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Designing More Effective Accountability Report Cards

by

Faris M. Sabbah

A dissertation submitted in partial satisfaction of the

requirements for the degree of

Joint Doctorate of Education

with

San Francisco State University
California State University, East Bay
San Jose State University

in

Educational Leadership

in the

Graduate Division

of the

University of California, Berkeley

Committee in charge:

Professor Bernard R. Gifford, Chair
Professor William Barr
Professor Alex Saragoza

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ABSTRACT

Designing More Effective Accountability Report Cards

by

Faris M. Sabbah

Joint Doctorate in Educational Leadership

University of California, Berkeley

Professor Bernard R. Gifford, Chair

The purpose of this study was to identify and design standards and procedures for creating easily interpreted accountability reports cards, consistent with the requirements spelled out in the No Child Left Behind Act of 2001 (NCLB). The use of public report cards was first raised during the debate that took place immediately prior to the passage of the first precursor to NCLB, Elementary and Secondary Education Act of 1965 (ESEA). Robert F. Kennedy, then junior Senator from New York, argued that issues of programmatic integrity, instructional coherence, school performance, learner progress, and educational accountability were too important to leave exclusively to "professional schoolmen." The first stage of the study began with a representative cross-section of parents, teachers, and school and district administrators being asked to critique current public report cards and identify design elements of an effective prototypical report card. The feedback produced during these exchanges, in conjunction with the use of a variety of empirical research findings on the design of easy-to-read / easy-to-interpret graphics-rich reports, was utilized to design a prototypical report card. Focus group participants partook in two additional cycles of critique and revision to identify effective design/data elements and to make improvements to the devised report. The resulting report card generated by this prototypical design and continuous improvement process is presented, and commented upon. These comments suggest that the art and craft of designing easily interpreted public report cards continues to be a major challenge.

DEDICATION

I dedicate this dissertation to my family, specifically…

To my wife Blanca and my sons, Zahir and Amir, who, with kind indulgence, shared with me the challenges and sacrifices required to complete it. Your voices and your love fill my heart with wonder and joy.

To my brothers, Basil and Omar who honor me with their love, friendship, and support and for the belly-felt laughter that only brothers share.

To Silvia, Cesar, Ulises, Wendy and Abuelita Maria for welcoming me into your family with open arms and for being such wonderful, loving teachers and role models for our sons.

To my aunt Consuelo for her unconditional love, and for instilling in me the lessons of celebrating life, taking risks and being true to oneself.

To my parents, Mohammed and Patricia, whose love and nurturing continue to teach me about integrity, humility, and following through to achieve my dreams. You are and always have been my inspiration. This dissertation is yours as much as it is mine.

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I would like to thank the parents, teachers, and administrators who participated in the focus group discussions. Their insight and candor not only provided the rich data I needed for this study, but reminded me of the importance of this work.

I gratefully acknowledge my compañeros in the Migrant Education Program in Region XI and beyond, for their camaraderie, support, and earnest advocacy and commitment to social justice on behalf of migrant families.

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CHAPTER ONE

Overview of the Study

Background of the Problem

Though enacted to offer equitable educational opportunities to the nation's disadvantaged, the Elementary and Secondary Education Act (ESEA) failed to hold school leaders accountable for developing effective programs to meet the needs of these students. The ESEA represents the largest source of federal financial support to schools to enhance the achievement of underprivileged children (Thomas & Brady, 2005).

In 1965, Senator Robert F. Kennedy asserted his vision for ESEA accountability and reporting through documented senate committee hearings. Though he supported the intent of the legislation, he wanted to put safeguards in place to ensure school leaders addressed the needs of disadvantaged children. He felt that one way of achieving this was making accountability and student achievement transparent to all stakeholders, especially parents. Senator Kennedy hoped that this exposure of accountability data would force schools to focus their attention assiduously on the needs of disadvantaged children, and to enable parent stakeholders to advocate from a position of strength (McLaughlin, 1974).

After the passage of ESEA, the kinds of accountability measures Senator Kennedy envisioned were left instead to states, districts, and schools merely as guidance. However, evidence began to mount that exposed both fiscal misappropriation of federal funds and the persistent low achievement of the students the funding was intended to help (Martin & McClure, 1969). By 1983, and through the publication of "A Nation at Risk" by the National Commission on Excellence in Education (1983), a wave of concern swept through the general population as they became aware of the dire state of schools. Subsequently, the federal government made several unsuccessful efforts at legislation and ESEA reauthorization to address this perceived crisis in education.

With the passage of President Bill Clinton's Goals 2000 Act and ESEA reauthorization in 1994, states were required to develop academic standards, create and administer annual assessments aligned to those standards for certain grades, and develop a system of adequate yearly progress (AYP) by which to assess student mastery of those state academic standards. Several states initiated these first-generation accountability systems. However, these systems were haphazard, and many times unfocused, and only 17 states achieved compliance (New York State Education Department, 2009).

The *No Child Left Behind Act* (NCLB), signed into law by President George W. Bush, took bold steps to link funding to the implementation of accountability and reporting requirements. These modifications included:

1. States would have to disaggregate student achievement data within each state, local education agency, and school; by gender, racial and ethnic group, language proficiency status, migrant status, students with disabilities, and socio-economically disadvantaged students.
2. States would have to set AYP goals for closing achievement gaps between students in the above at-risk subgroups and their peers by 2014, and reach proficiency by this year.

Districts and schools would be held accountable for meeting their annual objectives and sanctioned for not meeting them.

3. Testing would be required annually in reading and math in grades 3–8.
4. All states were required to participate in the National Assessment of Educational Progress (NAEP), known as the nation's report card, as a uniform gauge of the rigor of state tests.

This reauthorization of ESEA significantly increased pressure on states, local educational agencies (LEAs), and local schools to produce accurate, reliable, high-quality educational data and to share this data with a variety of school and community stakeholders (Council of Chief State School Officers, 2007). The provisions required all states and LEAs to collect and report information on their academic assessments in reading/language arts, math, science, AYP results, and teachers' qualifications. Much of this data was now required to be disaggregated into federally defined subgroups, necessitating the collection of student demographic information. State and local school district report cards became critical tools for promoting accountability by publicizing data about student performance and program effectiveness. This data was intended to help parents, policy makers, and the general public sees where schools and districts were succeeding and where there is still work to do (U.S. Department of Education, 2003). A growing body of research has been compiled that raises concerns over the ways in which these results are reported to and understood by their intended audiences (Goodman & Hambleton, 2004; Schwartz, 2002).

The implemented accountability systems of NCLB have not been successful in creating meaningful equitable systems to pressure schools to raise achievement for disadvantaged students (Cronin, Dahlin, McCahon, & Xiang, 2009). A growing body of research has found NCLB accountability systems have actually exacerbated the achievement gap – who some attribute to its blunted, over-simplistic approach to accountability (Hursha, 2007; Hanushek & Raymond 2005).

NCLB identifies parents as agents of reform, requiring schools to involve them in the school review and improvement and in the planning of activities to improve student academic achievement and school performance (U.S. Department of Education, 2001). The legislation also promotes test accountability, choice, and parental involvement and presumes that parents of disadvantaged children can be catalysts for educators to have higher expectations and to be more effective (Rogers, 2006).

The reality is that parents continue to be ostracized from the accountability process, unable to fulfill their role as agents of change (Rogers, 2006). "NCLB pays considerable lip service to parent involvement; in reality, parents and communities are almost shut out of the reform process" (Stanik, 2007, p. 1). In their implementation of NCLB, schools have chosen to disregard the role of communities in achieving their objectives, and subvert the capacity of communities to participate in finding solutions for low-performing schools (Stanik, 2007).

Rogers (2006) demonstrated that parents can fulfill their role to improve our schools only if they participate in a process of shared inquiry and collective action. This inquiry process needs to be responsive to their unique perspectives and cultural identities and offer them an open window into the achievement and inner workings of our schools (Hanushek & Raymond, 2005).

The Importance of Reporting Data

Public reporting represents the most fundamental aspect of accountability (Goertz & Duffy, 2003) since effective educational accountability requires accurate and accessible reporting of assessment results. This type of reporting influences both the utility of the information to stakeholders and creates additional incentives for the accountability system (Hamilton & Koretz, 2002). Very little research currently exists on how student-level results from large-scale kindergarten to grade 12 assessments are reported (Goodman & Hambleton, 2004). There is also little research on the effects of reporting information in education, and widespread access to data on educational quality is a relatively new phenomenon (Stecher & Nataraj Kirby, 2004). Though they have access to this data, few school stakeholders seem to use it and it rarely translates to the decision-making process (Gross & Goertz, 2005). Given the increased role these results will play in the United States as a consequence of NCLB and the available evidence that shows the difficulties that many people have in understanding assessment results, there is a clear need to identify effective ways to report accountability results (Goodman & Hambleton, 2004). In 1965, Senator Kennedy stated, "I think we have a special responsibility to those people who are less fortunate than we are, to make sure that the money that is being expended is going to be used [effectively] (McLaughlin, 1974, p. 1).

After almost 50 years, his words are as timely now as they were then. It is time for us to achieve his vision, to make data available to parents and other stakeholders to allow them to partake in the reform process in earnest and help schools attain improvements in the learning of disadvantaged students.

Research Question

Through this study, I hope to reconcile the research literature, the reporting requirements of NCLB and the Public Schools Accountability Act, the guiding documents of the U.S. Department of Education and California Department of Education, and needs of different stakeholders to develop meaningful and effective accountability report cards. I hope to determine whether these locally developed accountability reports can provide stakeholders with a deeper understanding of the well-being of their local education agencies. In addition, I hope to identify a protocol that can be utilized to help stakeholders develop their own indicators and gain meaningful understanding of their schools. Altogether, my approach to identifying the data elements and organization of an informative report card was motivated by the following questions:

- What are the data elements and design components for presenting these elements in a manner that is likely to make my prototypical report card maximally accessible and informative to the greatest possible number of individuals with an interest in the performance of the public schools?
- In what ways did the guidelines on report cards issued by the U.S. Department of Education and current accountability reports and template, prove useful in guiding this effort, and in what ways did they prove to be inert or unhelpful sources of advice and guidance?
- Are their lessons to be learned from other attempts by individuals in other fields, to aggregate and present complex data in an easy to interpret format, to a public audience consisting of non-experts? Here, I had in mind the work done in using tools utilized by corporations to improve organizational effectiveness.

Methods

I hope to form several focus groups composed of parents and other school stakeholders. The focus groups will participate in a four-stage process that will allow them to understand the legal reporting requirements, review current reports, and develop their own tools for accessing accountability data. The process will culminate in the development of an accountability report that offers parents and other stakeholders more meaningful information about the current state and improvement in student achievement.

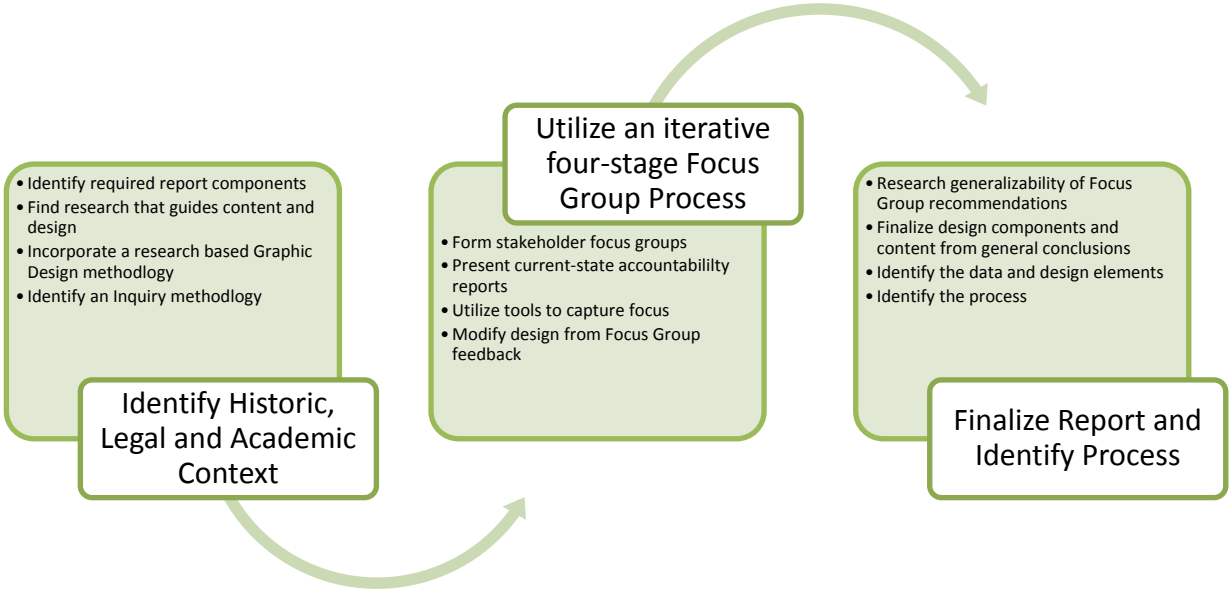


Figure 1.1. Study Conceptual Framework.

Significance of the Study

This study will add to the limited but growing body of effective accountability reporting research. Though a significant body of research exists on what is required to be reported, little attention has been afforded to how it is to be reported. This study will focus entirely on the data and design elements of effective accountability reports. When this study is done, it will provide educational stakeholders with an improved accountability report that can be utilized to communicate clear accountability information to a variety of stakeholders. This study will document the process used to develop this report, and can represent a model for scalability and replication in schools and school districts. Conducting this study will provide practical information for all schools and districts impacted by the current and future reporting requirements of the Elementary and Secondary Education Act and strengthen the partnerships with parents as key players in school reform.

Definition of Key Terms

Schools produce and use a variety of different types of reports for different purposes.

Table 1.1

Different Kinds of Reports

Report Category	General Description
Assessment Reports	Summarize performance of the individual student, classroom, school, district, and state level accountability systems.
Accountability Reports	Report cards or profiles at the school, district, and state levels; providing information about themselves to the community allowing the public to evaluate and compare schools for student achievement, environment, resources, and demographics.
Program Evaluation Reports	Summarize activities and services at the program level; also describe evaluation methods and criteria and include the results and consequences of the evaluation.

Source: Adapted from CCSSO, 2002.

Accountability reports provide the opportunity for State Education Agencies (SEAs) and Local Education Agencies (LEAs) to articulate results to a broad audience. They offer parents and other stakeholders a window into the state of affairs in the schools and the effectiveness of their efforts to raise student performance and reduce the achievement gap.

This study intends to design tools to strengthen the nexus between the parent community and the schools they advocate for. Impelled by Robert F. Kennedy's vision for transparency and accountability, guided by federal and state Laws, and grounded in the research literature, I hope my study will contribute to improving communication and integrate parents and other stakeholders into the efforts to reform our schools.

CHAPTER 2:Part 1

A Review of the Literature Prior to NCLB

Historically, Local Education Agencies (LEAs) have been unable to provide stakeholders with clear, meaningful accountability reports about the achievement of their students and about the well-being of their local, state, or national school system (Goodman & Hambleton, 2004). Increasingly, school stakeholders are operating in an environment where they need accurate information about what their students know (Heritage & Yeagley, 2005). Since the passage of the Elementary and Secondary Education Act (ESEA) in 1965 schools have been encouraged and sometimes required to provide accountability reports to school staff, parents, and community. As a result of such policies, data and accountability have grown to hold a central place in large-scale school reform (Earl & Fullan, 2003).

Under *The No Child Left Behind Act of 2001* (NCLB), there have been growing accountability demands placed on schools to collect, analyze, and report data in an effort to improve instruction and raise student achievement (Lewis & Caldwell, 2005). NCLB requires State Educational Agencies (SEAs) to administer standards-based achievement exams and to use the data generated by these exams to evaluate the learning progress of public school students, as well as the educational effectiveness of their schools. NCLB also requires SEAs and LEAs to make the results of these exams available to parents and the larger polity in an easy-to-understand format (U.S. Department of Education, 2002).

States have scrambled to modify their accountability systems to meet the more rigorous requirements of the law. Many states appear to be meeting minimum reporting requirements of NCLB by reporting student results in relation to state performance levels and reporting some form of diagnostic information in student score reports (Goodman & Hambleton 2004; Hambleton, 2002). These reporting mechanisms are far from achieving the intent of ESEA, one that Robert F. Kennedy strived for 35 years earlier, namely, to empower parents and other stakeholders to hold schools accountable for meaningful reform. These efforts have had little success in providing stakeholders with meaningful, actionable data to help schools in their efforts towards addressing the achievement gap and increasing student academic performance (Schmoker, 1999; Schwartz, 2002; Goodman & Hambleton, 2004; Heritage & Yeagley, 2005).

The research literature offers insight into the state and local educational accountability reporting landscape. The literature review will discuss the following areas related to the reporting of data:

- Historical context of reporting accountability data in education since the passage of ESEA.
- Studies of accountability and reporting systems prior to NCLB.
- The reporting requirements of NCLB and California's Public Schools Accountability Act.
- Studies of accountability and reporting systems after the passage of NCLB.
- Recommended practices in reporting data for accountability purposes.

History of the Elementary and Secondary Education Act

To understand the historical forces behind the broad-based bipartisan support for the theory of action embodied in NCLB, it is necessary to revisit the pivotal debate that took place preceding the passage of *the* 1965 Elementary and Secondary Education Act (ESEA), the first

and foundational version of NCLB. The major parties to this debate were Senator Robert F. Kennedy, then into his second year as New York's junior senator, and the architects of ESEA within the administration of President Lyndon Baines Johnson. The history of the passage of ESEA reminds us that the debate centered on the role the parties thought the federal government should play in ensuring equal education opportunity for all students, and on the control federal authorities should grant professional educational administrators over federal funds. The following review of ESEA was created with the support of my Doctoral Advisor, Dr. Bernard Gifford and a thorough review of McLaughlin's (1974) illuminating account of the events leading to the passage of ESEA.

During President Johnson's term in office, within the struggle to confront and address the deep inequities that had existed for centuries, education was identified as playing a central role. In 1964, President Lyndon Johnson formed a commission on education referred to as the Gardner Commission. This initiative was chaired by John W. Gardner, president of the Carnegie Corporation, who later became President Johnson's secretary of health, education, and welfare (which later became the U.S. Department of Education). The primary task of the Gardner Commission was to create new and innovative thinking on the issue of federal education aid. The commission proposed the idea of linking education aid to President Johnson's War on Poverty programs. More specifically, the commission recommended that federal education aid be categorical, or targeted according to identified student needs, including the education of poor children (Jennings, 2000). President Johnson adopted this targeted approach and established Title I as the largest financial component of ESEA legislation. The original legislative intent of Title I was to provide financial assistance to local educational agencies with high concentrations of children from low-income families and improve their educational programs by various means (US Department of Education, 1965, p. 27).

Senator Robert F. Kennedy questioned the assumptions that school personnel would know what to do with the funds to achieve the intended purpose of ESEA. He perceived the failure of children in terms of "disinterested and inefficient" school leaders (McLaughlin, 1974). Kennedy proposed that Title 1 monies be allocated only if an evaluation mechanism existed that held schools responsible for the implementation of the program. He announced his support of ESEA would be conditioned upon the addition of a reporting requirement and the assurance that educators would be responsive to their constituents, and to make educational "achievement the touchstone of success in judging ESEA" (McLaughlin, 1974, p. 3). These reporting requirements were not to provide teachers and administrators with information, but to ensure that parents, who were previously uninvolved and uninformed, would know periodically what progress had been made under the program. He hoped the evaluation and reporting provisions of ESEA would prevent local education agencies from controlling the collection, assessment, and dissemination of information about the effectiveness of the program. He hoped that a requirement to report would force the schools to focus their attention earnestly on the needs of disadvantaged children, and enable parent stakeholders to "negotiate from a position of strength" (McLaughlin, 1974, p. 24).

Johnson's team argued that ESEA legislation should include provisions deferring to the judgments of "professional schoolmen," and trust them, along with local school boards, to responsibly invest the billion dollars provided by ESEA in interventions that would address the needs of the nation's poorest and most educationally needy schoolchildren. The Johnson team

also took the position that the goals of ESEA were self-evident, and that the Senate should avoid doing anything that would scuttle this breakthrough effort to place the resources and authority of the federal government on the side of the nation's poorest schoolchildren. Kennedy, speaking on behalf of a panoply of child-welfare, educational, and civil rights organizations, argued that the Johnson administration's deference towards "professional schoolmen" would undermine ESEA's ability to function as an engine of the level of transformational reform necessary to make a substantial difference in the lives of the nation's most disadvantaged children. The positions taken by the two camps are captured below, in the exchanges that took place between Senator Kennedy and the two representatives of the Johnson administration in charge of ushering ESEA through the U.S. Senate, Frances Keppel, commissioner of education, and Anthony Celebrezze, secretary of the department of health, education, and welfare:

> Senator Kennedy: I think money can make a major difference and can be a big help. But I do not think money in and of itself is necessarily the answer. I have seen enough school districts where there has been a lack of imagination, lack of initiative, and lack of interest in the problems of some of the deprived children which causes me concern.
>
> My feeling is that even if we put money into those school districts, then it will be wasted. Would you not agree, Commissioner and Secretary, that one of the really great problems in this country, being blunt about it, is the school boards in some of these communities, in some of these States, that they are just not going to take the necessary steps to deal with the problem?
>
> Secretary Celebrezze: That is the price of democracy. If you want to keep your education on a local level without concentrating it in the Federal Government. But in due time, Senator, I find that the people of these areas themselves make the adjustment. I think that as I say, it is one of the things we have to contend with in a democracy unless we want conformity throughout the United States.
>
> Senator Kennedy: It might be the price of democracy, but we don't have to accept it. We can attempt to do better. All I suggest is that we can do something to make sure we have the highest standards possible and that the money we are going to expend, which is going to be expended, as I understand, in these areas, in my case, is not wasted.
>
> I can see tremendous contrast in what is going on in one community in contrast to another. … Am I wrong, Commissioner, really in my assessment of the fact that there is a tremendous contrast between some of these commissioners of education at the State level and also at the local level as to what imaginative and progressive measures and activities they undertake to deal with this problem?
>
> Commissioner Keppel: Of course you are not wrong, Senator. The United States is intensely human and we do have these variations. There is no doubt about it. You

> are right. I have spent my life at this. I personally think we are going to have to put a lot more energy into it, and one of the major parts of this bill which I think would not ordinarily be noted is this very reporting provision in which we can get data and demonstrate some of the differences between geographical sections and use the local American pride to seek the best solutions. (McLaughlin, 1975, pp. 2-5)

Commissioner Keppel's and Secretary Celebrezze's positions were backed by the leadership of the National Education Association (NEA), the American Federation of Teachers (AFT), the Council of Chief State School Officers, and a surprising number of the nation's leading educational researchers. The great majority of southern elected officials, most of whom were intent on preserving the racial status quo, also backed the administration's willingness to rely upon the professional judgments of locally selected school district leaders. The support of these powerful interests overwhelmed the ideals Kennedy sought to champion — the parents of the children ESEA was designed to help.

> These children really don't have a lobby speaking for them and do not have parents that can be clamoring down here because they cannot afford to take the bus ride, or cannot afford to fly down here, and they are the ones, I think, who are of concern. They have been ignored in the past. We are fighting for them and others have; but the fact is that we are just awakening to the needs in this part of the country, and what I want to make sure of is not that the money is not wasted, because you can find more money, but the fact that the lives of these children are not wasted.
>
> I think we have a special responsibility to those people who are less fortunate than we are, to make sure that the money that is being expended is going to be used so that the next generation will not have to have these kinds of hearings. (McLaughlin, 1975, pp. 1-2)

Kennedy reluctantly supported the modified legislation. He did, however, succeed in convincing the Johnson administration to include a provision requiring SEAs and local school districts to participate in annual programmatic evaluations of the educational initiatives financed by ESEA. However, these provisions did not specify the type, quality, or consistency of the student performance data used to conduct these evaluations. Nor did they describe how the results of these evaluations should be used to encourage performance comparisons, or to encourage the adoption of proven interventions across school, district, or state boundaries.

Thus, the delicate and complex political context that surrounded the passage of the ESEA drove its crafters to include vague fragments of the accountability mandates that Kennedy suggested. This compromise was intended to ensure its passage, however, the legislation left the implementation of accountability in the hands of the local officials – whom Kennedy believed lacked imagination, initiative, and interest to address the special needs of educationally disadvantaged students (McLaughlin, 1974). Office of Education officials scrambled to develop specific accountability and reporting guidelines. However, their inexperience in evaluation methods and their adherence to the traditional model of minimal federal oversight of state programs resulted in a product very different from what Senator Kennedy had envisioned. ESEA was passed quickly, eighty-seven days after being introduced,

with few of the specific accountability and reporting components proposed by Robert F. Kennedy (McLaughlin, 1974).

