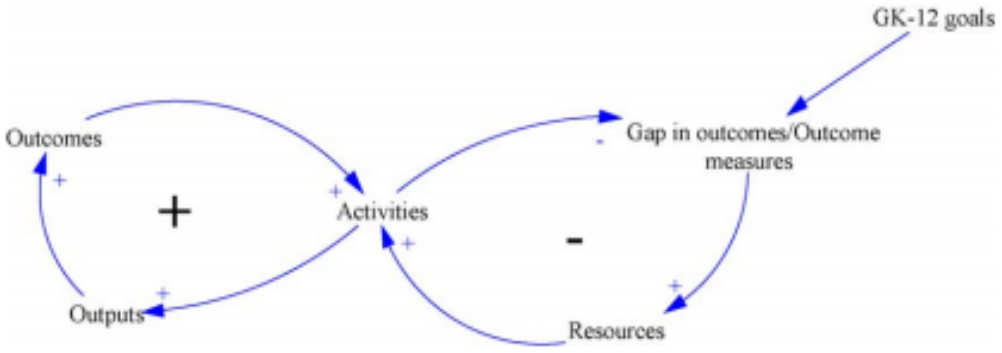

Figure 5.5 Causal Loop Diagram of logic model components (Dyehouse et al., 2009) Reprinted with Permission.

Dyehouse et al. (2009) found that creating a causal loop diagram was an effective way to represent an evaluation. “A systems thinking approach using causal loop diagrams allows for representation of feedback and the systems processes, which guides program understanding and modifications” (p.195). In my proposed model, this tool would be used by stakeholders to collaboratively design the needs assessment during the focusing phase and to explore the potential impact of decisions upon NA process. A model of the needs assessment is also useful for facilitating communication about the process as it provides a visual corroboration to other methods of communication.

Communicate Consistently and Candidly about Programming Decisions

After agreeing during the focusing phase how the input of various stakeholders will influence the PD program, communication should be ongoing during the process especially if constraints that limit the planned participation of stakeholders emerge. In addition, leaders should Involve teachers in conversations about format and its relationship to particular content for PD.

In Pleasant Heights, some of teachers’ dissatisfaction with the needs assessment process was related to their perception that there was a lack of follow through by administrators. That perception, incidentally, was shaped at least in part by the absence of teachers’ input in the final PD plan. After teachers participated in the classroom observations and completed surveys, they had some expectation that their efforts would be instrumental in determining the professional development offerings. When that did not happen, it reinforced teachers’ initial skepticism about the needs assessment—that it would result in PHSD’s administrators saying “we need you to do this, but we can’t give you any PD”. It is likely that teachers’ disposition toward needs

assessment and Pleasant Heights' professional development program will hinder teacher buy-in for future assessment projects.

Designing the interest survey to include a space for teachers to include their self-identified needs when it was unlikely that the district would be able to address those needs was a bit misleading. A more straightforward approach would have been for PHSD leaders to remove from the survey the prescribed needs related to district goals and state mandates because teachers were required to receive PD on those topics regardless of the survey results. Including a statement identifying the "musts" related to mandates may have helped teachers to see the sincerity of their administrators' efforts in planning PD. Then, administrators could use a more open-ended survey to identify teachers' wants and needs, and inform teachers of the resources (time and otherwise) that could be committed to including at least some of teachers' self-identified goals in the PD program.

Examine alternatives and possibilities for program arrangement

Pleasant Heights' leaders felt that they ultimately had no choice in the design of the professional development program and had to prioritize training related to state mandates over teachers' expressed needs. According to Brookfield (1986), this belief is a significant problem. "Program developers should be made aware of the possibilities for program arrangements that do not conform to the institutional model: They should be aware that this model is not an unchallengeable given" (p.233). All possibilities must be explored if school leaders are to successfully balance learning needs, wants, and "musts". Perhaps, topics that require teachers to simply become familiar with information or learning at the knowledge or recall level (Bloom, 1956) can be

presented via webinars and other independent training approaches. For example, public schools are required to conduct training on topics such as blood-borne pathogens. This topic does not require teachers to engage in higher level thinking and, therefore, could take place outside of dedicated district in-service time that instead could be used for complex, higher level learning.

As a K-12 district supervisor who is heavily involved in the design of professional development for teachers, this study has significant implications for my professional practice. It brings to light the need to examine the methods I use to identify teachers' needs, and the importance of conducting a needs assessment using a systems approach. My district is not very different from Pleasant Heights in that we are faced with numerous state and federal requirements that come without much funding or guidance from the DOE. Like Pleasant Heights, our resources (particularly time) are limited, and needs must be prioritized. Currently, we are working on providing more job-embedded professional learning opportunities in the form of demonstration classrooms, peer observations, literacy coaching , and common meeting time during the school day. In addition, our PD program includes afterschool workshops and one-hour meetings twice a month for teachers to meet with their professional learning communities. The challenge, then, is to make sure teachers have a voice in identifying their own needs within these formats and that the "musts" of federal and state requirements are not prioritized to the exclusion of the expressed needs of teachers when those needs differ from the “musts”. Therefore, it will be important for me to begin the PD planning process with a conversation with teachers about the "musts", those topics over which we have no control, and discuss ways to address those topics and still meet other needs

