Parents’ Perceptions of School Accountability: A Case Study of an Urban School District

by

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ABSTRACT

School accountability under the No Child Left Behind Act of 2002 has influenced school leadership to use standardized assessment metrics in student’s academic performance coupled with methods of decision making informed by such data as a means for increasing student achievement. Success in a school’s plan to increase student achievement can be related to many factors, one factor sited frequently is the ability of school leadership to incorporate and involve all stakeholders in school reform practices like data driven decision making (DDDM). The review of literature in DDDM has very little empirical evidence indicating how parents as a stakeholder are involved in DDDM.

The purpose of this case study was to use extant data from a large urban, school district in the Western United States to gain a better understanding of three specific research questions focused on: (a) parents perceptions and factors they use to assess school accountability; (b) data parents use and value to inform their decision making for educating their child; and (c) parents perception and involvement with schools as a professional learning community (PLC).

Four findings emerged from the analysis of the extant data: (a) parents misunderstood the use of standardized testing data; (b) parents valued educational practices focusing on the concept of the whole child; (c) parents lacked understanding about how to become involved in their child’s education; and (d) the need to redefine the meaning of collaboration between school and parents.
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“family” discourse, but let’s keep it verbal; I’m done writing for a while!
CHAPTER 1—INTRODUCTION TO STUDY

Decision making using data has become an increasingly more important consideration for improving student learning (Bernhardt, 2004; Preuss, 2007). Using standardized metrics to measure student performance as a means to determine a school’s accountability has been a fundamental shift in education (Pruess, 2007). In the context of education, accountability is defined as a school’s ability to deliver an expected result (Lashway, 2001). One method used to measure a school’s accountability is utilizing summative standardized assessments in reading, writing, and mathematics at the end of an academic year to measure a student’s proficiency to his or her peers or set of academic standards. Student performance in standardized summative tests in English and mathematics has shown to be a statistically significant factor for predicting both student and school achievement success (Knoeppel & Rinehart, 2010). Standardized testing is an efficient way to collect data on student performance in order to allow educators the opportunity to assess the quality of expected instruction.

Educational practitioners began using student performance data and procedures for decision making as a means to justify, “a system of deeply rooted beliefs, actions, and processes that infuse organizational culture and regularly organizes and transforms data for the purpose of making organizational decisions” (Preuss, 2007, p. 118). Pruess discussed the evolution of the federal government’s role in being accountable to American citizens under the states’ responsibility to educate its citizens as waves of reform. Pruess elaborated on the shifts in thinking between each reform effort. He (Pruess, 2007) also pointed out some of the shifts in education that dealt with various issues at specific times in American history. For example, the Supreme Court case
decision, *Brown vs. Board of Education* in 1954 to desegregate education in the state of Arkansas, which later served to be the fundamental case to further ensure state accountability to providing a free, equal, and equitable access to quality public education for all students regardless of their gender, mental, or physical ability (Preuss, 2007).

Another fundamental shift in education was more reactionary to data indicating low performance and overall quality of American education to various indicators. For example, the National Defense Education Act (NDEA) of 1958 provided more funds in education for mathematics, science and engineering in response to the Soviet Union putting the first satellite, Sputnik 1, in orbit around Earth (Preuss, 2007). The recognition of an identifiable achievement gap used data from standardized tests to describe consistent observations of a disparity in academic performance for particular groups of students, whether by race, gender, or socio-economic status as compared to other groups of students (Boudett, City, & Murnane, 2008). The achievement gap spurred the federal government’s response to passing the *Elementary and Secondary Education Act*, (ESEA) in 1965. The ESEA initiated additional monetary funding called *Title 1* funding to states in order to increase supports for certain student demographics (Preuss, 2007).

Student performance on standardized tests became a political focus in 1983, for President Ronald Regan’s National Commission on Excellence in Education, which launched a report, *A Nation at Risk: The Imperative for Educational Reform* (Ravitch, 2009). The report used assessment data from the Scholastic Assessment Test (SAT) and the National Assessment for Educational Progress (NAEP), from which Ravitch paraphrased and made the following conclusions: (a) continued presence of an achievement gap for students of color and low socio-economic status; (b) lower
performance scores of American students as compared to foreign students taking SAT’s and the NAEP; and (c) college admissions reporting American students being noticeably less prepared for college than enrolled foreign students. The results of this report had the public and politicians scrutinizing the lack of impact 18 years of Title 1 funding through ESEA had on closing the student achievement gap (Ravitch, 2009). Although the federal government’s early presence in educational reform like Brown vs. Board of Education was a successful example of legislating educational reform, this was only the tip of the iceberg—a much larger problem loomed beneath the surface of educational reform. Namely, the presence of an achievement gap that still revealed a problem of inequality in education. The desegregation of schools was a monumental and pivotal first-order change in American education. On the other hand, a much more complex problem, such as the existence of an achievement gap, necessitated deeper second-order changes in the value and belief systems for executing services for equal access to an education. Thus, pressure mounted on both federal and state governments to devise a response to the embarrassing results in American academic performance and the continued presence of unequal access to a quality education (Ravitch, 2009). The response was a reauthorization of ESEA, commonly referred to as the No Child Left Behind (NCLB) Act of 2002. Politicians and government officials determined what ESEA lacked was accountability (Ravitch, 2009). Therefore, NCLB was a much more detailed piece of legislation demanding educational accountability through quantitative measures and detailed consequences for failing to meet measures quantifying and communicating students’ academic performance on a yearly basis (Preuss, 2007).
Accountability and No Child Left Behind

Public Law PL 107-110, the NCLB Act of 2002, reauthorized ESEA of 1965 and implemented a more comprehensive accountability system for monitoring quantifiable outcomes in student achievement particularly aimed at closing identified student achievement gaps (Preuss, 2007). This law was a new shift in accountability and there was a broad spectrum of states and districts, both prepared and not prepared, to meet the demands of this new law (Preuss, 2007). The NCLB Act (2002) clearly outlined a system of accountability for increasing student achievement and detailed what ESEA policy lacked—consequences to schools and states accepting federal monies that failed to meet annual targets for student achievement (Ravitch, 2009). Advances in technology and communications prompted a new era of data pooling, especially in student monitoring and management systems for education (Bernhardt, 2004). Different from ESEA policy, NCLB placed the responsibility for states to create uniform systems for monitoring and assessing students’ academic progress at any time (Preuss, 2007).

Research has revealed that scores on standardized tests in English and math are positively correlated with student achievement (Knoeppel & Rinehart, 2010). The relationship between measuring school accountability with standardized test scores was galvanized when the positive correlation of standardized test scores to student achievement were combined with the ease and efficiency for administering standardized tests.

Under the NCLB Act (2002), local education agencies must show quantitative evidence proving student learning through a measure called Adequate Yearly Progress (AYP) (Preuss, 2007). AYP is determined quantitatively from students’ performance scores on standardized assessments in mathematics and English, administered at the end
of every academic year. Under section 1116, Corrective Action, Role of Educational Agency, a state’s failure to meet minimal measures of AYP would result in successive interventions or plans to improve a school’s instructional program (No Child Left Behind Act of 2002). Schools that fail to meet their set AYP targets are placed in a status of program improvement (PI). In summary of Public Law 107-110 (No Child Left Behind Act of 2002), the level of interventions by state for a school to meet AYP increase every year a school remains in a status of PI. After five successive years of PI status, a school’s entire instructional and operational staffing is taken over by the state and restructured (No Child Left Behind Act of 2002). The goal of NCLB policy is that by the close of the 2013-2014 academic year all states will report 100% of its students are meeting grade level proficiency in mathematics and English. The intent of NCLB policy was clear, but whether the goal is achievable or produce systemic educational change and reform is debatable.

**NCLB’s Overall Success Is Inconclusive**

To report NCLB as a successful reform policy in closing the achievement gap or increasing student achievement from a national perspective is difficult. In an article reviewing the current conditions in testing, accountability, and politics of education, Au and Apple (2010) reported, “a considerable amount of research that shows either decreases or no significant gains” (p. 421) in student achievement nationally. Conversely, research by Nichols, Glass, and Berliner (2006) shows that, as a result of NCLB, the pressure to perform on high stakes testing has produced evidence of better test scores for some districts and states. However, educational researchers caution equating better test scores to better instruction; some researchers have stated that both teachers and
students have become better aligned with what is being tested, and test taking, which
does not necessarily mean better instruction (Nichols et al., 2006). The evidence is clear
that NCLB Act (2002) has created a national culture attuned to the assessment of student
performance through high stakes testing (Kim & Saunderman, 2005). The question still
remains, from a qualitative perspective, as to whether NCLB has worked to expedite the
improvement of our nation’s overall quality of instruction or just the performance on a
narrow set of instructional skills in mathematics and English (Au & Apple, 2010).

**NCLB and Implications for Educational Leaders**

The NCLB Act of 2002 has created an environment of immediacy for student
achievement results via high stakes testing regimes (Kim & Sunderman, 2005). Four
initiatives are clearly stated by NCLB Act (2002): (a) strong accountability for results;
(b) more freedom for states and communities; (c) demand for using research proven
educational methods; and (d) more choice and communication to parents (Preuss, 2007).
States have been allowed the flexibility to create their own metrics systems to assess
student achievement and meet measures of AYP (No Child Left Behind Act of 2002). As
a result, any research in student achievement related to NCLB accountability is unreliable
due to the variability in how each state measures AYP (Kim & Saunderman, 2005).
Consequently, school leadership is looking more broadly at the use of data and data
analysis to guide and improve instruction (Preuss, 2007). Several important key
processes necessitated by NCLB Act (2002) that directly impact educational leaders are:
(a) use of data to measure student learning and program effectiveness; (b) use of such
data as a means to communicate school accountability to the public; (c) development of
organizational and professional consequences for failure to meet expected student
learning results; and (d) DDDM as a continual means for assessing what is necessary for improved learning results (Preuss, 2007).

A two-part research study was conducted to understand how educational leaders use data to make decisions about learning and teaching. One of the important indications pointed out by the research of Ikemoto and Marsh (2007) was the need for input from parents and students. Parents and students are one of the most significant parts of a school’s culture (Knapp, Copland, & Swinnerton, 2007). One aspect of Knapp et al.’s (2007) research explored the theory of decision making, policy change, and organizational practice in schools. The result of their research concluded that organizational change will not happen unless there is a shift in the entire school culture and the educational leader must intentionally create cultures of evidence and inquiry from both within and outside the school (Knapp et al., 2007). The work of re-culturing an organization must involve all of its stakeholders; evidence and assessment data is central to the way decisions are made for local policy and practice (Louis, 2006; McLaughlin & Talbert, 2006). Despite the research identifying educational leaders and teachers incorporating DDDM and creating cultures of evidence in school, very little empirical evidence exists regarding the parent and student perspective value, and opportunity, for becoming involved in the decision making of schools.

**Statement of the Problem**

Overall, school accountability has been narrowed down to the students’ performance scores in English and mathematics (Ravitch, 2009). The NCLB Act of 2002 strictly outlined requirements for educational leaders and their school communities to develop and use a system of metrics to measure student achievement focused exclusively
in mathematics and English. These metrics are the primary data used to rate, measure, and report on the progress of a school’s student achievement. The quantitative demands of NCLB require principals to have a more comprehensive understanding and use of data to guide principals toward improving student achievement outcomes (Kowalski, Lasley, & Mahoney, 2008). DDDM has become an integral process used by educational leaders to inform decision making with explicit intentions to improve student achievement in mathematics and English (Ikemoto & Marsh, 2007).

The success of a school’s DDDM process hinges on many factors, but one factor is critical—the quality of a school’s leadership (Ikemoto & Marsh, 2007). More precisely, successful schools have leadership that provides strategic coordination of resources in professional development coupled with a visionary plan in monitoring and assessing student achievement (Reeves & Burt, 2006). However, research has also revealed a persistent lack of understanding on the part of school leaders, teachers, and other stakeholders (students and parents) in two major areas of DDDM: (a) how best to analyze, communicate, and implement timely responses informed by student achievement data; and (b) how to use such data to directly change teacher practice, and impact student instruction in the classroom (Ikemoto & Marsh, 2007; Reeves & Burt, 2006; Shen et al., 2010).

Research in DDDM methods used at the classroom level reveals promising results in how teachers use real-time student data to make immediate changes to student instruction across their practice that ultimately yields quantifiable results for improved student outcomes in the classroom (Reeves & Burt, 2006). Nevertheless, Reeves and Burt still reported disconnectedness in teachers’ actual instructional practices even
though professional development, shifts in participatory leadership training, and collaborative work are shown to heighten educators’ effectiveness. Surprisingly, very little of what has been discovered in educational research gets immediately and directly incorporated into classroom practice (Reeves & Burt, 2006). Factors such as limited resources, time, and monies for professional development and training for all stakeholders continue to be areas of concern (Reeves & Burt, 2006). While NCLB policy has increased pressure and consequences for state and district level educational systems to perform better, the question still remains as to whether it is reasonable to expect such a large scale policy change rooted in accountability alone to be a solution toward solving a long lasting problem of an achievement gap (Ravitch, 2009). Educational research in the practice of distributive leadership and reciprocal accountability in schools has revealed a movement toward school leadership focus for creating purposeful learning communities or PLCs (Copland, 2003). Through the capacity of shared leadership, problem-solving, and DDDM, school personnel working collaboratively have moved forward in improving student achievement (Copland, 2003).

In a review of the literature on DDDM there is a wealth of research identifying the participants involved are mainly administrators and teachers. The process of DDDM is highly involved and includes the collaborative participation of teachers and educational leaders (Ikemoto & Marsh, 2007; Knapp et al., 2007). Yet there is a paucity of research exploring how parents fit into the very same process of decision making to increase student achievement. Very little is known about how parents make informed decisions about their child’s education. Additionally, very little is known about what data parents value and use to inform the decisions they make for their child’s education. In the
DDD M research, there are recommendations from researchers to explore parent perceptions. For instance, the research of Knapp et al. (2007) asserted the importance of expanding the knowledge base of DDDM in schools and identified the value for future research to investigate the perception parents have of DDDM and their involvement in the process of DDDM. Unfortunately, to date, no empirical research has been done to investigate parent perceptions of data and the use of certain data for decision making in education.

In the context of education, one reason for change is a result of decisions made to implement solutions to the existence of a problem (Cuban, 2001). A commonly identified problem in education is varied academic student performance. Change theorists Argyris and Schon (1974) identified the dynamics of people and the information involved in the decision making as loops of learning that take place. Looking at change in more depth, Bolman and Deal (2008) discussed the critical points to change within large organizations by understanding how to frame problems and solutions through the perspective of structural, human resource, political, and symbolic frames. There is a significant lack of research on parent involvement in the process of DDDM, which seems counterintuitive to what research already knows about the positive correlation between student achievement and parent involvement (Zellman, Waterman, & Eastman, 1997). In light of the concepts in change theory, loops of learning, framing problems for more effective solutions, and decision making informed by data, it is the opinion of this researcher that parents are not being used to their potential in the reform efforts being made by schools to improve student achievement.
Considering a school as a type of organizational model, from the aspect of Bolman and Deal’s (2008) concept of framing for change, parents and students are very significant components to the structural, human resource, political, and symbolic frames of school. Finding new and innovative ways to increase their involvement in the change effort appears to be essential. Furthermore, educational reform efforts need to continue exploring different pathways to improve parent and student involvement in educational reform beyond an action to provide a service for them, but a comprehensive service that builds a capacity of service with them.

**Purpose of the Study**

Educational leaders are expected to expand the learning capacity of all stakeholders within their school community as a means to consistently increase student achievement by creating a collaborative learning culture (City, Elmore, Fairman, & Teitel, 2010). Knowing the capacity and needs of a learning community is difficult work to execute, but this skill is considered to be a necessary component of 21 leadership qualities as delineated by Marzano, Waters, and McNulty’s (2005) meta-analysis of factors that contribute to student achievement. PLCs within the context of a school setting provide a mechanism for educators to develop collaborative vision, identify instructional focus, and use strategic instructional observations and classroom data to inform direction and identify students’ needs (DuFour, DuFour, Eaker, & Thomas, 2006; Elmore, 2000; Schmoker, 2008). The literature on developing successful PLCs, however, has limited information on the inclusion of parents and students into the format of a school’s decision making beyond traditional structures of school governance teams. A critical question and initial purpose of this research is to investigate the impact parent and
student engagement in strategic decision making might have on overall student achievement. Additionally, active decision making structures in schools using data to inform decision making, such as with PLCs, employ the collaboration of administrator and teacher. But, given the positive correlation between student achievement and parent involvement, a question arises, “Are parents and students included in this decision making?”

DDDM in education has become a normative method of practice for educational practitioners looking to consistently increase student achievement (Kowalski et al., 2008). Surprisingly, there is no formal research available indicating whether parents’ involvement in schools’ DDDM process. Extensive research exists to document factors that hinder or support effective DDDM. Parent involvement does have a positive correlation to higher student achievement, but very little is known about parent and student involvement with respect to DDDM (Ikemoto & Marsh, 2007).

The intent of this research is to use a large, urban school district with a diverse population of parent and student demographics as a case study to explore parents’ perceptions, understandings, and use of data for their decision making in their child’s education. Ultimately, this research will contribute to the empirical data available for educational leaders seeking to understand what parents and students value in terms of school accountability.

**Research Questions**

From the review of literature in DDDM four dominant themes emerge: (a) accountability in education; (b) decision making as a process; (c) data within schools; and
(d) schools as PLCs. This case study will draw upon these four themes as an initial lens to investigate the following questions:

1. What are parents’ understandings and perceptions of school accountability, and what factors do they use in their assessment of school accountability?
2. What are parents’ understandings and perceptions of national and state school accountability metrics used to gather data and to what extent do they value the use of these measures to make decisions in their child’s education?
3. What are parents’ perceptions about schools as PLCs and in what ways do parents see themselves as part of the learning community?

**Research Methodology and Design**

A single instrumental case study design was chosen as the best means to analyze extant data provided for this research. Single instrumental case study research works to examine an issue bounded within a system (Creswell, 2007). The demographics of the district and the quantity, quality, and multiple types of data collected made for an ideal case study. The district studied in this case is a large urban public school district in the Western United States with an enrollment of 132,787 students and 226 school facilities, with 117 elementary schools, including K-8, 25 middle schools, 24 high schools, 11 atypical/alternative schools, and 49 charter schools. The total annual operating budget of this district is one billion dollars. The district is ethnically diverse and has a “majority-minority” population with approximately 27% English learners and 60% eligible for free or reduced meals.

Data collected by this district included parents’ voices and thus aligned to the elements Ikemoto and Marsh (2007) and Knapp et al. (2007) identified as missing in
current research. The extant data provided for this case study research came from transcripts and video recordings of stakeholders (including parents and students) who participated in public meetings held by the district to elicit community input regarding quality neighborhood schools.

The use of extant data minimizes the bias of the researcher’s presence. In addition, a pertinent characteristic of case study research, and a reason for choosing this method of research, is the important connection between observational data and interpretation of context, dynamics, and meaning needing to be added by the researcher (Merriam, 1998). The discovery of answers to the research questions necessitates a context. The purpose of case study data collection is to include the dynamics and context to data that is not static (Merriam, 1998). The researcher has the responsibility to objectively report the conditions, manner, and dynamics by which the observations were collected, but also must incorporate meaning to the data collected (Merriam, 1998).