To pass the legislation quickly required the formation and consensus of a fragile coalition of interest groups (McLaughlin, 1974). To appease these different factions required a mitigation of the legislations impact, such as the concerns regarding the federal government's overreaching role in education. The legislation's drafters of ESEA included a provision explicitly neutralizing the federal government's authority, asserting that it could not "exercise any direction, supervision, or control over the curriculum, program of instruction, administration, personnel, or over the selection of any instructional materials in any educational institution or school system" (U.S. Department of Education, 1965, p. 57). Without such authority and oversight, real accountability was impossible (Schedler, Diamond, & Plattner, 1999).

The accountability requirements that did make it into legislation established an ambiguous "three-tiered" reporting plan that required Local Education Agencies (LEA) to provide a report to State Education Agencies, which in turn would prepare a report to the U.S. Office of Education. The LEA reports were designed without guidance for content, format, or structure. Most reports were anecdotal in nature, with testimonial assurances of proper implementation. In the three-tiered reporting plan, state and federal reports were summaries of these local reports, resulting in insubstantial positive summaries and photo journalism. Later, studies found that most of these reports were never read by the U.S. Office of Education staff tasked with oversight of Title I Programs (McLaughlin, 1974).

Failures of ESEA

After its passage, ESEA channeled approximately $1 billion in funds directly to school districts and schools. While distribution of ESEA federal funds was based largely on child poverty data, ESEA-related services were made available to children on the basis of educational need (Jennings, 2000). Therefore, a child who attended a school receiving ESEA federal aid (the research literature indicates that, during the 1970's, approximately 94% of all school districts received some sort of ESEA aid) and whose parents were not poor could still receive ESEA-related services if he or she was not doing well academically. A major debate ensued in Congress shortly after the passage of ESEA as to whether Title I services should be limited to poor children who were educationally disadvantaged or should include all children at risk for school failure, regardless of socioeconomic status (Thomas & Brady, 2005).

Shortly after implementation, the ambiguities in legislation and minimal congressional oversight led to abuses in the expenditures of ESEA funds. The key blunder was the implementation of Title I resources as if they were an unrestricted funding source for all students instead of a targeted resource for the special needs of educationally disadvantaged students (Murphy, 1973). Many of the early fiscal abuses of Title I of ESEA were detailed in the 1969 report *Title I of ESEA: Is It Helping Poor Children?* This critical report, authored by Ruby Martin of the Washington Research Project and Phyllis McClure of the Legal Defense and Education Fund of the National Association for the Advancement of Colored People, analyzed audits conducted by the U.S. Department of Health, Education, and Welfare and found more than 15% of Title I funds had been misappropriated (Martin & McClure, 1969; Murphy, 1991). Martin & McClure (1969) reached the following conclusion:

> Title I is not general aid to education but categorical aid for children from poor families who have educational handicaps, funds appropriated under the Act are being used for

> general school purposes to initiate system-wide programs to buy books and supplies for all school children in the system to pay general overhead and operating expenses to meet new teacher contracts which call for higher salaries to purchase all-purpose school facilities and to equip superintendents offices with paneling, wall to wall carpeting, and color televisions. (Martin & McClure, 1969, p. 57)

The Martin and McClure report brought significant national attention to the early problems of fiscal abuse in ESEA. As a result, Congress amended ESEA four times between 1965 and 1980, in each instance reauthorizing the legislation with the goal of establishing better controls to achieve the original intent of meeting the needs of educationally disadvantaged students from low-income families (McDonnell, 2005).

The failures of ESEA were not limited to fiscal impropriety, but were evident in the low achievement of students the legislation intended to help. Studies of student achievement continued to demonstrate that Title I students continued to perform poorly regardless of the influx of federal funding to their schools. Most importantly, schools did not and needed not report this persistent under-performance and inequity of achievement; sources for this data came from university researchers, government taskforces, and other entities.

Criticism highlighting the overall poor academic performance in American public schools culminated in 1983 with the publication of *A Nation at Risk* (National Commission on Excellence in Education, 1983). The report was an alarm bell, perhaps the most impactful and far reaching in American education history (Guthrie & Springer, 2004). It warned of a “rising tide of mediocrity” (National Commission on Excellence in Education, 1983, p. 9) in K–12 public education, especially with respect to mathematics and science education. Among other issues, the report outlined the need for higher academic standards, increased student course requirements, a longer school day, and significant changes in the training and retention of teachers.

A Nation at Risk became a focal point for the states and local education agencies to undertake reforms while the federal government played a less prominent role. After the report’s publication, confidence by the general public in U.S. public schools plummeted, coupled with a dramatic increase in public scrutiny of the U.S. education system (Guthrie & Springer, 2004). The report had immense policy significance and began a paradigm shift in education, away from measuring school quality by resources received, towards an approach where performance is judged on student achievement. By the mid-1980’s, 41 states had adopted increased academic requirements for high school graduation and 29 states required teachers to pass a mandatory standardized test to gain certification (McDonnell & Fuhrman, 1986).

In 1988, Title I was amended to mandate that states report levels of academic achievement for their disadvantaged children (Jennings, 2000). Public school districts across the nation were required to assess student academic progress annually utilizing standardized test scores. As a result of these changes, the allocation of Title I funds was based on the achievement of educationally disadvantaged children.

The following year, in 1989, President George H. W. Bush and the state governors called for an "educational summit" with the intent of developing goals for education to raise student academic achievement (Jennings, 2000). At the conclusion of the summit, a general consensus developed that ESEA legislation, especially programs such as Title I, needed to incorporate

greater levels of educational accountability based on more rigorous academic standards and more fiscal flexibility. In 1991, President Bush called for national standards and national testing of students, an initiative known as America 2000. The initiative failed to clear both houses of Congress, however, it acted as a catalyst for future educational reform with the tenets of standards, assessments, and accountability (Thomas & Brady, 2005).

Improving America's School Act

Bill Clinton's election to the presidency in 1992 assured the perpetuation of the standards-based education reforms of President H.W. Bush's administration. The Clinton administration's major education reform initiative was Goals 2000: Educate America Act, which was passed by Congress in 1994. Goals 2000 (U.S. Department of Education, 1994; McDonnell, 2005) was characterized by four primary legislative elements that included:

1. a primary focus on student achievement levels;
2. an emphasis on challenging academic standards specifying knowledge and skill levels at which students should demonstrate mastery;
3. the application of academic standards to all students, including those students for whom academic expectations had traditionally been low; and
4. a reliance on student achievement testing as a means to monitor the effects of reforms.

Goals 2000 required very little regulation as it recognized, and supported, the systemic reform efforts that states had put in place. Goals 2000 did not target a particular group of students or subject areas; rather, it supported a generic reform strategy that emphasized the development of state standards and the assessments needed to measure progress toward them (New York State Education Department [NYSED], 2009).

In parallel with Goals 2000, Clinton advanced proposals for reauthorization and modification of ESEA, now called Improving America's Schools Act (IASA) (P.L. 103-382). The purpose of IASA was "to enable schools to provide opportunities for children served to acquire the knowledge and skills contained in challenging State content standards and to meet the challenging State performance standards developed for all children" (Public Law 103-328, §1001[d]). Under IASA, all school districts were required to identify schools not making "adequate yearly progress" (AYP) and take formal steps to improve them. As a precondition of receiving Title I funds, states were mandated to demonstrate that learning goals, academic expectations, and curricular opportunities were the same for every student who was eligible for those funds as they were for all other students (U.S. Department of Education, 1994; McDonnell, 2005). By requiring that standards and accountability be the same for all children, it made Title I funding the largest single federal funding stream for elementary and secondary education, contingent on state and local decisions around standards, testing, teacher training, curriculum, and accountability. IASA required states to develop content and performance standards along the same lines as Goals 2000, with assessments aligned to those standards. Together, Goals 2000 and IASA required states to implement the following:

1. Content and performance standards.
2. Assessments (aligned with those standards) in one grade of within each of three spans: grades 3–5, 6–9, and 10–12.

3. An accountability system to identify schools that were unsuccessful in helping all students perform up to the defined standards on those assessments (Jorgensen & Hoffman, 2003).

However, Clinton was unable to obtain congressional support for national testing and for linking funding to student achievement of the newly developed standards. By 2000, six years into its implementation, only 17 states were in full compliance with IASA. (NYSED, 2009). The legislation did little more than encourage LEAs receiving funding to undergo the reforms. The research literature currently reveals that states were making efforts to implement accountability systems, however, were doing so in very different (and ineffective) ways (Linn, 2001; Clements & Rolf, 1997).

Prior to the passage of NCLB, a multitude of studies took place to compare the accountability systems of different states both within the United States and internationally. Staff of the National Elementary/Secondary Education Data and Information System (NESDIS) Project at the Council of Chief State School Officers (CCSSO) reviewed accountability reports produced between 1994 and 1996. The study noted if the reports were mandated, their cycle, level of statistics reported, and alignment with the National Education goals. They also identified a medley of 74 different indicators, which appeared in numerous reports (Clements & Rolf, 1997).

Three components of IASA focused on the involvement of parents. The reauthorization attempted to expand the role of parents to policy making and implementation and included the following provisions:

1. Requiring the development of district and school-level policies jointly with parents.
2. Building capacity for increased parent involvement through training and connecting with community-based organizations.
3. Developing school-home compacts: a shared responsibility of parents and the school to increase student achievement (National Education Goals Panel [NEGP], 1998).

However, few protocols were established to guide states and LEAs in the reporting of information to parents – and define consequences for choosing not to implement the requirements. This lack of guidance or accountability from the federal government meant that parents continued to be, as Kennedy feared, “uninformed” of the educational practices and achievement of the students in their schools and “uninvolved” in helping shape the systemic reform of their schools.

Prior to the IASA phase of ESEA, public reporting was a primary aspect of accountability in only 13 states. States were in very different places, where some had no statewide assessment systems, others had locally defined accountability systems. Many states also utilized non-cognitive accountability indicators, such as attendance rates, dropout rates, graduation rates, school safety, suspension rates, and promotion/retention. Only 22 states had a unitary accountability system in place where all schools and district are held to the same performance standards (Goertz & Duffy, 2003). This medley of accountability systems did not provide stakeholders or policymakers with the information or tools to understand if students were in fact learning and their schools were in fact making progress.

With the implementation of the Improving America's School Act (IASA) of 1994, states were required to "establish challenging content and performance standards, implement assessments that measure student performance against these standards, hold school and school systems accountable for the achievement of all students"(Goertz & Duffy, 2003, p. 7). IASA required disaggregation of state test scores of school, district, and state levels by gender, ethnicity, English proficiency status, disabled vs. non-disabled, migrant status, and economically disadvantaged vs. non-economically disadvantaged status.

Policy makers began turning to data from large-scale statewide assessments to make decisions about individual students, and to hold schools and school districts accountable for the performance and progress of their students (Goertz & Duffy, 2003). By 2001, 48 states had implemented statewide assessments in reading and mathematics (Goertz & Duffy, 2003). That same year, the Center for Research on Evaluation, Standards and Student Testing conducted a study of the accountability and reporting systems in all 50 states under IASA. Their conclusions were that though the different accountability systems had the same global purpose — the improvement of teaching and learning — they varied along a number of critical dimensions. These variations included subjects being assessed, the stakes attached to results, the emphasis placed on improvement, and whether the system uses longitudinal data (Linn, 2001). These variations undermine any effort to develop a clear understanding of student achievement nationwide. The research literature showed a pattern of inconsistency in what indicators' states identified and how they are reported as part of their accountability systems (Linn, 2001; Goodman & Hambleton, 2004). Until 2001, IASA did not have the structures it needed to ensure that LEAs implemented the accountability, reporting, and other foundations of educational reform. Though saccadic and disarrayed, these efforts towards the development of sound accountability systems were the seeds of the subsequent reauthorization of ESEA, No Child Left Behind.

Chapter 2: Part B

No Child Left Behind

Despite lawmakers' hopes for a turnaround in academic performance under IASA, National Assessment of Educational Progress (NAEP) scores continued to reveal a wide gap in achievement by race and socio-economic status. While some schools demonstrated equitable progress in improving student achievement, most did not. In 1998, according to the National Center for Education Statistics, only 60% of fourth graders performed at or above the "basic" level of NAEP and only 30% of eighth graders and 40% of the twelfth graders scored at or above the "proficient" level. The test results also exposed major performance disparities (achievement gap) between White students and African American, Hispanic and Native American students (Nwazota, 2005). The recognition of the lack of progress in educational reform precipitated the calls for new legislation to hold schools and districts accountable for the achievement of students (NYSED, 2009).

President Bush's Education Proposal

As part of his bid for the presidency in 1999, George W. Bush, then governor of Texas, promised an overhaul of the nation's schools to address what he called the "soft of bigotry of low expectations" (Nwazota, 2005, p. 1). Mr. Bush proposed allocating more funds into early childhood education and supported standardized tests to measure school performance for accountability purposes (Nwazota, 2005). In 2000, Governor Bush stated:

> That measurement is the cornerstone to reform and measurement is the cornerstone to making sure children learn. And I am going to ask the Congress to pass a bill that says in return for receipt of federal money and in return for flexibility, for the federal dollars you receive, you must show us ... you must show the nation, you must show the people in your area whether or not children can read, write, and add and subtract. (Nwazota, 2005, p. 1)

Three days after his inauguration, President George W. Bush presented the *No Child Left Behind Act* as his first legislative proposal. The president produced a 25-page concept paper and invited the Republican leadership to take a proactive role in working with Democrats to craft the legislation. Senator Edward Kennedy from Massachusetts chaired the committee that oversaw education initiatives and was eager to co-author the legislation. He also lobbied his fellow Democrats to support the effort. Democrats were at first reluctant to participate, however, did so for three reasons:

1. The bill was based on many of the concepts of their own legislation, IASA.
2. The president strongly threatened to scuttle the ESEA reauthorization process and slash its funding if no new federal initiative was implemented. Democrats saw this bill as an opportunity to increase federal education allocations.
3. Democrats wanted to ensure that voucher and privatization efforts of the republicans would not be incorporated into the new legislation (NYSED, 2009).

Congress enacted the *No Child Left Behind Act* (P.L. 107-110, a reauthorization of the ESEA) with strong, bipartisan support — passing in the House on a vote of 381 to 41 and in the Senate on a vote of 87 to 10 (NYSED, 2009).

NCLB Reporting Requirements

In 2001, George W. Bush signed into law the *No Child Left Behind Act* (NCLB), the latest version of the Elementary and Secondary Education Act (ESEA). According to the U.S. Department of Education (2009), the "pillars" of NCLB include accountability, flexibility, scientifically based research, and parent options. NCLB defines an extensive range of goals to ensure that each child is able to meet the high learning standards of the state in which he or she lives.

Accountability is the centerpiece of NCLB, as it relies heavily on statewide assessments to hold schools and districts accountable for the performance of their students (Goodman & Hambleton, 2004; U.S. Department of Education, 2006). The reauthorization recycled many of the ideas related to accountability that were part of IASA. Under NCLB, states were required to administer annual assessments in mathematics and reading or language arts to all students in grades 3 through 8 by the 2005–2006 school year; previously, states had been required to administer these assessments at least once during grades 3 through 5, grades 6 through 9, and grades 10 through 12. Beginning in 2007–2008, states were also required to measure the proficiency of each student in science at least once during grades 3 through 5, grades 6 through 9, and grades 10 through 12 (U.S. Department of Education, NCLB, 2001, §1111[b][3][C][v,vii]). The reporting requirements can be organized into three categories: assessment data, accountability data, and teacher quality data (U.S. Department of Education, 2006).

The regulations state "publicly reporting of disaggregated data on the other academic indicators will ensure that schools, LEAs, and the State are held accountable for subgroup performance" (U.S. Department of Education, 2002, p. 92). To comply with NCLB, states must report results on reading, mathematics, science, and social studies assessments at the state, district, school, subgroup, and individual student levels across a wide range of grades.

Individual Student Reports

By the 2005–2006 school year, states were required to distribute annual assessment reports to parents, guardians, and teachers of an estimated 22 million students in grades 3 through 8 alone. This widespread distribution of assessment results—and the expectation that they will play a critical role in ensuring that students obtain the knowledge, skills, and abilities expected at their grade levels—led to unprecedented amounts of attention directed toward state assessment results (Goodman & Hambleton, 2004).

Under NCLB, individual results must be reported for all students who take part in the annual assessments. Specifically, states are required to produce individual student interpretive, descriptive, and diagnostic reports that:

- allow parents, teachers, and administrators to understand and address the individual academic needs of students;
- include information regarding achievement on academic assessments aligned with state achievement standards;
- are provided to parents, teachers, and principals, as soon as is practicably possible after the assessment is given, in an understandable and uniform format, and to the extent practicable, in a language that parents can understand; and
- "describe student achievement measured against the state's academic achievement standards" (U.S. Department of Education, NCLB, 2001, §1111[b][3][C][xii,iii]).

These federal reporting requirements provide states, school districts, and schools with broad guidelines for reporting data to various audiences. They also establish a nexus to the state standards and recommend state education agencies create and develop the capacity and resources to sustain assessment and reporting systems (Goodman & Hambleton, 2004).

NCLB requires states to create annual targets that lead to 100% student proficiency by 2014. The law utilized the IASA concept of Adequate Yearly Progress (AYP) as the target that schools and districts would need to meet annually.

Guiding Documents

As an important part of the accountability, NCLB also requires the development of report cards for LEAs to publicize their success in achieving the Adequate Yearly Progress goals established in the law. Following are the three components of accountability data required on LEA report cards:

1. Comparison of student achievement levels and the state's annual measurable objectives in reading/language arts and mathematics.
2. Data on student performance on additional academic indicators used by the state in making AYP determinations. This information must be disaggregated for the following subgroups: All Students, Major Racial & Ethnic Groups, Students with Disabilities, Limited English Proficient, Economically Disadvantaged.
3. Information on LEAs and schools making AYP, including the total number of schools identified for school improvement, corrective action, or restructuring under Section 1116, as well as the percentage of the schools in the LEA they represent. Information must include the name of each school identified for improvement, corrective action, or restructuring and how long each school has been identified. This information must be provided for all schools receiving Title I, Part A funds (U.S. Department of Education, 2003).

Report Cards Title 1, Part A – Non-Regulatory Guidance (U.S. Department of Education, 2003). The U.S. Department of Education published a document entitled *Report Cards Title 1, Part A – Non-Regulatory Guidance* (2003), made available September 12, 2003, designed to provide state, district, and school officials with non-regulatory guidance on how to develop accountability reports that meet the intent of NCLB. The document utilizes a "Frequently Asked Questions" format to answer common questions related to the reporting requirements of NCLB. In addition, the report offers several recommendations and samples of report cards. The document is organized into an introduction, general information about accountability reports, state report cards, and Local Education Agency report cards.

In the introduction, the document reiterates the importance of making performance data available to the general public:

> State and local school district report cards are critical tools for promoting accountability for schools, local school districts, and States by publicizing data about student performance and program effectiveness for parents, policy makers, and other stakeholders. Report cards help parents and the general public sees where schools and districts are succeeding and where there is still work to do. A well-informed public is an important resource in the school and district improvement process. In the same way that data enable educators to make better decisions about teaching and learning, data can also help parents and other community members work more effectively with

> educators and local school officials to promote school change. Additionally, the more parents and community members know about the academic achievement of their children and their schools, the more likely they are to be involved in their local schools and the public school system. Equipped with information on academic results and teacher quality, parents and community members can make better decisions and choices. For these reasons, States and LEAs receiving Title I funds must prepare and disseminate annual report cards. (U.S. Department of Education, 2003, p. iii)

The document also asserts that all states and LEAs receiving Title I, Part A funds must prepare and distribute reports cards annually, as early as possible. They are required to disseminate these reports to all schools, all parents, and to the community at large. In addition, the document references another document, the *Guide to Effective Accountability Reporting* by the Council of Chief State School Officers (Fast, 2002), which states that an effective accountability report must be:

1. easy to read;
2. accessible to the target audiences both physically and linguistically;
3. accompanied by adequate interpretive information;
4. supported by evidence that the indicators, other information, and suggested interpretations are valid; and
5. coordinated across paper and electronic versions of report cards.

The following components of assessment data must encompass all students in the grades tested in the LEA, as well as all students in the grades tested in each school served by the LEA, including non-Title I schools. This includes all students, not just those enrolled for a full academic year, as defined by the state. At a minimum, an LEA must provide data from its state's reading/language arts, science, and mathematics assessments. For each grade and subject tested, the LEA report card must include:

- Information on the percentage of students tested. LEAs must report the percentage of students tested and student achievement at each proficiency level (e.g. advanced, proficient, basic, below basic). These data need to be disaggregated into the following subgroups:
  - All Students.
  - Major Racial & Ethnic groups.
  - Students with Disabilities.
  - Limited English Proficient.
  - Economically Disadvantaged.
  - Migrant.
  - Gender.
- Information that shows how students in the LEA performed on state academic assessments as compared to students in the state as a whole.
- For each school in the LEA, information that shows how students in the school achieved on state assessments as compared to students in the LEA as a whole and as compared to students in the state as a whole.
- The most recent two-year trend data in student achievement for each subject and for each grade.

***Teacher quality*.** To ensure that students receive instruction from highly qualified teachers, NCLB requires the reporting of the qualifications of all teachers. The LEA must provide, for the district as a whole and for each school within the district, the following information:

- Professional qualifications of all public elementary and secondary school teachers, as defined by the state (e.g., bachelors and advanced degrees, licensure).
- The percentage of all public elementary and public school teachers teaching with emergency or provisional credentials.
- The percentage of classes not taught by highly qualified teachers (as the term is defined in § 9101(23) of the ESEA), in the aggregate and disaggregated into high-poverty and low-poverty schools, which (for this purpose) means schools in the top quartile of poverty and the bottom quartile of poverty in the state.

The requirement that teachers be highly qualified, as defined in § 9101(23) of the ESEA, applies to public elementary and secondary school teachers who teach a core academic subject. Concerning the percentage of classes taught by highly qualified teachers, LEAs must only report on elementary and secondary classes in the core academic subjects. It is important to note that the states are allowed to define their own measures of what constitutes a highly qualified teacher.

For the first time, LEAs were being required to disseminate district and school report cards to:

- all schools served by the local educational agency;
- all parents of students attending those schools; and
- the community, through public means, such as posting on the Internet, distribution to the media, and distribution through public agencies, public libraries, etc.

LEA report cards must include information related to assessments, accountability, and teacher quality, as that information applies to the LEA as a whole and as it applies to each school served by the LEA.

Improving Data Quality for Title I Standards, Assessments, and Accountability Reporting (U.S. Department of Education, 2006). In 2006, the U.S. Department of Education produced a document entitled, *Improving Data Quality for Title I Standards, Assessments, and Accountability Reporting* to provide educators with non-regulatory guidance detailing the responsibility of each level of the educational system for data production and reporting prescribed in NCLB. The document identifies several challenges in the collection of data, and offers checklists for establishing a solid data infrastructure, and guidelines for the analysis, reporting, and validation of data. See Figure 2.1 for a summary of the data reporting requirements of NCLB.

The document identifies the following challenges that are common to reporting in NCLB:

- *System non-interoperability*. Data collected in one system are not electronically transmittable to other systems. Re-entering the same data in multiple systems consumes resources and increases the potential for data entry errors.

- *Non-standardized data definitions.* Various data providers use different definitions for the same elements. Passed on to the district or State level, non-comparable data are aggregated inappropriately to produce inaccurate results.
- *Unavailability of data.* Data required do not exist or are not readily accessible. In some cases, data providers may take an approach of "just fill something in" to satisfy distant data collectors, thus creating errors.
- *Inconsistent item response.* Not all data providers report the same data elements. Idiosyncratic reporting of different types of information from different sources creates gaps and errors in macro-level data aggregation.
- *Inconsistency over time.* The same data element is calculated, defined, and/or reported differently from year to year. Longitudinal inconsistency creates the potential for inaccurate analysis of trends over time.
- *Data entry errors.* Inaccurate data are entered into a data collection instrument. Errors in reporting information can occur at any point in the process – from the student's assessment answer sheet to the State's report to the Federal government. (U.S. Department of Education, 2006).

The document also identifies the following guidelines as it relates to the different kinds of data being collected and reported by NCLB:

Demographic Data

- All schools and LEAs in the state should use a single standard definition and set of codes for each federally required NCLB subgroup.
- If existing state and local subgroup definitions differ from NCLB definitions, the dictionary should clearly identify which description is to be used for federal NCLB reporting purposes or which groups should be combined for federal reporting.

Assessment Data

- The state data dictionary should include information on links between specific assessments or assessment items and NCLB academic standards.
- The state accountability guide should include information about performance levels on state standards-based assessments and describe how they relate to the computation of AYP for schools and districts.
- Where a number of standardized assessments are given in a single school or LEA, the data dictionary and accountability guide should clearly identify which assessment is used for Federal NCLB AYP reporting purposes.

Accountability Data

- Because different NCLB elements are required at different reporting levels, data dictionary definitions should distinguish between school, LEA, and state-level data elements.
- The state accountability workbook should contain information on all key accountability elements, including minimum subgroup "N" size, proficiency levels equal to "advanced," "proficient," and "basic," graduation rate calculations, and any other academic indicators used by the state.
- In cases where an accountability indicator may have a variety of possible definitions, component data for that indicator should be maintained separately in the database.