they may feel are important. Ideally, the collaborative planning process will involve finding ways to offer professional learning opportunities that complement the competing needs. Making a distinction between professional learning and professional transfer of information (which is typically what is involved in mandated trainings) is critical. Historically, when PD was conceptualized as transfer of information or as fixing deficits, it was likely difficult and unnecessary to make this distinction. However, as our knowledge of critical, transformative, andgrogical professional development shifts, so should our practices and the manner in which we make space for different kinds of learning.

Presentations at faculty meetings, web-based discussions, and written communication may be sufficient formats for communicating information. The premium resources, such as full day in-service sessions and release time can be reserved for high quality, complex learning experiences that can enhance professional practice and teacher learning. The use of a survey in which teachers are asked to tell what they feel they need, and in which they give feedback on the effectiveness of the PD program in meeting their needs could be useful in identifying teachers' expressed needs, just as Dr. Gwendolyn's did for Pleasant Heights. Teachers collaboratively involved with matching learning goals to types and format of PD, setting their own learning goals should be a priority of the professional learning program.

Educational leaders in K-12 schools should find this case useful in helping to understand and plan for the complexities involved with implementing a comprehensive needs assessment. A case for which context and methods are clearly described allows planners to understand how the NA rolled out the way

it did and with what results, and to understand the importance of considering context based on what happened in this case. At least as importantly, this research shows how complex it is to try to design PD based on actual stakeholder needs and contextual realities. While it is a complex task, investing in the process makes buy in, learning, and change seem like it will be more likely to occur. This points to the importance of leaders investing the time in acknowledging and negotiating the contextual constrictions and planning around them. This case also shows where opportunities were taken and missed for systems thinking, making it more feasible for other school leaders to more purposefully plan complex needs assessment that takes a systems approach.

This research contributes to the professional development, school improvement, and educational leadership fields in that it provides a much needed example of how a needs assessment can be conducted effectively in the complex system of a K-12 school. The systems thinking perspective was useful for understanding what happened and why it happened, as well as pointing to what could have been done differently. This study suggests that at least some of the challenges in planning professional development based on needs assessment experienced by this district could have been avoided by using systems thinking.

Implications for Further Research

There is a need for additional documentation of school based needs assessment processes, particularly in districts that conduct multi-layered, multi-method needs assessment that is participatory and collaborative in nature to expand upon the findings and implications of this study. It is important to analyze how different districts are able to design and conduct needs assessments and to negotiate diverse needs in spite of the limitations created by the sociopolitical context. The study of multiple cases like that of PHSD can allow for comparative analysis of cases across contexts and, thereby, further develop our understanding of the particulars of implementation in specific contexts. Additional case studies will help generate concrete, context-specific knowledge that is necessary for informed decision making and developing expertise in the needs assessment field (Flyvbjerg, 1998). To that end, studies that document the real life constraints of conducting needs assessment using systems thinking models is needed. Such studies may serve as exemplars for other school leaders seeking to do the same.

Additionally, research is needed to study needs assessment conducted using the proposed Systems Thinking Model of Needs Assessment to Inform PD in Schools. The model should be studied to determine its usefulness in negotiating the contextual and other issues that impact other districts as they did the PHSD case. This research should focus on the usefulness of the model to plan and implement needs assessment and examine the ways in which the model facilitated and impeded the process in K-12 school districts.

Finally, research evaluating how professional development programs derived from various needs assessment approaches is perceived by learners

would be beneficial to school leaders and designers of programs of adult learning. Because of the applicability of systems thinking, needs assessment, and professional development across multiple fields of study, future research should be approached from an educational leadership, organizational development, or adult learning perspective. A multidisciplinary approach to studying needs assessment can produce knowledge that enhances our thinking about leadership, learning, and organizational improvement, and the complex relationship among the three. Such research establishes a foundation for examining how individuals teachers learn from PD derived from a systems approach, how that learning influences the educational outcomes of students, and the performance of the organization as a whole. Further research may offer much needed guidance in the design of programs at the heart of improvement efforts.

APPENDIX A—NJDOE PD PLAN REQUIREMENTS

DISTRICT PROFESSIONAL DEVELOPMENT PLAN CHECKLIST

Check to be certain that all sections of your plan are included. Use this sheet to check off each section and sub-section.