The district collected data from its stakeholders for the purposes of gaining their perspectives on the district’s progress in implementing a district-wide initiative. Stakeholders for this case were defined as parents, employees, students, and business/community members. The questions that the district used to prompt participant discussion were open ended and their responses contained enough information to cross reference to the research questions specific to this study. The data collected by the district originated from five public forums. The purpose of the forums was to gather data on how the district was doing with its implementation of a Board of Education approved vision/initiative aimed at creating quality neighborhood schools. The vision/initiative as paraphrased from the sample district’s web page was the district’s response to two
decades of failed attempts to close the achievement gap. A Board of Education member made the initiative to change the district’s vision and develop a plan for reform. The district used a review of literature and research in educational reform to draft its own proposal for an implementation of district reform. The board voted and approved an initiative for district and school reform based on twelve quality school indicators. The goal of the initiative was to create quality neighborhood schools committed to a focus on student achievement, creating schools as neighborhood learning centers, parents and volunteers engaged with learning, effective teachers in active learning communities, and a supportive district.

The researcher was an active participant in one of the five community forums and an observer for three of the remaining four forums. Overall the data provided to this researcher were audiovisual recordings of the entire five forums from start to finish, collection of every poster created by participants, and sign-in sheets of attendance for the five forums. Additional data used for the case study were in the form of notes and observations by researcher while in attendance to forums, and notes and observations from reading all 82 posters and listening to eight hours of audiovisual recording of all five forums. Data were analyzed by a constant comparative method in three steps: (a) identifying emergent themes; (b) using a frequency count of occurrence for major themes; and (c) then condensing themes to specific areas of concern related to the three research questions for the case study (Creswell, 2007; Merriam, 1998). Themes were derived from two types of data sets, the actual words written on the posters, and actual words spoken during poster presentations. A frequency count of emerging themes was used on both sets of data after assigning codes to operative words and concepts that were
written spoken. In a third review of data, emergent themes were categorized according to research question. Finally, through a constant, comparative analysis themes were clustered into broader categories. The analysis of data with this magnitude “is rich in the context of the case” and can serve to reveal important findings specific to the case study (Merriam, 1998).

**Significance of the Study**

As a means to assess school effectiveness and determine areas for improvement, schools have been mandated by federal and state educational policies under the NCLB to identify, create, and implement a system of metrics to assess student achievement. Specifically, NCLB accountability measures have focused solely on academic performance in English and mathematics. As a core component of meeting NCLB compliance, educational organizations are required to set up plans of communication to all stakeholders and identify a system of metrics used to inform decisions being made to increase student achievement. State and local educational agencies are also required to establish goals and set accountability standards in place through the use of student performance data obtained from common assessments. While research exists reporting a wide range of a school’s ability to incorporate student data in decision making processes strategically aimed at increasing student achievement results, much of the research identifies stakeholders as superintendents, principals, and teachers (Ikemoto & Marsh, 2007; Knapp et al., 2007). Queries on data and decision making in education that incorporate the perspective of parents and students yielded little to no research. The role of parents and students as stakeholders concerned with DDDM to improve overall student achievement and school quality remains an unexplored area for potential use by
educational leaders. This research adds to the scholarship by exploring parents’ perceptions of school accountability measures and to what extent they value such measures in assessing student success.

Limitations

The overall trustworthiness in the data collected for interpreting findings of this case study was believed to be high. Case study research does have limitations in generalizability to populations other than the case itself (Merriam, 1998). The demographics of this case study’s population, location, and current conditions in context to the research questions are not generalizable to other populations outside of this district. A primary limitation of case study methodology is researcher bias (Merriam, 1998). Because the researcher is the primary instrument for data collection, analysis, and a possible participant in the case study research, the chances and opportunities for bias are high (Merriam, 1998). In this instance, researcher bias was mitigated by the use of extant data provided by the district. The use of extant data, however, in and of itself is a limitation as there was no opportunity for the researcher to gain further insight through additional questioning or probing for additional data. Expanding on the idea of researcher presence within the collection and interpretation of the data are the possibilities for over exaggeration or under simplification of observed data within the setting and context of the case (Lincoln & Guba, 1985). Two critical features within the design of the methodology were strategic for attempting to limit researcher bias by exaggeration or under simplification. The first feature to control for limitations was the use of extant data. The use of extant data as a means to explore three specific research questions allowed for an organic development of responses that were natural and
unsolicited by researcher. Second, the extant data provided for this case study was derived from five different community forums, all of which were executed in the exact same manner. Each forum used the exact same questions and prompts to engage participants, yielding the exact same types of data and artifacts. Each forum was held at a strategic location geographically central to each Board of Education member’s constituency. All forums used the same methods of communication media to advertise forum dates, times, and locations. All the forums offered the same services to participants for example, child care, translation, and refreshments, and were facilitated by the Superintendent. The purpose of forums was announced, to collect input data from the community on the progress on the implementation of a district-wide initiative.

Additionally, the researcher was a participant and observer and present for collecting data from the forums; however, the presence of the researcher had minimal effect on participants’ behavior or responses considering the large number of people in attendance for each forum.

Definitions

Academic Performance Index (API) Score: The API is a single number, ranging from a low of 200 to a high of 1000, which reflects a school’s, an LEA’s, or a student group’s performance level, based on the results of statewide assessments. The API is calculated by converting a student’s performance on statewide assessments across multiple content areas into points on the API scale. These points are then averaged across all students and all tests (California Department of Education, 2014).

Accountability: ability to deliver expected results, in addition to taking responsibility for the consequences of what has been actually achieved (Lashway, 2001)
Achievement Gap: term used to describe the consistent observation of a disparity in academic performance for particular groups of students, whether by race, gender, or socio-economic status as compared to other groups of students as measured from standardize assessments (Boudett et al., 2008).

Adequate Yearly Progress (AYP): targets a goal, time frame, and level of academic achievement needed to be met for a specific demographic group of students as adopted and measured by a state’s education agency (Boudett et al., 2008).

Data: any objective, quantitative or qualitative fact, measuring a discrete and observable event (Preuss, 2007).

Decision Making: the process in identifying and framing problems, generating alternative solutions, and assessing probabilities for desired outcomes as a result of the decision made (O’Reilly, 1983).

Data driven, data based, or informed decision making (DDDM, DBDM, or DIDM): is a process of how an organization with deeply rooted beliefs and actions use data as a way to provide purpose and reasoning for the decisions made within the organizational culture (Preuss, 2007).

Professional Learning Community (PLC): are defined as stakeholders committed to the purpose of the work within an organization with special attention to the collaborative use of knowledge to inform decision making for problem solving purposes (Sergiovanni, 1994).

Student Achievement: as typically measured by a standardized assessment, represents the level of proficiency a student has gained within a specific content area (Preuss, 2007)
CHAPTER 2—LITERATURE REVIEW

The following is a literature review of DDDM. In the review of DDDM four major themes emerged from the literature review: (a) school accountability to the public through current legislation; (b) decision making theory in the context of education; (c) types of student data used for DDDM; and (d) PLCs as cultures of inquiry. These four themes have identified sub-themes within them. The four themes and respective sub-themes will be reviewed in detail as a means to understand the history, application, and implications for understanding current dynamics of DDDM in education.

School Accountability to the Public

The concept of accountability has been a significant factor in the push to reform education. The inception of the NCLB Act of 2002 has been a landmark policy in education with respect to accountability in academic performance of students. Schools receiving Title 1 funds must have clearly articulated instructional plans for student achievement, cohesive content standards, standardized assessments to measure progress, and structures to communicate to the public all the actions taken to increase student achievement (Wohlstetter, Datnow, & Park, 2008). A brief review of federal legislation and educational policy of the past is provided in order to better understand the magnitude of both intended and unintended outcomes from federal policies aimed at reforming education.

History of Federal Policies Regarding School Accountability

The responsibility to provide a public education was not specifically mentioned in the US Constitution. State government had the right and responsibility to educate its citizens. The federal government abstained from involvement in public education until
the mid-twentieth century when legislative movements began addressing constitutional shortcomings regarding equality, equity, and quality in education as provided by state government. A monumental shift in education where federal and state governments began interacting under interests of public education was the Supreme Court case decision, *Brown vs. Board of Education* in 1954 (Preuss, 2007). In addition to setting the precedent to desegregate education in America, this case also served as the foundation to ensure states’ accountability to providing a free, equal, and equitable access to a quality public education regardless of a student’s gender or mental or physical ability (Preuss, 2007).

Another example of the federal government’s influence on public education was a concern of national security. The NDEA of 1958 was a reactionary decision aimed at supplementing federal monies to state education, based on two realities: (a) American students were being out performed by foreign students in standardized tests in mathematics, science and engineering; and (b) the manifestation of American’s poor performance in the areas of science, mathematics, and engineering as evidence by the Soviet Union’s achievement of putting the world’s first satellite, Sputnik 1, into orbit around Earth (Preuss, 2007). Thus, the connection between assessing academic quality by standardized testing became forged (Preuss, 2007).

Standardized tests, and the data produced by such tests, became more available as well as the inquiries to describe consistent observations of disparity in students’ academic performance. An alarming difference between specific ethnicities and socio-economic status of certain student demographics was a hard observation to ignore (Presuss, 2007). The evidence of an achievement gap being identified and correlated to one’s ethnicity
and socio-economic status began to reveal a different facet of inequality in American education (Boudett et al., 2008). The recognizable gap in achievement through the use of standardized testing data spurred another federal government response of monetary support to state funding for public education by passing the ESEA in 1965. Specifically, under the ESEA Title 1 funding was monetary support given to states in order to increase supports for the student demographics identified by standardized testing data as under achieving (Preuss, 2007).

In 1983, the Regan Administration issued a report, A Nation at Risk: The Imperative for Educational Reform (Ravitch, 2009). The report used assessment data from the SAT and the NAEP to launch a campaign for increased federal government involvement in a failing American education system based on three deficits: (a) continued presence of an achievement gap for students of color and low socio-economic status; (b) lower performance scores of American students as compared to foreign students taking SAT’s and the NAEP; and (c) college admissions reporting American students being noticeably less prepared for college than enrolled foreign students (Ravitch, 2009). The results of this report had the public and politicians scrutinizing the effectiveness of Title 1 funding through ESEA and the fact that 18 years of funding did little to nothing on closing the student achievement gap (Ravitch, 2009).

The initiation of the federal government’s involvement in the reform of public education in matters of equality like, Brown vs. Board of Education or for the purpose of stimulating a national value for quality education, like the NDEA did, were successful examples of legislative educational reform. Nevertheless, more problems loomed beneath the surface—chief among them was the achievement gap. The nature of the
existence of an achievement gap based on ethnicity and socio-economics of certain student demographics in America continues to reveal a national problem of inequality in education (Ravitch, 2009).

The public’s knowledge of failed results and presence of inequality in American education has mounted political pressure on both federal and state governments to be more accountable (Ravitch, 2009). The federal government’s response was a reauthorization of ESEA, to the NCLB Act of 2002. Politicians and government officials determined what ESEA lacked was accountability and therefore, NCLB was a much more detailed piece of legislation for educational reform which will demand two things ESEA did not: (a) accountability through quantitative measures in student’s academic performance; and (b) detail consequences for failure to meet measures of students’ academic performance on a yearly basis (Preuss, 2007).

**Current Policy under No Child Left Behind**

Under section 6311, State Accountability System, NCLB requires states to create: (a) a plan addressing academic standards, assessments, and accountability; (b) an accountability system that must be based on academic standards and academic assessments developed by the state; (c) a system that is the same for all students including sanctions and rewards to hold local educational agencies accountable for student achievement and for ensuring adequate yearly progress; (d) a plan constituting a definition of adequate yearly progress by the state, and; (e) high standards of academic achievement that apply to all public school students in the state. In summary, NCLB requires both state and local educational agencies to create a unified plan of accountability in academic achievement. Within this plan, a system of unified
assessments is administered in English and mathematics to measure all students’ achievement of a high quality standards-based curriculum. A school’s compliance to NCLB is determined by how well schools meet targeted areas for AYP. AYP is a weighted formula taking schools’ students demographics into consideration to reach proficiency in the content areas of English and mathematics.

Different from earlier versions of ESEA, NCLB detailed the consequences for not meeting the requirements under section 6311. The state must provide evidence of meeting AYP for all students at the end of every academic school year. If at the end of every academic school year, any school is unable to provide evidence of meeting AYP targets for all students in math and English, the school will be identified as a failing school. Subsequently, failing schools would enter into PI status. Schools in PI status have to provide clear communication to the community, parents, and its students of the school’s failure to perform. Parents and their students in failing schools have the right to attend a school that is meeting AYP. In order for a school to climb out of PI status, the school would need to meet AYP in all target areas that caused school to fall into PI in the first place for two consecutive years in a row, while still making sure not to fall into PI for other possible areas measured by AYP metrics.

Falling into PI status has a compounding effect on schools and the implications for the consequences makes getting out of PI status extremely difficult for certain demographics of schools (Ravitch, 2009). For example, schools falling into a status of PI have five years to overcome two challenges: (a) regaining and compensating for statistical loss in achievement for the past year of poor academic performance; and (b) while maintaining progress toward increased projections for student achievement in order
to meet academic targets in time for 100% student proficiency in 2014. Ravitch (2009) explained additional obstacles that greatly hinder the potential of a school being actually able to overcome the challenge of falling into PI status. For example there are no provisions for schools with large numbers of students classified as English language (EL) learners or learners with special needs. Ravitch also noted the damaging effect PI can have on a school when students are allowed to leave PI schools to attend non-PI schools. Typically students who have resources and the means to leave will do so, leaving an inordinate amount of struggling students with fewer resources behind (Ravitch, 2009). The exodus of proficient and advanced students from PI schools to non-PI schools widens the achievement gap and makes a school’s ability to recover, in addition to meeting increased gains for student achievement, extremely difficult (Ravitch, 2009). The unforeseen implications of NCLB compounded with an expectation timeline for schools meeting specific student academic performance standards continues to challenge schools at all levels and academic capacity (Ravitch, 2009).

**Impact of NCLB Accountability for Educational Leaders**

Conflicting views in the literature purport NCLB as a successful or unsuccessful policy as it works to close achievement gaps and, in general, increase the overall quality of American education (Nichols et al., 2006). Principals and educators alike have mixed views and opinions of whether current accountability policies like NCLB have motivated the right decisions to bring about reform in American education versus making the necessary decisions to stay NCLB-compliant (Ravich, 2009; Shen et al., 2010).

Since 2001, educational research literature in response to NCLB policy has produced numerous opinions about the effect NCLB has had on leadership in terms of
Childress (2009) pointed out since NCLB’s inception in 2001, there are deliberate observable relationships existing between school leadership and decision making focused intentionally on increasing student performance on standardized tests for student achievement. In terms of a principal’s professional motivation and focus, two distinctive studies returned similar results. Ravitch (2009) and Shen et al. (2010) both conducted interview-based research and, in both samples of principals studied, they reported a primary motivation to perform was rooted in meeting AYP goals. In Ravitch’s (2009) sample of surveyed principals, they reported that one factor in their motivations to perform stemmed from a desire to avoid the public humiliation and punitive consequences that came with being the principal of a school that fell into PI status.

Critics of the writers for NCLB policy were quick to point out how heavy NCLB was on rules, regulations, and consequences for compliance, but light on suggestions for how to meet compliance (Ravitch, 2009). As an organization, districts and schools were left alone to figure out how to maintain NCLB compliance. Even more difficult was developing effective strategies to exit PI status if a school or district fell into non-compliance. Creating timely and effective solutions was completely left to the current school or district infrastructure. If a school or district system did not meet required goals by the fifth year of PI status, the state would then have the right to take command of all aspects of the school. Ultimately, schools and their districts worked hard to combine instructional and human resources to meet compliance. Schools close to the edge of NCLB compliance or in any status of PI became motivated to focus on whatever means it
took to produce quantitative evidence of increased student achievement in English and math proficiency to meet NCLB expectations (Knoeppel & Rinehart, 2010).

Educational practitioners and researchers worked to identify indicators that were reliable predictors of student and school success. Knoeppel and Rinehart’s (2010) research is one of many investigations aimed at analyzing extensive input and output data produced by students and schools in order to determine significant correlations between these data points as predictors for student achievement. Approaching issues in student achievement and school success from the aspect of inquiry by experimental design, Knoeppel and Rinehart’s objective was to empirically determine specific input and output data points as dependent or independent variables to student achievement. Varied types of student input and output data were used to create multivariate linear regressions. These regressions were then used to identify what combinations of independent variables acted as statistically significant predictors for a dependent variable such as school success. Even though this study was limited to 102 high schools in Kentucky, it confirmed a well-tested hypothesis, indicating that English and mathematics proficiency are significant predictors and have a strong correlation to school success. In addition, utilizing quantitative data such as proficiency scores in English and mathematics for the purpose of conveying accountability is far more convenient as well as easier to communicate and comprehend when addressing all stakeholders (i.e., public, parents, and students).

Most researchers and practitioners have agreed that NCLB has done two things: (a) flood the educational system with all types of student data; and (b) create procedural demands for incorporating this data into the decision-making processes (Pruess, 2007).
As a result of today’s ever-expanding access to technology, the requirements to build the capacity of educators, researchers, and policy makers to collect, analyze, and report on school performance data has been amplified (Larocque, 2007). These conditions have worked both for and against schools as they have transitioned to compliance under NCLB. Local educational agencies with resources and a capable leadership infrastructure have been able to transition and maintain compliance to NCLB. On the other hand, schools that were in need of further resources and lacked capable leadership prior to NCLB were now further behind and marked for serious trouble (Au & Apple, 2010). Such conditions demanded that educational leadership within schools and districts needed to take responsibility and create an accountability system that produced immediate results in order to increase achievement for all students (Au & Apple, 2010). Considering the urgency for positive results and leadership’s lack of experience for data analysis, using proficiency scores in English and mathematics as a means to assess overall school accountability made both fiscal and operational sense, including the fact that this type of data were proven to be statistically significant indicators of student success.

Whether NCLB has worked to motivate schools intrinsically or punitively to develop structured assessment plans, Au and Apple (2010) have noted the negative impact that using a “high-stakes test-based accountability” system has had on American education. Similar criticisms equate American schools’ shrinking diversity in important coursework in liberal arts, science, foreign language and elective offerings as a direct result of an overemphasis on resource allocation toward English and math proficiency due to pressure from NCLB (Au & Apple, 2010). While Au and Apple do not dismiss math and English proficiency as the wrong content areas to use as indicators for school
success, they have cautioned against a singular focus and acquiescing to pressure to produce results solely in English and math.

Documented research has also confirmed that the pressure to perform on high stakes testing has caused schools to react unethically. Koretz (2008) and Nichols (2007) documented various schools’ responses to high stakes testing. In this documentation, they found the following: (a) instructional strategies designed to accommodate the state assessments; (b) tactics employed to statistically modify results, like finding ways to lessen the impact of a particular group of students who traditionally underachieve; or (c), outright cheating on the assessments. Researchers Au and Apple (2010) are skeptical about whether or not NCLB has had a positive impact on education when data from interviews, surveys, and focus groups report administrators and teachers who recognize improved test scores as the bottom line to their instructional practice and schools’ success.

Regardless of NCLB’s disparate results, inconclusive evidence, and positive or negative impact, schools are required by law to produce evidence of high quality standards based education, monitored, and evaluated by a standardized system of assessments (No Child Left Behind Act of 2002). It is the responsibility of the schools to discover what data is most effective for informing decisions to continue, discontinue, supplement or support educational programming aimed to increase student achievement.