For example, “graduation rate” can be defined differently in different reporting contexts. Rather than storing a single aggregated rate, all potential component pieces of graduation rate should be available, to allow various rates to be calculated as needed.

Federal Data Requirements for Report Cards for Title I, Part A Recipients Under *No Child Left Behind*	Level of Reporting			Disaggregation Subgroups								
	State-Level	LEA-Level	School-Level	All Students	Major Racial & Ethnic Groups	Students With Disabilities	Limited English Proficient	Economically Disadvantaged	Migrant[1]	Gender[1]	High Poverty Schools[2]	Low Poverty Schools[2]
Reading and Mathematics Assessment Data[3]												
Percentage of students tested	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔		
Percentage of students achieving at each proficiency level	✔	✔	✔	✔	✔	✔	✔	✔	✔	✔		
Most recent 2-year trend data in student achievement for each subject and grade assessed	✔	✔	✔	✔								
LEA achievement compared to State achievement		✔		✔	✔	✔	✔	✔	✔	✔		
School achievement compared to LEA and State achievement			✔	✔	✔	✔	✔	✔	✔	✔		
Accountability Data												
Comparison between actual achievement and State's annual measurable objectives	✔	✔	✔	✔	✔	✔	✔	✔				
Student achievement on other academic indicators used for AYP (e.g., high school graduation rate)	✔	✔	✔	✔	✔	✔	✔	✔				
Number and names of LEAs and schools identified for improvement, corrective action, and restructuring	✔	✔	✔									
Percentage of schools identified for school improvement, corrective action, or restructuring		✔										
Teacher Quality Data												
Professional qualifications of all public elementary and secondary school teachers (e.g., bachelors and advanced degrees, licensure)	✔	✔	✔									
Percentage of all public elementary and secondary school teachers with emergency or provisional credentials	✔	✔	✔									
Percentage of core academic subject classes not taught by highly qualified teachers	✔	✔	✔								✔	✔

Figure 2.1. Federal Data Requirements for NCLB. Source: U.S. Department of Education (2006).

The information quality guidelines describe data “integrity” as the security or protection of information from unauthorized access or revision. “Objectivity” is the presentation of information “in an accurate, clear, complete, and unbiased manner.” For statistical data, achieving this standard entails the following:

- using clearly defined, broadly understood data definitions;
- using clearly documented, well thought-out methodologies for data collection;
- using reliable data sources;
- processing data in a manner to ensure that data are “cleaned” and edited;
- properly documenting and storing data collections and results;
- producing data that can be reproduced or replicated;
- conducting data collections and releasing data reports in a timely manner; and

- establishing procedures to correct any identified errors (U.S. Department of Education, 2006).

The Role of Parents

Parental involvement is mentioned more than 100 times in NCLB and they are identified as active participants in the accountability structures of NCLB (Rogers, 2006). Parents have a multi-faceted role, responsible for both supporting their children's educational endeavors and holding schools accountable for their children's success, or lack thereof, in meeting state standards (National Coalition for Parent Involvement in Education [NCPIE], 2007).

The *No Child Left Behind Act* increased the role of parents to include "parent as consumer." NCLB gives parents the option to send their child to another school if their current school is identified in need of improvement. Parents also have the responsibility of selecting a supplemental education service (SES) provider if their school continues on school improvement. NCLB encourages parents to become deeply involved in their children's education. It is the schools' responsibility to reach out to parents in a variety of ways, provide information in an "understandable format," and eliminate communication barriers. NCLB provides a definition of parent involvement that embraces the National Standards for Parent Involvement and the Epstein six types of parent involvement. NCLB retained many of the provisions from the 1994 legislation, including the requirement to develop district and school policies and parent compacts. Parent involvement funds are still set aside; however, now the majority of funds target individual schools (NCPIE, 2007).

A Guide to Effective Accountability Reporting (Fast, 2002). To assist state and local educators in these endeavors, the Council of Chief State School Officers (CCSSO) in 2002 developed *A Guide to Effective Accountability Reporting.* This guide was intended to be a resource for the staffs of state education agencies (SEAs) and local education agencies (LEAs) who are responsible for producing state, district, or school report cards of the type required under many state or district accountability systems as well as under NCLB. The guide organizes the information in different ways to allow agencies to meet their reporting obligations under NCLB (see Table 2.1).

Table 2.1

Requirements for School, District, and State Report

Issue	Requirements for School, District, and State Report
Who is responsible for production and dissemination?	School and District – The legislation specifies that the district is responsible for the school and district report cards, but the state may produce these on behalf of the district. If the district does produce these report cards, the state is still responsible for ensuring that they are indeed produced and disseminated and that they meet all of the stated requirements. State – The state education agency is responsible for producing and disseminating the state report

	cards.
How must the report card be disseminated?	School and District – The district must disseminate school and district report cards to: • all schools in the school district served by the local educational agency; • all parents of students attending those schools; and • the community, through public means, such as — posting on the Internet, — distribution to the media, and — distribution through public agencies. State – No dissemination requirements are indicated either in the legislation or in the regulations published to date. However, the annual report that all states must provide to ED does summarize many of the elements of this report card.
What other types of information must be made publicly available?	School – At the beginning of each school year, districts that receive Title I funds must alert parents that they may request, and the district must provide: • the qualifications of their child's teacher; and • the level of achievement of the parent's child in each of the state academic assessments. In addition, if the school has been identified for improvement, the LEA must provide an explanation of what the identification means, and inform parents of the steps taken and services available to improve student achievement.

Source: Fast (2002) A Guide to Effective Accountability Reporting.

The document also recommends the following steps to create effective report cards for schools and LEAs:

1. Reporting inventory: Taking stock of what reports, tools, and resources are already in place for public reporting of accountability.
2. Form a Design Team: Form a group of stakeholders to guide the development of the accountability report mechanisms.
3. Review other agencies' reports.
4. Design a Dissemination Plan: Plan out the details of how information and the reports will be communicated.
5. Sketch out the reports: define the data elements, and desired graphic elements (Fast, 2002).

The study also makes recommendations of how to utilize table, charts, and text and includes some examples such as Figure 2.2.

Figure 6: Sample School Level Accountability Report Card: 2002-2003
School: Thoreau Elementary Grade Span: K-5

Student Group	Language Arts						Mathematics						Academic Indicator(s)*		
	% tested Goal: 95%			% Proficient Goal :50%			% tested Goal: 95%			% proficient Goal: 40%			Attendance Goal: 90%		
	School	District	State	School	District	State	School	District	State	School	District	State	School	District	State
All students	96	94	95	49	51	50	96	94	94	39	39	41	89	88	91
African American	95	95	93	54	54	52	95	94	96	40	40	41	90	88	91
Hispanic	94	93	84	<	<	51	94	93	92	<	<	41	88	88	89
Asian/Pacific Isl.	–	94	95	–	51	52	–	94	95	–	<	54	–	<	94
American Indian/ Native Alskan	–	<	96	–	<	58	–	<	58	–	<	96	–	<	96
White	96	92	94	55	55	56	95	95	96	41	38	40	87	90	96
Students with Disabilities	97	99	95	<	<	41	94	98	98	<	<	34	84	85	85
Limited English Proficient Students	92	95	79	39	41	40	92	98	97	24	45	31	90	91	89
Economically Disadvantaged	95	96	91	42	38	40	96	97	98	42	40	38	91	95	94

This school has not met the Adequate Yearly Progress (AYP) requirements as defined by the state for the 2002-03 school year. This is the first year the school has not met the AYP requirements under the Federal No Child Left Behind Act.

* This can include graduation rate for secondary schools or other academic indicator for elementary and middle schools, as well as optional indicator(s) as determined by the State.

< Group below state definition for statistically reliable results.

– No students in group.

##: Reported, but not included in AYP calculation

Figure 2.2. Sample School Level Accountability Report Card. Source: Fast, 2002, p. 25.

Accountability Reporting in California

In the state of California, accountability guidelines were defined in the Public Schools Accountability Act of 1999 (PSAA). The law outlines a comprehensive process for measuring schools' academic performance and ranking schools based on that performance (California Department of Education, 1999). PSAA establishes California's accountability reporting requirements by adhering to the requirements of the NCLB and establishing a growth model known as the Academic Performance Index (API).

According to the California Department of Education's (CDE) 2009–10 Academic Performance Index Reports Information Guide (CDE, 2010a), the API is a single-number index score given to each school based on a compilation of California Standards Tests and the California High School Exit Exam. In 2010, the California Modified Assessment and California Alternative Performance Assessment were also included in the API calculation. Schools are also compared to the 100 schools most similar to them, in terms of characteristics such as student demographics and teacher credentials. The focus of this accountability system is ongoing school improvement, particularly among the lowest-performing schools and students. API growth targets are assigned both for the school as a whole and for "significant subgroups" of students. Results from the subsequent administration of state tests are used to determine which schools have met those targets (CDE, 2010a; O'Day et al., 2004).

With the passage of NCLB, California has attempted to integrate the requirements of PSAA and NCLB through the Accountability Progress Reporting (APR). According to CDE, the primary goal of California's APR system is to measure and report the academic achievement of public school students. Parents must receive California Standards Test (CST) results in the STAR Student Report. The system includes three major components:

1. The Academic Performance Index (API) Report.
2. The Adequate Yearly Progress (AYP) Report.

3. The Program Improvement (PI) Report (CDE, 2010d).

An examination of the implementation of the integrated effort of PSAA shows mixed results in their effectiveness as indicator systems. Many schools that meet the statewide API are nevertheless falling short of closing the gaps between high- and low-poverty students and between White students and students of color (Education Trust West, 2004). This may create confusion for parents who receive reports showing that schools are meeting the API but not the AYP, or, more uncommonly, vice versa.

The School Accountability Report Card (SARC)

Since November 1988, state law has required all public schools receiving state funding to prepare and distribute a School Accountability Report Card (SARC). A similar requirement is also contained in the federal *No Child Left Behind Act* (NCLB). The purpose of the report card is to provide parents and the community with important information about each public school. A SARC can be an effective way for a school to report on its progress in achieving goals. The public may also use a SARC to evaluate and compare schools on a variety of indicators.

According to CDE (2010b), as long as all NCLB reporting requirements are incorporated into the school-level SARC, LEAs need not prepare an accountability report card. The NCLB legislation [§1111(h)(3) of Public Law 107-110] provides as follows:

> PREEXISTING REPORT CARDS - A State educational agency or local educational agency that was providing public report cards on the performance of students, schools, local educational agencies, or the state prior to the enactment of the No Child Left Behind Act of 2001 may use those report cards for the purpose of this subsection, so long as any such report card is modified, as may be needed, to contain the information required by this subsection. (NCLB, 2002, p. 36)

The SARC template provided by the California Department of Education (CDE) contains all NCLB requirements at the school and LEA level. A thoroughly completed SARC serves as an LEA accountability report card as well as a school accountability report card (CDE, 2010b). California Education Code § 33126.1(l) states “Local educational agencies shall make these school accountability report cards available through the Internet or through paper copies” (CDE, 2010c, p. 2).

***Report Design*.** Although there is great variation in the design of school report cards, they generally begin with a profile that provides background information about the school and its students. The profile usually summarizes the school's mission, goals, and accomplishments. State law requires that the SARC contain all of the following:

- Demographic data.
- School safety and climate for learning information.
- Academic data.
- School completion rates.
- Class sizes.
- Teacher and staff information.
- Curriculum and instruction descriptions.
- Postsecondary preparation information.
- Fiscal and expenditure data.

In addition, NCLB requires that SARCs contain reports concerning the "adequate yearly progress" of students in achieving state academic achievement standards; Title 1 program improvement; graduation rates at the secondary level; and, starting with the SARCs to be published in 2004-05, the extent to which "highly qualified" teachers are teaching core academic subjects.

Components of the School Accountability Report Card. Updated in December of 2010, the most current template of the SARC is divided into 12 sections (CDE, 2010b):

I. Data Access

II. About This School

- Contact Information (School Year 2010–11)
- School Description and Mission Statement (School Year 2009–10)
- Opportunities for Parental Involvement (School Year 2009–10)
- Student Enrollment by Grade Level (School Year 2009–10)
- Student Enrollment by Group (School Year 2009–10)
- Average Class Size and Class Size Distribution (Elementary)
- Average Class Size and Class Size Distribution (Secondary)

III. School Climate

- School Safety Plan (School Year 2009–10)
- Suspensions and Expulsions

IV. School Facilities

- School Facility Conditions and Planned Improvements (School Year 2010–11)
- School Facility Good Repair Status (School Year 2010–11)

V. Teachers

- Teacher Credentials
- Teacher Misassignments and Vacant Teacher Positions
- Core Academic Classes Taught by Highly Qualified Teachers (School Year 2009–10)

VI. Support Staff

- Academic Counselors and Other Support Staff (School Year 2009–10)

VII. Curriculum and Instructional Materials

- Quality, Currency, Availability of Textbooks and Instructional Materials (School Year 2010–11)

VIII. School Finances

- Expenditures Per Pupil and School Site Teacher Salaries (Fiscal Year 2008–09)
- Types of Services Funded (Fiscal Year 2009–10)
- Teacher and Administrative Salaries (Fiscal Year 2008–09)

IX. Student Performance

- Standardized Testing and Reporting Program
- Standardized Testing and Reporting Results for All Students – Three-Year Comparison
- Standardized Testing and Reporting Results by Student Group – Most Recent Year
- California High School Exit Examination
- California High School Exit Examination Results for All Grade Ten Students – Three-Year Comparison (if applicable)
- California High School Exit Examination Grade Ten Results by Student Group – Most Recent Year (if applicable)
- California Physical Fitness Test Results (School Year 2009–10)

X. Accountability

- Academic Performance Index
- Academic Performance Index Ranks – Three-Year Comparison
- Academic Performance Index Growth by Student Group – Three-Year Comparison
- Academic Performance Index Growth by Student Group – 2010 Growth API Comparison
- Adequate Yearly Progress
- Adequate Yearly Progress Overall and by Criteria (School Year 2009–10)
- Federal Intervention Program (School Year 2010–11)

XI. School Completion and Postsecondary Preparation

- Admission Requirements for California's Public Universities
- University of California
- California State University
- Dropout Rate and Graduation Rate
- Completion of High School Graduation Requirements
- Career Technical Education Programs (School Year 2009–10)
- Career Technical Education Participation (School Year 2009–10)
- Courses for University of California and/or California State University Admission (School Year 2008–09)
- Advanced Placement Courses (School Year 2009–10)

XII. Instructional Planning and Scheduling

- Professional Development

Static vs. Growth Accountability

At its core, NCLB is a static accountability system (Payne-Tsoupros 2010) – meaning it holds schools accountable utilizing an annual snapshot of student achievement independent of previous performance. NCLB has established a goal that by the 2013-2014 school year 100% of students will be considered proficient in their state standards.

A great many voices have called on legislators to change the static nature of accountability within NCLB and allow states to demonstrate effectiveness through growth models "whereby a school is measured against its own year to year improvement"(Payne-Tsoupros, 2010, p. 9). In 2005, Margaret Spelling announced a pilot program to allow states to develop growth model alternatives to be reviewed by the U.S. Department of Education (U.S. Department of Education, 2010).

By 2006 eight states had been approved for peer review (Delaware, Iowa, Alaska, Arizona, Arkansas, Florida, North Carolina, and Tennessee (Erpenbach & Forte, 2006). As stated in Jack O'Connell's Seventh State of Education Address to the California Legislature, the federal governments embracing of growth models represents the promise that California's growth model of accountability may soon become an alternative for meeting the requirements of future federal educational accountability systems (O'Connell, 2010). The ongoing inconsistency between the federal (AYP) and California state (API) accountability systems create confusion among parents and stakeholders in discerning real progress on identified indicators. This hampers the ability of stakeholders, especially parents, to partake actively in the process as defined in NCLB.

Analysis of Accountability Systems: After NCLB

The percentage of public schools not making Adequate Yearly Progress in 2008-2009 varied greatly by state, from 6% in Wisconsin to 77% in Florida. These differences among states do not necessarily reflect the quality of the schools; rather, they are likely due to state variations in standards, tests, cut scores for proficient performance on those tests, and methods for calculating AYP (Center on Education Policy, 2010).

During the past decade, states have taken an active role in regularly reporting indicators of the status of public education, including results of student assessments, data on students and teachers, and school finance data (Cavell & Toye, 2004). With the passing of the 2001 *No Child Left Behind Act* (NCLB), federal accountability and reporting have been reinforced and expanded, in many cases resulting in an increase in the number of required indicators, levels to which data are disaggregated, and specific reports required at local, district, and state levels. The goal for the increased emphasis on reporting is to ensure parents, policymakers, and other stakeholders are provided with a coherent picture of student performance and program effectiveness.

To better understand the information that states are providing to the public, CCSSO conducted a study of accountability reports in every state for the 2002-03 school year. A compilation of characteristics was designed to provide state-by-state information on the reports published annually by states and the levels to which statistics are reported. The following variables were included in the study:

- the number of performance levels reported for student assessment information;
- the level to which data are disaggregated, including race/ethnicity, gender, limited English proficiency, migrant status, disability, and poverty;
- the number of years of data available for analyzing trends; and
- the grades for which data are reported for language arts and math assessments (Cavell & Toye, 2004).

Goodman and Hambleton (2004) conducted a study of current approaches for reporting student-level results on large-scale assessments. The study discusses concerns raised over the

ways in which testing results are reported to and understood by their intended audiences. The article includes a description of the legislative requirements of NCLB to report state level and individual student results on statewide assessments. It also examines current methods for reporting student-level results on large-scale assessments. Positive and negative features of student assessment reports and interpretive guides from 11 U.S. states, commercial testing companies, and two Canadian provinces were identified. Finally, recommendations are offered to help enhance future reporting designs and to inform future research.

After a review of hundreds of state, district, and school reports, Goodman and Hambleton (2004) describe a number of weaknesses in reporting methods that are chronic in education. These include:

- Excessive amounts of information were included in some reports, and essential pieces of information (such as the purpose of the test, or information about how the results will be and should be used) were not provided in others.
- In many instances, information regarding the precision of test scores was not provided, making the results appear more accurate than they were.
- Although not prevalent, statistical jargon such as standard errors, Norm Curve Equivalent scores, and Lexile scores were present in more than a few reports. These created confusion and reduced the effort needed for readers to interpret the scores.
- Key terms, including the critical performance levels, were not always defined in the reports or interpretive guides, leaving the interpretations up to users, many of whom would be quite unaware of the proper interpretations to be made.
- Efforts to report a large amount of information in a small physical space resulted in reports and interpretive guides that appeared dense and cluttered. Using small fonts was a common cause of concern across many reports and guides (Goodman & Hambleton, 2004).

Accountability Reports and Parents

Comments from a small focus group composed of 11 parents from across the United States were also reported by the National Education Goals Panel (NEGP, 1998). As part of this focus group study, parents were asked to review and comment on six individual student reports produced by commercial test publishers. Although the small sample size limits the extent to which the findings can be generalized, comments on what parents liked and disliked about the reports are worth noting. In general, parents involved in the study appreciated explanations of what the scores on the test meant and liked being able to tell at a glance how their child performed. They also liked seeing subtest scores and descriptions of the skills that were assessed by the test. Parents appreciated learning what could be done to improve a student's score. They did not like reports that were too technical (e.g., containing statistical jargon and complex definitions) or reports that did not give recommendations on what they should do with the test results. They also raised concerns about small fonts that made parts of the reports difficult to read.

A publication by Forte Fast and the Accountability Systems and Reporting State Collaborative on Assessment and Student Standards (2002) should be especially helpful to states. This resource, sponsored by the Council of Chief State School Officers, was designed to help states and local agencies meet the reporting requirements of NCLB and to help them design public reports that effectively communicate accountability, assessment, and other

educational indicators in an easily understood manner. It provides some excellent guidelines and illustrations that can help state and local agencies improve their reporting practices (Fast, 2002).

The National Education Goals Panel (NEGP) (1998) describes more effective ways of communicating and reporting information with different audiences of the school community. The report focuses on ways of reporting to parents. The report concludes that clear communication with parents about these issues is critical. The assumption is that if parents are well informed and made a part of the improvement efforts from the beginning, they are more likely to be the catalyst needed for change, and they are more likely to support their schools' goals and demand the instructional changes necessary to meet those goals (NEGP, 1998). To address these issues, state leaders should start asking themselves the following questions:

1. Do parents understand why the state is moving toward higher standards?
2. Do parents know what the standards are?
3. Do parents understand the goals of the tests and what information the tests are designed (and not designed) to yield?
4. Do parents know what types of test questions will be on the assessment that is linked to the standards? Do they recognize good (and not-so-good) student performance on these questions?
5. Do parents understand that the scores might be lower than those on the previous tests? Do they understand why?
6. Do parents understand what to do with the results once they receive them?

It may not be necessary to provide all of the different types of information listed above. Determining what is best for the parents in each state depends on the type of assessment system in use within each state. The report recommends that states *listen* to parents—through the use of surveys, focus groups, or face-to-face communication. This way, they can identify the aspects of reports that can provide parents with the necessary information to make decisions.

The Goals Panel believes that states need to simplify these messages for parents by providing both background and context (strategic recommendations) and clarification (content recommendations). The strategic recommendations will assist states in determining what information parents will want to better understand the issues surrounding the state tests and how that information should be presented; the content recommendations will assist states in thinking about how to make that information clear through the use of examples of standards, test items, and student responses.

The study makes the following recommendations to simplify the complicated messages about the need for higher standards and the new tests designed to measure the standards:

- Address parents' concerns up front.
- Inform parents why the state is making these changes.
- Help parents to understand why scores may be low in the beginning and what will be done to improve scores over time.
- Place the new tests in perspective: do not overstate the importance of the new tests and do not overstate the failings of the more traditional tests.
- Answer questions thoughtfully and honestly.

- Provide examples of what students need to know and be able to do (and let parents know how they can obtain complete descriptions).
- Provide examples of test questions and examples of student work (those that meet the standard, those that do not meet the standard, and explanations as to why).
- Use clear and concise language to define technical terms; avoid jargon.
- Provide tips for parents—suggestions they can use to encourage their children to develop their skills and knowledge and improve their academic performance (NEGP, 1998).

To create a balance between providing too little information and too much information on individual score reports, the Goals Panel recommends that states provide parents with answers to the following questions or benefits:

- How did my child do?
- What types of skills or knowledge does my child's performance reflect?
- How did my child perform in comparison to other students in the school, district, state, and—if comparable data are available—the nation?
- What can I do to help my child improve? (NEGP, 1998).

The Goals Panel also contends that states with the best success communicating with parents suggest the following:

1. Listen to the parents in their community.
2. Use clear and concrete language.
3. Take the time to plan.
4. Ensure a consistent message.
5. Coordinate with others.
6. Realize that improving communication efforts will take resources.
7. Recognize that moving toward a standards-based system takes political will (NEGP, 1998).

The Goals Panel focused its attention on the parent audience of the reporting – quite possibly the audience with whom we have communicated most poorly. Their recommendations are applicable to all audiences in the school community and give us important strategies for maximizing the benefits of reporting.

Through NCLB established guidelines, accountability systems differ from state to state, reflecting administrative decisions and traditions that have evolved over time within state and local political contexts (Linn, 2005).

Beyond Traditional Accountability Reports

The research literature contains many examples of studies that attempt to change the conventional structures of accountability reporting. These reports would meet the requirements of NCLB, yet would provide information to stakeholders in a meaningful way. Celio and Harvey (2005) produced a study entitled, *Buried Treasure: Developing a Management Guide from Mountains of School Data*. This study provides a practical discussion of what is required to develop a school district "management guide," along with an actual guide built on evidence-based indicators. This study set out to define and construct a working model of school management and accountability to help school officials and community members understand the mounds of data they are generating.

The seven indicators of interest in the management system described in this study are: achievement (reading and mathematics), elimination of the achievement gap, student attraction (school ability to attract students), student engagement with the school, student retention/completion by school level, teacher attraction and retention, and funding equity (Celio & Harvey, 2005).

The research literature seems to concede the need to provide an interactive approach to engage parents and other stakeholders to make the information meaningful to them. Roeber (2003) describes an effective method of reporting results to students through the group interpretation process. During this process school personnel should:

- Remind students of the large-scale assessment they took.
- Explain the purpose for taking the test.
- Inform students that the results have been returned.
- Explain the general types of uses to which the district, school, and classroom results will be put.
- Describe how the teacher will assist students and parents in interpreting and understanding the results.
- Explain how to read the individual report of results (Roeber, 2003).

In a study entitled *From Authentic Assessment to Authentic Accountability*, Paul LeMahieu (1996) describes steps that can be taken to maximize the benefit of communicating information contained within assessment reports. He challenges educators to rethink the assumptions, common practices, and missteps of traditional reporting mechanisms (LeMahieu, 1996). He describes his approach as one "that shifts focus from gathering and reporting data to interpreting and using them to improve the schools" (LeMahieu 1996, p. 2). He advocates for approaching accountability as an ongoing process of public engagement, one that "moves us from accountability reports to accountability events" (LeMahieu 1996, p. 3). He calls this process an "accountability event," one that should:

- pursue answers to questions that are genuinely meaningful and important to the participants;
- be based upon information and data that are intuitively understandable to participants;
- actively involve participants in a process that weaves together the perspectives of those internal and external to the school;
- produce processes and products that can be extended beyond the event and its immediate participants in order to achieve broader understanding, involvement and collective effort; and
- engage participants in a manner that permits judgments about the relevance of the data and the veracity of interpretations and conclusions drawn regarding the schools' performance (LeMahieu, 1996, p. 5).