Required √	**Form**	**Included** √
	Title Page (include district and county names)	
	Local Professional Development Plan Checklist	
	Table of Contents (pages numbered and correlated)	
	Section 1: District Profile	
	District Profile Sheet	
	Local Professional Development Committee Profile Sheet	
	Copy of school district's goals	
	Section 2: Reflection on 2010-2011 Plan	
	Summary of positive aspects of 2010-2011 plan	
	Identification of challenges	
	Summary of Activities in 2010-2011	
	Describe plan for 2011-2012	
	Section 3: Needs	
	Narrative explaining needs assessment process	
	List of professional development needs	
	Evidence of recent needs assessment	
	Section 4: Vision and Goals	
	District vision statement	
	List of professional development goals	
	Section 5: Opportunities	
	List of professional development opportunities	
	Identification of resources	
	Explanation of plan alignment	
	NCLB connection	
	Section 6: Evaluation	
	Explanation of ongoing evaluation	
	Description of how plan builds on previous district plan(s)	
	Explanation of use of evaluation for subsequent plans	

APPENDIX B— STRUCTURED OBSERVATION FORM

Teacher:

School:

Grade:

Is the room neat and organized for small and whole group instruction?

Is the environment literacy rich?

What activities occur (how long and when)?

How are phonics, vocabulary, comprehension, fluency and writing being taught?

How is literacy instruction organized?

What happens in guided reading group?

How are children assigned to station activities?

Are they on task at stations?

What activities are children involved in during independent work? (independent reading, partner reading, word work, comprehension/ vocabulary/fluency, writing)?

How is differentiation handled?

When children need intervention, how does that take place?

Is reading integrated in content areas? How?

Is content integrated into the L.A. block?

What roles do the different adults in the room play?

Is reading integrated into specials?

General Atmosphere

Best Activities

Areas for possible improvement

APPENDIX C—PHSD TEACHER PD SURVEY

Professional Development Survey
Spring 2012

Name (optional)_____School_____
Number of years in teaching
_____Position_____

The Professional Development Committee is looking for your input for the 2012-2013 in-service. The Committee is committed to developing programs which meet current professional needs and interests. Please complete this survey by checking off the areas you are interested in and returning it to your building representative. Additional comments and suggestions are welcomed.
Thank you!

_____Technology
- _____Developing classroom lessons
- _____Instructional resources
- _____On Course lesson plans
- _____Vantage Learning (My Access, SPMS)
- _____United Streaming
- _____Interactive Whiteboards
- _____ Pod casting
- _____ School Wires web page design

_____Classroom management
- _____Motivating students
- _____Establishing and maintaining discipline
- _____Establishing building based classroom management resource teams

_____Differentiated Instruction
- _____Developing classroom lessons
- _____Developing classroom learning centers
- _____Developing appropriate products based on interest, readiness and learning profile
- _____Tiered lessons
- _____Using assessment to drive instruction
- _____Rubric development

_____ Language Arts Literacy
- _____ Lesson study
- _____Reading intervention studies
- _____ Reading in the content areas/ analysis of informational text
- _____Writing in the content areas

_____Special Education
- _____Working with students with ADHD

_____Cultural Differences
_____Understanding poverty and its effects on student achievement
_____Working with ELL students
_____SIOP Training (Sheltered Instruction for ESL students)
_____Language arts literacy for ELL students
_____Familiarity with community resources

_____Mathematics
_____Examining student work
_____Writing performance assessments for math
_____Lesson Development
_____Understanding by Design
_____Instructional resources
_____Creating performance assessments
_____ Creating lessons that meet the Common Core Standards
_____General Category
_____Action Research
_____PLCs
_____Parent communication skills development
_____Utilizing community educational resources
_____ New Teacher Evaluation System
_____ HIB policy
_____Other Areas (feel free to comment)
_____
_____
_____

What professional development activities have you participated in this year?

RETURN COMPLETED SURVEY TO YOUR BUILDING REPRESENTATIVE.

APPENDIX D—DR. GWENDOLYN'S TEACHER SURVEY

Grade_____

1. Do you think that the observations will provide information to make reading instruction better and why/why not?

2. Is there something else that we (observation team) should look at other than what was suggested? What?

3. Do you think that there is another way for the school to find out this information? How?

4. Do you believe that the school provides the professional development you need to carry out the literacy program? If no, what else should they do?

5. What do you like most about the literacy program and why?

6. What don't you like about the literacy program? Why?

7. What do you believe is the biggest problem in helping children achieve in reading?

APPENDIX E—INFORMAL DATA ANALYSIS PROTOCOL

Data analysis protocol (informal)

What is being measured in these data?

Who is represented in the data pool?

What jumps out in the data on first glance?

Surprises

Expected

What conclusions can we draw at this point?

What other data have we looked at recently that have suggested similar findings?

What other data might we consider to confirm or disprove these conclusions?

APPENDIX F—FORMAL DATA ANALYSIS PROTOCOL

Data analysis protocol (formal)

What are we looking at here?

What is being measured in each assessment?

Which students are assessed?

What areas of student performance are meeting or exceeding expectations?

What areas of student performance are below expectations?

Do patterns exist in the data?

How did various populations of students perform? (Consider factors such as gender, race, and socioeconomic status.)

What are other data telling us about student performance?

How are the data similar or different in various grade levels, content areas, and individual classes?

What surprises us?

What confirms what we already know?

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