The implications of NCLB have school leaders in a race to create trust, understanding, and the capacity to build a data driven culture (Ikemoto & Marsh, 2007). As the NCLB accountability clock approached June 30, 2014, the reality is that many more schools fell into PI rather than climbed out. Ikemoto and Marsh’s research on
DDDM in four states and across 10 districts, revealed that more than 200 administrative leaders and 2,900 teachers had a persistent lack of common understanding of the roles of school leaders, teachers, and stakeholders play in the interpretation, communication, and implementation of decisions about teaching and instruction. In addition, as a result of multiple case studies, surveys, and interviews of principals and teachers across the nation, Reeves and Burt (2006) and Wohlstetter et al. (2008) reported that educational decisions are not as informed by data as would be expected.

While NCLB policy was set in place to clearly determine a school’s academic achievement and success through the use of data, research in education continues to unravel the inconsistencies data analysis has on predicting the success of school improvement initiatives. Unprecedented pathways with possible links between a school’s academic performance and decision making are continually being discovered. Moreover, new legislation from the U.S. Department of Education enacted the American Recovery and Reinvestment Act (ARRA) of 2009. Under ARRA, one of the four core education reform areas focuses on building data systems that measure, from more than one perspective, a student’s “growth and success” to inform teachers and principals about improving instruction. In consideration of what researchers and educators have learned from NCLB, and the new goals for data-driven decision making outlined by the ARRA, a promising area for continued inquiry is further studying how schools use data and the stakeholders’ roles in decision making.

**Effectiveness of NCLB Policies for Educational Reform**

Metaphorically, Preuss (2007) referred to education’s reaction to federal policy reform, such as NCLB, as a “tsunami” wave smashing into the landscape of education
Murphy and Adams (1998) also referred to specific periods of reform policy in education as waves. The analogy of an educational reform policy as a tsunami wave not only describes the initial impact reform policies have on the educational landscape of the United States, but more importantly it explains the potential for quick emergency reactions that ingrain unintentional outcomes that might be very difficult to overcome (Preuss, 2007).

Even though the writers of NCLB purposefully envisioned the use of standardized student achievement data and the incorporation of such data in decision making as an intended result to increase student achievement, the writers could not have predicted the unintentional rash of complications the policy would cost schools. A complicated accountability policy accompanied by the difficulties to build both the human and fiscal capacity to transition into a new era of data, decision making, and technology, have proven to be very difficult for some schools (Preuss, 2007). Researchers continue to investigate the dynamic relationship between accountability pressure, data used to measure accountability, and the decision-making process used to inform effective reform for state and local education agencies. In order to gain a deeper appreciation for the current impact educational policies like NCLB have on the American educational landscape, Preuss reminds us to review policies of the past.

As NCLB policy honed its focus for measures of AYP in English and mathematics, districts and schools followed accordingly. Regardless of a school’s status, NCLB’s coercive influence had many schools and districts developing assessment regimens in English and math to identify and address specific problems within their students’ achievement. As an example, a research study based out of Philadelphia
examined the implementation of Managed Instructional System (MIS) in ten elementary schools identified under NCLB policy in PI status (Bulkley, 2010). This study typifies what a vast number of similar studies have discovered with respect to assessment, student achievement, and school leadership. The main purpose of this multiple case study was to analyze the inception of MIS and assess the effectiveness of regimented interim benchmark assessments.

The study came to recognize two profound discoveries. First, the school’s math and English test scores improved as a product of structured interim assessments, professional training to conduct preliminary analysis of assessment results, and professional development to align school leadership and teacher practice (Bulkley, 2010). The second finding came from interviews and focus group studies that linked the level and duration of success in student achievement using MIS to the strength of the leadership present at a school. Bulkley (2010) inferred that schools with weak leadership that mandated assessments were an insufficient instigator for changes in school performance. Furthermore, Bulkley explained how the value of assessment was reduced to a mere activity rather than a form of necessary practice used to inform and change instruction, which was evident in the actions and discourse in schools with strong leadership where people were focused and working skillfully, collaboratively, and collegially (Bulkley, 2010). Though not all research has produced the same results as this multiple case study in Philadelphia, it demonstrates that the elements of a successful school hinge on a fine line between leadership and academic practice.

Labeling NCLB as a policy that has worked to increase student achievement has been met by mixed results and inconclusive evidence to declare its overall effectiveness.
for increasing student achievement (Nichols et al., 2006). A broad spectrum of evidence exists to credit, discredit, or even report lowered results in student achievement since NCLB’s inception (Kim & Sunderman 2005; Lee, 2006; Nichols, 2007; Nichols et al., 2006). Supporters and opponents both agree that NCLB has left a tremendous impact on education, but disagree vehemently on labeling the impact as either positive or negative for American education (Au & Apple, 2010). A noticeable result of NCLB policy is the pools of assessment regimes, tools, and systems to monitor, hold, and report all different types of data collected on students.

**Decision Making**

Many different terms have been used to describe the relationship data has with decision making. Most educational practitioners agree on data informing decisions that are driven by inquiry from school leadership (Kowalski et al., 2008). The purpose of this review of research is to look at the theories behind decision making as a process. The work of Wohlstetter et al. (2008) referenced how school leadership makes decisions informed by data in response to developing solutions to problems measured by data as a process. Data has not made instruction or meeting the needs of students any easier; instead, it has amplified the possibilities, expanded the diversity, and augmented the complexity of both students and staff as learners (Ontario Principals’ Council, 2009; Reeves & Burt, 2006). Theoretical frameworks in educational leadership, school program design, curriculum development, and professional development have all made adjustments to student achievement data taking pivotal roles in decision-making processes (Jackson & Lunenburg, 2010; Kimball & Milanowski, 2009; Shen et al., 2010). Making decisions based on individual experience, intuition, and in isolation is no longer
responsible or acceptable in education (Creighton, 2001). Data alone do not drive decisions. Instead, decision making is a result of inquiry for which data helps provide choices. In the context of education, it is a choice of which decision will yield the best options for desired outcomes like solving the problem of varied gaps in student’s achievement.

**Decision Making as a Means for Problem Solving and Implementing Change**

Cuban (2001) confirmed that the “heart of educational practice” is the execution of decision making to solve problems (p. 15). Two prominent models that detailed the process of how decision making is sequenced and performed were described as normative and descriptive. Hoy and Miskel (1996) explained the complexity of the normative decision making process as analyzing complex problems and creating exhaustive lists of alternative solutions with predictive outcomes, which are then collaboratively evaluated for a solution that best fits the organization. On the other hand, Drucker (1974) detailed descriptive models of decision making to explain its complexity and dynamics in terms of a series of successive steps. The purpose for understanding normative or descriptive decision making models is to be able to recognize the shift in levels of participatory involvement depending on the model and complexity of the decision making.

Early practitioners in decision making used linear or cyclical models to develop a conceptual flow to map how decision making worked. Simon (1960) and Lindblom (1959) respectively described two basic forms of decision making: (a) programmed or incremental decisions; and (b) non-programmed or disjointed decisions. The programmed or incremental decisions were a result of problems that were very easy to recognize and for which solutions were just as recognizable and easy to incorporate
(Simon, 1960). Non-programmed or disjointed decisions were a result of problems characterized as new and unfamiliar and requiring complex solutions not yet known to the organization (Simon, 1960). Programmed and non-programmed decision making laid the foundation for many other decision theorists like Cuban (2001) who made the distinction of decision making as first-order or second-order change in behaviors. Cuban and his contemporaries approached the process of decision making by categorizing the complexity of the problem based on the requirements of time, energy, and resources needed to change the current thinking in how work in an organization was to be completed.

In the context of education, identifying types or levels of problem complexity for better decision making has become a recognizable theme in educational leadership literature. Linsky and Heifetz (1994) identified problem identification by proposing the existence of three types of problems: Type 1, Type 2, and Type 3. A Type 1 problem is easily recognizable and uses existing strategies for a solution. Type 2 problems are recognizable, but there is no clear cut solution and it requires ongoing strategies. Finally, Type 3 problems are unprecedented, meaning that current thinking and strategies will not suffice as a solution. Cuban (2001) and Linsky and Heifetz (1994) both proposed that one of the key steps to initiating problem solving is to take special precautions in identifying the complexity of the problem. Depending on the level or type of problem, all three have an inherent relationship to the degree of resources, time, and change needed to implement a solution.

Time is a valuable resource and the ability of an organization to react and transform quickly to changes in conditions has been an ongoing area of research in
decision making by Argyris and Schon (1978). Schools as organizations are in a constant state of dynamic change (Cuban, 2001), and a notable complication is the ability to make timely decisions coupled with efficient and effective learning to accept and implement change (Childress, 2009). Decision making requires time, especially depending on the complexity of the problem.

Argyris and Schon (1974, 1978) used the analogy of loops to discuss the relationship between the learning that takes place in an individual or organization and the complexity of the problem. Single-loop learning defined by Argyris and Schon was a quicker problem-solving or decision-making action because the problem presented the least amount of learning and change to the individual or organization’s behavior. Additionally, problems that involved single-loop learning were typically variant versions of problems encountered in past experiences (Argyris & Schon, 1974, 1978).

Conversely, double-loop learning is more complex and requires more time and resources because the organization has no immediate solution, experience, or strategies on hand to solve the problem. Unique to double-loop learning is the fact that individuals or the organization need to reconstruct meaning and “mental maps” of how things work (Argyris & Schon, 1974, 1978). Accordingly, the idea of mental maps was expanded to the idea of learning how to frame problems from different core perspectives by Bolman and Deal (2008). The process of framing or reframing problems required problem solvers to identify the dynamics, complexity, and amount of learning needed to solve a problem as it related to four frames: structural, human, political, and symbolic (Bolman & Deal, 2008).
Cuban (2001), for initial simplicity, classified problems in two ways, problems you can recognizably solve and problems you cannot. Problems without clear solutions were considered “messy, complicated, and conflict filled,” which Cuban called “dilemmas” (p. 10). Dilemmas by nature are substantial issues that warrant constant attention and require ongoing management (Cuban, 2001). Cuban discussed examples of problems that have identifiable solutions as needing first-order change, and dilemmas as problems that needed second-order change as a solution. Furthermore, Cuban categorized the learning necessary to take place for each order of change. First-order change required incremental change and second-order change required fundamental change. First-order change also involved improvements to existing structures, procedures, or policies that needed to be more effective and efficient; the existing foundation, structures, beliefs and values remained still intact (Cuban, 2001). Second-order change is much more drastic and intrusive; values and belief systems are flawed and basic structures and organizational operations need a complete overhaul (Cuban, 2001). Second-order change is very disruptive and requires strategic planning, human resources, and time.

Cuban (2001) continued to explain a common misconception between first-order change and second-order change. Some practitioners in educational reform have tried to administer incremental first-order changes with the hope of achieving the fundamental change results consequent of second-order change. Cuban suggested that this approach often fails because there is no substitution for second-order change; modifying an existing organizational structure by undertaking incremental first-order changes will still result in the same problems. An incorrect assessment of problems, an attention to
solutions, and not recognizing the order of effective change causes the “gaps” in understanding, action, and implementation that we see in education today (Cuban, 2001 p. 47).

Simon (1960) cautioned that decision making is not always a result of rational thinking. Decisions can be bounded or limited by the environment and intellectual capacity of the organization (Levitt & March, 1988). Simon (1960) also elaborated on decision making within an organization as the hybridization of satisfy and sacrifice, termed satisficing, which means as a type of decision making that resulted in a solution not necessarily ideal for an organization, but good enough to satisfy most of its members. Bolman and Deal (2008) discussed similar remedies that appeared to be solutions to a problem or change initiatives, but, if the problem was not framed properly, then the solution was destined to fail or never achieve the full potential of the decisions intended outcomes.

Change initiatives have become a reactionary response to educational reform policies such as the NCLB Act of 2002. NCLB compliance has deeply influenced decision making and caused a tremendous amount of change in education. School leadership has thoroughly investigated all the models, methods, and theories regarding problem solving and decision making to construct better practices for implementing and managing change. Many spectrums of problem-solving and decision-making processes are continuously implemented by school leadership in an effort to learn how to maximize results by utilizing minimal resources. Time, resources, and outcome-based performance measures have a strong link for motivation in problem solving and change initiatives for education.
**Decision Making and No Child Left Behind (NCLB)**

Compliance with the NCLB Act of 2002 is currently one of the most often cited and complex problems relevant to education today. The mandates regarding accountability, regulations of national efforts to close achievement gaps, and having all children succeed in public schools have become a discordant issue in education (Kowalski et al., 2008). While the aim of NCLB policy was to address the issue of an achievement gap, the writers critically minimized the magnitude of the challenges schools would face in meeting its compliance measures. Research from Kowalski et al. reported that a vast majority of schools were not prepared for the type of decision making NCLB required for schools and their leadership in order to meet compliance. As a result of such challenges, educators and administrators alike are undergoing various levels of change in an effort to meet compliance. In addition, schools and leadership have grossly underestimated the necessary time, resources, and changes in belief systems required for maintaining NCLB compliance. Subsequently, the concept of decision making for long-term school success has become an important topic in educational research.

The achievement gap in American education is a problem most likely categorized by Cuban (2001) as a dilemma, but a problem that cannot be ignored and therefore requires a fundamental/second-order change response to problem solving. As Cuban has warned, trying to administer incremental, first-order change as a solution to a second-order problem, like an achievement gap or NCLB compliance, will eventually lead to failure. Misinterpreting the first-order change for second-order change and, therefore, substituting first-order solutions requiring second-order fundamental change will perpetuate the same results, leading to decreased student achievement.
Moreover, Griffiths (1959) stated that school administration is decision-making. The importance of decision making in education has become increasingly more public and high stakes. Prior to NCLB, the ESEA of 1965 was developed by the federal government in an effort to close the achievement gap between students who were white and students of color. However, the problem of an achievement gap was more complex than ethnicity alone. Second-language acquisition, learning disabilities, and socio-economic status came to light as groups in which a gap appeared in relation to learning. In response, the federal government enacted stricter measures of accountability. Accountability under NCLB specifically detailed compliance measures along with consequences for failure to meet compliance. NCLB required that schools use student achievement measures from standardized test results in mathematics and English as a means to assess a school’s success in meeting federal standards of compliance. In addition, accountability through academic assessments in mathematics and English has led to an emphasis on analyzing such data as a means to discovering solutions to achievement gaps.

The use of data has become ingrained in current educational decision making. In fact, the term DDDM has become popularized since the passage of NCLB (Childress, 2009). Surrounding the concept of DDDM is the increased involvement of educational leadership to create data literate school cultures and the development of teacher leadership teams focused on analyzing data for the purpose of improving instruction. Any changes done in schools were put under the microscope and analyzed for a specific purpose by asking the question, “What will this change do for student achievement?” (Kowalski et al., 2008). On the surface, data and technology were assumed to facilitate
faster decision making in schools; although true for some schools, this is not the case for most (Kowalski et al., 2008). Current research by Kowalski et al. reported that schools across the country vary greatly in their capacity to navigate the complexity of decision making, problem solving, and use of data to justify changes to school programming in response to achievement gaps in their own schools.

The traditional view of principals as building, personnel, and/or fiscal managers of schools was a first-order or incremental view of the profession, which yielded similar change initiatives. In contrast, the new era of the principal’s role calls for a fundamentally different leader, an agent of change. Principals are now called upon to promote new values and belief systems and establish innovative structures in schools in an effort to invoke second-order change habits that address achievement gaps in school education.

**Decision Making and Principals as Change Agents**

The work of Kowalski et al. (2008) described the use of data, defining roles and responsibilities, and the incorporation of all stakeholders in the decision-making process as a complex and deeply reflective practice. The Ontario Principals’ Council’s (2009) research pointed out how school leadership, and its participants’ limitations in their ability to analyze and make proper interpretations of data to inform decisions, adds to the complication. The research of Ikemoto and Marsh (2007) identified various levels of complexity to use data, involve stakeholders, and make decisions. All of these bodies of work cite the principalship as the key position in school leadership that becomes the agent for reformatory change in a school.
Marzano et al. (2005) identified 21 roles and responsibilities principals need to possess, which have a significant impact on student achievement. All of the roles and responsibilities incorporate the concept of principals collecting data and information to inform the quality of their practice and leadership. Consequently, principals may not have the best training in data uses and methods of data analysis and the pressure for decision making to yield immediate results for increased student achievement purposes has created a demand to re-examine and train principals in the various approaches to decision making (Childress, 2009). Childress, Cuban (2001), O’Reilly (1983), and Simon (1960) generally agreed that decision making is a complex process that requires skills in identifying and framing problems followed by collecting and analyzing data, which is then used to create alternative solutions to provide choice in the best predictable outcome.

Research surrounding the dynamics between leaders and the participants of an organization led to a greater understanding regarding how to work most effectively, issues of control, and the extent of participation by stakeholders and under what circumstances they should be involved in decision making (Tannenbaum, 1968). In addition, shared decision-making models, beginning with Bridges (1967), began to explore the relationship of the shared decision making of leaders and participants based on relevance to the participant’s level of knowledge and expertise.

Further research in decision making discusses the level or degree of stakeholder participation in the process. Early decision making in the corporate and educational world arose with the sole executor role. As time has progressed, some organizations are on the other end of the spectrum and have enlisted a gamut of full to partial participatory
roles in regard to decision making. Whichever role the principal acquires, there is an abundance of research in educational leadership calling for principals to be the necessary change agents in regard to improving student achievement and transitioning schools to meet new demands.

Consequently, principals as change agents have been a major topic of research explored by Marzano et al. (2005). Marzano et al. used meta-analysis as a methodology to synthesize large sums of quantitative works into smaller, more generalizable sets of statistically based observations of hundreds of schools’ leadership. As a result, the study by Marzano et al. has worked to identify 21 responsibilities of the principal and/or school leadership that has “a substantial effect on student achievement” (p. 12). In a discussion of each responsibility, Marzano et al. cautioned researchers not to assume that a single responsibility by itself outweighs the importance of another. Out of the 21 responsibilities identified, the top five a principal must have, in order of highest average correlation value (r), to the variable student achievement were:

1. Situational awareness
2. Monitoring and evaluation
3. Focus
4. Change agent and culture

To gain a sense of reliability and generalizability, the data collected for this research used schools as participant numbers, which ranged from a low of 91 to a high of 1,619 schools in the meta-analysis.
Principals as change agents must act to address problems and create solutions reaffirmed by the right data (Fullan, 2001). Data enriches the depth at which change agents pose questions, challenge the status quo and revisit organizational thinking (Silins, Mulford, & Zarins, 2002). Furthermore, research in leadership has reported that being a change agent is not easy, especially if the change is second-order. Leadership focused on substantial changes to an organization’s values, perceptions, beliefs and ways of thinking is considered to be second-order change (Argyris & Schon, 1974, 1978; Fullan, 2001). According to Reeves and Burt (2006) a plan of data use, collection, analysis and action from data inquiry typically identifies a school leadership’s need for new high-yield, strategic decisions based on a deep understanding of the school context, student needs, and student performance profile to help ever-more diverse and more socioeconomically challenged student populations.

**Data**

Sergiovanni (1994) recognized outcome-based measurements in education, such as those used in high stakes accountability measures required by the NCLB Act of 2002, as an efficient way to produce data. However, Sergiovanni also cautioned about the cause and effect relationship in education that exists between issues of efficiency and its effect on equity, choice, and excellence.