The article provides an alternative to the conventional approach of what a report is, one that is printed and sent to homes or printed in the newspaper. The concept of an assessment event provides an opportunity to view the reporting as a two-way process where the audience interacts and delves into the available information. Thus, deeper understanding is garnered through interactive dialogue (LeMahieu, 1996).

The Council of Chief State School Officers (Perie, Park, & Klau, 2007) developed a checklist that focuses on providing data to stakeholders and the general public in a manner that is both understandable and useful:

- Ensure the reports to districts and schools promote appropriate interpretations and use of results.
- Provide data to schools in a way that they can learn to use it.
- Monitor the latest research in effective reporting and continually review the reporting system.
- Ensure reports clearly communicate results and include all relevant data.
- Include multiple indicators of performance broken out by subgroups in the reports.
- Make error estimates of all measures available.
- Ensure all reports meet Family Education Rights and Privacy Act regulations (e.g., do not report individually identifiable data).
- If there are consequences associated with the results, the results must be provided to local school systems with time for appeal before results are released to the general public.

Further, (Perie et al., 2007) establishes that an effective accountability report is:

- easy to read and clearly states a well-defined message that stakeholders can understand and use;
- accessible to the target audience, both physically and linguistically;
- accompanied by adequate interpretive information;
- supported by evidence that the indicators, other information, and suggested interpretations are valid;
- coordinated with other reports within the reporting system: across paper and electronic versions of report cards, across report cards and assessment reports.

Summary of the Literature

The purpose of this study is to utilize research, legal requirements, and focus groups to develop accountability reports that draw parents and other stakeholders into the reform efforts. The findings this study will add to the literature about the school to benefit students. Schools are now beginning to realize that data can be the bedrock for which to create a course of action for school improvement (Supovtiz & Klein, 2003). When conducting this study, the following factors that delineate middle schools from elementary and high schools in regards to data-driven decision making will be considered.

CHAPTER THREE

Methodology

This chapter describes the design, sample, instrumentation, data collection, and analysis of the study. The method I have chosen to use to investigate the strengths and weaknesses of accountability report cards in public education is to conduct a four-stage interventional experiment.

Stage I: During stage one, I solicited the opinions of a diverse group of educators and parents on the features and characteristics of current accountability tools and additional data and design elements most likely to optimize the informational value of public report cards. The observations of these informants were aided by a wide-ranging discussion of the advantages and shortcomings of the accountability reports and templates issued by the California Department of Education (CDE). The intent here was not to imagine the abstract ideal, but to create the possibility of change and improvement through the means of non-abstract critique of the status quo.

Stage II: During stage two, I aggregated the opinions and observations expressed during stage one, and using this input and the research literature, sought to identify and organize the data elements and design components identified during stage one as being essential to an easy-to-understand, informative public report card. I created a first draft prototypical accountability report.

Stage III: During stage three, I shared the accountability report card and, again, solicited the opinions of informants. Using the feedback from this second group, one that included parents, teachers, and administrators, I revised the report card prototype.

Stage IV: During stage four, I presented a revised prototypical report card and, once again, solicited feedback from my informants to finalize the design of a prototypical accountability report card.

The majority of the figures and tables presented in this dissertation were produced during and after this exercise through fruitful deliberation and synergistic dialogue of parents and other stakeholders.

Research Questions

Altogether, my approach to identifying the data elements and organization of an informative report card was motivated by the following questions:

- What are the data elements and design components for presenting these elements in a manner that is likely to make my prototypical report card maximally accessible and informative to the greatest possible number of individuals with an interest in the performance of the public schools?
- In what ways did the guidelines on report cards issued by the U.S. Department of Education and current accountability reports and template prove useful in guiding this effort, and in what ways did they prove to be inert or unhelpful sources or advice and guidance?
- Are their lessons to be learned from other attempts by individuals in other fields to aggregate and present complex data in an easy-to-interpret format to a public

audience consisting of non-experts? Here, I had in mind the work done in using tools utilized by corporations to improve organizational effectiveness.

Research Methodology

I needed a scientific research methodology that allowed learning and design as part of the process itself. When I searched for a research methodology that would enable me to pursue this type of intervention experiment, I was guided by my doctoral advisor to a form of research methodology, entitled "design-based research." Ann Brown (1992), an educational psychologist, is credited with coining the term "design-based research" in 1992 as she struggled to find a balance between laboratory studies of learning with studies of complex instructional interventions based on such insights. The overarching goal of this type of research is to use methods that link processes of enactment to outcomes. I hoped that this methodology would provide the flexibility to generate knowledge that could directly apply to current educational reporting practices.

Brown (1992) demonstrated how insights from the laboratory were inherently limited in their ability to explain or predict learning in the classroom. The challenge, as she saw it, was to develop a methodology of experimenting with intervention designs in situ to develop theories of learning that "accounted for the multiple interactions of people acting in a complex social setting" (Sandoval & Bell, 2004, p. 199). Design-based research is more complex because it "monitors a greater number of dependent variables, characterizes the situation ethnographically, revises procedures at will, allows participants to interact, develops profiles rather than hypotheses, involves users and practitioners in design, and generate copious amounts of data" (Gorard & Taylor, 2004, p. 100). Design experiments constitute a means of addressing the complexity that is a hallmark of educational settings (Cobb, diSessa, Lehrer, & Schauble, 2003).

Table 3.1

Comparing Psychological Experimentation and Design-Based Research Methods

Category	***Psychological Experimentation***	***Design Based Research***
Location of research	Conducted in laboratory setting	Occurs in the buzzing, blooming confusion of real-life settings where most learning actually occurs
Complexity of variables	Frequently involves a single or a couple of dependent variables	Involves multiple dependent variables, including climate variables, outcome variables, and system variables
Focus of research	Focuses on identifying a few variables and holding them constant	Focuses on characterizing the situation in all its complexity, much of which is not now a priority
Unfolding of procedures	Uses fixed procedures	Involves flexible design revision in which there is a tentative initial set that are revised depending on their success in

		practice
Amount of social interaction	Isolates learners to control interaction	Frequently involves complex social interactions with participants sharing ideas, distracting each other, and so on
Characterizing the findings	Focuses on testing hypothesis	Involves looking at multiple aspects of the design and developing a profile that characterizes the design in practice
Role of participants	Treats participants as subjects	Involves different participants in the design so as to bring their differing expertise into producing and analyzing design

Source: Barab and Squire (2004).

In design-based research, practitioners and researchers work collaboratively to produce meaningful modifications in contexts of practice (Design-Based Research Collective, 2003). However, it is this very complexity and variety that would allow for the development of innovative designs of reporting systems that transcend existing models and are most relevant to those who designed them. This matched my goal to have a methodology that could dynamically capture the discussions of different subjects to create new knowledge and new models to communicate this knowledge. Wang and Hannafin (2005) identify five basic characteristics of design-based research:

- pragmatic because its goals are solving current real-world problems by designing and enacting interventions as well as extending theories and refining design principles;
- grounded in both theory and the real-world context;
- interactive, iterative and flexible;
- integrative because researchers need to integrate a variety of research methods and approaches from both qualitative and quantitative research methods; and
- contextual because research results are "connected with both the design process through which results are generated and the setting where the research is conducted." (p. 11)

This balance of the theoretical, pragmatic, and contextual strengthened my conviction that design-based research presented the best methodology for my study.

***Continuous Improvement and PDSA*.** The cyclical nature of this methodology is grounded in models of Continuous Improvement and the Plan, Do, Study Act (PDSA) cycle advanced by William Deming. The PDSA cycle, like the scientific method, is an iterative process, every time the cycle is executed it offers participants more profound knowledge about the relationship among the variables being examined.

William Edwards Deming was an American statistician, professor, author, lecturer, and consultant. He is perhaps best known for his work in Japan (Crawford, 1993). There, from 1950 onward, he taught top management how to improve design product quality, testing, and sales through various methods, including the application of statistical methods. He is credited with

popularizing a continuous improvement process he called the Shewhart cycle, though now it is more commonly known as the Deming cycle, PDCA, or PDSA cycle (Crawford, 1993).
PDSA is a successive, iterative cycle that begins by testing potential effects on organizational processes, and gradually leads to larger and more targeted change. The acronym is composed of the following four steps:

- **Plan**: Establish the objectives and processes necessary to deliver results in accordance with the expected output. By making the expected output the focus, it differs from other techniques in that the completeness and accuracy of the specification is also part of the improvement.
- **Do**: Implement the new processes. Often on a small scale if possible, to test possible effects.
- **Study:** (originally "Check", renamed by Deming): Measures the new processes and compares the results against the expected results to ascertain any differences.
- **Act**: Analyze the differences to determine their cause. Each will be part of either one or more of the P-D-S-A steps. Determine where to apply changes that will include improvement. When a pass through these four steps does not result in the need to improve, refine the scope to which PDSA is applied until there is a plan that involves improvement (McLaughlin & Snyder, 1992).

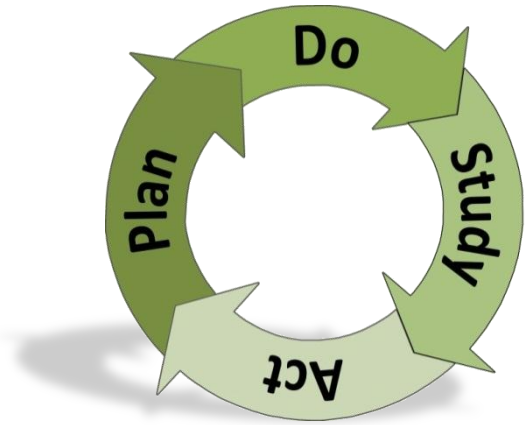


Figure 3.1. Graphic Representation of the PDSA Process.

The DMAIC Cycle

If we expand the Study step, we can envision within an internal cyclical process to create the mechanisms and tools needed to properly study and evaluate results. This new cycle would utilize a more contemporary version of the PDSA cycle, one commonly used in business today. I am referring to the DMAIC cycle, an essential component of the Six Sigma Methodology, which involves a cyclical five-stage process to develop and utilize tools to identify high leverage areas to improve organizational efficacy (Keller, 2005). Like PDSA, DMAIC is an acronym for a change cycle, the letters stand for Define, Measure, Analyze, Improve, and Control (Keller, 2005).

It is important to note that the business literature utilizes a variant of the DMAIC cycle when the tools are being developed for the first time. In these cases, the last two steps of the

DMAIC cycle, Improve and Control, are changed to Design and Verify. The DMADV represents a design reincarnation of the DMAIC cycle (Cronemyr, 2007).

I offer a description of this process as identified in the business literature, followed by its application to the development and review of accountability report cards. For each step, I will provide an application of the cycle in two different contexts (a) when an organization is designing an accountability report card for the first time, and (b) when an organization already has a report card in place and is reviewing it for improvement.

***Define*.** The Define stage deals with problem-solving methodology with the project definition, including scale, goals, team members, timetables and deliverables. A highly capable team is assembled to focus their skills on a common understanding of the issues and benefits of the proposed project paths (Keller, 2005).

Applications of this step to the design of accountability report cards involve the following:

- Identify legal federal, state, and local requirements that guide accountability.
- Define the principles that will guide accountability measures – i.e. addressing inequity, reducing the achievement gap, meeting NCLB requirements, etc.
- Define the scope of the accountability report cards being developed. Define whether the report card will be implemented for individual schools, a school district, or multiple school districts, or the entire state.
- Identify timetable for accountability measurements and determine whether the data to be collected and contained within the report card be collected and reviewed annually or more often.
- Ascertain which stakeholders will be involved in the design of the accountability report card.

Applications of this step in the review of accountability report cards already in place include:

- Review federal, state, local policy, and relevant court decisions to ensure update changes since the original design of the report card.
- Identify timetable for review of the design of accountability measurements. Will the design be reviewed annually or more often?
- Ascertain which stakeholders will be involved in the ongoing review of the report card design.

Measure. In this step, accurate measurements are made and relevant data is collected as a baseline for future comparison (Keller, 2005). This stage has two main objectives (a) gather data to validate and quantify the problem, and (b) begin testing out the mechanisms that offer clues about the root causes of the organizational problem (Pande & Holpp, 2002).

Applications of this step to the design and development of accountability tools involve the following:

- Forming stakeholder groups to review the data elements required to by policy and law, and required tools or templates (i.e. School Accountability Report Card template).
- Utilize the focus group to discuss the data elements needed to address the accountability principles defined in the first step.

Applications of this step once an accountability report card is in place is to collect data from the evaluation tools developed in the first step. This includes:

- Developing formal procedures to have stakeholders review the data.
- Forming stakeholder focus groups to review the accountability report card design.
- Utilizing focus groups to gather feedback about the design and effectiveness of the current report cards.
- Collecting feedback data from participating focus groups.

Analyze. The Six Sigma process defines success as developing value to the customer. In this step, data is collected to identify how much value for the customer has been added and to identify the causes for problems or obstacles in the system (Keller, 2005). This "value stream analysis" is the key to Six Sigma success, and refers to the activities that contribute value to the product or service, as determined by the customers (Keller, 2005). In addition, the processes help organizations identify "wasteful" activities that contribute little or no value to the customer.

In applying business models to education, it is common to embrace the controversial substitution of "customers" for students and "value" for the identified measures of success (i.e. proficiency on state assessments, reclassification to fluent English proficient, etc.). However, within this process, parents and other stakeholders are defined as the customers and value is defined as their level of understanding of high leverage change mechanisms and the causes of success and failure.

In the design of accountability report cards, the Analyze step involves:

- Analysis of the data gathered from stakeholders in structured focus groups related to established tools and brainstorm sessions of desired data and design elements.
- Coding of the data to identify and prioritize the tools that have, in the view of stakeholders, the highest leverage to impact student achievement and other identified measures of success.

Similarly, in the application of this step to report cards that are already in place:

- Analysis of the data gathered from stakeholders in structured focus groups that reviewed the current accountability report card.
- Coding of the data to identify the aspects of the current report card that needs to be changed and improved.

Improve (DMAIC) or Design (DMADV). Making improvements or optimizing your processes based on measurements and analysis can ensure that defects are lowered and processes are streamlined. After designing the process, collecting the data, analyzing the data, the team comes to the next stage called Improve. This step is about implementing changes that are necessary for improvement (Keller, 2005). The difference of these two cycles is simply that if the process does not exist, the goal of the process is to design it (and use DMADV); if the process is already in existence, then the goals are to improve it (and use DMAIC) (Cronemyr, 2007).

In the design of a new accountability report card, we would utilize the Design step to:

1. Apply the data to design new reporting elements to increase comprehension for stakeholders.

2. Create variations in the design elements to offer choice to stakeholders to help them select design elements that meet their needs.

In the review of an accountability report card that is already in place, we would utilize the Improve step to:

1. Utilize feedback data to modify and improve the quality of the report elements.
2. Create alternatives to the current state based on collected data.

Control (DMAIC) or Verify (DMADV). The last step in the DMAIC methodology ensures that any variances stand out and are corrected before they can influence a process, negatively causing defects. In this final step, Control is where newly developed methods become standardized in practice (Keller, 2005).

In the Verify version of the step, the performance of newly designed tools is reviewed for effectiveness in meeting the needs of clients. In our education application, stakeholders review the accountability report card in its entirety with actual data from their schools to determine if any changes are required prior to its implementation.

In the Control version of the process, stakeholders review the accountability report card and discuss additional changes needed to the process to strengthen its impact on the identified goals. Stakeholders look for flaws in the design that need to be changed before it is implemented again.

Finally, the integration of the DMAIC cycle can be envisioned to expand the Study step of the PDSA cycle. The implication is that through this integration school stakeholders, who are a part of the PDSA, would utilize the DMAIC process to create the tools for accountability that will guide their actions for school reform.

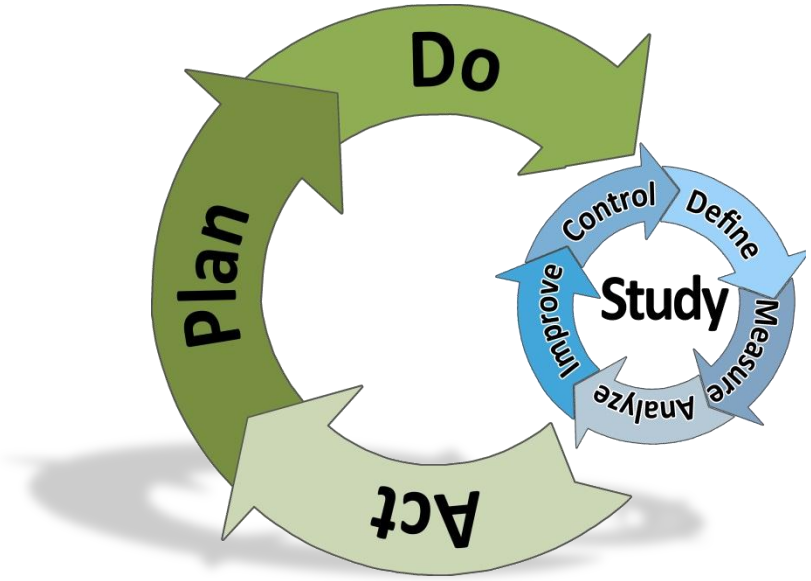


Figure 3.2. Graphic Representation of the Integration of DMAIC within the PDSA Process.

Visual Design Model

Prior to creating new design elements, I chose to utilize the Visual Design Model presented by Clark and Lyons (2004) in their formative book *Graphics for Learning*. The model contains the following steps:

- Define goals.
- Determine context and learning environment.
- Design visual approach.
- Identify communication function to match content types.
- Apply principals of psychological instructional events.

Define Goals. Our goal is to inform our school stakeholder, especially parents, of the well-being and progress of their schools and school districts. The kind of learning in what Clark and Lyons (2004) called "far transfer skills" which require our target population to use judgment and problem solving to understand how to exert pressure and participate in the reform process.

Determine Context and Learning Environment. The learning environment has to be expansive. Even though I may believe the best learning environment for an accountability report is in a well-paced face-to-face presentation, we have to accept that our stakeholders will access it through the Internet and through printed reports.

Design the Visual Approach. Clark and Lyons (2004) recommend we make a preliminary assessment of content graphic requirements and determine the image the package should project. The format needs to be presented on 8 ½ by 11-inch paper to facilitate dissemination to the community at large. A possibility for future consideration is to development a web-based e-learning version of the report.

Identify Communication Function of Visuals to Match Content Type. In this phase I evaluate my content to determine the individual graphics that will illustrate key data points (Clark & Lyons, 2004). The goal here is to describe facts (as opposed to procedures, concepts, processes, or principles). Each collection of data is evaluated for the best methodology to display it.

Apply Principles of Psychological Instructional Events to Visual Design Decisions. This step guides the integration of the specific graphic into the overall look and feel of the instructional materials (Clark & Lyons, 2004). I selected a design that combines both graphic and narrative components, sitting side-by-side on the page. My intent was to provide an image experience that was appropriate to the stakeholder profile. For each set of data to be communicated, I identified the appropriate visual approach to emphasize key data for different stakeholders.

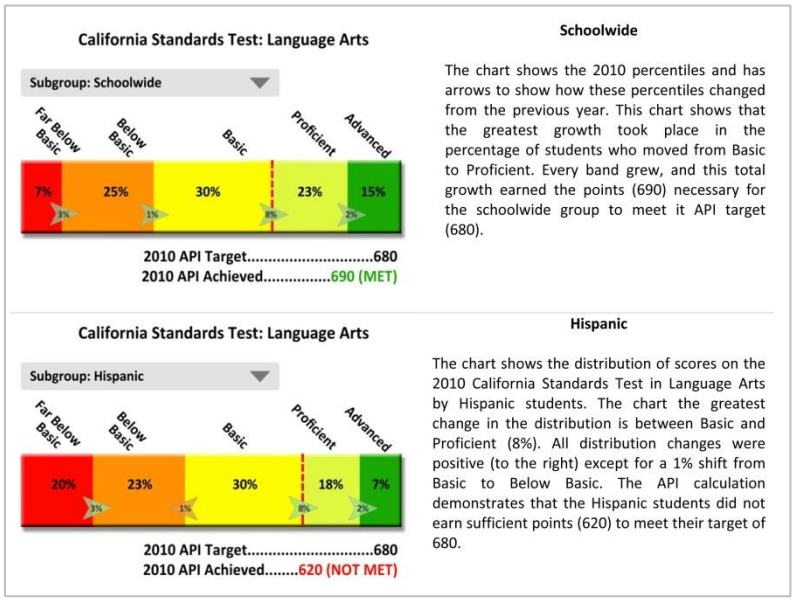


Figure 3.3. Sample of the (Side-by-Side) format utilized with Focus Groups.

Information Graphics

Harris (1999) provides a comprehensive and exhaustive guide of different methods of displaying data. His book is a compendium of over 4,000 illustrations covering everything from routine pie charts to complex visualization techniques for data analysis. It represents an exceptional guidebook for finding the best way to present graphic information and offers a range of innovative alternatives for presenting data. Included in his illustrated references are pitfalls to be avoided in graphs. His methodology also provides a classification system for different graphic elements. For example, Harris (1999) explains that a graph requires scales, otherwise it is a chart.

When focus group participants in Stage I described certain information that they wanted to include, I used the book as a source to identify different ways of displaying this information. This allowed for the proper categorization and utilization of the charts that were used.

Focus on Data. In his pivotal book, *The Visual Display of Quantitative Information*, Edward Tufte (1983) asserted that meaningful information is obtained from graphic representations of data as a result of effective comparisons to other data. “At the heart of quantitative reasoning is a single question: Compared to what?” (Tufte, 1983, p. 74).

He also developed a concept of maximizing a ratio he coined “data to ink” to argue against using excessive decoration in visual displays of quantitative information. “A large share of ink on a graphic should present data-information, the ink changing as the data change. Data-ink is the non-erasable core of a graphic, the non-redundant ink arranged in response to variation in the numbers represented” (Tufte, 1983, p. 93).

Tufte (1983) states “Sometimes decorations can help editorialize about the substance of the graphic. But it's wrong to distort the data measures—the ink locating values of numbers—in order to make an editorial comment or fit a decorative scheme” (p. 59). Though, considered by

some to take minimalism to an extreme, Tufte challenges chart designers to be suspect of anything other than the data itself.

Analysis of Accountability Reports

Goodman and Hambleton (2004) analyzed test score reports and interpretive guides from 11 states, 3 U.S. commercial testing companies, and 2 Canadian provinces. Their evaluation provides useful recommendations as to common pitfalls and weaknesses in accountability reporting. Furthermore, they offer guidelines for effective accountability reporting, including the following:

1. Use of graphical displays and interpretive guides.
2. Methods to highlight or focus attention strategically on certain areas of displayed data.
3. Designing reports for targeted audiences.

In addition, Goodman and Hambleton (2004) identify promising features for reporting:

- Use of headings and other devices to organize reports.
- Use of a highlight section.
- Use of graphical displays.
- Specially designed reports for different audiences.

Goodman and Hambleton (2004) also characterize what they describe as "features that appear to add meaning for intended users" (p. 196) of reports:

- describing the skills and knowledge assessed by the test;
- describing the expected levels of performance on the test through;
- describing the skills and knowledge a student possesses or does not yet possess (through use of performance levels or diagnostic information such as sub domain results and descriptions of specific strengths or weaknesses of students
- reporting the results of relevant comparison groups;
- reporting results in multiple ways (e.g., using numbers, graphics, and narrative text); and
- providing different ways to report results in relation to performance levels.

Their analysis provided a rich collection of recommendations that guided the development of the different data and design elements in this study, and helped avoid the many pitfalls they found in their evaluation.

The Balanced Scorecard

In my research I also examined business models that utilize information for accountability and planning purposes. The business sector offers relevant models of reporting systems that inform improvement efforts (Depree, 1989). Developed by Dr. Robert Kaplan (Harvard Business School) and Dr. David Norton, as a performance measurement framework, "the balanced scorecard represents a strategic planning and management system that is used extensively in business and industry, government, and nonprofit organizations worldwide to align business activities to the vision and strategy of the organization, improve internal and external communications, and monitor organization performance against strategic goals" (Balanced Scorecard Institute, 2009). Balanced scorecards can transform an organization's strategic plan into actionable steps for the organization, as it provides information that allows leaders to identify areas of high leverage change and a strategy to achieve the best results.

Perhaps most interestingly is that the balanced scorecard design process is essential to defining the key indicators that would alert leaders to an area in the organization that requires attention. Kaplan and Norton (1992) identified the steps to designing an effective scorecard as follows:

- Translating the vision into operational goals.
- Communicating the vision and link it to individual performance.
- Business planning and index setting.
- Feedback and learning, and adjusting the strategy accordingly.