**Types of Data Explored**

There are many nuances to defining decision making (Ikemoto & Marsh, 2007). Coupled with many different definitions of decision making is the large range of data types used to supplement decision making. Selecting the right data for informing decisions is a critical first step DDDM (Bernhardt, 2004). Many different types of data
work to inform many different outcomes. One common practice accepted by most researchers of DDDM advise against using a single set or type of data as a means to determine the success or failure for a measured outcome (Bernhardt, 2004). For example, student achievement has many factors of influence and using a single set of data to determine the presence or absence of student achievement is limiting (Bernhardt, 2004). Furthermore, Bernhardt has worked extensively on identifying multiple measures in student input and output data that can have a better correlation to student achievement.

The work of Bernhardt (2004) has been dedicated toward identifying which variables in student achievement have the broadest impact on school reform initiatives and data critical for educational leaders to consider when executing a process of decision making informed by data. Bernhardt recommended the use of four broad categories of data sets as a means to supplement data informed or driven decision making as: (a) demographic data; (b) perception data; (c) student learning data; and (d) school purpose data. Moreover, she discussed the value and potential in using multiple measures from these four categories as critical to the selection of strategies and information used for planning and goal setting to initiate change. Bernhardt also indicated the value of monitoring systems that look across all four categories of data as a more thorough and comprehensive understanding to all factors that influence student improvement.

In education, input and output data of all types have become important points to monitor, assess, and analyze, especially in an era of NCLB accountability. Input data were defined as student demographic and school process data, such as the number of students receiving free and reduced lunch and student to teacher ratios. Output data were
primarily defined as learning or achievement measures such as the graduation rate or the percent of students scoring proficient on criterion-referenced tests.

Demographic data is generally static data that a school cannot change or influence, yet it is important data to refer to in decision making. Demographic data helps identify qualities of the student population and overall learning community the school serves. Bernhardt (2004) stressed that demographic data can be used in longitudinal analysis to reveal a deeper understanding of dynamic changes, trends, factors and patterns, which are insightful to clarify problems not easily recognizable.

School program or process data are not as easily recognizable or quantifiable, but equally valuable to student learning and demographic data. School program data includes such things as school start/stop time, time schedules that rotate or are blocked, nutritional breaks, types of electives offered, or the scheduling of interventions. Similar to demographic data, school program data requires careful analysis, but provides valuable information to compare student achievement trends prior to and after a change or implementation of a new program (Bernhardt, 2004). Additionally, school program or process data can evolve from a monitoring plan and is a good choice of data to use when assessing methods of action research.

Perceptual data consists of opinions, ideas, or beliefs held by all of the stakeholders (school employees, students, parents, community partners and citizens) connected to the school. This type of data, in the same manner as school program or process data is not as easily available through the day-to-day operations of schools. In fact, Bernhardt (2004) reported perceptive data as having promising potential and being
largely untapped relative to the other three data sources when looking for resources to close achievement gaps. One method of collecting perceptual data is by surveys or polls.

Conceptually, Bernhardt (2004) proposed that the four categories of data coexist with each other by dynamically overlapping each other, as in a Venn diagram, to create a visual of the possible dynamic between all four data categories. Student learning or achievement data was defined as norm-/criterion-referenced summative assessments, teacher observational data, and authentic assessments used to quantify and qualify student evaluation (Bernhardt, 2004). Student learning data, such end-of-course or end-of-year summative assessment of learning has traditionally been the primary focus of educational practitioners (Bernhardt, 2004).

The current trend in education has been to spread out assessment regime with periodic benchmark assessments throughout the academic year; this process is purported to be more formative, allowing teachers the time and ability to make adjustments in instruction to more effectively meet students’ needs. Bernhardt (2004) suggested that achievement data not be limited to testing assessments, but should include all data that provides evidence of student learning, understanding, depth of knowledge and academic accomplishment. Furthermore, Bernhardt offered suggestions pertaining to the collection of qualitative data regarding the degree of classroom learning, instructional practice and classroom routines that check for student understanding are valuable data points for short-term decision making in an effort to improve student achievement.

Data for Student Achievement

Many types of qualitative and quantitative data exist in schools to inform decision making and assess the specific points of success for initiatives in school improvement.
The bottom line for principals and school leadership has been to seek data that identifies the best cause and effect relationship toward closing achievement gaps for particular students of certain demographics, and meet AYP targets and accountability measures as determined by NCLB. From an experimental research standpoint, student achievement is a complex dependent variable to measure (Bernhardt, 2004). In addition, there are many different independent variables identified both in and out of the educational environment that have shown to have varying significance regarding influencing student achievement.

As a result of NCLB, a proliferation of federal, state, and district level data on student achievement has fueled all types of inquiries. Principals have been charged with the responsibility to identify what data best identifies their schools’ needs and areas of potential improvement in student achievement (Knoeppel & Rinehart, 2010). As a result of these expectations, no one type of data has been ruled out or ignored in hopes of unraveling the potential it may have for influencing or indicating student achievement. Additionally, because of the increasing demands of accountability, school leadership continues to search for innovative ways to support students’ specific needs with the ultimate goal of improving student achievement. Programs, professional development, or interventions to improve student achievement come with a cost to schools that already operate on limited resources. Justifying decisions made to incorporate changes through data has become an expected requirement of school leadership for both fiscal and educational justification (Knoeppel & Rinehart, 2010).

Furthermore, the existence of data has expanded the possibilities of choice for decision making in education (Picciano, 2006). The availability of data, however, and pressure from accountability has not necessarily reduced the subjectivity of decision
making. Kowalski et al. (2008) reported that decisions and the data used to inform them can hinge on the decision maker, and can be influenced by bias, emotion, politics, and/or a lack of experience analyzing data. Critics and proponents of decision making in this era of high stakes accountability measures have uncovered an interesting dilemma: data has not worked to simplify the process of decision-making or to provide easy solutions for complex educational problems (Kowalski et al., 2008).

**The Analysis of Data**

Extensive literature exists describing the various types of data used and the methods of data analysis employed as a means to integrate student achievement data for school improvement initiatives. Many federal and state funded school improvement initiatives have collaborated with professional institutions to implement systematic research-based reform strategies focused on closing identified achievement gaps in education. Many of these collaborative approaches have stemmed from successful research programs developed from universities working alongside schools in their community. For example, Learning Point Associates, developed by North Central Regional Educational Laboratory (NCREL) in collaboration with Cooperative Educational Service Agency 7 (CESA) in Green Bay, Wisconsin, has created numerous publications and guides that discuss implementation strategies and techniques used to supplement decision making, which is expected to be informed by data.

Similar to Bernhardt’s (2004) work, Knoeppel and Rinehart (2010) sought to identify the statistical significance of certain combinations or multiple measures of input and output data as predictors for school success. School success was defined by a school’s ability to consistently meet measures of accountability in AYP as required by
NCLB. The purpose of this study was to illustrate how data and data analysis might be used to prioritize a school’s choice of intervention plans focused on increasing student achievement. The research hypothesized that multiple variables in combination can be measured through linear regression analysis to identify statistically significant correlations in student or school input and output data. In addition, the intent of the research was to find statistically significant correlations within combinations of input and output data to use as predictors for increasing student achievement. The result of the research confirmed what the educational research community already knew—a student’s proficiency level in English and mathematics from a quantitative perspective is a very strong and significant predictor of student achievement (Knoeppel & Rinehart, 2010).

In the same manner as Bernhardt’s (2004) analysis of the relationship between different sets of data, the research of Ikemoto and Marsh (2007) developed a framework to describe the relationship between levels of data (from simple to complex) and levels of analysis and decision making (from simple to complex). Ikemoto and Marsh’s research identified factors that influence and hinder decision making informed by data (DMID). Through qualitative research, Ikemoto and Marsh studied ten school districts for which they analyzed data from 130 educational leaders, 180 school administrators, 115 teacher focus groups, and 2,917 teacher surveys. From this study, they uncovered four factors that had a significant influence on the effectiveness of decision making: (a) current level of school leadership’s ability to make decisions; (b) current level of school leadership’s ability to analyze and properly glean meaning from data; (c) current structures in place and level of effectiveness to collect and provide meaningful data; and (d) the level of
stakeholder (leadership, teacher, student, and parent) involvement in decision making informed by data.

As a result of their findings, Ikemoto and Marsh (2007) developed a model to explain the relevant complexity of data, data analysis, and the decision making used in incorporating various complexities of data. Simple (one-dimensional data) versus complex (multi-dimensional data) requires different data analysis skills to determine the complexity of decision making. Additionally, the research made use of current theories and logical assumptions connecting educational leadership and student achievement.

Simply having and using data to make decisions is not responsible decision making. Knoeppel and Rinehart (2010) noted that even in schools that made decisions to implement strategic interventions to increase student achievement, these decisions often lacked quality analysis and interpretation of data related to these intervention classes. Knoeppel and Rinehart reported that principals need better data analysis skills in order to articulate the need for assessment plans, conduct data analysis, and develop an understanding to find what works for their students and under what conditions.

Furthermore, Knoeppel and Rinehart expanded on the need for meaningful data, but for the decision maker to prioritize consistently taking the time to properly analyze the data.

**Principals’ Use of Data for School Improvement**

The principal is responsible for pioneering a school’s vision and creating a culture of continuous improvement (Kouzes & Posner, 2002; Sullivan & Glanz, 2006). As such, the principal is seen as a change agent, facilitator, and consensus builder in the school community (Beck & Murphy, 1993; Fullan, 2001). In addition, Reeves and Burt (2006) agreed with Marzano et al. (2005) that school leadership, or principals, has to be “change
agents” (p. 44). The principal leads the change, creates the expectations, sets a positive collaborative culture, creates the shared vision, and forges partnerships with stakeholders to achieve the goals of the school (Reeves & Burt, 2006). Furthermore, current demands by accountability systems require principals to have a more comprehensive understanding and use of data (Kowalski et al., 2008). The success of a site’s decision making informed by data relies on that school’s leadership ability (the principal) to provide coordination of resources, scope, and sequencing of a plan for data collection and analysis (Reeves & Burt, 2006). Other research emphasized principals as masterful creators of collaborative school culture who make decisions through the use of data (Darling-Hammond, 2007), while Kowalski et al. (2008) and Picciano (2006) stated that a leader who nurtures constant reflection and monitors a timeline for change is critical for a data informed community.

The use of qualitative and quantitative data has enhanced school leadership’s ability to make better informed decisions. School leaders make decisions that impact many different facets of a learning community. Making important fiscal decisions to impact school achievement cannot be made by intuition alone (Creighton, 2001). Decision making informed by data has become a point of leverage to assist leadership in applying the principal-agent theory.

The principal-agent theory is a social science framework used to explain the dynamics, mechanisms, and relationships used by persons in leadership positions to outsource work within an organization. At a school site, a principal would refer to this dynamic as delegation of duties or building capacity (Wohlstetter et al., 2008). School leaders need to assume the role as principal-agent in order to ensure that tasks are
completed within a timely manner, efficiently, and at the highest level of quality in order to serve the community (Wohlstetter et al., 2008). Successful applications of the principal-agent theory do exist and can be applied to school leadership as schools move to implement decision making informed by data. It is important to remember that further empirical research is needed to identify specific instances of where, how, and in what context decision making informed by data was used (Wohlstetter et al., 2008).

Now more than ever, a school community and its stakeholders expect principals to be leaders in developing data-savvy school cultures (Wohlstetter et al., 2008). This statement was developed from a qualitative study of 153 schools from four large urban school districts located in California, Connecticut, New York, and Texas. All schools participating in this research self-reported a consistent use of data to inform or drive instruction, and all schools had documented gains in increasing student achievement. The results of the study, aimed at exploring a deeper understanding of the principal-agent theory, yielded the following finding: “Effective data-driven decision making systems will need to transmit the values of system-level educators (the principal) to the agents” (stakeholders) at the school level (Wohlstetter et al., 2008, p. 256). The study identified four key components in schools that successfully implemented and created value for DDDM: (a) leadership created a culture of data use by having explicit objectives that were developed collaboratively with shared norms; (b) capacity and understanding for staff’s various levels of strengths, needs and weaknesses in data use were developed; (c) an incentive system that both supported the intrinsic and extrinsic value in taking time to become more data literate was evident; and (d) allowing for autonomy built trust,
confidence, and promoted authentic application and ownership of learning (Wohlstetter et al., 2008).

The implications from Wohlstetter et al.’s (2008) study and other significant research in school leadership of DDDM has pointed out that a principal’s level of understanding, analysis, and use of data in decision making is limited (Reeves & Burt, 2006; Shen et al., 2010). Similar findings of school leadership in the United Kingdom existed as well; headmasters expressed their own lack of trust, understanding, and proper use of data (Cullingford & Swift, 2001). More and more schools and their leadership are progressing along continuums or matrices aimed at identifying capacity and the need to continue change initiatives to improve student achievement through decision making informed by data. Furthermore, continuing research exists that reports schools having varying capacity to make decisions informed by data. The next theme will look at structures, roles, and responsibilities necessary for data informed decision making to occur.

**Professional Learning Communities**

Both community and organization need a vision that represents the direction and purpose for all stakeholders to unify and bond together (Sergiovanni, 1994). The vision of a community becomes the mission or action by which individuals function to serve the community (Sergiovanni, 1994). How members of the community feel, think, behave, and make decisions is reflected through their core values (Sergiovanni, 1994). Sergiovanni (1994) described schools as an example of purposeful community because they specifically serve to protect and enhance a core value like lifelong learning. The
development and presence of a community’s core values is not a simple task, nor is the ongoing maintenance and energy expended to redefine the values.

Sergiovanni (1994) defines purposeful communities as highly focused on vision and values. In the context of schools, highly focused schools have a vision and core values that motivate high student achievement and outcomes. Highly focused school communities have considerable challenges to negotiate. Sergiovanni details the complex dynamic of compromise between four components of a community that have a major influence on the core values of the community: (a) equity; (b) choice; (c) efficiency; and (d) excellence. These four factors are all dynamically connected to each other at opposite corners of a quadrilateral. Every community has its own dynamic equilibrium or combination of the four factors. The dynamic compromised of the community’s four values and access to available resources for equity, choice, efficiency, and excellence is different and works to serve the purpose of the community’s stakeholders (Sergiovani, 1994). Public schools in particular struggle with creating the right combination of the four values because schools are in a constant state of change (Sergiovani, 1994).

As change-laden as school communities are, however, Sergiovanni (1994) discussed seven major issues schools must work to accomplish in order to take steps toward becoming more focused and purposeful for increased student achievement. Discovered by research from the Institute for Education and Transformation (1992), the following seven factors have a direct connection to the quality of being a purposeful learning community:

- Building quality relationships, i.e. relationships that exist between student to teacher and student to student,
• Addressing issues of race, culture, and class, i.e. these issues are important factors in learning citizenship, but not necessarily the center of school’s formal curriculum,

• Instilling values, i.e. what weight does a community place on modeling common sets of values like lifelong learning, integrity, justice, truth, and hard work, just to name a few examples,

• Time to plan for quality instruction, i.e., amount of time and resources spent in making sure the needs of students are truly met,

• School safety, i.e. is safety a priority, a safe learning environment says a lot to stakeholders about how important all the other core values are, students can’t learn and teachers can’t teach if school environment is unsafe,

• Physical environment, i.e. how clean, maintained, and inviting the areas in which we learn in,

• Ability to change, i.e. what are the feelings of community members on important issues that influence the community, is their attitudes, ones of hope or despair.

All seven of these factors work to give researchers a pulse on the quality of schools as purposeful and successful learning communities (Sergiovanni, 1994).

Sergiovanni (1994) continued to outline the structures and resources directly connected to supporting the seven major factors that create purposeful communities. These structures and resources are: (a) time (i.e., time to have teachers know their students, time to plan collaboratively as a staff, and time to design instruction that meets the specific needs of students); (b) execution of an explicit plan to develop citizenship,
(i.e., character education); and (c) clear, concise and consistent rules that are monitored and applied uniformly. Purposeful communities need organization and the structures, processes, roles and responsibilities within an organization to develop or sustain a “purposeful” community (Sergiovanni, 1994, p. 72). A core theme of Sergiovanni’s book explores the importance of a purposeful community. In his book, Sergiovanni outlined his understanding, meaning, and importance for “purposeful” communities (p. 72). Sergiovanni further qualified the need for purposeful community as it pertains to our youth and schools from research by the National Commission on Children. Sergiovanni commented on how schools have always had a stake in providing students with a sense for “purposeful” community especially for students who may not have enough examples (p. 72).

Taking on the responsibility to sustain or change a school into a purposeful learning community that also achieves results by NCLB standards is no simple task. The outcome-based education (OBE) movement discussed by Sergiovanni (1994) was used by educators as a means to assess the accomplishment of intended outcomes, which aimed at providing community stakeholders evidence of accomplishment through observable and measurable data. Building a culture of success and achievement can take many years. An important part of the process is to build a culture of achievement. Distributive leadership has become one way to creating purposeful communities, which means administrators and teachers are taking on different roles (Sergiovanni, 1994). “We are beginning to hear much these days about the benefits to be derived from giving teachers a greatly enlarged role in changing and running schools” (Sarason, 1990, p. 151). Applying Sarason’s (1990) has provided many new changes to schools
organizational structure and stake holder responsibility. For example, as the research from Wohlstetter et al. (2008) detailed the principal-agent theory, which explained one way principals delegate the work of school operations. The thinking in Jim Collins’s (2001) book, *Good to Great: Why Some Companies Make the Leap*, reported the skill in building successful teams is making sure you put the right people in the right place for the right reason.

Sergiovanni (1994) stated the principalship is the leadership position used to barter or negotiate with teachers, parents, and students on getting the work of school done. When making decisions about students relative to data, inherently teachers have an immediate and direct connection to data because they are executing the delivery of assessments and the first to monitor systems that collect student data. In the twenty-first century, the role of the teacher along with administration has changed drastically. There are increased expectations within schools to build staff capacity or instill a larger purpose or culture of achievement by informed data decision making.

Through extensive research Kruse and Louis (1993) identified five key elements of a PLC: (a) reflective dialogue; (b) focus on student learning; (c) stakeholder interaction; (d) collaboration; and (e) shared vision. Kruse and Louis and Hord (1997) also identified characteristics of a community of learner’s by outlining roles, rules and regulations for teacher, student, administration and parent interaction. They continued to identify the role of the teacher in five categories: (a) teacher as colleague; (b) teacher as leader; (c) teacher as learner; (d) teacher as pedagogues; and (e) teacher as parent.

In order to create and sustain initiatives that work to nurture the three necessary values to create a PLC, specific structures need to be in place in order to provide
principals and learning community stakeholders with the opportunities to create such a community. A three-year research project involving interviews and observations of 16 principals spread across four urban school districts in Michigan isolated four major themes identifying conditions/issues principals faced with respect to implementing decision making informed by data: (a) varied level of teacher and principal knowledge; (b) broad difference in perception/attitude of teachers and students; (c) data over flow and barriers in understanding what data to disaggregate; and (d) time to receive and analyze data as the most common theme principals identified (Reeves & Burt, 2006). Reeves and Burt (2006) concluded that the roles of teacher and student need to change with respect to decision making informed by data. Teachers, along with their students, need to become problem solvers (Reeves & Burt, 2006). Administrator, teacher, and student need to become better at analyzing data, but this would require a restructuring of responsibilities and the school day in order to facilitate stakeholders collecting, analyzing, and making decisions informed by data (Reeves & Burt, 2006).

Schools are one example of Senge’s (1990) learning organization, but for the purposes of this discussion learning organization will be synonymously called a learning community. Senge identified five necessary disciplines or structures that needed to facilitate the operations of an effective learning community: (a) development of personal mastery; (b) organized mental models; (c) creating team learning; (d) building shared vision; and (e) forge systems of decision making. These five principles in dynamic execution help individuals, teams, and the organization learn to be more responsive, adept, and adaptable to change (Senge, 1990).
Types of Community

Schools have been popularly classified as learning communities. Similarly, there are many different aspects and applications of the word community, especially among the vast differences each community possess and learning the community wants for its students. For purposes of further discussion, community will be defined as people socially linked by common interests and perspectives through their interactions at a common place of living or work. For instance, schools are a specific example of community for its staff, students, and parents. Not ignoring the social aspect and interactions that a school and its inhabitants possess, but schools can also be defined as an example of an organization. For purposes of further discussion, an organization like a school will be specifically defined as a group of people primarily organized for reasons of work. In the context of this discussion, school as a community, should be interpreted as the broader sense of the dynamic interactions between all stakeholders of the school as well as the larger community in which the school inhabits. Schools as organizations will mean the operational and instructional functions of school personnel and the dynamics that come to play in how schools are operate as a place of work. Concepts of school as a community and as an organization will be elaborated on, but the meaning of the two terms are not to be assumed as synonymous.

Purposeful communities tend to take on unique names specific for their purpose, for example school being called learning communities. Learning communities are a place where all stakeholders (teachers, parents, and students) collaborate, work, and make decisions to produce a common outcome (Sergiovanni, 1994). Schools exemplified as
PLCs use outcome-based measurements as a means to assess the learning community’s effectiveness.

Creating a culture of achievement and a value and belief set, researchers Fisher, Frey, and Pumpian (2012) outlined the structures to create a community of success or culture of continuous achievement. Fisher et al. first identified the components or structures of the school as an organization. Structures, patterns, tools, processes, relationships, data, and connections to community all are identified components to a foundation of creating a culture of achievement. Schools work to be successful in two areas of curriculum, academic and culture. Obviously obstacles can get in the way, such as the resource of time and monies, mentioned previously, but not explicitly mentioned is personnel expertise and the ongoing needs of technology.

What does purposeful community, PLC, or culture of achievement mean in practice? The core idea is the acceptance of change as an ongoing practice and result of learning. These so called structures need to be reflective but able to act from their structures in place that provide opportunities to: (a) collaboratively collect data (qualitative or quantitative); (b) quickly and collaboratively analyze data collected; (c) quickly and collaboratively make or infer meaning from data; (d) quickly and collaboratively make decisions informed by data; and (e) implement the action from data informed decision quickly. Creating a perpetual cycle of learning to create collaborative choices of action informed by data aimed to measure obtainable results in students academic and social behavior is empowering. The learning cycle of action, with data, promotes the ability to adapt and change and allows for loosening the grip of the status
Learning cycles allow for accommodations, modifications, or a re-defining of beliefs and values to meet the changing needs of students as clientele.

**Roles within Community**

**Role of school.** Schools are the smallest part of the larger educational system. Governmental systems value the vital role schools play in nurturing, modeling, and disciplining its most precious asset—human capital. In addition, the educational system, as an organization, represents one of the largest systems of control designed to produce a very important intended and measurable outcome—educated citizens (Sergiovanni, 1994). The concept of schools as a model of purposeful community is a subject discussed in great detail by Sergiovanni. There are many different purposes under which communities form and schools are not as simple in purpose as one might suspect (Sergiovanni, 1994). Schools have always been identified as dynamic and complex functioning communities with many complex organizational behaviors yielding both intended and unintended outcomes to manage. The heart of community and the smooth functioning of an organization are built around common norms, beliefs, and values (Sergiovanni, 1994).

**Role of principal.** The principal is seen as the point where educational vision becomes observable action. The principal’s traditional role of managerial leadership of building operations, financial expenditures, student/staff supervision, and personnel evaluations has transcended to instructional leadership roles requiring responsibilities to create a learning community focused on increasing student achievement through shared leadership, decision making informed by data, best instructional practices, and assessment techniques (Marzano et al., 2005). Petrides and Nodine (2005) and Engler
(2004) agreed that school systems’ leaders are constantly redefining and aligning leadership practices to identify the correct balance in school’s operational and instructional structures needed to meet changes in student need. Fullan (2001), a notable theorist in the dynamics of change, recognized principals as responsible for creating the conditions for continuous learning and initiating systemic change within schools and the larger community.

Principals now must become more skilled in setting up structures to facilitate leadership that is distributive and effective. For example, purposeful school-wide teams have become much more explicitly established to accomplish very specific work tasks. Examples of teams that have become more explicitly established because of their importance to school operations may include groups of people organized purposefully to focus on issues of school wide safety, technology maintenance, instructional and assessment design, professional development, and data and analysis are just a few areas of strategic teaming and planning that is more explicitly established in schools. The purpose, design, participants, and roles that these planning teams take are critical to the overall operations of a school and are developed and built by the principal.

**Role of educational staff.** Although the principal is responsible for implementing the vision for change and continuous improvement, it is the collaborative effort of all educational staff to take on specific roles and responsibilities that get the school’s work done. Research also points out that the work of school relies on teachers and, most importantly, it is their actual instructional practices in the classroom that are what impacts student achievement. Schools are often referred as a community of learners, which defined by Barth (1960), involved teachers, administrators, and students actively engaged
and aware of matters that were of importance to the collective group. Myers and Simpson (1998) added to Barth’s (1960) definition by describing the roles and responsibilities that every participant has to the learning community. Speck (1999), defined a learning community as the dynamic interaction of all stakeholders committed to the pursuit of ongoing leaning through collaboration. The ultimate embodiment of inquiry and collaboration for learning takes place within the walls of every classroom within a school. The teacher is ultimately responsible for creating the conditions and expectations for learning in the classroom, but the compartmentalization of learning to exist just within the walls of a classroom ignores the larger picture. Classrooms are not isolated units and the quality of learning within each classroom is a collective combination of all classrooms, their teachers, students, and educational support staff, hence the concept of a community of learners.

Collective role of school community. The work of Dufour et al. (2006) built on these roles and developed the foundation of developing PLCs by teaching all stakeholders and setting up operational structures to support the grow and development of PLCs. A website called, All Things PLC (n.d.), is an interactive resource detailing all the crucial components for creating PLCs. Specifically, the website detailed three necessary values needed in order to create purposeful learning communities and PLCs: (a) students need to be learned versus taught; (b) schools need to create a consistent culture of collaboration and team work between all stakeholders; and (c) the focus of learning students and working collaboratively with all stakeholders is to have vision and goal to achieve a measurable result (All Things PLC, n.d.).
PLCs have fast become a movement toward providing an organizational framework for all stakeholders in education to begin learning student’s better, common purpose for collaboration, and a focused goal for working toward meaningful and tangible results. PLCs can take on many purposes and have multiple capacities for example subject level, grade level, school level, and cross-curricular planning. Whatever the team and/or capacity, structures need to be in place to facilitate monitoring, data collection, and apply critical analysis to justify next-step action. PLCs function on the objective truth that is revealed by the data PLC does choose to collect. Many examples of organizational practices rooted in creating PLCs and using data to inform decision making are in practice at various schools and districts. Popular terms like, Instructional Rounds, Service Cycles, Coaching Cycles, and Lesson Study are just a few active structures or processes being implemented to create PLCs. These practices incorporate all the essential values toward improving instruction for the achievement of students. The heart of all these practices involves all the stakeholders of a learning community at some capacity, principal, teachers, students, and parents. All stakeholders need to be aware, involved, and informed of when, where, how, what, and why certain data is being collected. The complete understanding and involvement of all stakeholders in the collection of real live data makes for meaningful real-time decisions and actions that are based on the data collected to see actual results in student and teacher behaviors.

Parent involvement as a critical role. Parent involvement is a major topic for research in education and the potential parent involvement had on student achievement began breaking ground for evaluation of programs aimed at increasing parent involvement due to provisional funding under Title I (Olmsted, 1991). Evaluations of
programs receiving funding began to show how parent involvement enhanced student performance, attitude, and competency across all social backgrounds (Berruta-Clement, Epstein, & Weikart, 1984). Prior to evaluative research for program success and effectiveness for increasing parent involvement and its effect on students in school was the inquiry of how home and school learning and socialization overlapped. The work of Bronfenbrenner (1979) and Leichter (1974) began to classify and categorize the levels of overlap between school and home socialization. Three theories evolved to shed light on the dynamics of student learning and socialization between school and home.

One theory proposed the idea that school and home were two separate worlds and there was a distinct boundary between certain aspects and responsibilities of learning in school and learning in home (Lightfoot, 1978). Understandable applications of separate world’s theory in regard to learning would be for example a public school’s not teaching or endorsing/denouncing any type of cultural or religious education and leaving that responsibility to the home. Another theory shows a more shared responsibility between school and home for educating and socializing students where both school and the home have sequential stages or phases in transferring in and transferring out certain responsibilities of school and home (Dauber & Epstein, 1993; Epstein, 1992). A traditional example for this type of relationship of one being phased in as the other is phased out is at the elementary level of school. As students progress from kindergarten up through the grade levels, a shift for the responsibility to teach academic content learning is phased more toward the school and gradually phased away from the parent. Then there is the more collaborative and cooperative approach where both school and home provide continuous support to take responsibility to educate and socialize a child
(Epstein, 1986). Taking all theories into consideration, six general types of parent involvement were identified for reasons of better clarifying what role parents and schools wanted to take in educating a child (Epstein, 1987).

Six basic types of parent involvement and school relationships were identified to assist educational practitioners in how to navigate and assist in the shared responsibility of educating children with the home and at school. In the first type, parents are primarily responsible for basic obligations of student health, safety, and nutrition (Epstein, 1987). In the second type, school is expected to provide a basic obligation to parents of communication and flow of information about student in the context of school learning and behavior (Epstein, 1987). In a third type, parents becomes involved with school in more detailed monitoring for better results in student learning like attendance and achievement (Steinberg, 1996). A fourth type of involvement is a more comprehensive involvement through the collaboration of school and parents not only monitoring learning at school, but the addition of more learning activities and expectations to be implemented at home (Epstein, 1987). A fifth type of involvement details more parent participation in school decision making, governance, and advocacy. This type of involvement demonstrates a stronger sense of school purpose and community (Epstein & Connors, 1992). Finally, a sixth type of involvement shows collaboration and exchange of purpose and value for a larger community organization involvement in support and development of student learning (Epstein, 1987).

Schools need to provide all six types of involvement opportunities in order to maximize the potential and option of choice for parents to engage in the involvement that best fits their capacity and skill sets (Dauber & Epstein, 1993). Schools are responsible
for creating the relationship with parents to collaboratively educate children (Henderson & Berla, 1995). Schools must also work to create a comprehensive plan that is well balanced and detailed for parents to identify where they best fit into the school’s learning community (Henderson & Berla, 1995).

The combination of all individual stakeholder roles along with organizational structures that facilitate collaborative work, distributive leadership, and purposeful decision making informed by data will, in theory, be an ideal functioning learning community producing high quality student outcomes. Educational research works well at identifying and evaluating certain frameworks and specific methods of practice that move to improve student’s academic outcomes. The difficulty in educational research is the multitude of variables in action that makes identifying one as more responsible for a measurable outcome than others difficult. Still, educational researchers and practitioners continue to inquire what variables are significant and able to be identified by data, not in order to isolate, but strategically incorporate a better focus on cause and effect relationships aimed to improve student achievement.
CHAPTER 3—METHODOLOGY

The purpose of this study was to explore parents’ perceptions, understandings, and use of data in their decision making about their child’s education. Ultimately, this study contributes to the literature on parents’ engagement in decision making regarding school improvement and identifies values parents place on commonly used indicators and metrics regarding school accountability for student achievement. This study provides qualitative data that informs educational leaders about parental involvement in decision making. Parents are the largest component of the overall PLC, but they are possibly the least involved in decision making.

Research Questions

From the review of literature in DDDM four dominant themes emerge: accountability in education, decision making as a process, data within schools, and schools as PLCs. This case study drew upon these four themes as an initial lens to address three specific research questions:

1. What are parents’ understandings and perceptions of school accountability, and what factors do they use in their assessment of school accountability?
2. What are parents’ understandings and perceptions of national and state school accountability metrics used to gather data and to what extent do they value the use of these measures to make decisions in their child’s education?
3. What are parents’ perceptions about schools as PLCs and in what ways do parents see themselves as part of the learning community?
Methodology and Design of the Study

A single instrumental case study design was chosen as the best means to analyze extant data used for this research. Single instrumental case study research works to examine an issue bounded within a specific system (Creswell, 2007). The extant data used for this study came from the voices of parents, and included written transcripts and audiovisual recordings of stakeholders’ participation and remarks during open forums sponsored by the school district.

In case study research, the researcher uses observational data to interpret the context, dynamics, and meaning as understood by the participants (Merriam, 1998). The case study data collection process intends to capture the dynamics and context of the data to create meaning for how the data exists within the studied population (Merriam, 1998). While a recognized limitation to case study research is researcher’s direct involvement and potential bias during data collection and analysis, a clear articulation of how data was collected in addition to reporting of conditions, manner, and dynamics by which the observations were collected all help to identify validity and meaning to the data collected (Merriam, 1998).

Context of the Case: A Large, Urban School District

The district studied in this case is a large urban public school district in the Western United States with an enrollment of 132,787 students and 226 school facilities, with 117 elementary schools, including K-8, 25 middle schools, 24 high schools, 11 atypical/alternative schools, and 49 charter schools. The total annual operating budget of this district is one billion dollars. The district is ethnically diverse, with a student population of 46.5% Hispanic, 23.4% White, 10.2% African-American, 5.4% Filipino,
4.9% Indo-Chinese, 3.3% Asian, .3% Native American, 0.6% Pacific Islander, and 5.4% Multi Racial. In addition, 26.5% of the student population is English learners and 59.4% are eligible for free or reduced meals. Over 14,000 students receive Special Education services, 9,156 students come from military families, more than 27,000 students are designated for the Gifted and Talented Education (GATE) program, and 1,344 youth living in foster homes are enrolled.

Data Collection

Data for this case study included extant data provided to the researcher as well as the researcher’s direct observations. The District provided transcripts of posters presented at five open stakeholder forums held for the purpose of providing parent and community input regarding quality neighborhood schools. In addition, the District provided the researcher video recordings of all five forums. The researcher also attended these forums and collected data via observational notes.

Specifically, the extant data was collected from five open community forums held at different dates (February 7, 24, March 1, 3, and 10, 2014) at different area schools spread across the entire school district. These area schools were identified based on the five respective Board Members’ areas of representation. The district also allowed for stakeholder’s input who were unable to physically be present via a district interactive response web page. Stakeholders for this case were defined as parents, district employees, students, and business/community members.

The format by which all forums collected data was uniform. All forums were set up to have participants sit at large tables with markers and a large poster paper with a stick figure graphic representing a student. Every forum began with an introduction to
the forum purpose by the district’s Superintendent. The Superintendent used a live
demonstration of five to eight stakeholders modeling, for the large group, how to run
their collaborative conversation. The collaborative conversation was guided by
answering three questions: what was working, what needs improvement, and how to
continue the collaborative work in accomplishing the district’s initiative to create better
quality neighborhood schools.

At all five of the forums, the data were collected in the same way, and each forum
was conducted with a common format. For each forum there were voluntary sign in
sheets of persons in attendance, observational notes taken by the researcher, audiovisual
recording of forums from start to finish, and a collection of all the posters created.
Groups were given 30 minutes to discuss three questions and summarize group responses
on posters. Each group then made an oral presentation to the entire forum. The following
paragraph summarizes the types data collected and the various roles of participants.

The following is a summary of all data and artifacts collected from all five forums
and provided to researcher. Total participants actually signed in to attendance at the five
forums were 446. Of the 446 participants, 234 (52%) declared themselves as a parent,
student, or community member, 161 (36%) declared themselves as a district employee,
and 51 (11%) declared themselves as a community / business partner of the district.
There were 82 posters collected from the five forums. The individual posters were
created by participant groups that varied in size. Also collected were 8 hours and 11
minuets of audio visual recording of participants engaged in forum discussion and
presenting their posters to community in attendance at forum. Every school from the
district had at least one representative/participant present at a forum. The break down of
who presented table groups poster’s were as follows, of the 82 posters created, 43 (52%) were presented by a parent, 19 (23%) by an employee, 17 (21%) by student, and 3 (4%) by community member/business partner.

**Data Analysis**

The data collected from all five forums consisted of researchers’ direct observations of forums and extant data including District’s transcripts of written content of 82 posters and eight hours of audiovisual recording of five forums. Researcher’s observational data was used as triangulated data to supplement understanding and add contextual meaning to written and audiovisual data. Data from poster transcripts and notes from audiovisual recordings and observations were initially analyzed separately as to identify emergent themes. Emergent themes from both written and spoken data were then tabulated by frequency count.

Data sets were reviewed three times and coded for emergent themes based on researcher’s deductive categorization using participant’s actual word choice as a means to operationally code for a theme. In the second and third reviews of data, initial themes were clustered into broader categories.

**Significance of the Study**

Legislative reform efforts in education have relied heavily on the use of standardized metrics in English and mathematics as a means to assess school effectiveness and determine areas for improvement, as evident in mandated federal and state educational policies under the NCLB Act of 2002 (Ravitch, 2009). In addition, the educational organization must also communicate the strategic decisions made to increase student achievement from the use of such data (Ravitch, 2009). According to existing
literature in the field, a wide range of school’s ability to incorporate student data in decision making processes strategically aimed at increasing student achievement results (Knapp et al., 2007). In addition, much of the research that exists on data and decision making primarily identifies stakeholders as superintendents, principals, and teachers (Kowalski et al., 2008). Queries on data and decision making in education that incorporate the perspective of parents are non-existent. Therefore, it is the belief of this researcher that expanding the scope of stakeholder participation in data informed decision making to include parents and students is an untapped area as a means to further increase student achievement. For convenience in research exploring parents’ perceptions may provide valuable insight as to how to improve data awareness and data use in decision making aimed to more effectively involve parents in DDDM processes aimed at improving student achievement.

**Trustworthiness and Limitations**

The overall trustworthiness of the data to be collected and the method for analysis to interpret findings for this case study is believed to be high. Case study research does have limitations in generalizability to populations other than the case itself (Merriam, 1998). Due to the demographics of this case study’s population, location, and current conditions, the meaning gleaned from participant responses in the context of the research questions for this case study will not be generalizable to other populations.

A limitation to the trustworthiness of case study research hinges on recognizing and controlling two key factors: (a) the presence of the researcher as an instrument and or participant for collection and interpretation of the data (Merriam, 1998); and (b) the
possibility that the data collected or it’s interpretation could be exaggerated or understated by the researcher (Lincoln & Guba, 1985).