This linking of vision into performance and feedback seems relevant to education and our efforts to develop responsive and accountable schools. This seemed especially applicable to the development of strategic indicators that could guide educational leaders and parents to areas of high leverage change.

Management Guides for Education

Finally, Celio and Harvey (2005) offer a vision for a very different kind of accountability report, one that transcends the abridged and cryptic report cards offered by the California Department of Education. They call the report a "Management Guide". They assert that educational stakeholders need to know what data to gather, how it might be used, have an understanding of practical implications, and an explanation of why particular indicators are used or what they mean in practice (Celio & Harvey, 2005). They contend that effective accountability management guides can communicate a great deal of these components and thus help provide meaningful knowledge out of the mountains of data. Their study is organized into four key chapters:

- **Chapter 1** provides an example of how the management guide would look and could be used in a typical (i.e., highly complex) urban school district. It does so by reproducing an imaginary transcript of a school district board meeting where the management guide is introduced. This description allowed me to envision how a new accountability report could be presented and explained in the school context, such as in a school board meeting or a school-based parent meeting.
- **Chapter 2** provides a short review of indicator systems, a description of the criteria used for selection of the indicators used here, and a commentary on the potential sources of the data.
- **Chapter 3** provides a detailed explanation of each element in the guide, discussing the reasons for using the particular indicator and how it would be displayed for individual schools in a district. These charts and graphs could, potentially, be used as part of an individual school report card that is then aggregated into a district report card. This provided my study with creative examples of charts and dashboards that were utilized in the first draft of the prototypical accountability report to be presented to focus groups in Stage III.
- **Chapter 4** concludes with implications for state and district leaders.

Celio and Harvey (2005) identify seven indicators of interest in the management system. The first two (achievement in reading & mathematics and addressing the achievement gap) are required indicators of *No Child Left Behind*. The study goes on to identify additional indicators

(such as student attraction, student engagement, student retention, teacher attraction, and funding equity) that could be part of a comprehensive accountability report.

Context of the Study

Focus groups, a research technique of collecting data through group interaction around a topic determined by the researcher (Morgan, 1998), offered the best approach to match "design-based research." Focus groups create a context that produces rich interactive dialogue and quickly gather large amounts of meaningful data. My hope was to bring together different school stakeholders to review and discuss different forms of presenting accountability data. This iterative process would allow me to utilize the participants' perspectives to mold a new, more effective accountability report.

The purpose of a focus group is to gain information, perspectives, and empirical field texts about a specific research topic. Properly configured, focus groups facilitate dialogue in a defined area of interest in a permissive, non-threatening environment, allowing users to share their views, experiences, ideas, feelings, and perceptions (Morgan, 1998; Smit & Cilliers, 2006). The rationale for the method is to provide a directed interpersonal dialogue "similar to a real-life situation, in which participants freely influence one another and build on one another's responses, thus stimulating collective and synergistically generated thoughts, feelings, and experiences" (Smit & Cilliers, 2006, p. 303). Group processes can help people to explore and clarify their views in ways that would be less easily accessible in a one-to-one interview. My hope was that with skillful facilitation and the proper composition, multiple focus groups could provide the study with practical, real-time, multi-dimensional design feedback about current and new accountability reports.

Focus Group Size and Composition

Though the research literature recommends no more than 12 participants (Smit & Cilliers, 2006), I set a maximum of 8 participants per group to ensure all group members are able to participate fully. I decided to utilize homogenous groupings of three different school stakeholder groups: School and District Administrators, Teachers, and Parents. This purposive sampling and clustering held the promise of the most uninhibited discussion among participants (Smit & Cilliers, 2006). For example, I did not want a parent or teacher to feel inhibited in the presence of an administrator from their school or district.

Prior to initiating my first focus group, I studied the methods to maximize the benefits of this research methodology. The focus groups have advantages over other data-gathering methods, such as interviews and participant observation, in that they offer a more natural environment to study behavior and interaction (Litosseliti, 2003). In my role as facilitator of the groups, my primary task was to guide the discussion using a number of interventions in the form of open-ended questions (Morgan, 1998). This role requires planning, management, and interpersonal skills. Group discussion is particularly appropriate when the interviewer has a series of open-ended questions and wishes to encourage research participants to explore the issues of importance to them, in their own vocabulary, generating their own questions and pursuing their own priorities (Smit & Cilliers, 2006). As an experienced group facilitator in my work environment, I was able to incorporate the approach and strategies the research literature described as most effective.

Context from where the Focus Groups were selected

This study focused on stakeholders living within the boundaries of two school districts in central California. District 1, a K-12 district was selected because of the high number of schools in Program Improvement. District 2, a high school district was selected because of its similar demographics to District 1, yet much higher levels of academic achievement, and fewer numbers of schools in Program Improvement. District 1 serves approximately 19,000 students in 28 schools from kindergarten through twelfth grade. District 2 serves approximately 11,000 students in 10 schools from seventh to twelfth grade.

Ethnicity	Percent
Black or African American	1%
Asian	1%
Filipino	1%
Hispanic or Latino	78%
White	18%
Two or More Races	1%

Classifications	Percent
Free and Reduced Lunch	69%
Gifted and Talented	6%
Migrant Education	11%
English Learners	46%
Fluent English Proficient	19%
Students with Disabilities	13%

Source: California Department of Education – http://www.cde.ca.gov

Figure 3.4. Demographics of School District 1 (K-12 Unified District)

Ethnicity	Percent
Black or African American	2%
Asian	1%
Filipino	4%
Hispanic or Latino	82%
White	9%
Two or More Races	0%

Classifications	Percent
Free and Reduced Lunch	68%
Gifted and Talented	7%
Migrant Education	12%
English Learners	35%
Fluent English Proficient	30%
Students with Disabilities	8%

Source: California Department of Education – http://www.cde.ca.gov

Figure 3.5. Demographics of School District 2.

Selection of Participants

For this study, participants were selected from two school districts. The different stakeholders were deliberately selected from the three categories: parents, teachers, and administrators, to provide a wide range of perspectives. However, the groups were grouped homogenously to promote a freer exchange of ideas (Litosseliti, 2003).

Teachers and administrators from the two districts were recruited to participate in the study through emails – soliciting their interest and willingness to participate. The email simply asked if they were interested in reviewing current accountability reports and giving recommendations for the development of new ones. Teachers and administrators were selected from both elementary and secondary levels.

Parents were approached at several school parent meetings. Parent participants were mostly Spanish speaking. Parents were also asked if they were interested in reviewing current

accountability reports and giving recommendations for the development of new accountability reports. Many of the parents who disclosed an interest in participating were migrant Spanish-speaking parents. To move forward with the process I had to decide whether to try to include English-speaking parents and conduct a focus group bilingually – or only select Spanish-speaking parents for my focus group. I chose the latter and selected eight migrant parents for the Spanish-speaking parent group.

The study worked with one group of parents, two groups of school and district administrators, two groups of teachers, and two groups of community members. Their participation in each stage and the numbers of participants in each group is detailed in Table 3.2.

Table 3.2

Focus Group Participation by Experimental Stage

Study Stages	**Stage I**	**Stage II**	**Stage III**	**Stage IV**
Focus Group Composition	8 Parents (District 1) 8 Administrators (District 1) 7 Teachers (District 2)	No Focus Groups utilized	8 Parents (District 1) 8 Administrators (District 2) 7 Teachers (District 1)	8 Parents (District 1) 8 Administrators (District 2) 7 Teachers (District 1)

Stages

In defining the stages utilized in this methodology, I looked to the DMAIC/DMADV process (discussed earlier) to create a cyclical process that would generate data for the design of an accountability report card that help parents and other stakeholders increase their understanding of the well-being of their schools and allow them to partake more actively and effectively in the reform process. The following table matches the stages in this study to the steps in the DMAIC/DMADV process.

Table 3.3

Study Stages and Steps in the DMAIC/DMADV Process

Study Stages	**Stage I**	**Stage II**	**Stage III**	**Stage IV**
DMAIC/DMADV Steps	Define and Measure	Analyze	Design or Improve	Verify or Control

***Stage I: Review of the School Accountability Report Cards/Brainstorm Session*.** In the first stage three homogenous focus groups participated (teachers, administrators, and parents). The focus groups adhered to the following agenda:

1. Introductions, agreement to group norms.
2. Overview of research and presentation of guiding domains.

3. Review of state accountability reports and the school accountability report card template.
4. Brainstorm: Desired data and design elements of a new accountability report.
5. Discuss next steps, thanks, and closure.

After being introduced to the purpose of this study, and signing Committee for Protection of Human Subjects Institutional Review Boards (IRB) permissions for participation, participants were introduced and agreed to some basic group norms. These norms included respecting each other's points of view, allowing each other to speak, and some basic procedures to determine if consensus was reached around certain discussions. Participants were then provided an overview of the research study.

Focus group participants were presented with the four domains to be utilized in discussing different elements of accountability reports: Meaningfulness, Purpose, Clarity, and Target Audience. These domains were extrapolated through a review of Goodman and Hambleton (2004) *Student Test Score Reports and Interpretive Guides: Review of Current Practices and Suggestions for Future Research*. The focus group studied the accountability reports and templates issued by the Department of Education, specifically the Annual Measurable Objectives report and the Academic Performance Index report for a local school. Focus group participants were asked to study the characteristics of the reports and to discuss their strengths and weaknesses within the four domains.

Informants then partook in an open ended "brainstorm"-type discussion, and were asked to imagine if they could create their own accountability report – what data would they want to see and how they would want it presented. They were introduced to different kinds of data identified by Heritage and Yeagley (2005) that included large-scale achievement tests, benchmark assessments, formative assessments, grades, and other measures beyond assessment data (demographics, school processes like discipline, etc.). Focus group members were also presented with a "universe" of data points to facilitate their understanding that the discussion could transcend the elements currently available on the state reports cards they reviewed.

Participants were also asked to compare different kinds of charts to identify which provided more clarity. For example, participants compared similar charts, one in gray scale and one in color, and also two-dimensional and three-dimensional bar charts for clarity. This initial (Stage I) process was conducted with a focus group of Spanish-speaking parents and repeated with a group of administrators and then a group of teachers. Data was recorded, transcribed, and coded.

***Stage II: Designing the Prototypical Accountability Report*.** During Stage II, I aggregated the opinions and observations expressed during stage one, and using this input and the research literature, sought to identify and organize the data elements and design components identified as being essential to an easy-to-understand, informative accountability report card. Through the combination of data collected from focus groups in Stage I and the research reviewed, the prototypical accountability report was organized in the following sections:

- **Demographic Data**: charts that describe the characteristics of population unrelated to performance on assessments.

- **Static Reports**: Charts that are provide performance data related to the Annual Measurable Objectives defined in the *No Child Left Behind Act*.
- **Growth Reports**: Charts that reveal improvement in student performance over a period of time.
- **Achievement Gap Data**: Charts that compare the performance of certain groups who historically are underperforming to their peers who are not. Participants were introduced to the concept of "demographic proportionality" as a guide to understanding the achievement gap.
- **Strategic Data**: Charts that provide information about specific areas for change

***Stage III: Review of Draft 1 of the Report Prototype*.** In Stage III, new groups of administrators and teachers and the same group of parents participated. The focus groups adhered to the following agenda:

1. Welcome, review of group norms.
2. Overview of Research and guiding domains.
3. Review of state accountability report card.
4. Review of Draft 1 of prototypical accountability report.
5. Discuss next steps, thanks, and closure.

Participants were asked to focus their responses in four domains (Purpose, Clarity, Meaningfulness, and Audience). These domains were explained to each focus group, and were associated with the following guiding questions informants were to use while reviewing the accountability report:

- **Understand Purpose**: What information does this chart provide? Why should this chart be included in an accountability report?
- **Clarity**: Is the information communicated clearly? Do you understand the chart components and narrative guides?
- **Meaningful**: Why this information is important to you?
- **Target Audience**: Why is this information appropriate or not appropriate for your group (i.e., parents, administrators, etc.)? What other groups would benefit from seeing this information and why?

Focus group members briefly reviewed the state accountability report cards utilizing the aforementioned questions before viewing the prototypical accountability report. This was intended to provide a baseline for participants.

***Stage IV: Review of Draft 2 of the Report Prototype*.** During Stage IV, the same group of administrators, teachers, and parents from Stage III participated. The focus group members adhered to the following agenda:

- Welcome, review of group norms.
- Review of Draft 2 of prototypical accountability report.
- Offer thanks and closure.

I presented the second draft of the prototypical accountability report, and once again solicited and recorded feedback from my informants.

Tools Used for Chart Development

Most charts were designed in Microsoft Excel 2010 and SAP Crystal Reports 2008. However, in certain cases focus group data necessitated the use of modifications to the charts

in ways that transcended the capabilities of the software. In these cases, I utilized Adobe Photoshop CS5 to modify the charts graphically. These charts were then inserted into the report itself, which was created in Microsoft Word 2010.

Data Analysis Procedures

Data gathered from focus groups were recorded and transcribed verbatim for data analysis. Codes were created to help classify and organize the data for analysis. Transcriptions of parent focus groups were also translated from Spanish into English. They were developed according to the research question and sub-questions of this study. By using codes to classify and organize information, different themes in the research emerged. This was accomplished by analyzing focus group data for redundancy between multiple subjects.

To further help in organizing and tabulate data, comments associated with each isolated chart were organized in the four aforementioned domains: Meaningfulness, Purpose, Clarity, and Target Audience and cross-referenced by focus group. Comments were identified as positive, negative, or neutral within that domain. Neutral comments were not tabulated. Positive and negative comments were tabulated within the matrix. Positive comments are identified with an upward pointing green arrow (🡅). Negative comments are identified with a downward pointing red arrow (🡇). If a certain focus group provided both positive and negative comments in a certain domain, then both arrows are displayed. Hence, a matrix was developed for every chart, titled Four Domain Discussion**,** with focus group types as column headings and the four domains as rows. At the intersection were arrows symbolizing the types of commentaries provided (see Figure 3.6).

In addition, focus group informants were asked to identify which other focus groups they felt would benefit from the chart they were examining. This was an attempt to encourage groups to discuss their perceptions of how others may perceive or utilize the data. Also, they were asked if they thought that there was a group that should not have access to this chart. This allowed participants to differentiate their own needs and interests from those of other stakeholders. In similar fashion to the domains coding process, positive comments that recommended the chart to other stakeholders were identified with an upward pointing green arrow (🡅). Negative comments that asserted that another group should not have access to the chart are identified with a downward pointing red arrow (🡇). For each chart, a matrix called Intergroup Recommendations was developed. Rows were populated with the stakeholders making the recommendations for other groups (see Figure 3.6). If no recommendations were made, then the cell intersecting the groups was left blank. In the example, administrators recommended the chart to administrators and did not recommend it for parents or teachers.

Discussion of the 4 Domains			
	Parents	Teachers	Administrators
Purpose	↓	↑	↑ ↓
Clarity	↓	↑ ↓	↓
Meaningfulness	↓	↑	↑ ↓
Audience	↓	↑	↓

Intergroup Recommendations			
	Parents	Teachers	Administrators
Parents ➤	↓		
Teachers ➤		↑	↑
Administrators ➤	↓	↓	↑

Figure 3.6. Samples of Coding of Discussion in Four Domains and Intergroup Recommendations.

Limitations of the Study

Design-based research methodologies are viewed as "non-scientific" by some due to the ongoing changes and interactions that are made by researchers who neither do purely empirical observational ethnographic research or purely empirical experimental research. Ann Brown (1992) famously defended these “quasi-experimental” methods in her final, seminal paper that outlines the rationale for Design Based Methodologies.

One of the limitations of the study was the fact that the study was inconsistent in the utilization of focus groups in the different stages. The same group of parents was used throughout the study; however, for each of the other categories (administrator, community members, teacher) two different focus groups were utilized between stage one and stage four. This inconsistency was a result of the challenges of bringing together the same people over several months.

Another limitation of the study was that the parent focus group was composed entirely of Spanish-speaking parents. This posed a challenge, because all material had to be translated into Spanish. This added a layer of complexity and several confounding variables. However, the importance of succeeding in this process with Spanish-speaking parents was in line with Robert F. Kennedy’s vision to involve and empower parents who have been so often neglected by our educational system.

Experimental Protocol

This study followed the procedures set forth by the University of California, Berkeley and those written by the schools districts, which the participating schools are a part of. Additionally, this study underwent the Institutional Review Board approval process before it took place to ensure that proper protocol was followed in carrying out this research.

In order to protect the confidentiality and anonymity of participants and their schools, participants are only identified as members of the focus group they partook in. All participants were informed that their anonymity would be protected before focus groups took place.

CHAPTER FOUR

Results and Analysis

A fundamental aspect of accountability systems is the reporting of data related to student achievement. Since the inception of Elementary and Secondary Education Act (ESEA) and more decidedly since the implementation of NCLB, a body of evidence has been compiled that raises concerns over the ways in which these results are reported and understood by their intended audiences (Goodman & Hambleton 2004; Schwartz, 2002). Propelled by Robert F. Kennedy's vision for transparency and accountability, guided by current research, and grounded by federal and state laws, I hope my study will contribute to improving communication and integrate parents and other stakeholders into the efforts to reform our schools.

Altogether, my approach to identifying the data elements and organization of an informative accountability report was motivated by the following questions:

- What data and design components for presenting these elements in a manner that is likely to make my prototypical report card maximally accessible and informative to the greatest possible number of individuals with an interest in the performance of the public schools?
- In what ways did the non-regulatory guidelines on report cards issued by the U.S. Department of Education prove to be useful in guiding this effort, and in what ways did they prove to be inert or unhelpful sources or advice and guidance?
- Are their lessons to be learned from other attempts by individuals in other fields, to aggregate and present complex data in an easy to interpret format, to a public audience consisting of non-experts?

Methodology

- **Stage I**[1]: During stage one, I solicited the opinions of a diverse group of educators and parents on the features and characteristics most likely to optimize the informational value of public reports cards. The observations of these informants were aided by a wide-ranging discussion of the advantages and shortcomings of the annual public report cards issued by the California Department of Education (CDE) and the School Accountability Report Card. The intent here was not to imagine the abstract ideal, but to create the possibility of change and improvement through the means of non-abstract critique of the status quo.
- **Stage II**: During stage two, I aggregated the opinions and observations expressed during stage one. Using this input and the research literature, I sought to identify and organize the data elements and design components identified during stage one as being essential to an easy-to-understand, informative public report card. I utilized a Visual Design Model for planning the development to create a prototypical accountability report.

[1] Focus group interviews were conducted between October 22, 2010 and December 20, 2010; all names have been kept confidential.

- **Stage III**: During stage three, I shared the report card and, again, solicited the opinions of another group of informants. Using the feedback from this second group of informants, a group that included parents, classroom teachers, and administrators, I revised the prototype report card.
- **Stage IV**: During stage four, I presented a revised prototypical report card and, once again, solicited feedback from my informants.

Coding of the Data

Discussion of the four domains. To help in organizing data, comments associated with each chart were organized into four domains: Purpose, Clarity, Meaningfulness, and Target Audience and cross-referenced by focus group. Comments were identified as positive, negative, or neutral within that domain. Neutral comments were discarded. Positive and negative comments were placed within the matrix.

Positive comments are identified with an upward pointing green arrow (↑). Negative comments are identified with a downward pointing red arrow (↓). If a certain focus group provided both positive and negative comments in a certain domain, then both arrows are displayed. Hence, a matrix was developed for every chart, called **Discussion of the Four Domains,** with focus group types as column headings and the four domains as rows. At the intersection arrows were added symbolizing the types of commentaries recorded (See Figure 4.3).

Discussion of the Four Domains			
	Parents	Teachers	Administrators
Purpose	↓	↑	↑↓
Clarity	↑↓	↑↓	↓
Meaningfulness	↓	↑	↑↓
Target Audience	↓	↑	↓

Figure 4.1. Sample of Four Domains Discussion.

Intergroup recommendations. In similar fashion to the Domains coding process, positive comments that recommended access of the chart to other stakeholders were identified with a upward pointing green arrow (↑). Negative comments that asserted that another group should not have access to the chart are identified with a downward pointing red arrow (↓).
For each chart, a matrix called **Intergroup Recommendations** was also developed. Row headings were populated with the stakeholders making the recommendations for groups in the column headings.

In the example (see Figure 4.2), we see the parents recommended this chart for teachers and administrators, but not for parents. Teachers on the other hand, simply did not recommend this chart for anyone.

Intergroup Recommendations			
	Parents	Teachers	Administrators
Parents	↓	↑	↑
Teachers	↓	↓	↓
Administrators	↑↓	↑	↑

. *Figure 4.2*. Samples of Intergroup Recommendations

Chapter 4: Stage I

During stage one, I requested the opinions of diverse groups stakeholders on the features and characteristics most likely to optimize the informational value of public report cards. The observations of these informants were aided by a wide-ranging discussion of the advantages and shortcomings of the annual public report cards issued by the California Department of Education (CDE).

Discussion about the system

The discussion revealed an underlying cynicism about the accountability requirements of the current educational system. The following examples were found in each of the different focus groups as they studied the accountability data.

> ***GS (administrator)****: I would ask what is the intent of all this? I have come to the belief that this is to present a no-win situation for public schools. When this thing went in, it was for accountability. I am a big fan of accountability – but when you have accountability with no chance of success – it's a set up.*
>
> ***AC (parent)****: [all parent comments were translated from Spanish] How valuable is the information that you get from this? Is this used just for the state or for funding purposes? For me, as a parent, I get no valuable information. It seems like only the state understands this and if that's the case, they are the only ones that can do something about it. As a parent it doesn't help me.*
>
> ***RS (teacher):*** *I think that the accountability system and its sanctions were put in place to promote the alternatives to public education. I am talking about charters, vouchers, and private schools. Why else would they make this data so cryptic?*
>
> ***OR (parent):*** *I think it is a common belief that many administrators don't really want things to improve for students who are considered low socioeconomic students. Some of them (administrators) may want to have low performers so they don't lose the funding for those students.*

***Benefits of having this Information*.** When asked what they would do if they had better information about schools, parents had some clear ideas.

OR (parent)*: I would want to see it every year.*

OR (parent)*: We could go to the school board and demand a presentation every year to see how the schools and the district are doing every year. We could then speak out and ask them to make changes in the staff or in their policy.*

AC (parent)*: I think we could use it to decide what schools we want to send our students to.*

OD (parent)*: If we could do this for the budget – we could understand how money is being spent.*

EM (parent)*: That's right – I think we need to know more about where the money is going.*

Moderator: *Could you elaborate on what you would want to know more about when it comes to the budget?*

OR (parent)*: Like how much is being spent on consultants or for cell phones.*

AR (parent)*: Or how much money is being spent in the district office and how much is being spent at the schools…*

EM (parent)*: On students, not just schools, on students. Isn't that what is supposed to happen?*

Chart Design Feedback

Focus group members were asked to review different kinds of reporting options.

Current Accountability Reports:

- Adequate Yearly Progress Report
- Academic Performance Index Report
- School Accountability Report Card

New Design Elements:

- Two-Dimensional versus Three-Dimensional Bar Graphs
- Two-Dimensional versus Three-Dimensional Pie Charts
- Color versus Gray scale Charts
- Symbols versus words for meeting targets
    - Venn Diagram options

In addition, focus groups participated in a brainstorm of data and design elements that they would hope to find in a prototypical accountability report card.

CDE Accountability Report Cards. During Stage I, focus group members were presented with three reports produced by the California Department of Education (CDE): The Adequate Yearly Progress (AYP) Report and the Academic Performance Index (API) Report, and the School Accountability Report Card Template. These reports, available on the CDE's Academic Performance Reporting website (http://www.cde.ca.gov/ta/ac/ar/) represent the states effort to provide online access to accountability data in compliance with NCLB, the Public Schools Accountability Act of California, and Proposition 98.

Focus group participants were provided a copy of the CDE AYP Report (see Appendix A for full report). They were asked to review the report and discuss its purpose, clarity, meaningfulness, and intended target audience.

Discussion.