Two critical features within the design of this study were implemented in order to mitigate researcher bias. The first was the use of extant data. The use of extant data allowed the researcher to explore participant responses that were organic and naturally existent in the mindset of the participants’ responses without the bias of researchers’ specific questions or solicitation for meaning. Second was the researcher’s presence at each of the forums as an observer. The researcher’s presence as an observer had minimal effect on participant’s behavior or responses and allowed the researcher to collect observational data as a means of triangulation with extant data.

The trustworthiness of the information collected is greatly increased by using multiple sources of data, including extant data of written transcripts of posters, audiovisual recordings, and researcher observations.

**Ethical Considerations**

This research was approved by San Diego State University’s Institutional Review Board (IRB) for the protection of human subjects. The goal of this research is not to publicize failures in any way of the district or schools, but rather to offer unbiased insight into parents’ understanding of data used by schools to measure student achievement and to mine the data for parents’ comments that indicate the extent they value metrics associated with accountability reporting. No names of schools or people are used. The district involved in this case study provided extant data which had been collected by the district. Participants were made aware that the forums would be videotaped for future analysis. In viewing the videotapes, the researcher had no knowledge of specific
identities of participants other than their identification of themselves as a parent, teacher, student, or other. The researcher limited the analysis to areas defined by the research questions and thus limited the analysis to only that of parents’ perceptions.

**Summary**

The purpose of this research was to explore parents’ perceptions of school accountability, decision making, and data use as well as to explore parents’ values of commonly used metrics for student achievement and their engagement as part of schools’ learning communities. This chapter outlined the purpose, research questions, design, and methods employed in this study.
CHAPTER 4—FINDINGS

Chapter 4 presents the results of this study. The presentation of results is organized into three sections: (a) a brief review of the background and purpose of the study; (b) the method, context, and data collected for this case study; and (c) a qualitative analysis of the data relevant to each guiding research question.

Background and Purpose

This study arose out of the literature on DDDM and its relevance to the increasing demands for school accountability. Further, this research evolved from scholarship associated with the importance of parent involvement in terms of school effectiveness and school improvement efforts. While much research has been conducted and reported regarding DDDM and school accountability in general as well as the link between parent involvement and student learning, scant research has been conducted that links parent engagement in schools’ processes for making decisions based on data used as accountability metrics. According to Knapp et al. (2007), parents are one of the most significant parts of a school’s culture. The result of their research concluded that organizational change could not happen unless there was a shift in the entire school culture, parents included. Knapp et al. also stated educational leaders must intentionally create cultures of evidence and inquiry from both within and outside the school. Research exists discussing the work of organizations, like schools, engaging in a process of re-culturing for all stakeholders to value evidence and assessment data as central factors in making decisions for local policy and practice (Louis, 2006; McLaughlin & Talbert, 2006). Research in DDDM by Ikemoto and Marsh (2007) identified factors increasing and hindering educational practitioner’s incorporation of data and decision
making (DDDM). Their research has also made the case that very little empirical
evidence exists researching the parent and student perspective (Ikemoto & Marsh, 2007).

From the review of literature on DDDM four dominant themes emerge: (a)
accountability in education; (b) decision making as a process; (c) the use of data to make
decisions; and (d) schools as a PLC. This case study drew upon these four themes as an
initial lens to inquire about three specific research questions:

1. What are parents’ understandings and perceptions of school accountability,
   and what factors do they use in their assessment of school accountability?
2. What are parents’ understandings and perceptions of national and state school
   accountability metrics used to gather data and to what extent do they value the
   use of these measures to make decisions in their child’s education?
3. What are parents’ perceptions about schools as PLCs and in what ways do
   parents see themselves as part of the learning community?

Method and Context

A single instrumental case study design was chosen as the best means to analyze
extant data used for this research. The district studied in this case is a large urban public
school district in the Western United States with an enrollment of over 130,000 students.
The extant data used for this study came from the written transcripts and audiovisual
recordings of open, public forums sponsored by the school district. Additional data were
collected via researcher notes as an observer of the forums.

Data from poster transcripts and notes from audiovisual recordings and
observations were reviewed three times and coded for emergent themes based on
researcher’s deductive categorization using participant’s actual word choice as a means to
operationally code for a theme. In the second and third reviews of data, initial themes were clustered into broader categories.

Table 1 shows the final list of 25 emergent themes along with the frequency count of comments related to each theme.

The 25 emergent themes were then organized by their relationship to the three research questions posed for this study. The purpose of this method was to show how the researcher analyzed and organized the data in order to inductively identify important findings specific to this case study (Merriam, 1998).

**Research Question 1: Parents’ Understanding of School Accountability**

From a school improvement perspective, accountability is defined as the ability to deliver expected results. This research study sought to determine parents’ expectations, that is what did parents view as important results for their children’s education and how did they view the school’s role in delivering these.

The basis of research question one was to discover what are parents’ understandings and perceptions of school accountability, and the factors they use in to assess whether their school is accountable to them. From the analysis of 25 themes, thirteen were directly related to parents’ expectations of school accountability. These thirteen themes fell within three major groupings: (a) expectations for academic achievement; (b) expectations related to school operations and management; and (c) expectations related to leadership and vision. Table 2 shows how themes were clustered relative to parents’ expectations of schools and their understanding of school accountability.
Table 1

*Emergent Themes and Frequency Count*

<table>
<thead>
<tr>
<th>Theme</th>
<th>Frequency Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rigorous &amp; Enriching Instructional Programs</td>
<td>140</td>
</tr>
<tr>
<td>Communication</td>
<td>133</td>
</tr>
<tr>
<td>Collaboration</td>
<td>123</td>
</tr>
<tr>
<td>Community Involvement &amp; Partnerships</td>
<td>114</td>
</tr>
<tr>
<td>Supplemental Student Support Programs</td>
<td>110</td>
</tr>
<tr>
<td>School Operations</td>
<td>102</td>
</tr>
<tr>
<td>Quality Teaching Coaching &amp; Counseling</td>
<td>77</td>
</tr>
<tr>
<td>Vision &amp; Goals</td>
<td>75</td>
</tr>
<tr>
<td>Funding &amp; Staffing to Support Students Directly</td>
<td>75</td>
</tr>
<tr>
<td>Equitable &amp; Accessible Digital Technology</td>
<td>74</td>
</tr>
<tr>
<td>Instructional Plan, Articulation, &amp; Matriculation</td>
<td>72</td>
</tr>
<tr>
<td>Accountability, Evaluation, &amp; Follow Through</td>
<td>67</td>
</tr>
<tr>
<td>Student Voice &amp; Involvement in Decision Making</td>
<td>56</td>
</tr>
<tr>
<td>Quality Leadership &amp; Effective Management</td>
<td>55</td>
</tr>
<tr>
<td>Student Achievement, Assessments, &amp; Monitoring</td>
<td>54</td>
</tr>
<tr>
<td>Safe &amp; Well Maintained Schools</td>
<td>51</td>
</tr>
<tr>
<td>Professional Development &amp; Learning for Educators</td>
<td>47</td>
</tr>
<tr>
<td>Assessing Student &amp; School Needs</td>
<td>45</td>
</tr>
<tr>
<td>Diversity &amp; Cultural Awareness</td>
<td>39</td>
</tr>
<tr>
<td>Quality Neighborhood Schools &amp; Choice</td>
<td>38</td>
</tr>
<tr>
<td>Professional Development &amp; Learning for Stakeholders</td>
<td>33</td>
</tr>
<tr>
<td>Class Size Reduction</td>
<td>27</td>
</tr>
<tr>
<td>Shared Decision Making</td>
<td>19</td>
</tr>
<tr>
<td>Parent Involvement Supports &amp; Decision Making</td>
<td>17</td>
</tr>
<tr>
<td>Union &amp; Politics</td>
<td>15</td>
</tr>
</tbody>
</table>
Table 2

*Themes Related to Parents’ Expectations relative to School Accountability*

<table>
<thead>
<tr>
<th>Cluster</th>
<th>Theme</th>
<th>Frequency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic Achievement</td>
<td>Instructional Program</td>
<td>140</td>
</tr>
<tr>
<td></td>
<td>Parent Communication</td>
<td>133</td>
</tr>
<tr>
<td></td>
<td>Student Support Services</td>
<td>110</td>
</tr>
<tr>
<td></td>
<td>Quality Teaching</td>
<td>77</td>
</tr>
<tr>
<td></td>
<td>Instructional Planning</td>
<td>72</td>
</tr>
<tr>
<td>School Operations and Management</td>
<td>School Operations</td>
<td>102</td>
</tr>
<tr>
<td></td>
<td>School Safety</td>
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<td></td>
<td>Funding</td>
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<td></td>
<td>Technology</td>
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<td></td>
<td>Personnel Evaluation</td>
<td>67</td>
</tr>
<tr>
<td>Leadership and Vision</td>
<td>Vision/Goals</td>
<td>75</td>
</tr>
<tr>
<td></td>
<td>Quality Leadership</td>
<td>55</td>
</tr>
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</table>

**Academic Achievement**

The most frequent themes that emerged relative to parents’ expected results were messages related to rigorous and enriching instructional programs and communication between parents and school. Other themes that emerged related to academic achievement were comments made about student support services, quality teaching, and instructional strategies. Collectively all themes worked to describe how stakeholders envision accountability toward academic achievement.

While educational leaders in the district articulated accountability from the aspect of being responsible for meeting achievement needs of students by traditional measures
of national and state metrics like standardized test scores and numbers of high school graduates, accountability from parents and students sounded much different. They saw accountability as the schools responsibility to providing a differentiated and customized service of education to their child’s needs. It was apparent that parents’ concerns, for the most part, were focused on their child rather than the school’s accountability for all children in the community.

**Instructional programs.** Providing rigorous and enriching instructional programs was an overall dominant theme. Parents expect schools to provide students with an education that prepares students for the twenty-first century with instruction that is challenging, differentiated and customized to student needs, and comprehensive in educating the whole student. Parents generally identified their child as having needs that were different from other students. Parents used terminology such as “gifted,” “special needs,” “English as a second language,” or “college tracked” to identify their child’s needs.

Evident in half of the 140 comments for a rigorous and enriching instructional program were comments about curriculum that focused on educating the “whole” child and not just on the four core contents (English, science, mathematics, and social studies). Parents, business and community partners also stressed the importance of a balanced curriculum of social emotional and physical health in addition to subject area content knowledge. Parents identified a rigorous and enriching instructional program as one that includes opportunities for outdoor leaning, acquiring a second language, taking art classes, taking music classes, and applied learning about local culture and history.
Communication. Stakeholders placed a high regard for communication as an important factor for how accountable a district or school is to its stakeholders. From the analysis of all of the parents’ comments, there was a broad range of meaning and understanding about communication. Parents who spoke during poster presentations discussed communication in terms of truth, transparency, and consistency of message. Parents also indicated that they felt left out of certain communication, not understanding, or being afforded the same training opportunities as teachers to understand all the nuances of school operations. Thirteen of 43 parents who presented posters were concerned about the districts lack of cultural awareness, sensitivity, and ability to communicate with homes other than English or Spanish speaking. Parents who speak a second language definitely feel it is the district’s responsibility to communicate with them using their home language. Parents who presented posters who were not English speakers did feel that the district and school their child attends could be better at being more culturally sensitive and modeling learning on how to best communicate with them. Two different parents presented posters where they commented on how language and cultural awareness appears to be overlooked or undervalued by the district when trying to communicate to them. One parent who identified herself as Somali commented on how she feels when her student’s school can communicate to her in her language. She said, “You show me you care about my child, and you show me that you really want me to be a partner in educating my child when you speak to me in my language!”

Other than second language concerns, parents’ references to communication were, for the most part, concerned with communication regarding their child. All parents who made comments about the district’s ability to communicate information used attendance
monitoring and student discipline as examples of where they thought the district or school was more resourceful in getting that specific communication out than other information. For example one father said that he gets, “autobot calls” when his child is not in school. The same father sarcastically joked, “Could you imagine if I could get the same call if my kid failed his math test!” Examples like these indicate parents’ perceptions of schools’ priorities in communicating with parents.

**School Operations and Management**

In addition to academic achievement, parents’ expectations included comments related to school operations and management, especially in terms of school safety, funding, and various items related to school operations such as student support services, technology, and teacher evaluation.

Much was said about technology by stakeholders. The myriad responses ranged from excitement to frustration in the use of new equipment and software. Comments were made regarding schools that have and do not have experience and access to new technology. While comments indicated that the scope of problems related to technology use and access are many, one recurring theme was the need for full-time computer and technology systems personnel.

Stakeholders had different impressions of personnel evaluations and accountability related to quality leadership, teaching, counseling, coaching, and substitute teaching. Parents and students were the most outspoken in this area of discussion and voiced their frustration with comments that indicated they “knew from first-hand experience” who are and are not good teachers, counselors, coaches, and administrators. One high school student said that she understands that giving students this “power” may
scare teachers. She further stated that in her opinion students know who is a good and bad teacher. “We blog online to each other daily, who’s good and not good to have as a teacher.” This same student felt administrators should know what the kids think about the teachers who are or are not “doing their job.” Parents and students opined that there should be some form of input from them regarding teacher effectiveness and acknowledge a sense of frustration with what they perceived as a lack of follow through in acknowledging them as a meaningful part to overall evaluation of schools.

Specific to this district has been an issue of starting the school year with adequate and appropriate staffing. Due to a consistently large transient student population, allowing choice to attend any school, and two recent back-to-back changes in student management software, the district has drawn a great deal of public scrutiny for how it has managed student-to-staffing ratios. Parents voiced concern about the district’s efficiency in managing staffing to student ratios and about fiscal and union constraints that have resulted in schools being over or understaffed well after six weeks of the opening of schools. Parents also voiced concerns about transportation, maintenance of school facilities, and quality of food served to students. Parents and teachers even made remarks about how inefficient some of the district protocols are with certain issues regarding technology repairs, building repairs, and the “red-tape” needing to be cut through. One parent commented on how slow a school is to react. He exemplified that in the business world the need for immediacy to implement a good decision or immediacy to halt a bad one is not an issue in relation to a quality product and profit. He felt in order for solutions to be more effective for our classrooms, teachers, and students, the district must
be receptive to streamlining requests and decision making if it can have an immediate and positive effect for student learning.

**Leadership and Vision**

To a lesser extent, parents viewed leadership and vision as an expectation. Comments related to the need for a more cohesive and unified approach to education was indicated, especially in terms of direction from school leaders in the area of curriculum and professional development. However, one parent stated, “having a vision and having a plan to achieve the vision is a fraction of what is necessary.” This parent indicated that unified action was at the heart of whether leadership and vision are truly present. Parents and teachers commented on how some principals and schools completely demonstrate the leadership and vision of the district. Interestingly, no one complained directly about their school, principal, area superintendent, or board member directly. What were noticeable in parents, students, and teachers’ comments were questions of school-to-school comparisons in overall quality of school programs, leadership, teaching, and resources. In one forum, a parent summarized the school-to-school comparisons by stating not all schools need the same thing, but the district is responsible for knowing what schools need in a case-by-case basis. He suggested that the district conduct a more cohesive and unified approach to assessing what schools need and provide them with the needed resources specifically in terms of school leaders, teachers, equipment, and facilities.

**Research Question 2: Measuring Student Success**

The second research question sought to identify what data or metrics parents use to inform their decisions about their child’s education. Also within this second research question is another layer of inquiry related to the extent to which parents value and use
school accountability measures that align to federal and state accountability reporting.

The data used for this case study was extant data and originated from responses to questions that the district posed to stakeholders regarding district goals and operations. Questions the district asked were relative to the questions asked for this research, but not exact.

Of the 25 themes identified from the data, four themes revealed stakeholder comments related to Research Question 2. Table 3 shows these themes along with their frequency.

Table 3

<table>
<thead>
<tr>
<th>Theme</th>
<th>Frequency Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student Assessment Measures</td>
<td>54</td>
</tr>
<tr>
<td>Assessing Student Needs</td>
<td>45</td>
</tr>
<tr>
<td>Quality Neighborhood Schools</td>
<td>38</td>
</tr>
<tr>
<td>Class Size</td>
<td>27</td>
</tr>
</tbody>
</table>

Within the comments that fell in the above four emergent themes, parents discussed their perceptions of how they “measure” student success. Findings related to this question will be discussed in terms of: (a) standardized metrics schools use to report student achievement; and (b) other, more qualitative, measures parents perceive as indicative of their children’s successes in school.

**Standardized Metrics**

The review of literature for DDDM identifies extensive and varied data categorized as input data and output data which all have varying relationships to student achievement, assessment, and monitoring (Bernhardt, 2004). What also is noted in the
literature, and evident in the analysis of this case study, is how little all stakeholders know about types of data, uses for data, analysis of data, and its incorporation into organizational structures for decision making (Kowalski et al., 2008).

Based on the analysis of this extant data, it is apparent that stakeholders have mixed impressions and understandings about why and how student achievement is measured. In addition, apparent in parents’ comments is a lack or understanding of why and how schools are evaluated based on standardized metrics of student achievement. Based on parent comments, state and district standardized metrics have limited value for parents. Less than 1% of parent comments related to school/district successes and need for improvement mentioned standardized measures of achievement. Poster presentations by parents had limited comments about specific metrics used in schools to assess student performance such as, academic grades (A, B, C), grade point average (GPA), Advanced Placement (AP) scores, or state and national testing scores from assessments like California Standards Tests (CST) and National Assessment of Educational Progress (NAEP). Four out of the 82 poster presentations mentioned a school’s API, but of the four, two advocated for less of a focus on API score as a means for giving schools a grade for overall success.

The API score was mentioned by four different parent presenters as one of the factors they used to determine the quality of a school. However, in two of the presentations parents had mixed feelings about the accuracy of the measurement as the only indicator of a quality school. In the two different presentations parents’ comments stated that API scores can be misleading in making a judgment for the overall quality of a school. For example, one parent spoke about how a good API score doesn’t really mean
the school really does a good job at “serving the students, it means the students get good ‘test scores!”’ In another poster presentation one parent made the comment that she accepts the low API score of her daughter’s school, but the score was not indicative of how hard the school’s principal and teachers work. She also added the comment that she knows her daughter’s school has an API score “below 900” but she likes the programs the school has to offer and her child is “happy there.” Comments like these lead the researcher toward listening and looking for more comments that indicate other factors parents used to drive their decision making and evaluate school accountability.

**Qualitative Measures of Student Success**

In 10 of the 82 posters reviewed, comments about school quality stood out. Parents discussed the qualities they value in a school and how they determine where they send their children to school. From their statements, multiple factors influenced their decisions to place their child at the school of their choice for example; school and neighborhood safety, school’s close proximity to parent’s employment, special instructional programs offered, and before and after school care.

Discussions on the theme of student achievement, assessment, and monitoring were closely linked to conversations of the dominant theme of rigorous enriching instructional programs discussed in research question one. Parents expect the district/school to provide an educational program that can be differentiated and customized to their students’ needs. Parents recognize and respect a link between school accountability and having formal assessments to measure school accountability, they just do not believe in one type of measurement tool. This strongly aligns to parents’ belief
that there is not one type of student, therefore having one way to assess student and school success has limited value for them.

Although parents did not directly mention specific assessment tools or programs, they did advocate for using “multiple assessment” techniques as a means to measure the “whole” student. Interestingly, 10 of the 82 poster presentations had parents advocating for a balance of assessments, use of multiple measures, or measures that assess the whole child. Of the 10 presentations six of them were the same parents who openly identified their student as a specific type of learner. Although they did not say it directly, these parents and their students are aware of measures, monitoring, and assessments because typically gifted students, students with Individualized Education Programs (IEPs), students with English as second language, students on a college tract are constantly being assessed, measured, and monitored by some form of standardized assessment. There were other reasons why parents and students verbalized for different ways to measure student growth, some saw standardized testing as limiting the potential of our students, reinforcing a lack of creativity, and creating a culture of “stress.”

Four out of the 10 poster presentations mentioned a different aspect of assessing and monitoring student achievement. One parent in her poster presentation mentioned that all of the testing that is going on in schools is causing her student to be “stressed.” In another poster presentation a father referred to how he received a letter from school indicating testing time was upon them. The father spoke to the forum on how he asked his elementary school child what all this testing means, and he stated his child’s response was, “All the teachers and school gets stressed out about the tests, and the kids get stressed too because their teacher’s name is on the test and everybody wants to do good
for their teacher and school name!” In two different poster presentations by high school students, both talked about how stressful school was with testing. One student said:

Yeah, high school is super stressful cause you’re and always trying to take AP classes and to score high on the test so it can boost your GPA in order to get into college, cause if you did bad on your SAT’s then you need a better GPA to get into college.

Another high school student commented on:

how crazy testing is at the end of the year because you have all these district and state tests, which nobody cares about because we are all studying for the AP tests and the tests that our teachers give us which will affect our grade in the class!

A presentation by a student who is currently a valedictorian at her school made reference to school being more, “stressful and not fun” and she “wished” school could be like the stories she heard from her parents, “having fun.” Parents’ comments indicate that they see a relationship between assessment and learning. Parents appeared to have a general understanding of assessments used to categorize their children in terms of labels such as “gifted,” “students with IEPs,” “students with English as second language,” or “students on a college track.” However, there appeared to be a mixed understanding and value for what assessments are important to students and which ones are important to the school. Based on parents’ comments, they perceive standardized tests as assessments that serve the school, not the student. The use of standardized tests have been used to assign an API score to measure the success of a school, but parents do not necessarily use this score in and of itself as a factor in their decision making about their choice of where to send their child to school.
Coincidently, parents value multiple measures of student performance and growth because this value strongly aligns to their desire for schools to be accountable in providing a rigorous and enriching instructional program that fits the individual needs of their student. There is a disconnect between what parents and the larger educational organizations value as far as assessment for student achievement and learning. There is also a disconnect in the value for what data is used to inform decision making about school success.

**Research Question 3: Parents as Partners in School’s Learning Community**

The heart of research question three seeks to assess parents’ perceptions of schools as learning communities and begin to understand how parents fit into the concept of schools a learning community. Dufour et al. (2006), characterized PLCs as having a shared mission, vision, and values; engaging in collective inquiry through collaborative teams; having an orientation toward action; being committed to continuous improvement; and, focusing on results. In addition, much research associated with school improvement efforts indicates that meaningful and active parental involvement in schools is directly correlated to student learning (Olmsted, 1991).

From the extant data provided, the analysis of this particular case study has provided a depth and range of stakeholder input relative to the concept of parental involvement (Epstein, 1987) and the concept of schools as purposeful learning communities (Segiovanni, 1994). Currently, school leadership and instructional staff work to create what Dufour et al. (2006) called purposeful PLCs. Specifically, schools as PLCs are a collaboration through strategic instructional practices aimed at increasing student achievement (Dufour et al., 2006). Through the eight emergent themes
containing comments related to research question number three, two important concepts were apparent regarding parents’ perceptions of their role in the school community.

First is the notion of how parents view the idea of what it means to collaborate. The second is relates to the extent such collaboration is meaningful and inclusive. Table 4 displays the emergent themes related to parents’ perceptions of their role in the school as a learning community.

Table 4

<table>
<thead>
<tr>
<th>Themes</th>
<th>Frequency Count</th>
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<tbody>
<tr>
<td>Collaboration</td>
<td><strong>123</strong></td>
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<tr>
<td>Community Involvement and Partnerships</td>
<td><strong>114</strong></td>
</tr>
<tr>
<td>Student Voice</td>
<td>56</td>
</tr>
<tr>
<td>Diversity and Cultural Awareness</td>
<td>39</td>
</tr>
<tr>
<td>Stakeholder Learning</td>
<td>33</td>
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<tr>
<td>Shared Decision Making</td>
<td>19</td>
</tr>
<tr>
<td>Parent Involvement in Decision Making</td>
<td>17</td>
</tr>
<tr>
<td>Unions and Politics</td>
<td>15</td>
</tr>
</tbody>
</table>

How Parents Define Collaboration

Collaboration, similar to the theme of communication was a highly generalized term and was used frequently by stakeholders. From listening closely to stakeholders as they presented their posters, the meaning of collaboration became more definitive as to who stakeholders collaborated with and what they collaborated about. What was not evident in stakeholders’ responses was a clear articulation of how to collaborate. Coincidently, the extant data provided was from the district’s direct questioning of forum participants on how they saw collaboration continuing for the future. The data resulting
from stakeholders’ comments was mixed and unclear as to exactly how parents saw themselves committing to a particular aspect of continued collaboration.

When parents spoke about collaboration, they focused on persons with whom they were collaborating. They were complimentary of communication and invitations to schools in order to meet and connect with administration, teachers, and personnel who provide extra support and services to students specific needs, for example support in English as second language and special education staff. Also notable in the data of parents’ comments were personnel who run extra-curricular programs before and after school. Their comments, however, did not generally indicate their purpose for collaboration other than awareness that their child was receiving a specific support. They did recognize that collaboration was occurring between the Board of Education, Superintendent, and Teacher’s Union. Many teachers, parents, and community members saw the forums as a way to initiate collaborative conversations that bring to the surface the “issues” all stakeholders have and many stakeholders stated that they wanted the forum process to continue in the future.

Data from this study also pointed to the extent to which parents value collaborative efforts. As discussed earlier, parents expressed that they felt the district and schools needed to be more accountable in communicating with more transparency, consistency, and sensitivity to language and cultural context. Stakeholders’ comments about communication indicated a perception that communication was one-way, and downward, from district to stakeholder. Participants in this study tended to use the term collaboration as meaning two way conversations. Communication and collaboration were closely linked in stakeholder conversations and initially discerning a difference was
difficult. The distinction of differentiating between communication and collaboration was how stakeholders viewed the direction of informational flow.

Stakeholders saw communication as a singular flow of information, from district to stakeholder. Stakeholders saw collaboration as a two-way flow of information, but more importantly an opportunity for the district to listen and stakeholders to talk. The link between the concept of communication and collaboration is interesting and worth exploring in more depth.

**Meaningful and Inclusive Collaboration**

From stakeholders’ comments collaboration took meaning and purpose in three major ways: (a) teaching students to become more active participants in community involvement; (b) building partnerships with community businesses and higher level educational institutions; and (c) articulating and planning types of parent involvement pertinent to their child’s educational plan, school, and district plan for increased student achievement.

In relation to teaching students to be better at becoming agents of community involvement, 15 out of the 82 poster presentations advocated for more direct student involvement to community efforts within and outside the school. One parent advocated that focusing on students as a way to build more community involvement makes more sense than looking for involvement outside the school. To this parent, students are easier to inspire, and school is the perfect time and setting to provide this specific instruction.

In relation to building community partnerships, 20 poster presentations advocated for more publicity measures to reach out and involve the greater community and to develop business partnerships. Parents, community members, business, and higher
education representatives spoke about how the district could focus more time and resources to create more pathways to increase partnerships as a means to supplement and strengthen current instructional pathways offered in schools.

In regards to more clear and comprehensive parent involvement in schools, parents expressed a desire for the district and schools to provide direction. Present in the majority of poster presentations was the question how to increase parent involvement. Research on parent involvement states that getting parents involved within school is no easy task, and parents need direction from the school in order for involvement to take place (Dauber & Epstein, 1993). The relationship between parents and schools for parent involvement to work needs to be clearly planned, detailed, balanced, and specifically comprehensive to the school learning community (Henderson & Berla, 1995).

Based on the data from this case study, parents indicated that their involvement is not clearly defined for them by the district. In two out of 82 poster presentations, parents made the comment that they wished the district would bring back the support of parent learning centers and parent liaisons. These supports were strategically located at sites throughout the district to help parents know how to be more involved at their particular school. In 20 of the 82 poster presentations parents expressed the need for training on curricular changes, especially in terms of the transition to common core standards. In 10 of the poster presentations, parents laughed together that they did not know the meanings of jargon and acronyms that schools use. They were confused and unsure if they wanted to be involved with SSC (School Site Council), SGT (School Governance Team), PTSA (Parent, Teacher, and Student Association), and they were not sure whether or not their child was attending a PI school with a low or high API! Some parents expressed
embarrassment or confusion about how to become more involved with their child’s education because of not being able to keep up with continuous changes in online grading and homework software. Parents with more than one child expressed difficulty in understanding how to support their children at home, let alone school. In twenty-five poster presentations, parents expressed their need to better understand expected learning outcomes for their child’s grade level and the progression expected from kindergarten to high school.

Summary

This chapter presented the findings of this study through qualitative analysis, specifically addressing the three research questions guiding this study. Regarding the question of parent expectations for school accountability, it was found that parents use both qualitative and quantitative data to validate their decision making for their child’s education. Parents use assessments and educational terminology to describe their child’s educational needs. Parents from this district expect the school and district to be accountable for providing an appropriate education for their child. Specifically, parents expect instruction that is rigorous, enriching, and specific to the needs of their child. The fact that children are identified with specific needs has created the expectation that instructional programs be differentiated and customized. Additionally, parents expect the school/district to provide communication to all its stakeholders in a manner that is reflective of their language and culture.

Regarding parent perceptions of metrics used to assess student achievement and school performance, parents appear to have a general disregard for standardized testing if they do not see its value in meeting the needs of their own child’s education. Parents
advocate for assessments, but desire those that measure the “whole” child and are aligned to the specific needs of their child. The evidence from this case study particularly shows parents having an affinity for more qualitative data than quantitative data used in their decision making.

Regarding parents’ views on their role in the school’s learning community, data from this case study shows that parents do value schools as learning communities. Parents do want to be participants in the traditional structures designed to include parents, such as PTSA, SSC, SGT, and booster clubs, but they voiced confusion regarding educational jargon and expressed a need for better understanding of instructional changes and technology uses. They also expressed frustration schools’ bureaucracies.

The next chapter will address the findings presented in this chapter in relationship to insights constructed from the literature review, implications and contributions of this study, as well as recommendations for practice and future research.
CHAPTER 5—INTERPRETATIONS AND RECOMMENDATIONS

Chapter 5 addresses the findings from this study relative to the literature review and provides interpretation of the quality analysis. This chapter is organized into five parts: (a) review of the background and purpose of the study; (b) discussion and interpretation of the findings relative to the literature review provided in Chapter 2; (c) contributions of this study and implications for educational leaders; (d) recommendations for practice; and (e) recommendations for future research.

Background and Purpose of the Study

Since the formalization of standardized testing in academics, educational researchers have consistently identified the existence of an academic achievement gap between students of specific ethnic and socio-economic demographics. The existence of this achievement gap has been one of the core issues for the impetus of federal government’s involvement with state’s responsibility to educate its citizens. Decades of Federal government reform under the ESEA of 1965 have failed to close the achievement gap. The failure of ESEA to produce results caused the reaction of the federal government to develop more comprehensive and strict accountability measures for state taking Federal dollars. In 2001, ESEA was revised to the NCLB Act.

The NCLB Act of 2002, strictly outlines the requirements for state and local school communities to develop and use a system of metrics to measure student achievement. The metrics traditionally used to assess student achievement are heavily weighted on performance of standardized tests scores in mathematics and English (Ravitch, 2009). Under NCLB accountability standards, states’ schools use a standardized system of metrics as a means to quantify schools’ overall success or failure.
Specifically, the performance scores of all students at designated grade levels in mathematics and English are used to develop an API score. The API score is used to report to the public the overall status of a school as performing or failing to perform. A school’s overall performance may place the school in a status of PI.

The quantitative demands of NCLB have required principals to have a more comprehensive understanding and use of data (Kowalski et al., 2008). DDDM has become an integral process used by educational leaders to inform decision making, justify explicit intentions to improve student achievement, and address concerns in closing student achievement gaps in mathematics and English (Ikemoto & Marsh 2007; Preuss, 2007). The research of Ikemoto and Marsh (2007) identified a conceptual framework for how DDDM can exist in the context of an organization like schools. Decision making by school leadership based on intuition alone is no longer an acceptable practice (Creighton, 2001). School leadership is expected to identify and use student input or output data as a means to enhance and justify decision making in schools (Bernhardt, 2004). DDDM has become a necessary habit for school leadership when identifying the purpose of resource allocation, teaching practice, instructional pathways, and student supports (Ikemoto & Marsh, 2007). Because educational practitioners have many different ways, uses, and reasons to use data for implementing action from decisions, there is a lack of common understanding for exactly what DDDM practices entail (Ikemoto & Marsh, 2007).

The research of Knapp et al. (2007) developed the conceptual framework for how educational leaders use DDDM as a means to create levels of inquiry within a school culture. Copland’s (2003) conclusions about data informed leadership stemmed from a
longitudinal study known as the Bay Area School Reform Collaborative (BASRC). The collaboration served as an important body of work to inform educational leaders on how to reform school’s organizational practice as a means to improve student achievement. From the research, the concept of schools becoming cultures of inquiry was developed. One of the tenants to creating a culture of inquiry is the use of data to involve all stakeholders, create vested interest in school success, and engage them in continuous cycles of data-informed inquiry (Copland, 2003). Pertinent for the purpose of this research was stakeholder involvement in the conceptual frameworks for decision making or creating school cultures of inquiry.

A significant amount of fiscal and human resources have been allocated to engage educational leaders and teachers in methods to collect and use data to make changes in their instruction and improve student learning outcomes (Preuss, 2007). Very little empirical data mentions the extent of how much professional development has been provided for other stakeholders, such as parents. On the rise in school reform practices is the development of PLCs. PLCs are strategic teams of educators who are trained in the collection, collaboration, and decision making of real-time classroom data (DuFour et al., 2006; Elmore, 2000; Schmoker, 2008). Schools that are involved in PLC formation have demonstrated positive change in culture and distributive leadership practices (DuFour et al., 2006). Although PLC work has been used as a means to facilitate a collaborative discourse between teachers and educational leaders to facilitate change within the school’s learning community, very little states how parents are involved at the same level. The fact that most conceptual frameworks for decision making or work to create school’s learning or professional culture does not explicitly include parent involvement is
disconcerting, particularly in light of the research that indicates the positive impact parent involvement alone can have on student achievement (Berruta-Clement et al., 1984). For example, in Knapp et al.’s (2007) model of a school in an advanced stage of inquiry, all participants are aware and part of monitoring school’s expectations, a tactic for asserting distributive leadership and reciprocal accountability within all stakeholders of the learning community. Again, one aspect and purpose for this research was to understand where the parent and student fit in as a vital stakeholder for a learning community.

A consistent amount of research points out the positive impacts parent involvement has with student achievement (Berruta-Clement et al., 1984). Research in parent involvement and its relationship to increases in student achievement have proven to be more transformational than most other reform efforts (Berruta-Clement et al., 1984; Olmsted, 1991; Zellman et al., 1997). The difficulty of creating, managing, and sustaining purposeful parent involvement in schools lies entirely in the hands of schools (Dauber & Epstein, 1993). Being able to recognize how to service and cultivate the dynamic relationship between school and parent have proven to be difficult (Dauber & Epstein, 1993). The positive potential of parent involvement to influence student achievement is well documented. In this era of high stakes school accountability and national reform for educational curriculum, schools’ operations and instructional practices have evolved. In order for organizational change to occur, training and development of the personnel expected to execute and implement the changes has taken place. The question remains as to whether the major shifts in educational reform have brought parents along with it.
There is a plethora of research literature available exploring the connection between school leadership and teachers working to incorporate data in decision making, and creating efficient and effective cultures of inquiry (Knapp et al., 2007; Kowalski et al., 2008). On the other hand, there is a paucity of research exploring how parents fit into the same process of decision making to increase student achievement. Additionally, there is little empirical research exploring the data parents use to make informed decisions.

As stakeholders, parents represent the largest body of participants in the educational system. Parents’ roles and responsibilities within the conceptual frameworks of DDDM and cultures of inquiry have not been empirically explored. Exploring the ways parents have been connected to DDDM in schools and their involvement in a school’s culture of inquiry has been a limitation cited by research works of Ikemoto and Marsh (2007) and Knapp et al. (2007). It is the belief of this researcher that finding ways to increase parent involvement in DDDM and schools’ cultures of inquiry presents an interesting avenue to research in terms of increasing student achievement and expanding the impact of educational reform beyond just the educational practitioner.

Thus, the intent of this study was to use extant data provided by a large urban school district as a means to explore parents’ perceptions, understandings, and uses of data to assess overall school accountability, decision making, and involvement in school’s learning community. Specifically, this study addressed the following questions:

1. What are parents’ understandings and perceptions of school accountability, and what factors do they use in their assessment of school accountability?
2. What are parents’ understandings and perceptions of national and state school accountability metrics used to gather data and to what extent do they value the use of these measures to make decisions in their child’s education?

3. What are parents’ perceptions about schools as PLCs and in what ways do parents see themselves as part of the learning community?

**Discussion and Interpretation of Findings**

Data from this case study indicate that parents have a limited understanding of measures of school accountability. If school leadership is to continue a course of inquiry to find new and innovative ways to increase student achievement, then looking for ways to involve parents in more purposeful school decisions is imperative. School leadership must look to understand parents’ perceptions and understanding of school accountability. The routines to collect and analyze data for decision making and the strategies to comprehensively engage, align, and teach all stakeholders how to collaborate in unison for increased student achievement results is complex and complicated work. From the extant data provided for this case study, the following discussion of results outlines the major findings to questions about parents’ perceptions of school accountability, data used to make decisions, and parent involvement in a school’s PLC.

Four significant findings from the data of this case study evoke a more critical discussion of meaning within the conceptual frameworks of decision making in education and schools as learning communities referenced in the review of literature.

**Standardized Testing: Overused and Misunderstood?**

There is a significant mismatch and misalignment between what parents use and value for measures in school accountability as opposed to what state and federal
governments use. One of the most frequently brought up issues in education is how educators assess students. Each stakeholder in education places a different value and use for certain data as a means to assess a school’s accountability. From the data of this case study, students, teachers, and parents specifically reported that they are “stressed out” with all the standardized testing in schools. From these stakeholders’ comments, the concept of school accountability through the use of standardized test scores is misunderstood and complicated for them to understand. Stakeholders reported that the use of standardized test scores in English and mathematics is too narrow of an assessment and possibly unfair for each individual school, teacher, or student. While quantifying school accountability by using student performance on standardized tests has been a more efficient choice for administering and analyzing overall school performance, the current practice may be severely limiting considering all the different types of needs students have. Although, for this district, and this case study, parents reported that they do use a measure called the API score as one means to initially assess the quality of a school’s academic environment when deciding whether they wanted their student to attend their neighborhood school or choice to attend a different school. A school’s API scores were neither the most valued, nor only metric used by stakeholders as a means to inform a decision to remove or send their student to a particular school. Stakeholders’ comments did not completely ignore or denounce standardized testing. Standardized testing has value; it just wasn’t the most important indicator of a school being accountable to parents and their student.