CV (administrator)*: The strength is that is a summary. Your question was who is this for? This is for non-educators to make a snapshot judgment of the school. It's consistent… Yes and No.*

JY (administrator)*: It's interesting because the only ones who look at this are administrators.*

QL (administrator)*: So this is for public consumption? Hmm (shaking his head)*

JY (administrator)*: We are familiar with this stuff because we use it every day…. If I am Joe Public, I have no idea what 97% participation rate is. I have no context for understanding this. So how can this be for parents and the general public?*

Nearly every parent in the focus group had criticism for the report design:

OD (parent)*: I don't understand the items that are here. This is made for people who understand these things – as parents we don't know how to decode this information.*

AR (parent)*: I find it interesting that I have never seen this report before. This is all new to me. I think we need better information with better explanations.*

EM (parent)*: This exam – it's not very clear and we have never seen this before. As AC (parent) says it's important that we get something designed for us to be able to understand it. Otherwise, we are going to need a special class to help us understand this.*

AR (parent)*: I think this is a poorly prepared report.*

One teacher stated that she thought the report "looks like this was built to be in compliance with requirements, not to communicate information." Later the teacher focus group discussed how one of them had attempted to utilize this data while choosing a school for her child:

MB (teacher)*: Well I do know a lot of people that go on the website and choose their schools by using these numbers.*

WN (teacher)*: You know that I did just that – I choose my child's school based on this data*

MB (teacher)*: So there are parents who try to use it!*

WN (teacher)*: I poured over it and tried to get meaning from it.*

MB (teacher)*: What did you get from it?*

WN (teacher)*: It is very confusing. I was looking for a school for my son and I went online to find out about the schools and found these reports. I couldn't understand why scores were so low at the schools I was considering… It's hard to use the data to understand what is going on at a school.*

MB (teacher)*: the people that I know that use this kind of data - just look at it – and ask did they make it? Yes / No and if they didn't make it then that will be the thing that determines…*

WN (teacher)*: The thing that it didn't answer for me was "Is the teaching better at this school or the other?" I kept having to ask – is the parent population the same? How much did language play into it? I wanted to be at a staff meeting to see the "real" data. I felt like I couldn't tell if this was a good school or not based on this data.*

Intergroup Recommendations**.** Generally, focus groups did not recommend the report be used for any target audience. Individuals within the administrators' focus group mentioned

that they could use these reports as a result of the aforementioned familiarity they had with them.

Discussion of the Four Domains	Parents	Teachers	Administrators
Purpose	↓	↓	↑↓
Clarity	↓	↓	↓
Meaningfulness	↓	↓	↑↓
Target Audience	↓	↓	↑↓

Intergroup Recommendations	Parents	Teachers	Administrators
Parents ➤	↓	↓	↓
Teachers ➤	↓	↓	↓
Administrators ➤	↓	↓	↑↓

Figure 4.3. CDE AYP Report Domain and Intergroup Discussions.

*Discussion Summary***.** In all focus groups the discussion of the CDE AYP Report focused on the difficulty in understanding the content of the report card. Every group identified key aspects that seemed unnecessary and/or distracting. Not a single focus group recommended the report for any target audience.

Academic Performance Index (API) Report. Focus group members were presented with the Academic Performance Index (API) Report also available on the CDE's Academic Performance Reporting website, http://www.cde.ca.gov/ta/ac/ar/ (see Appendix B). Again, they were asked to review the report card and discuss its purpose, clarity, meaningfulness, and intended target audience.

One administrator asserted his belief that this represented a fairer accountability system than AYP:

> ***CV (administrator)****: This is a growth model. They don't kill you if you don't meet it for one year. I think this is more valid than AYP. It's 3 grades, multiple subjects. It's aligned to California standards at grade level. It has value in all areas. The similar schools are also value – it looks at other similar schools. I think it is realistic target. It's not 2014 for 100%. It's attainable goal. Once you get to 800, you are considered good. In the other one (AYP) – you won't make it if some students don't do well. API gives you a margin for error. I look at the AYP - they are down by 25% from the AYP. – it's not realistic – but for them to meet the API it is possible.*

Administrators also described a concern over having design elements that provided little or no information:

> ***QL (administrator)****: It has all these extra rows for subgroups that don't exist. Why is this here?*
>
> ***CV (administrator)****: Yeah, like it has 5 Filipino students, they are not statistically relevant but they are included. Also – we have 0 Native American. How hard could it be to hide these rows for schools that don't have those ethnicities?*

Teachers struggled to understand how the API was calculated:

IA (teacher)*: How is this calculated? The report does not show how the API is calculated.*
MB (teacher)*: The purpose is that this is a growth model. So it is about showing growth for the school. In terms of clarity I think it is pretty clear.*
WN (teacher)*: It doesn't really explain what this number means – what is 691? It's not a percentage.*
MB (teacher)*: The layout is very clear. But in terms of the clarity of the information – it is not – it is even broader than the AYP data. It doesn't break it down between Language Arts and Math.*
ZG (teacher)*: So we can see that the school as a whole is not doing very well.*
IA (teacher)*: So the school as a whole went down 2 points, but ELs went down 18 points. Is that correct? So whatever is not going well, the achievement gap is getting bigger. It doesn't say that but you can see that the performance among Latinos and White students, or ELs and EOs is getting bigger.*
MB (teacher)*: What is this measuring? If you are a lay person – you have no idea what it is measuring?*

Parents also found the report to be difficult to understand:

AC (parent)*: How valuable is the information that you get from this. Is this used just for the state or for funding purposes? For me, as a parent, I get no valuable information. It seems like only the state understands this and if that's the case – they are the only ones that can do something. As a parent it doesn't help me.*
OR (parent)*: I think this is useful, if we understood it, to help us decide which school to send our children. You know that law that passed, that says we can choose our school. It's very important for parents to be informed to be able to choose the best school.*
EE (parent)*: Also it's very important for us to know what the better schools are doing so we can get ideas from them. If know which are the better schools we can look at them and try to do the same thing they are doing.*

A common criticism of the report design was in regards to the extensive footnotes at the bottom of the report and table rows for students who had no data. One administrator stated "it looks like CDE could benefit from using a mail merge approach" that inserted content only if it was applicable to that school. In the same vein, a teacher asserted that the design seemed to attempt to "use a one size fits all" approach, instead of one that was customized for each school.

*Intergroup Recommendations***.** Focus groups did not recommend the report be used for any target audience. One administrator again asserted that administrators could use these reports because they "know what to look for."

Discussion of the Four Domains			
	Parents	Teachers	Administrators
Purpose	↓	↑	↑
Clarity	↓	↓	↓
Meaningfulness	↓	↑	↑
Target Audience	↓	↓	↓

Intergroup Recommendations			
	Parents	Teachers	Administrators
Parents ➤	↓	↓	↓
Teachers ➤	↓	↓	↓
Administrators ➤	↓	↓	↓

Figure 4.4. CDE API Report Domain and Intergroup Discussions.

Discussion summary. Discussion was very similar to that of the AYP report. In all focus groups the discussion revolved around unnecessary and distracting design elements that undermined every discussion domain. Not a single focus group recommended the report for any target audience.

School Accountability Report Card. Focus groups were presented with a sample School Accountability Report Card (SARC)that adhered closely to the template provided by CDE (see Appendix E for the English version of the same report). Parents (who were presented one in Spanish) were surprised that this was a report that was required to be made available to them.

> ***OR (parent)****: I have never seen this report. I can't believe that this is supposed to be available to parents and we have never seen it. I have been involved in education for a long time and I have had four kids go through this district and you are telling me I was supposed to have this since 1998?*
>
> ***EM (parent)****: How were we supposed to get access to this report?*
>
> ***Moderator****: The law says that you could access this report by asking the school for a copy or going to the school web page.*
>
> ***EM (parent)****: And how were we supposed to know that we could do that?*

Administrators shared that since the reports were produced by a third party, some had not really paid too much attention to it.

> ***GS (administrator)****: Honestly, I haven't looked carefully at a copy of mine in years. I don't even remember the last time someone from the public, or a parent actually asked for it. I have always assumed people get it online.*

Upon careful inspection of the report, administrators were surprised by some data that was missing from the SARC:

> ***KP (administrator)****: What is amazing to me is that there is barely anything here about Language Learners. The only mention of them in the whole report is in the misassignment of Teachers of ELLs and API for ELLs. There is no CELDT data to report, there is no mention of AYP for ELLs. And this is a template created by CDE?*

CV (administrator)*: Where is the achievement gap data? There is not a single mention of the achievement gap in the whole report – the only subgroup identified in the report is the API broken down by subgroup.*

GS (administrator)*: They talk about expulsions and fitness and funding – but they look at these for all students – and they don't break it down. Wasn't Jack O'Connell always talking about addressing the achievement gap?*

CV (administrator)*: This content seems over simplistic – both in the kind of data and in the narration. I think it's really designed for parents. Any staff member would have questions beyond what can be answered by this report.*

Teachers had a similar reaction:

IA (teacher)*: I get this – it seems like it is trying to offer a complete package - like a gestalt with lots of different indicators*

MB (teacher)*: I see that with the expulsion rates, but what about equity data?*

ZG (teacher)*: I think this is trying to tell us if this is a good school overall – so it has big picture data – the purpose is not for making a difference for the underperforming students – it's determine if a school is a good school or not.*

In terms of design – focus groups saw an improvement from AYP and API reports, yet had concerns about the content and design of the report:

OR (parent)*: I think it is excellent that the Willliams Case (School facilities Conditions and Planned Improvements) data is in here. I like the table on page 3. This tells me that the school is taking care of their facilities*

AR (parent)*: There are a lot of words on these pages. I take one look at it and I don't want to even start to read it.*

OR (parent)*: I like how they explain everything to you, however, the tables are a little overwhelming – it makes me dizzy.*

AR (parent)*: It shows expulsion rates and drop-out rates, but it just shows it for everybody (school wide). Why don't they break it down by the groups?*

Teachers also liked the basic design:

MB (teacher)*: What I do like about this is that it is telling you a story with narration and tables. I wish it had some graphics – but I could see how I could present this to a group of parents at a meeting*

ZG (teacher)*: It does use the narration well and tries to make it clear for non-educators.*

IA (teacher)*: I think this is a good model to work off of – we can add to this and make it a lot better and put it some more meaningful data.*

*Intergroup recommendations***.** Focus groups recognized that the report was designed for parents and the community at large. However, concerns from parents created mixed results in their perceptions of how understandable and useful the report would be.

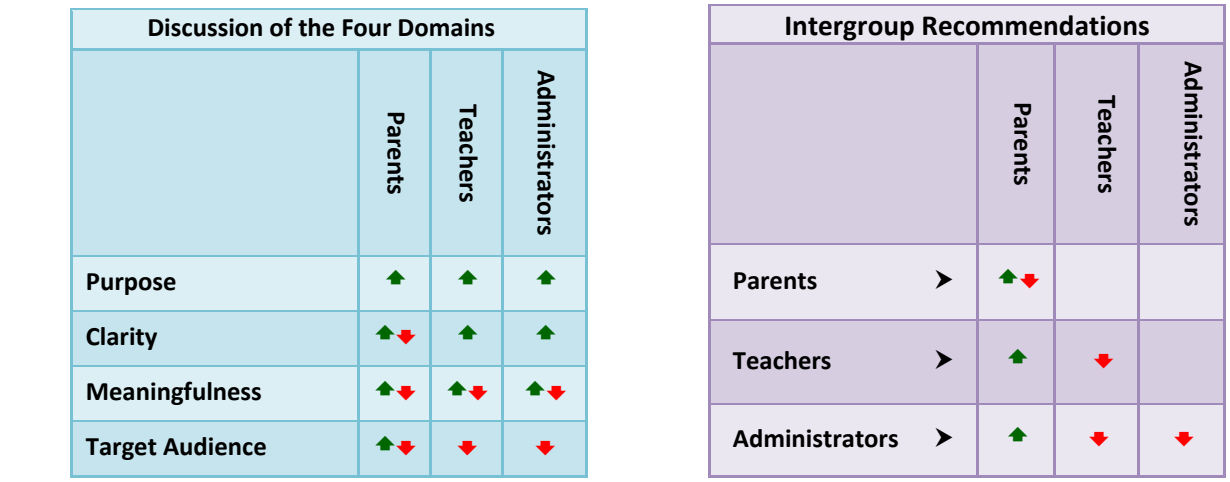


Figure 4.5. AYP and API Table Domain and Intergroup Discussions.

Discussion summary. The discussion from all focus group participants in relation to the sample SARC was prolific. Focus groups generally appreciated the table/narration design. Teachers and administrators felt the report was over-simplistic and lacking a great deal of content.

New Design Elements

Evidence-Based Guidelines for use of Graphs. Clark and Lyons (2004) define the following set of graphs and their respective purposes.

- Line graphs: To display trends. To build highly integrative mental model. To display continuous data
- Bar graphs: To show differences among categories. To display data from two or more variables on the same outcome
- Divided bar graph: To communicate absolute values as well as proportions. When using a series of graphs to show relative proportions of the same size.
- Pie charts: To help viewers make a whole-part judgments when only showing one graph or when the whole are of unequal size.
- Scatter plots: To communicate distribution data.
- Tables: To display single values. Provides least information. Use when goal is to communicate multiple precise values.

Color versus Gray-Scale Charts. *It seemed important to get feedback early about the use of color and gray scale in charts.*

Theoretical underpinnings. Color can facilitate learning and focus attention to important information that may otherwise go unnoticed. This is especially true when the content is complex and the observer is a novice (Clark & Lyons, 2004). In the case of parents, who in many times are novices to the educational system, adding color can help them focus their attention on the key aspects of the data to enhance their understanding. Color can be used in powerful ways to enhance the meaning and clarity of data displays (Few, 2008).

How the data was presented. Focus group participants were presented with two similar bar charts. One chart with color and the other in gray scale. They were asked to discuss the clarity of the two different charts.

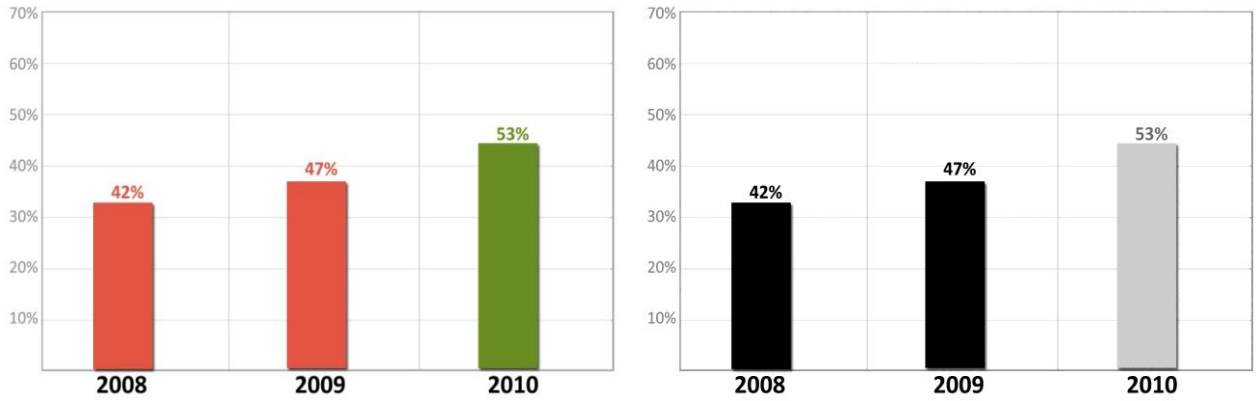


Figure 4.6. Side-by-Side Bar Charts in Color and in Gray Scale.

Discussion. Comments from most focus groups generally supported the use of color to bring focus and clarity to the chart:

> ***JY (administrator)****: I think it is confusing not to have color – to show the met and not met. The met should be green, and the not met should be red. This helps isolate which year was successful. It also makes the information jump right out at you.*
>
> ***EE (parent)****: The colors really help. It is for all audiences to understand, especially parents.*

Apprehension in the use of color manifested from one administrator, who was concerned about the cost of printing or copying charts in color:

> ***QL (administrator)****: The only concern I have is the cost of having all these color charts. If we plan to get this out to all parents – it would cost a small fortune.*

Color vs. Gray-Scale Charts			
	Parents	Teachers	Administrators
Color Chart	▲	▲	▲
Grayscale Chart	▼	▼	▲ ▼

Figure 4.7. Color and Grayscale Bar Charts Clarity Discussion

Summary. All focus groups comments supported the use of color.

Two-dimensional vs. three-dimensional bar charts. Focus group participants were presented with three different color bar charts. One chart was two-dimensional and the others were different three-dimensional designs. Charts were stripped of other design elements (i.e., axis headings, chart title, etc.). Participants were asked to review these charts and discuss their perceived clarity in providing information.

Theoretical underpinnings. It is not uncommon for a report designer to lose sight of the reason for a report and distract with unnecessary design elements. In his seminal work, *The*

Visual Display of Quantitative Information, Edward Tufte (1983) established many of the fundamental principles of design, with an emphasis on graphical minimalism in data presentation . In his second edition, Tufte (2001) charged report designers to "minimize the ink-to-data ratio" (p. 91) and avoid "chart junk" (p. 107). Tufte (1983) established many of the fundamental principles of design, with an emphasis on graphical minimalism in data presentation. The ease with which one can create elaborate charts with extravagant elements has made "chart junk" common in educational chart design . Adding three dimensionality with shadows and shading is a common practice to enhance the appearance of charts, though usually without adding significance to the data (Harris, 1999). It seemed important to present some basic chart options to determine the preference of the focus groups. Research has revealed that simpler drawings, rather than 3D versions, are more effective for novice learners (Clark & Lyons, 2004).

How the data was presented. The chart contained three, two-dimensional bar graphs, vertical and horizontal gridlines had reduced contrast levels brought the colored bar charts to the forefront.

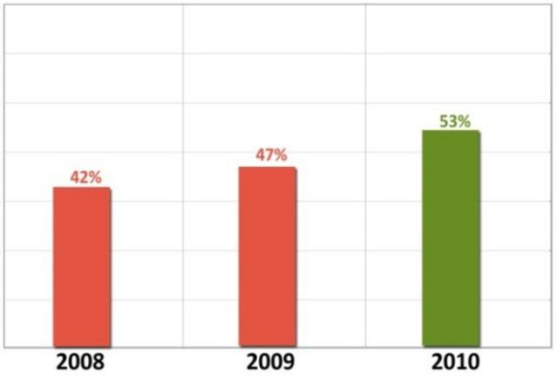


Figure 4.8. Sample Two Dimensional Color Bar Chart.

Generally, comments were quite positive from focus group participants.

> ***JY (administrator)****: I like the report. It is very nice – the design couldn't be clearer*
>
> ***GS (administrator)****: I like the three-year trend. It doesn't overwhelm you – it allows you to get a decent window for improvement*

Also parents felt the design was clear:

> ***OR (parent)****: I find this to be very straightforward and simple. Maybe because I understand it somewhat, but I think it is very clear.*

When examining three-dimensional versions of the charts, focus group members seemed to agree that no value was added:

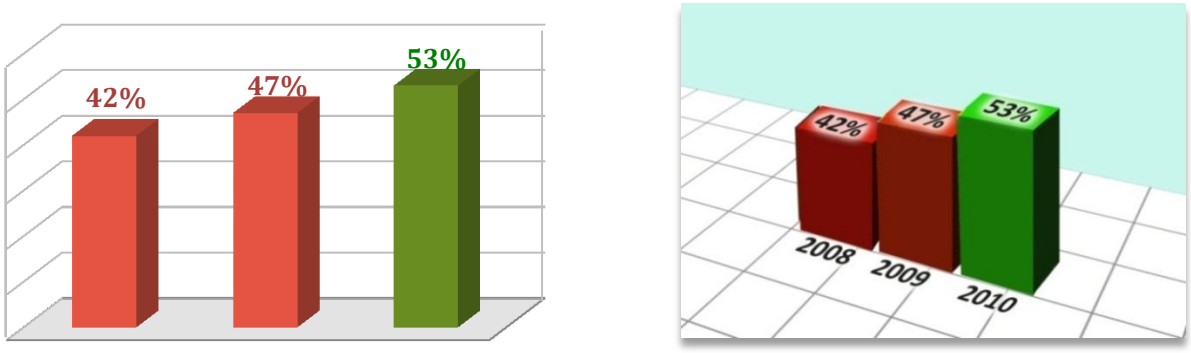


Figure 4.9. Three-Dimensional Bar Chart.

> ***DS (teacher)****: I am used to seeing these 3D bars in excel. But when I compare it to the 2D version – I don't see how the added dimension makes it any better – in fact I think it takes attention away from the data.*
>
> ***ZG (teacher)****: The other 3D chart – is even worse – it looks like a sky view of a city- I mean it is the coolest looking bar chart I've seen but it is not the best way to get me to focus on the fact that the bars are going up every year, or whatever the intended purpose is.*

Focus groups identified the increased number of design elements (i.e., gray base, darker grids) in the chart. Generally, participants felt that clarity of the information was not improved:

> ***AC (administrator):*** *I am used to these 3D charts from Excel – so I have a comfort level with them. I am struggling to come up with one thing that this bar chart offers better than the flat one.*

Discussion of Clarity Domain			
	Parents	Teachers	Administrators
Clarity of 2D	↑	↑	↑
Clarity of 3D –v1	↓	↑ ↓	↑ ↓
Clarity of 3D –v2	↓	↓	↑ ↓

Figure 4.10. 2D and 3D Bar Charts Discussion of Clarity Domain.

*Summary of Discussion***.** All focus groups comments supported the use of the two-dimensional chart. Though, comments implied that three-dimensional charts were graphically appealing, participants asserted this design detracted from the data to be communicated.

Venn diagram options. *Focus Groups also were presented with different styles of Venn diagrams to determine the comfort level of each group for each design.*

Theoretical underpinnings. The importance of learning how to interpret Venn (or relational) diagrams has been well documented, especially in the teaching of science and math (Mintzes, Wandersee, & Novak, 1998). In fact, Venn diagrams have been integrated into and throughout the California standards and are common instructional tools for both simple and complex relationships in different data sets (Harris, 1999). Venn diagrams offer readers a unique understanding of the overlapping sets of data. The applications of this graphic tool to understand the inter-relationship of the different non-exclusive subgroups of students were discernible. A traditional Venn diagram compares three sets (sometimes within a larger set). However, the most common number of sets of underperforming subgroups is four (Socioeconomically Disadvantaged, English Learners, Students with Disabilities, and One Ethnicity – either Hispanic, African American, or Native American.) For this reason, I proposed utilizing a (non-circular) rectangular version of the relation diagram I referred to as the "Quad Venn."

Participants were presented with two charts – a Quad Venn and a traditional three-set circular Venn Diagram.

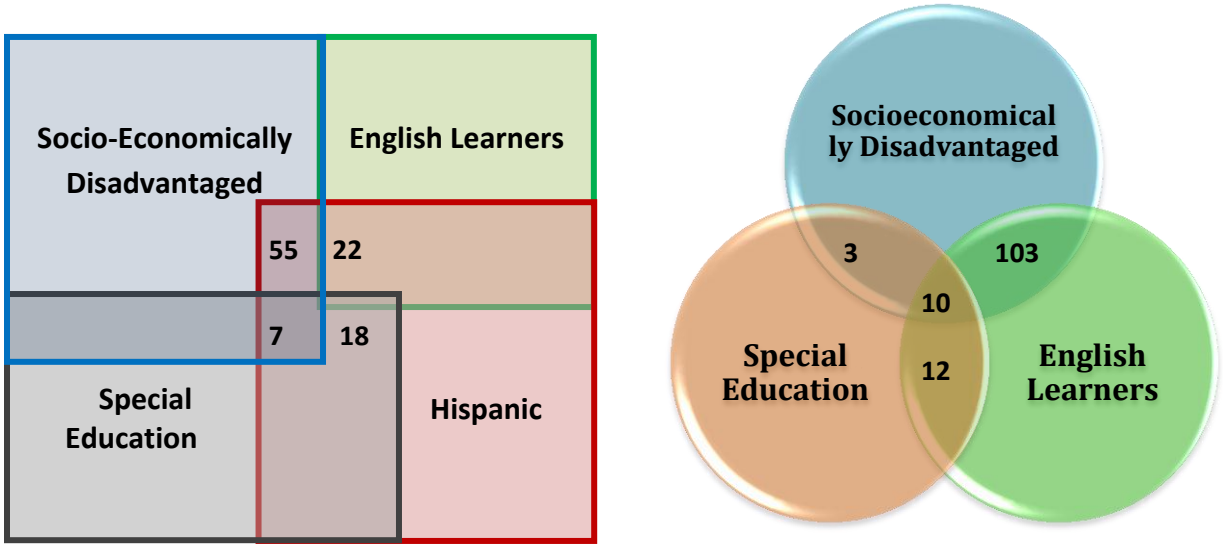


Figure 4.11. A Quad Venn and a Traditional Three-Set Circular Venn Diagram.

*Quad Venn (relational) diagram***.** When reviewing the Quad Venn diagram - the first set of comments from every focus group revealed none of them had seen this kind of chart. They asked many questions about the significance of the numbers in the overlapping areas. Administrators and teachers recognized the strategic advantage of identifying the students who belonged within multiple subgroups:

> ***CV (administrator)****: I think it is meaningful – because we need to get it through safe harbor. I would want it to be online –so I can click on the number it hyperlinks to a list of students in each category. I like it – once you figure it out it gives you an extra dimension of categories.*
>
> ***QL (administrator)****: Now all we need is a list these kids in the middle (who qualify as ELL, SED, and Hispanic) and we can get to work (to meet Safe Harbor).*
>
> ***GS (administrator)****: Who is this for? If you walk in and give it to parents, they would be lost.*

Teachers seemed to agree that the Quad Venn was more complex and therefore not a good tool for parents:

> ***ZG (teacher)****: The pie charts are really easy to understand, this other one (Quad Venn) I really have to think about it. I think I get it but for parents and community members it would take some explaining.*
>
> ***DS (teacher)****: We could use this one (Quad Venn) to identify students for targeting services, like for Safe Harbor.*

Parents did in fact share that they found the diagram difficult to interpret:

> ***AC (parent)****: I don't understand the significance of the different colors. I think I need to study this more.*
>
> ***EM (parent)****: If you can explain the same thing with the normal kind of diagram (traditional Venn) I would do that. I think it would be a waste of a meeting's time to have to teach people how to interpret this thing.*

Traditional Relational (Venn) Diagram. When reviewing the traditional three circle Venn, participants expressed familiarity with the chart type. Parents expressed a higher comfort level with this chart. Administrators identified the limitation of the traditional Venn. Demonstrating all demographics would require multiple traditional Venn diagrams

Quad and Traditional Venn Diagrams			
Domain: Clarity	**Parents**	**Teachers**	**Administrators**
Quad Venn	↓	↑ ↓	↑ ↓
Traditional Venn	↑	↑ ↓	↑ ↓

Figure 4.12. Quad and Traditional Venn Diagrams Clarity Discussion.

*Summary of Data***.** The use of Quad Venn Diagrams for teachers and administrators seemed to hold promise. However, this type of diagram was found to be too complex for parents. For parents multiple traditional Venn diagrams could be utilized.

Stage I: Data Elements Brainstorm

Focus group participants were provided a list of data elements required to be included in the SARC and were asked to discuss the kinds of data they believed that should be included in a prototypical accountability report.

According to the CDE (2010b), SARC fields must include the following:

I. Data Access
II. About This School
   - Contact Information (School Year 2010–11)
   - School Description and Mission Statement (School Year 2009–10)
   - Opportunities for Parental Involvement (School Year 2009–10)
   - Student Enrollment by Grade Level (School Year 2009–10)

- Student Enrollment by Group (School Year 2009–10)
- Average Class Size and Class Size Distribution (Elementary)
- Average Class Size and Class Size Distribution (Secondary)

III. School Climate
- School Safety Plan (School Year 2009–10)
- Suspensions and Expulsions

IV. School Facilities
- School Facility Conditions and Planned Improvements (School Year 2010–11)
- School Facility Good Repair Status (School Year 2010–11)

V. Teachers
- Teacher Credentials
- Teacher Misassignments and Vacant Teacher Positions
- Core Academic Classes Taught by Highly Qualified Teachers (School Year 2009–10)

VI. Support Staff
- Academic Counselors and Other Support Staff (School Year 2009–10)

VII. Curriculum and Instructional Materials
- Quality, Currency, Availability of Textbooks and Instructional Materials (School Year 2010–11)

VIII. School Finances
- Expenditures Per Pupil and School Site Teacher Salaries (Fiscal Year 2008–09)
- Types of Services Funded (Fiscal Year 2009–10)
- Teacher and Administrative Salaries (Fiscal Year 2008–09)

IX. Student Performance
- Standardized Testing and Reporting Program
- Standardized Testing and Reporting Results for All Students – Three-Year Comparison
- Standardized Testing and Reporting Results by Student Group – Most Recent Year
- California High School Exit Examination
- California High School Exit Examination Results for All Grade Ten Students – Three-Year Comparison (if applicable)
- California High School Exit Examination Grade Ten Results by Student Group – Most Recent Year (if applicable)
- California Physical Fitness Test Results (School Year 2009–10)

X. Accountability
- Academic Performance Index
- Academic Performance Index Ranks – Three-Year Comparison
- Academic Performance Index Growth by Student Group – Three-Year Comparison
- Academic Performance Index Growth by Student Group – 2010 Growth API Comparison
- Adequate Yearly Progress
- Adequate Yearly Progress Overall and by Criteria (School Year 2009–10)
- Federal Intervention Program (School Year 2010–11)

XI. School Completion and Postsecondary Preparation
- Admission Requirements for California's Public Universities

- University of California
- California State University
- Dropout Rate and Graduation Rate
- Completion of High School Graduation Requirements
- Career Technical Education Programs (School Year 2009–10)
- Career Technical Education Participation (School Year 2009–10)
- Courses for University of California and/or California State University Admission (School Year 2008–09)
- Advanced Placement Courses (School Year 2009–10)

XII. Instructional Planning and Scheduling

- Professional Development

***Parents*.** The parent focus group explained that to them accountability indicators represented a reduction in inequitable practices, such as over-representation of a certain subgroup in expulsions. They provided the following list of indicators they would want to keep track of:

- Preparation to enter college
- Literacy in English
- Performance on the CAHSEE
- High School completion rates
- A-G (University of California) Courses completed
- Reclassification rates (EL to Fluent English Proficient)
- Reduction in Expulsions
- Reduction in drop-out rate
- Student who increased their performance by at least 1 level on the CA Standards Test
- Students who reach graduation who began in the 9th grade at that school
- Students on track with A-G university requirements
- Students who have all requirements for graduation except passing CAHSEE
- Referred Students who received an SST
- Reduction in Expelled Students by ethnicity
- Number of days lost to suspension or expulsion
- Reclassification of EL students (EL to Fluent English Proficient)
- Students who increased their Overall CELDT Score by 1
- EL Parents who participate in Program Choice Meeting at School Site
- Parents who requested an Alternative Program waiver
- Classrooms with Highly qualified Teachers
- Classrooms identified as Bilingual that have a teacher with a BCLAD
- Williams Complaints Filed and Resolved

***Teachers*.** Teachers also had recommendations for data they would want included in an effective accountability report.

- Academic improvement in other measures (not just CST or CELDT)
- Reclassification of ELs to Fluent English Proficient
- Drop-out rate
- Grade Point Average, credits completed

- Students on track to graduate, on track A-G
- Letter Sounds for kindergartners
- Graduation rates by subgroup
- Teacher retention (how many return year to year)
- Students who complete high school fully bi-literate (full literacy in two languages)
- Increase in budget dedicated to services to students, reduction in Administrative costs
- Parent involvement

***Administrators*.**

- Teacher effectiveness (pre and post of students from beginning to end of year)
- Improvement in Student attendance
- Parent involvement measures
- Year to Year retention of students (students not dropping out)
- Safe Harbor Targets for all sub groups
- Graduation Rates by subgroup
- Drop-out rates by subgroup
- Reclassification rates to Fluent English Proficient
- Percent of students reading at grade level
- CASHEE passing rates
- A-G Completion rates by subgroup
- Percent of English learner students receiving ELD

Chapter 4: Stage II

During Stage II, I aggregated the opinions and observations expressed during stage one and identified the essential components of an easy-to-understand, informative public report card. Using this input and the research literature, I sought to develop the structure, content, and design of an effective prototypical accountability report.

Structural Design of the Prototypical Report

Sections. As a result of Stage I and Stage II data collection and analysis, the report was organized into the five sections identified in Stage I:

- Demographic Data
- Static Data
- Growth Data
- Achievement Gap Data
- Strategic Data

Groups. Within each section, the report included components that were made of a set of charts. These groups of charts were intended to isolate the essential data.

***Components*.** Each group of charts had the following components:

- Interpretive Guide: Guidelines that attempt to clarify the purpose and meaningfulness of the chart
- Charts
- Chart Description

Elements: Each component was made up of different elements:

- Interpretive Guide Elements: Narrative overview, sample chart, text box descriptions with arrows, and a graphic representation of what improvement would look like
- Charts Elements: Included chart title, subgroup(s), legends,
- Chart description: Narrative description of the chart

Dashboard. In addition, the report offered a dashboard, which organizes and presents information and a summary of the different groups in a format that is easy to read.

Sections

Demographic Data. Stage I data collection and the research literature compelled the use of data that provided information about the characteristics of the student population unrelated to achievement data. This included data about the numbers and percentages of students in the subgroups identified in ESEA.

The initial report did not contain any demographic data. Focus group members in Stage I asked several questions about the numbers and percentages of students in the different subgroups. In addition, the research literature supports the use of demographic data as a compliment to achievement and accountability data (Mason, 2002; Lachat & Smith, 2005).

***Static Data*.** NCLB requires the annual measurement of the number of students who reach proficiency on state assessments. A required component of accountability report cards is to demonstrate the performance of different subgroups to the established targets. This accountability check is considered static in that it is a snapshot of performance for that school year. Success in achieving these targets is unrelated to performance in previous years. In California, as in most states, the targets increase annually until they reach the ultimate NCLB goal of 100% proficiency in 2014.

***Growth Data*.** Most stakeholders want to see how schools and LEAs perform over time. This allows for identifying trends over a larger time span. The Academic Performance Index is an example of a growth indicator that attempts to demonstrate how well schools perform from one year to the next. Focus groups in Stage I discussed the time span and the general consensus was that a three year window was best, though individuals did advocate for a longer time frame (up to 10 years).

***Achievement Gap Data*.** *The introductory text of NCLB asserts its goal "to close the achievement gap with accountability, flexibility, and choice, so that no child is left behind" (NCLB). Lee (2006) defines the achievement gap as* inequitable performance on assessments between ethnicities and poor and non-poor students and other groups of students with a history of low performance. These are the very students Robert Kennedy was advocating for on the floor of the Senate (McLaughlin, 1974). The purpose of this data is to compare and contrast the academic performance of identified subgroups. This allows the observer of the data to understand both school-wide performance as well as performance of the students in the different subgroups. NCLB identifies accountability data for disaggregation for students' different ethnicities, socio-economically disadvantaged students, English Learners, and students with disabilities as subgroups. Focus group participants expressed their hoping to see the performance of students in these subgroups in comparison to other groups over time.

***Strategic Data*.** Strategic data offers stakeholders information that identifies high leverage areas for improvement and reform. The data itself has an answer as to how to address it.

Dashboard. Dashboards are "... a style of user interface designed to deliver user-specific information relating to the health of the [organization], typically represented by key performance indicators and links to relevant reports" (Lawson, Stratton, & Hatch, 2007, p. 1) Dashboards provide visual elements to focus user attention on important trends and changes. Focus group participants appreciated the depth of data that was available in the variety of reports. However, every group asserted an interest in a redacted (one page) report that summarized key data. A dashboard was developed in Stage II and modified in Stages III and IV.

***Current CDE Report Card Table Design*.** Stage I analysis of the CDE Report Cards provided some clear data about the importance of proper design for tables. Informants described the difficulty following the information horizontally on the chart, the excessive amount of empty fields, and the difficulty identifying key information.

Percent Proficient - Annual Measurable Objectives (AMOs)

	English-Language Arts Target 56.8 % Met all percent proficient rate criteria? No					Mathematics Target 58.0 % Met all percent proficient rate criteria? No				
GROUPS	Valid Scores	Number At or Above Proficient	Percent At or Above Proficient	Met 2010 AYP Criteria	Alternative Method	Valid Scores	Number At or Above Proficient	Percent At or Above Proficient	Met 2010 AYP Criteria	Alternative Method
Schoolwide	372	106	28.5	No		372	183	49.2	No	
Black or African American	0	--	--	--		0	--	--	--	
American Indian or Alaska Native	0	--	--	--		0	--	--	--	
Asian	1	--	--	--		1	--	--	--	
Filipino	7	--	--	--		7	--	--	--	
Hispanic or Latino	354	97	27.4	No		354	169	47.7	No	
Native Hawaiian or Pacific Islander	1	--	--	--		1	--	--	--	
White	9	--	--	--		9	--	--	--	
Two or More Races	0	--	--	--		0	--	--	--	
Socioeconomically Disadvantaged	346	92	26.6	No		346	167	48.3	No	
English Learners	296	71	24.0	No		296	138	46.6	No	
Students with Disabilities	49	8	16.3	--		49	13	26.5	--	

Figure 4.13. Sample Table from AYP Report Card.

***New Table Design*.** As a result of the data collected in Stage I, focus groups provided preferences of characteristics to enhance the clarity of tables. Characteristics include bolded table headings with test, banded rows, row spacers for isolating subgroup types, arrows to display three-year trend, exclusion of subgroups that have no achievement data, and symbols to show if targets were met or not (see Figure 4.14).

2010 California Standards Test: Language Arts

Proficiency Goal = 56.8%

	Valid Scores	Met 95% Participation	Percent Proficient	Met AYP
Schoolwide	**432**	✓	**57%** ▲	✓
African American	**24**	✓	**34%** ▲	
Hispanic	**321**	✓	**14%** ▼	
White	**80**	✓	**53%** ▶	✓
English Learners	**203**	✓	**24%** ▼	✗
Socioeconomic Disadvantaged	**255**	✗	**44%** ▲	✗
Special Education	**54**		**14%** ▶	

Key

▲ Significant increase over 3 years	✓ Met Target
▶ No significant change over 3 years	✗ Did not Meet Target
▼ Significant decrease over 3 years	

Figure 4.14. Sample Redesigned Table and Key

***Design of Interpretive Guides*.** The research literature (Goodman & Hambleton, 2004) and focus group data conclusively suggested the need for interpretive guides for each chart group. The National Educational Goals Panel (1998) assert that guides are a way to provide parents with important information that would not likely fit on a single page of the data itself. Components of the interpretive guides include:

- An introduction to the chart giving a basic description of its purpose and meaningfulness to the target audience.
- A sample chart.
- Explanations of all design elements within the sample chart.

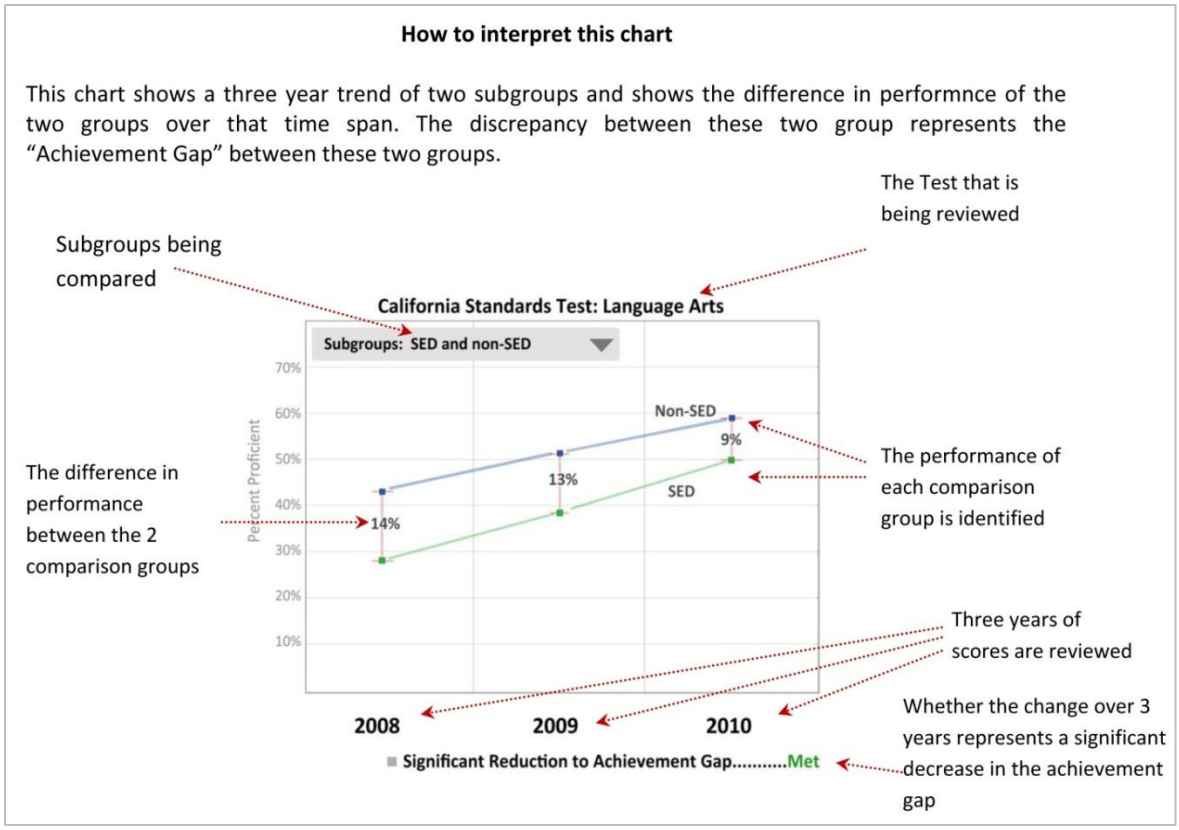


Figure 4.15. Components of the Interpretive Guides.

Stage III

During stage three, I shared the report card and again solicited the opinions of another group of informants. Using the feedback from this second group of informants, a group that included parents, classroom teachers, and administrators, I revised the prototype report card. Every chart was reviewed. The four domains (Purpose, Clarity, Meaningfulness, and Target Audience) were used as a guide to structure discussions. Also, stakeholder groups were asked if they would recommend the chart to other stakeholders.

Static Data

Adequate Yearly Progress table. A required component of NCLB is the annual reporting of accountability data that includes participation rates and performance on state assessments by identified subgroups (See Chapter 2).

Theoretical Underpinnings. Harris (1999) defines tables as charts with information arranged in rows and columns in some meaningful way. He defines the major reasons to use tables:

- They are one of the best ways to convey exact numerical values.
- They present data more compactly than in sentence form.
- They assist the viewer in making comparisons, determining how things are organized, noting relationships between various sets of data, etc.
- They are one of the most convenient ways of sorting of data for rapid reference.

- They are an excellent vehicle for recording and communicating repetitive information (forms).
- They organize information when graphics would be inappropriate.

Harris (1999) also asserts the use of a multimodal combination of words, numbers, and symbols as "particularly effective". He further describes the use of symbols to "easily make comparison between the actual values and some other set of values designated by the symbols" (Harris, 1999, p. 27). The uses of arrows that point up, down, and sideways to represent increases, decreases, and level maintenance over time will be a recurring graphic design element in this study.

How the data was presented. Participants were presented with a modification to the AYP and API tables found on the CDE AYP report card. Several design elements were added including bolded table headings with test, banded rows, row spacers for isolating subgroup types, arrows to display three-year trends, exclusion of subgroups that have no achievement data, symbols to show if targets were met or not, and a simple key.

2010 California Standards Test: Language Arts

Annual Measurable Objectives (Proficiency Goal = 56.8%)

	Valid Scores	Met 95% Participation	Percent Proficient	Met AYP
Schoolwide	432	✓	57% ▲	✓
African American	24	✓	34% ▲	
Hispanic	321	✓	14% ▼	
White	80	✓	53% ▶	✓
English Learners	203	✓	24% ▼	✗
Socioeconomic Disadvantaged	255		44% ▲	
Special Education	54		14% ▶	

2010 Academic Performance Index

	Valid Scores	2009 Base	2010 Growth	2010 Target	Met API
Schoolwide	430	698	702 ▼	704	✗
African American	54	694	697 ▲	702	✗
Hispanic	320	692	699 ▲	698	✓
White	78	702	703 ▶	707	✗
English Learners	204	694	699 ▲	699	✓
Socioeconomic Disadvantaged	260	692	703 ▲	697	✓
Special Education	55	690	695 ▶	695	✓

Key

▲ Significant increase over 3 years	✓ Met Target
▶ No significant change over 3 years	✗ Did not Meet Target
▼ Significant decrease over 3 years	

Figure 4.16. Tables with AYP and API information with a Legend

*Comments***.** Administrators and teachers were split over the use of symbols instead of the original Yes/No utilized in the CDE tables for the Met Target column:

***AH (administrator)**: The way I look at this is, who do I want to see this? We can interpret this chart because we have been trained in data analysis. If this table is going to be presented the public, I like the symbols better. Especially, if I am thinking of my lower uneducated minority parents who are language learners.*

***IA (teacher)**:: I like the checks and Xs – it requires interpretation, however, it's pretty straight forward.*

***RS (teacher)**: I like the arrows and the Yes/No. The symbols – you have to decipher – so I don't like them – Yes / No is clearer.*

Parents were clear about their preference for words to assert meeting targets and arrows to show increases and decreases:

***AR (parent)**: Yes, the Yes/No is clearer for all people. The symbols are can create confusion.*

***OR (parent)**: This is much clearer to me. I like the arrows. It tells me more. What is positive and negative. Also the colors make sense – they help me understand. I like the word "YES" and "NO" and not the checks or Xs.*

***AC (parent)**: I agree with that. This is much better than the other tables we saw.*

***OR (parent)**: When I look at the check I am not sure if this is positive or negative. I think the words are more universal.*

***EM (parent)**: Yes I also agree. The Yes/No is clearer.*

Intergroup Recommendations. All groups felt that the information would be, and should be, accessible and clear to all other stakeholder groups with some minor design adjustments.

Discussion: Four Domains

	Parents	Teachers	Administrators
Purpose	↑	↑	↑
Clarity	↑	↑	↑↓
Meaningfulness	↑	↑	↑
Audience	↑	↑	↑

Intergroup Recommendations

	Parents	Teachers	Administrators
Parents ➤	↑	↑	↑
Teachers ➤	↑	↑	↑
Administrators ➤	↑	↑	↑

Figure 4.17. AYP and API Table Domain and Intergroup Discussions.

*Discussion Summary***.** The chart met with positive comments from all four focus groups with some minor modifications.

Three-Year Bar Chart of Proficiency Target. *As I searched for more effective ways to display AYP data over time, I attempted to utilize bar charts to isolate each subgroup and show their performance on the CST over three years.*

Theoretical underpinnings. Horizontal bar charts are some of the most commonly utilized charts, and most users have a high comfort level with them (Clark & Lyons, 2004). In addition, the design attempts to maximize focus on the data (colored bars) and minimize focus on potentially distracting elements (Clark & Lyons, 2004; Tufte, 1983). The use of the target dotted line "symbol" allows for the user to contrast the height of the bar with the reference value (Harris, 1999).

How the data was presented. Participants were presented with a graph with three bars representing the performance of a specific subgroup over three years. Colors are utilized to demonstrate whether the Annual Measurable Objective (AMO) target was met for that year (green is met, red is not met). In addition, focus group participants are told a dotted target line is placed to identify the AMO target for that year.

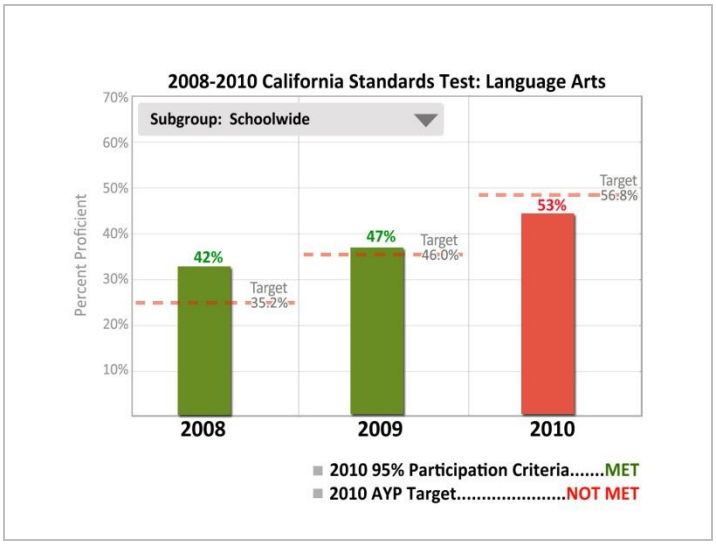


Figure 4.18. California Standards Test: Language Arts, 2008-2010.

Comments. Comments from parents were generally very positive. They demonstrated a comfort level with bar charts and an understanding of the data:

OR (parent)*: It shows you the target and how much they went over it.*

AR (parent)*: At first I was confused until I read the narration. 42% didn't pass and then 47% did pass – but when I see the little bar – I realize that was the reason why they didn't pass. Torres understands these things, and I don't understand it. The confusion is in the percentages. I looked at the 42% and it is red – and the 47% is green . I had to look and then I saw the little line that helped me understand why this bar chart made it and this one didn't.*

AC (parent)*: Another thing that makes it very understandable. The narration discusses the whole school and the chart shows the whole school. Below it shows Hispanics, and it shows the narration of our kids, well Hispanics. I think this is more clear. As a parent I can understand it.*

EE (parent)*: The colors really help. It is for all audiences to understand, especially parents.*

OD (parent)*: Parents who are involved with their students. For those of us who take the time to listen and pay attention, it is easy to decode the information.*

AR (parent)*: Yes – no that I understand the target – it makes sense. maybe below, you can write "Yes" or "No" so that it can makes more sense. Where the bar is – say the target. Maybe you can change the color so it can stand out more. So that we can tell what the target is.*

Administrators offered positive feedback for the chart, with one exception:

AH (administrator)*: I think it is also confusing to put the participation criteria at the bottom. The bar graph is supposed to represent proficiency. The bar represents percent proficient.*

LN (administrator)*: Is this chart showing two things? Participation rate and proficiency or is the bar just proficiency.*

Moderator*: the calculation for met was only for proficiency not participation.*

AH (administrator)*: Then the chart should not mention proficiency. My confusion is that the summary bullets don't apply to the summary.*

IM (administrator)*: When I see the Participation rate in the narration, I am looking for it in the graph. The narration and the graph need to have the same data. If you add data in the narration that is not on the graph, it creates confusion, because I look to the graph to get clarification.*

AI (administrator)*: Why do we need to have participation rates here. We don't need it.*

IM (administrator)*: The accountability law says you have to have it.*

RT (administrator): *You are mentioning participation rate and proficiency but not the other sections of the AYP. So we are not talking about AYP we are talking about AMO. AYP for Language arts needs to include graduation rates, API.*

IM (administrator)*: I like the report. it is very nice – the design is clean.*

AH (administrator)*: Three year trend data is great. It could be an excellent strategic tool to add a fourth column as a goal and include both Annual and Safe Harbor targets.*

AI (administrator)*: I think that is a very good idea. (others nod).*

Intergroup Recommendations**.** All groups felt that the information would be, and should be, accessible and clear to all other stakeholder groups with some design adjustments.