Stakeholders from this particular case study advocated for assessment regimes having a broader range of purposes to assess for student learning, rather than simply as a
means to calculate a school’s overall achievement. Teachers, parents, and students advocated for assessments that seek to measure the “whole child’s” growth and learning. Parents and students conceptualized a difference in purpose for certain standardized testing tools. From parents and students comments, they viewed state standardized testing tools given at the end of a school year as an assessment for the school and teachers, rather than an assessment for students. For example, parents and students had a different value and perception for assessments like AP and SATs, and tests that their teachers made specifically for their classes. Parents and students felt that these tests were more meaningful and informative because the test was specifically administered for the student rather than for the school. Apparently, there is a conflict of interest and lack of understanding in the purpose for the many types of assessments used in this district. Parents and students make a clear distinction between what certain assessments are for and who stands to benefit the most from taking them.

**My Child: The “Whole” Child**

Using Ikemoto and Marsh’s (2007) conceptual framework for determining the complexity of DDDM, the data from this study indicates parents and schools are using different levels of data and different means of data analysis in order to inform their decision making. For parents, the primary purpose of the data they chose to use was to decide at which school they believe their student would be happy and successful. Parents’ decisions regarding school choice used both qualitative and quantitative data. Parents and students comments for school choice relied more heavily on qualitative data. The data they vocalized as having importance to their decision for overall school quality was: school or neighborhood safety, quality of a specific signature programs offered,
student happiness, and physical proximity to parent or guardian’s work. The less frequently mentioned data were quantitative measures such as API score or comparative data used from School Accountability Report Card (SARC) through Department of Education website. In general, parents are aware of certain data sets available to them, and they selected certain data sets to justify their personal reasons and decision making. A limit to this research and important point for extension would be to delve deeper into specifically categorizing the complexity of the data parents use and the complexity of the analysis they used to come to a final decision on the school they chose for their child to attend.

Because the data for this research was extant data, it would be premature to generalize a finding other than from the analysis of parents’ comments about the quality or lack thereof in the school their student attends. In general, the data provided a true look at parents using different data for school choice and accountability important to them rather than the data and accountability measures used by the state and district. While the purpose of this research was not to assess this district’s level of DDDM, from an initial analysis and interpretation of how most school districts are measured under NCLB criteria, the data from this case study indicates the data used in DDDM of the district being the exact opposite of parents. The district is much more reliant on quantitative data that takes into consideration a larger scope of goals and factors of educational reform. In contrast to parent goals for school choice, districts are using more complex data analysis to inform PI goals, curriculum choices, and plans for articulation and matriculation.
Parent Involvement: What It Means

Parents and schools do not know the best way to enlist parent involvement within DuFour et al.’s (2006) conceptual framework of PLCs. This case study highlighted a need to increase collaboration between the home, school, and community. Parents called for increased opportunities for collaboration with school practitioners on changes in instructional practices and use of technology. But, when parents spoke about collaboration, the definition of said collaboration was vague and scattered. The point is, parents knew why they needed to collaborate: to ensure a quality education for their children. They knew who they were supposed to collaborate with: their children’s teachers and school staff. Unfortunately, how to collaborate and what to collaborate about was unclear. This finding is critical and pivotal to the purpose of this research; parents are unsure of how and what to collaborate about with schools. The fact that the data provided for this case study stemmed from the district asking parents how they wanted to become more involved possibly alludes to the fact that schools themselves are at a level of uncertainty on how to involve and incorporate parents in structures for DDDM and school cultures based on inquiry..

From parents’ comments, they are experiencing a lack of depth and understanding on how to become more involved with their student’s education. Parents are not to blame for their shortsightedness on what and how to collaborate with schools because it is not their responsibility to build or plan meaningful collaboration—it is the school’s responsibility (Henderson & Berla, 1995). Schools have spent most of their time and resources understanding how to become better at their own data literacy, leaving little time to teach parents something they do not fully understand (Knapp et al., 2007). In
fact, parents could be complimented for learning to find and choose data that affirms their
decision making with the very little direct professional development and training that
their educator counterparts were receiving. Still, the stronger the partnership between
home and schools, the better the student achievement results (Zellman et al., 1997).
Parents do not have a sense of connectedness to school purpose relative to student
achievement data because schools have left parents out of the training and decision
making for it. The relationship between parents and the school needs to evolve beyond
decision making in traditional structures of governance, school site council, and parent
teacher memberships. Schools with high stakes accountability and data need to expand
their boundaries to allow parents in the discussion of questioning (i.e., the inquiry of what
works best and what data is used to ascertain the truth). What is evident from parents’
comments in this set of data is that they do not have a good understanding for the bigger
picture of how data, analysis, and decisions are being made in schools.

**Collaboration Requires Two-Way Communication**

In the analysis of data for this case study two high frequency themes emerged,
communication and collaboration. The way parents defined the two themes was very
different, yet in a symbiotic relationship. Communication meant two things for parents:
(a) the quality and content of the information; and (b) the direction or origin from which
the communication came. Parents expected communication to be sensitive to the needs of
different cultures and languages, consistent, transparent, and truthful. Second, parents
saw communication as the district’s responsibility to provide information to them,
meaning the direction of informational flow was one-way—district to parents.
Collaboration on the other hand was perceived differently and involved two-way
communication. Parents were generally skeptical about the district’s ability and willingness to effect two-way communication because they were generally critical of district-to-parent communication not being sensitive to cultural contexts or linguistic needs.

Generally, parents appeared to have an understanding as to the purpose of collaboration, and that was for the benefit of their child. Further, parents understood the importance of collaborating with various persons within the school, specifically teachers, counselors, coaches, and administrators. However, parents indicated a lack of understanding about how or by what means to collaborate with school personnel.

It was apparent that many schools lacked formalized structures for collaboration with parents beyond teacher-parent conferences, open houses, and PTA meetings. Meaningful collaboration is an issue, because parents are not involved in the organizational structures that analyze data and make decisions in schools, such as PLCs or school improvement teams. This has great implications for school leadership and the field of education. Collaboration in this case study is seen as two-way communication for input. However, collaboration through formal structures has generally not been initiated by schools. Such structures offer an opportunity for increased involvement and might result in more fruitful discussions, which might lead to better student outcomes.

Implications for Practice and Significance of the Study

The findings of this case study were interpreted and discussed through the frameworks of DDDM (Ikemoto & Marsh, 2007), PLCs as cultures of inquiry (Copland, 2003; DuFour et al., 2006), and types of parent involvement (Epstein, 1987). Four implications for practice are evident from this study. Implications are posed as questions
because answers lie within the constraints of an organization’s leadership, vision, values, and beliefs to implement educational change that is responsive and reflective of the complexity of data, data analysis and decision making used.

Implication 1: To What Extent do Schools Seek Parent Involvement?

In regards to parents’ perceptions and values for factors assessing school accountability, a critical question has arisen as an implication to the field of education. Do schools’ leadership and schools’ professional community really want to incorporate parents in the decision making processes beyond just the traditional avenues of PTSA, SSC, or SGT, just to name a few examples? If the answer is yes, then stretching the traditional boundaries of parent involvement in schools needs to be explored as indicated in Copland’s (2003) work for creating cultures of inquiry. Based on parents’ perceptions, the district, at best, has only acted to inform parents about all the reform and change that has happened or is happening, rather than involve them in it. The evidence for this finding and conclusion to this implication is the lack of district and parents knowing concretely how to collaboratively work together and through what means. The fact that from the comments of parents and even other school support staff that they have a limited understanding of major organizational changes in things like a shift to common core curriculum is evidence that even the work of informing stakeholders is ineffective. Just, informing stakeholders is not enough to inspire participation, especially if means to participate are not offered and hence the low level of involvement. The level and ability to involve parents is the district’s responsibility (Dauber & Epstein, 1993). Educational leaders will need to pay specific attention to parents as learners too, much like the attention paid to administrators and teachers as learners. In order to involve parents, they
need quality engagement created from the school’s value and belief that parents are needed and welcomed to an inclusive inquiry-driven culture.

A philosophical question remains, if schools act as models for what Sergiovanni (1994) called, purposeful learning communities, then at what level do educators seek to involve parents in the decision making of schools? Using Epstein’s (1987) research model that lists the types of parent involvement, schools must provide parents with all levels of access for them to be involved because each parent will have a different capacity for involvement. From the understanding of Epstein’s parent involvement types and Copland’s (2003) concept of creating school cultures based on inquiry, no level should function without the presence of parents. This research study has not come to the conclusion that parents are excluded from decision making. In fact, this research study has brought more evidence that schools and parents struggle with how to be more inclusive in structures geared to facilitate collaboration to accomplish better student achievement results.

Implication 2: How Can Schools Advance Parents’ Level of use of DDDM?

A second question arises with regard to understanding what data parents use to make data-driven decisions: At what level should parents be regarding their decision making? The research of Ikemoto and Marsh (2007) indicates four levels of decision making, basic being the lowest level based on complexity of data and analysis to make a decision and inquiry-driven as the most advanced. Where should parents be in the conceptual framework? If educational leaders value parents being involved in the DDDM of schools, then where would parent’s level be if educational leaders followed the actual framework? Where is the district’s level of DDDM? While the purpose of this study was
not to assess and categorize parents’ or districts’ level on a DDDM matrix, there is some
data that suggest this might be a pertinent question to consider. Scholarly literature for
DDDM may not accurately capture how parents understand and use student achievement
data and with good reason, research exists that still questions the level of educational
practitioners data literacy for improving teaching and learning (Boudett et al., 2008).
Consequently, the framework may need to be revised with the understanding that parents
use a whole different set of data and analysis methods when left to their own devices (i.e.,
they are untrained in DDDM). Because parents are using and analyzing data differently
than how schools and the district are using and analyzing data is evidence as to why there
is a disconnect in understanding for what and how collaboration can proceed between
parents and schools.

The question remains, what attention should schools give to parents in order to
train, teach, and incorporate in school learning to move them to more complex data use,
analysis, and decision making? Again, the implications for the answer to this question
involve spending time, resources, and effort to train and incorporate parents into the
learning of the school community. The stark discrepancy between schools’ and parents’
use of data and data analysis are worth discussion and more investigation. From the data
of this case study parents and teachers took the stance of educating and assessing the
“whole child.” Parents also strongly advocated for the view of differentiated instruction,
educational leaders should be making decisions based on a balance of differentiated
measures in qualitative and quantitative assessments.

As mentioned previously, parents will find and use the data they need to justify
their children’s school of attendance decisions. Parents and students are involving
themselves in data that interests them. This is data which they can access and interpret. For example, some parents and students brought up the issue of what is blogged about regarding certain schools’ teachers, administrators, and rules on websites designed to put the word out on the internet. Parents and students cautioned that some of the information is blatantly incorrect, but some of the information has validity. The point in mentioning this is parents and students will involve themselves in opportunities that engage them, give them a voice, and provide an audience. This is information that should not be ignored and more reason for schools to become more innovative in providing a platform for parents and students to voice and express themselves. More importantly, schools must encourage parents to become equal participants in creating the truth about their learning community.

**Implication 3: How Inclusive Should Schools’ Learning Communities Be?**

The third implication uncovers how parents feel about their involvement with the learning community from the aspect of a professional leaning community. The findings lead to the question: are schools responsible for educating parents? The short answer is yes. Educational research and the data in this case study indicate that parental involvement is a crucial and has more transformational power than any other type of school improvement effort (Zellman et al., 1997). Yet, current frameworks delineating school’s collaborative inquiry for improved student achievement through the use of data fails to incorporate the parent. Educational practitioners in the era of NCLB have not reached out to parents as vital stakeholders to bring them into the fold and provide training and support on decision making processes happening within schools.
From the research of extant data provided by district, parents’ comments about communication, collaboration, and decision making with schools paints the picture that parents feel marginalized in the learning community and its decision making. Specifically, the district’s delayed response to matters of certain school operations and instructional plans caused parents to feel unheard. Similar to giving parents a voice was the inclusion of students having a stake in meaningful input to contribute to school decision making. Of the 43 parents who presented posters, ten parents openly challenged why students were not used as a source of information and feedback for what was and was not working in schools. As previously mentioned, there is a link between involving stakeholders in collaborative structures of the learning community that comes back to issues of determining who is accountable and who is responsible for making certain decisions.

Educators must be concerned about the implication of parent and student marginalization in schools. Schools need to be wary of the strong bond between parent and student in terms of deciding who to ally with. Parents are turning to their students as a primary source for information and instruction to navigate through school technology use, curricular implementation, and for the truth in what really is happening in classrooms. As evidence in this case study presented, parents and students are becoming more empowered by their own means, use of data, creation of collaborative networks, and decision making. School leaders must cultivate and nurture a new age of data literacy for parents and their students. Parents and students need purposeful instruction to discern good data from bad data in order to make well-informed decisions. A skill necessary for twenty-first century learning has been instructing students to use multiple
sources of data and critical data analysis to generate evidence for decision making.

Schools must model what they expect from their students (i.e., community). Schools must incorporate parents and students in a structured discourse for the analysis of data. If schools do not involve parents and students in purposeful decision making, incorporating all of these important measures, then what are schools preparing students for? Under the conceptual framework for DDDM and for school cultures of inquiry, expanding the knowledge base and partnerships of all participants is essential for higher level and complex decision making.

**Implication 4: Can Sincerity for Purposeful Communication with Parents Initiate Better Engagement for Improved Parent Involvement?**

There are many reasons why parents send their child to a particular school, but chief among these is that they value and believe school benefits their child’s overall quality of life. However, parents are not always cognizant of a school’s purposes in specific instruction, curriculum, and assessments. Getting parents to engage in school at a level on par with educators is important and offers an opportunity for a mutual exploration and sharing of beliefs and values about education. Schools commit large resources to the professional development of school employees, but appear to make assumptions that parents will understand these educational elements by simple information dissemination. Parents are the first educators of their children. Should not parents be one of the first stakeholders to be trained and included in professional development and educational reform efforts? Research clearly indicates parent involvement as the most powerful factor for increased student achievement over any other reform effort (Zellman et al., 1997). Do schools treat parents as the most valued
factor in school reform? The answer to this question is evident and stands to be one of the most challenging implications for school leadership.

Based on evidence from this study, to strategically increase parent involvement would begin with purposeful training. Just like quality instructional practice in the classroom, the district must first learn how to re-engage parents as adult learners. The district must act like a great teacher to identify what will engage parents in meaningful discourse and purpose for learning in terms for what parent’s value regarding their child’s education.

Parents will come to school for one reason, their child. Educators see parents make time to come to school for issues of safety and for celebration (fun). Results of this case study would indicate that parents want to be involved in making school a happier and safer place for children. Educational leaders should build the capacity of parent leadership through collaborative inquiry. Parents are no different than other learners; they learn best by being engaged in the work, not just informed about the work. Parents working with schools will become familiar with the basics of school operations, organizational structure, and how different types of data are used to inform various decisions made at the school and in the district. As the level of parent engagement increases so too will the rigor and relevance of their work or involvement.

Parents need to be involved and aware of the process of data analysis and participate in the structures set in place at schools to facilitate collaborative discourse to execute informed decision making through the use of data. The aim of such training should be to put parents at a level of understanding equal to teachers and administrators and where they can participate in challenging current practice and offer solutions to
problems. Copland’s (2003) framework is an example of such an inquiry-based culture where all stakeholders work collaboratively around common values and beliefs centered on students’ learning, resulting in cyclical learning loops. Such learning cycles are purposeful for the discovery of solutions to educating and producing better student outcomes. Ideally, the involvement of many more stakeholders in the learning cycles will create more ownership for the solutions and reasons to change—a critical component Copland identifies as key to reciprocal accountability by all stakeholders.

**Significance of the Study**

This study has contributed to the field where no other has, tapping into the perceptions and initial assessment of where parents fit into the framework of DDDM. Findings indicate that parents are an untapped source of perspectives and viewpoints. They use data differently and for different purposes. Yet, there is no existing framework to describe this data use.

In addition, parents are limited in their knowledge of DDDM to make sound decisions about education as a whole. They tend to focus on their individual school aged children’s needs rather than the greater need of education for all. This is problematic and this study sheds light on the need for education and communication that is initiated by the school. How can true, effective change and education reform come about if this large stakeholder population remains uninformed?

Data from this case study revealed that stakeholders within this district value different measures for assessing school accountability than what state and the federal government use. School accountability as measured by parents is more dependent on simple interpretations of qualitative measures than quantitative measures. The
government’s accountability standards are needed, but should not supplant the accountability standards of the state owed to its citizens. Complementary, supplemental accountability measures would satisfy both government and citizens.

The significance of this study reiterates serious issues already being unraveled in education. How do we increase the involvement of parents, the largest body of stakeholders in education? Another question that has philosophical ramifications to the first question: Does education as a system really want to empower parents and students at a level of input that maybe equal to administrators and teachers? Laced within this philosophical question is the reality that teacher, administrator, and school quality is constantly under scrutiny. How do we measure, assesses, evaluate, and regulate the quality of educational services? These are all very serious issues. This case study contributes empirical data on the issues that parents as stakeholders view as critical to educational reform.

Parents and students are becoming increasingly data aware, but like their teachers and administrators, their capacity to objectively collect relevant data and properly analyze the data to make decisions that is in their child’s best interest may be limited. The significance of this study serves to heighten the awareness of all stakeholders and the potential each stakeholder has in becoming a more involved participant in the learning community of schools and the outcomes for accountability and decision making.

**Further Research**

A primary limitation of case study methodology is researcher bias. Because the researcher is the primary instrument for data collection and analysis the chance and opportunities for bias is high. Two critical features within the design of the methodology
were strategic for delimitation of researcher bias. The first counter toward bias was using extant data. By using extant data as a means to explore three specific research questions allowed for an organic development of responses that were natural and unsolicited. The possibilities of over exaggeration or under simplification of observed data within the setting and context of the case can be a limitation for use of case study design (Lincoln & Guba, 1985). The use of the same procedures and executing the analysis of data multiple times for accuracy worked to minimize error in findings and interpretation. Emergent themes were developed from identifying dominant themes in words either written or spoken by the participants. The researcher remained neutral in his own opinions and interpretations and used participants direct quote as much a possible to extend truthful meaning of analysis and interpretation of data collected. The trustworthiness of the data and findings for this specific case study is believed to be high; however, the use of extant data did not allow for deeper probing or specific question of participants. Further, findings from this case study are not generalizable due to the unique context of the case.

The quantity, quality, and diversity of artifacts collected from five forums served to mitigate the use of extant data. In totality the forums produced 446 actual signatures of stakeholder attendance, with every school in the district (over 200) having at least one parent and educator present, over eight hours of audiovisual recordings were provided, and 82 creative posters were collected summarizing stakeholder’s input on what was working, needs improvement, and added to sustain community collaboration for achieving a district-wide initiative. The types of data collected provided support to triangulate an overall interpretation of data. Having five geographically diverse locations resulted in a broad cross-section of participants.
Based on the limitations and findings of this study, the researcher recommends that future research be conducted using semi-structured interview protocols with focus groups of parents, teachers, and administrators. This would allow a deeper inquiry into the research questions posed in this study.

In relationship to conceptual frameworks for DDDM and schools as learning communities employing an advanced culture of inquiry, the researcher recommends future studies that employ a comparative case study approach to gather further information related to these frameworks. This case study has alluded to the fact there is a relationship between accountability, decision making, and PLCs. Research designed to explore these relationships more fully would add to the knowledge base.
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