Discussion: Four Domains	Parents	Teachers	Administrators
Purpose	↑	↑	↑
Clarity	↑	↑	↑↓
Meaningfulness	↑	↑	↑
Audience	↑	↑	↑

Intergroup Recommendations	Parents	Teachers	Administrators
Parents ➤	↑	↑	↑
Teachers ➤	↑	↑	↑
Administrators ➤	↑	↑	↑

Figure 4.19. Bar Chart of Proficiency Domain and Intergroup Discussions.

Discussion summary. The chart met with positive comments from all four focus groups with some minor modifications.

Scale Score Distribution.

Theoretical underpinnings. According to Harris (1999) a frequency polygon, a type of histogram where a smooth line is used to join data points, can make the visualization of frequency data easier, especially when comparing multiple data series. Clark and Lyons (2004) assert that the strength of these kinds of graphs is to communicate the distribution and variation of data. The distributions of scale scores are rarely displayed graphically in accountability reports. The California High School Exit Exam (CAHSEE) is unique from other accountability assessments in that it contains cut scores for passing and a higher cut score for proficiency. I had hoped to utilize a frequency polygon to demonstrate the distribution of scale scores for different subgroups and offer a more detailed graphic representation of student performance by subgroup and of the different thresholds for passing and proficiency.

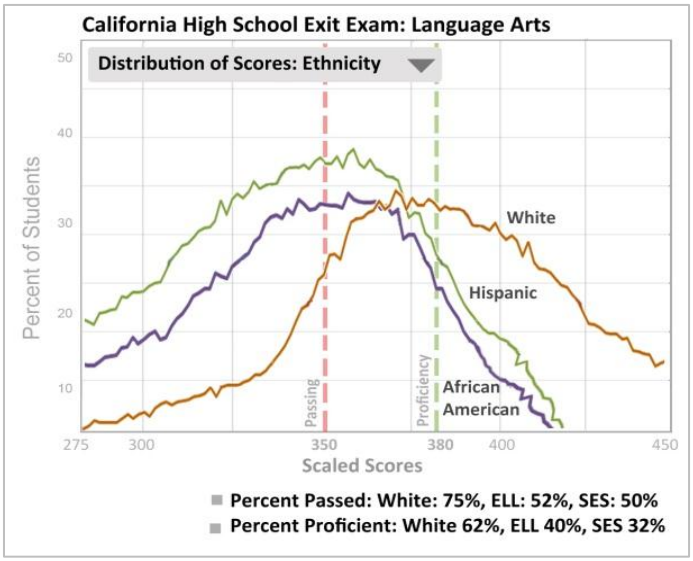


Figure 4.20. California High School Exit Exam: Language Arts Polygon Chart.

How the data was presented. The CAHSEE scale score distribution chart was presented with the following comments: This chart represents a distribution of CAHSEE scale scores for different ethnic groups. Each jagged curve represents the distribution of students who passed or did not pass the CAHSEE. The chart also shows the scale scores needed to pass the CAHSEE exam and the scores needed to be considered proficient. Administrators had a lively discussion about this graph:

> ***LN (administrator)****: What I really like about it is that there is a distinction between passing and proficiency. So you can narrow in on the students who are in between the two. I can figure out the percentage of students who are in there.*
>
> ***UI (administrator):*** *The problem here is that it doesn't show growth. It's a snapshot only.*
>
> ***AH (administrator):*** *It accentuates the conflict between AYP and API. Proficiency was this made up thing that was imposed after the fact on a test designed to measure minimal skills sets (CAHSEE).*

Administrators felt that it was too complex for most stakeholders. Parents were unable to make much sense of the chart and simply requested we move on to another chart.

Intergroup Recommendations. No group recommended this chart for other groups. Administrators shared that they felt this chart "would make no sense" to parents.

Discussion: Four Domains

	Parents	Teachers	Administrators
Purpose	↓	↓	↑↓
Clarity	↓	↓	↓
Meaningfulness	↓	↑↓	↑↓
Audience	↓	↓	↓

Intergroup Recommendations

	Parents	Teachers	Administrators
Parents →	↓		
Teachers →	↓		↑↓
Administrators →	↓	↓	↓

Figure 4.21. CAHSEE Scale Score Domain and Intergroup Discussions

Discussion summary. Comments were almost universally critical of the graph. Therefore, it is to be removed from the final report.

Growth Data

Academic Performance Index. *A required component of the California Public Schools Accountability Act is the reporting of the API as part of the Annual Performance Report. Traditional presentations of this data has been done in table format. I attempted to present this information in a way that was more understandable to the focus groups.*

Theoretical underpinnings. Line graphs offer an effect method to display trends (Clark & Lyons, 2004). Graphs are easier than tables for readers to use when they want to make comparisons. Users can interpret information more accurately and quickly when the graph's structure allows them to create visual chunks from the information (Vaiana & McGlynn, 2002).

Line graphs seemed to be a good choice to allow readers to see how different subgroups compare to each other in moving from their base API to their growth API. Readers can see not only the amount of increase, demonstrated by the slope of each line, but also compare the final state of the different subgroup growth scores.

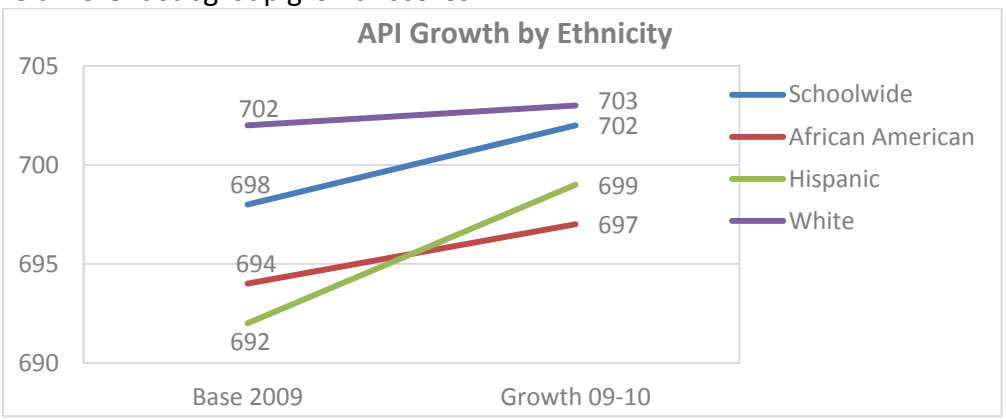


Figure 4.22. API Growth by Ethnicity Line Graph.

How the data was presented. The graph was presented as an alternative way of viewing the data included in the API table. By utilizing line graphs, informants could understand how the different subgroups were doing in comparison to each other. Informants were provided one chart with the ethnicity subgroups and another with the remaining subgroups (EL, SED, SWD).

Comments. Parents and administrators felt the chart was lacking a graphic representation of the targets, which are calculated independently for each subgroup.

> ***LN (administrator):*** *I can see how the groups did in comparison to each other – which is good – but I can't tell who made it and who didn't I would have to go to the table data. I know it is challenging since each subgroup could have a different target, but is there a way to add the target data for each line?*

In addition, teachers and administrators did not understand the logic of grouping ethnicities together and separately from the other subgroups (EL, SED, Special Education).

> ***EE (parent):*** *It doesn't matter that it looks busy – I think all subgroups should be on the same graph. If the lines are crossing other lines– it means that group is doing well.*

Administrators stated that more years of growth would be more meaningful. One teacher questioned the purpose or benefit of the chart, stating "it doesn't really tell me much."

*Intergroup recommendations***.** Administrators and parents recommended the chart only if a graphic representation of the targets was added.

Discussion of the Four Domains	Parents	Teachers	Administrators
Purpose	↑↓	↓	↓
Clarity	↑	↑↓	↓
Meaningfulness	↑↓	↓	↑↓
Target Audience	↑	↑	↑

Intergroup Recommendations	Parents	Teachers	Administrators
Parents ➤	↑↓		
Teachers ➤			↑↓
Administrators ➤	↑↓		↓

Figure 4.23. API Growth by Ethnicity Domain and Intergroup Discussions.

Discussion summary. The design of this chart was deemed "clear" by all groups, however, its application and meaningfulness to API data was put into question without significant modifications.

Performance Level Distribution (1 year). *Understanding how the performance is distributed in different performance levels and how these distributions change over time, suggested an effective means of seeing progress.*

Theoretical underpinnings. Stacked Bar Chart with a single bar, also known as one-axis bar chart, shows how the relative sizes of components change from one situation to another (Harris, 1998). The bars are divided (stacked) into categories, where each bar represents a total. In this case, the bar represents all the students who took the California Standards Test (CST) examination.

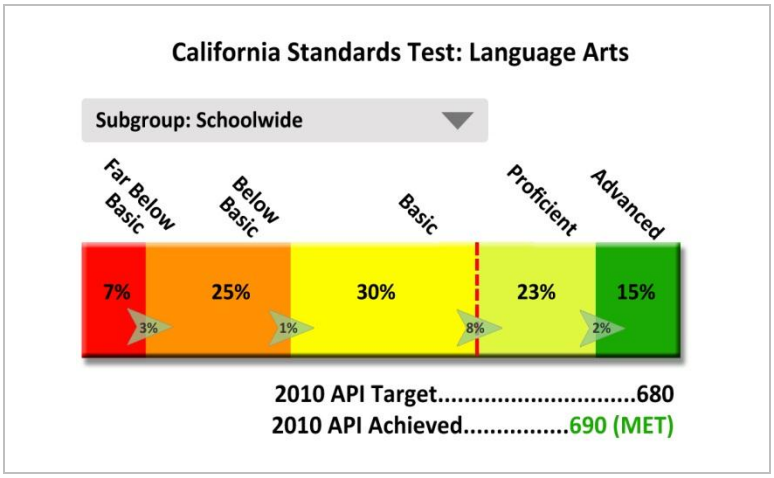


Figure 4.24. California Standards Test: Language Arts Stacked Bar Chart.

How the data was presented. Focus groups examined a chart which offered a graphic representation of the percentile distribution of performance levels. Arrows were included to demonstrate to changes to the performance level percentages from the previous year.

Discussion. The ensuing discussion raised an issue related to a common misconception of the API – that you can compare API scores from year to year. In their discussion administrators began disclosing their strategies to try to meet AYP or API by targeting certain students based on the position of their scaled score.

AH (administrator)*: The problem is that this shows me that a certain cohort has 3% more in basic than they did last year. But we get points based on kids, not necessarily a cohort moving from one level to the next. I don't get points for cohort improvement.*

UI (administrator)*: I think that it's important to say when we are sharing this that if you are at the same level – you have made a year's level growth. So if you increase levels, you actually have increased a year, plus a whole level more. We often don't tell this to people. We think they are stuck.*

AH (administrator)*: I think we shouldn't just look at bands – I'd like to see how much students grew by scaled score. I'd like to see a chart that has a vertical line – the middle would be status quo – same scale score year to year. And then it would show how many students increased their scale score and how many decreased their scale score and by how many points. That would be a good representation. I want to know how many gained 12 points last year; more than one grade level. I am interested because sometimes I find students move from 303 to 341 – they haven't increased performance level but they have made a lot of growth in their scaled score. We never report that, we never report that to our staff.*

RT (administrator)*: Yeah but you are comparing different standards. One test measures performance in one year with one set of standards, the other test measures the next year's standards. You can't make that comparison.*

AH (administrator)*: You can in English.*

RT (administrator) *No, you can't.*

AH (administrator)*: But in the design curriculum, the expectation is that they gain one year of curriculum. The difference between one year's curriculum and the next is represented in the test.*

RT (administrator)*: They are not the same test and so cannot be compared.*

Though administrators, teachers, and parents stated that they "liked" the chart, many of them disclosed incorrect assumptions about what the arrows represented. These misunderstandings included the belief that the arrows represented the percentage of individual students who increased their level from one year to the next.

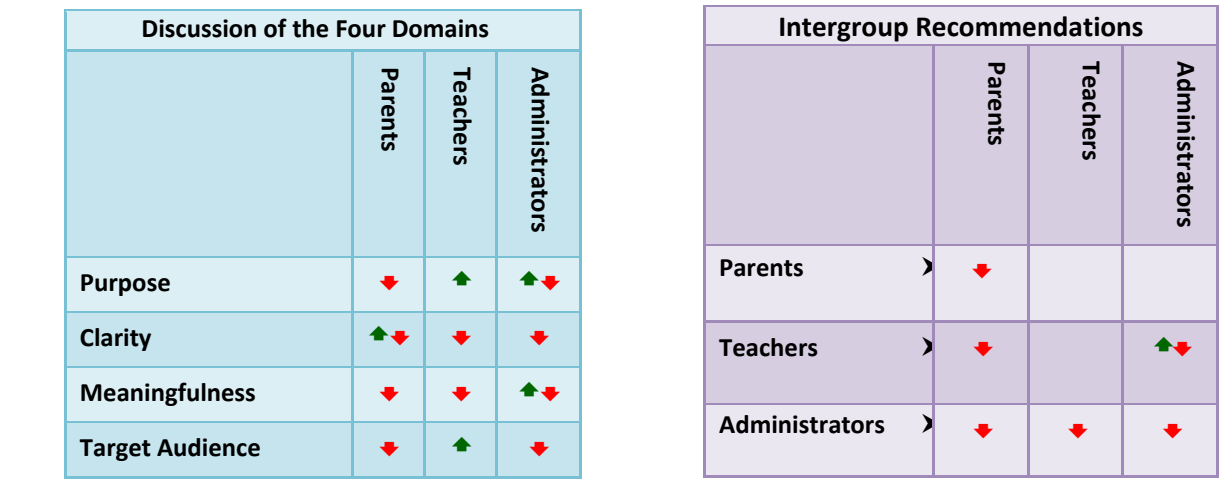
UI (administrator)*: The problem with this chart is that it makes the assumption that students only move one level. They can actually move more than one level, even three.*

EE (parent)*: I think we need more understanding. For example, when we see that when we see growth, I want to know where they went. Did they move up 1 level, 2 levels, it doesn't really show it in the chart.*

Another misconception was that the arrows represented movement of the boundary between different performance levels – which made it difficult for focus group members to understand having arrows on both sides of a performance level. This misconception was illustrated in this parent's comments:

AR (parent)*: I like the fact that I can see the numbers of how many students grew a level. I think that is an important because those students are learning.*

Teachers felt the chart was “mixing target data with growth data in a confusing way.” Parents also stated that they needed a great deal more to gain meaningful understanding from the chart.



Discussion of the Four Domains	Parents	Teachers	Administrators
Purpose	↓	↑	↑↓
Clarity	↑↓	↓	↓
Meaningfulness	↓	↓	↑↓
Target Audience	↓	↑	↓

Intergroup Recommendations	Parents	Teachers	Administrators
Parents	↓		
Teachers	↓		↑↓
Administrators	↓	↓	↓

Figure 4.25. CST Stacked Bar Chart of Proficiency Domain and Intergroup Discussions.

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Summary of discussion. Though focus group members initially provided some positive commentary about the chart, the ensuing discussions revealed a great many misconceptions about the data. The misconceptions were so widespread that my conclusion is it would be difficult to modify the chart or embed enough narration to prevent the misconceptions. As a result of these concerns, the chart was removed from the report.

3 Year Performance Level Distributions. *This was another attempt to show the changes of performance level distribution over a three year period.*

*Theoretical underpinnings***.** A histogram is the best known member of the family of data distribution graphs and is used to show the frequency with which specific data elements within class intervals occur in a set of data (Harris, 1999). For the California Standards Tests (CST), the class interval is already defined as the five-point scale of the performance levels. The percent frequencies are identified above each column graph to understand the percentage of the total number of data elements (Harris, 1999). In this histogram, I attempted to demonstrate a three year pattern by creating a frequency histogram for the three consecutive years. Color was added from red to green to accentuate the desirability of higher scores of the class interval.

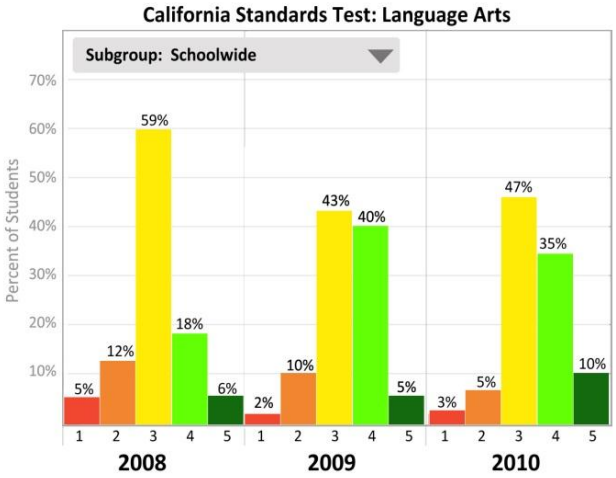


Figure 4.26. California Standards Test: Language Arts3 year Histogram.

How the data was presented. Focus group participants were presented a chart titled Three-Year Performance Level Distribution, which showed a frequency percentage in the different performance levels over a three-year period. The chart was introduced with an interpretive guide and each chart was presented with a narrative explanation.

Comments. Comments generally disclosed the difficulty in understanding the data in this design:

AC (parent): *I find this to be confusing. There are too many bars, too much colors – The narration is the only thing that makes sense.*

UI (administrator): *There's got to be a better way of displaying this data. It is hard for me to actually get anything out of this.*

AH (administrator): *I don't know where to focus my eyes. I think that putting three of these bar graphs together is a mistake. The higher level of one year should not be joined to the lower level of the next. Perhaps you can stack them one on top of the other; that would make more sense logically.*

Intergroup Recommendations. None of the focus groups stated the benefits of other groups utilizing this chart in this format. Administrators said that it would be "useable" for them to see these trends. Teachers also suggested that with "some training" they could use the data.

Discussion of the Four Domains			
	Parents	Teachers	Administrators
Purpose	↓	↑	↑↓
Clarity	↓	↓	↓
Meaningfulness	↓	↓	↑↓
Target Audience	↓	↓	↑

Intergroup Recommendations			
	Parents	Teachers	Administrators
Parents ➤			
Teachers ➤	↓		↑↓
Administrators ➤	↓	↓	↑

Figure 4.27. CST Language Arts3 year Histogram Domain and Intergroup Discussions.

Discussion summary. Informants were consistent in wanting to see the data, however, most found the design lacking. I decided to redesign the report in Stage IV.

Performance Level Growth with Three-Year Trend. *A common measure of improvement is if students make advances in performance level from on year until the next. This kind of increase would represent more than a year's worth of growth and therefore be an indicator of improvement. The chart attempted to looked to compare the students who dropped a level, remained at the same level, and who grew a level from one year to the next.*

A histogram (see *theoretical underpinnings* above) was utilized again with a different kind of class interval. In this graph, the class interval was defined as the change in performance level to the next.

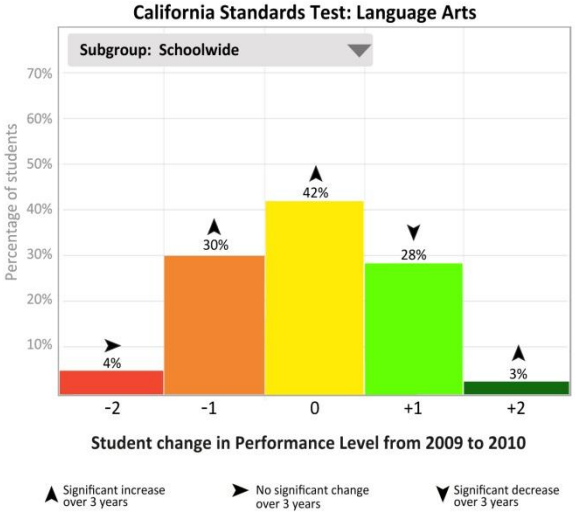


Figure 4.28. Student Change in Performance Level from 2009-2010, Language Arts Histogram.

*How the data was presented***.** This chart was presented to participants as a distribution of the students who change performance level from one year to the next. Examples were provided to clarify the concept, (i.e., if a student scores a 4 (proficient) on the CST last year, and then 3 (basic) the next, he would be counted in the -1 bar chart. The important distinction that was presented to the participants is these represent the difference in matched scores for students. In other words, if a student only had one set of scores, they would not be counted in the distribution.

Some parents were confused by the combination of negative numbers in the class interval and the positive representation of growth as demonstrated by the arrow above it.

OD (parent): *So if the orange bar is increasing, that means that the number of students who are going down a level is going up.*

Moderator: *It means there are now more students who are "going down a level".*

OD (parent): *I find that confusing.*

OR (parent): *I understand it, but you have to think about it a little.*

Teachers identified a significant limitation in the graphic representation of change in a limited class interval:

WN (teacher): *I have a problem with this chart. Students who perform at the higher levels cannot increase their score. A student who is counted in the '0' bar, may in fact be a student who scored a 5 (advanced) from one year to the next.*

RS (teacher): *You're right… there is like a scoring ceiling.*

WN (teacher): *This is true at the bottom scores too…a scoring floor. If I score Far Below twice in a row, then I show up on the 0 column. I think it is confusing and dangerous to put this out. It actually can make a group of students in one classroom that consistently scores 1s and 2s identical to another group of students who consistently score 4s and 5s.*

Intergroup recommendations. Parents and administrators generally recommended the report for all groups, though the administrators had some concerns. Teachers on the other hand were uniform in their conviction that the report should not be presented to any audience.

Discussion of the Four Domains

	Parents	Teachers	Administrators
Purpose	↓	↑↓	↑↓
Clarity	↑	↑↓	↓
Meaningfulness	↓	↓	↑↓
Target Audience	↓	↓	↑

Intergroup Recommendations

	Parents	Teachers	Administrators
Parents ➤	↑	↑	↑
Teachers ➤	↓	↓	↓
Administrators ➤	↑↓	↑	↑

Figure 4.29. Student Change in Performance Level Domain and Intergroup Discussions.

Discussion summary. Informants were split about the meaningfulness of the chart, with parents and administrators concluding it to be meaningful and teachers dismissing it completely. The potential for misunderstanding was significant and therefore should be omitted from the final report.

Achievement Gap

Three-Year Achievement Gap Trends by Subgroup. *The achievement gap is an important aspect of any accountability system that attempts to address the social, economic, and racial inequities as the original ESEA did. Being able to demonstrate improvement in this area*

Theoretical underpinnings. Line graphs are extremely versatile and effective methods of displaying data. In a grouped line graph, data points are connected sequentially from left to right for two or more series of data (Harris, 1999). They are used extensively and therefore offer most viewers a level of comfort that facilitates learning (Harris, 1999; Clark & Lyons, 2004).

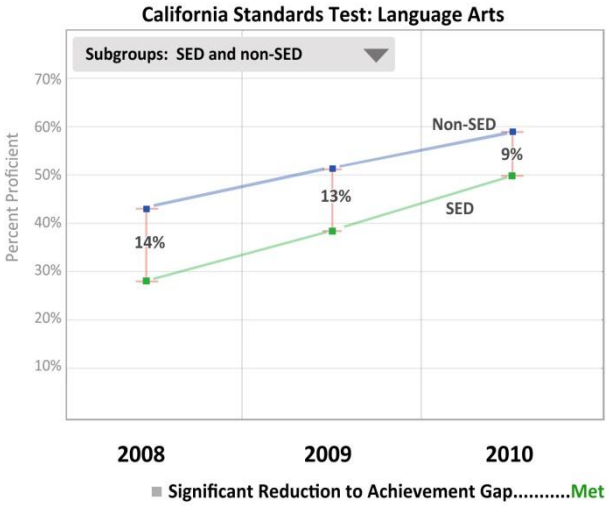


Figure 4.30. Significant Reduction to Achievement Gap…Met Line Graph.

*How the data was presented***.** Participants were presented with a line graph of percent proficient that compares a subgroup to its demographic antithesis (i.e., SED and non-SED, or ELs and Non-ELs) over a three-year period. The chart attempts to emphasize the difference in performance of the two groups over time.

The Three-Year Achievement Gap Trend by Subgroup was presented with an interpretive guide. Participants were informed that the achievement gap would compare subgroups to their peers outside of that subgroup. At the bottom of the chart was a single statement detailing whether the change represented a significant reduction to the achievement gap. The term "significant" was used to mean a statistical significance (with $p<.05$). However, the details of the significance calculation were not included on the chart – and were left as a footnote in the instruction guide.

Parents took a few minutes to understand the chart and made recommendations for changes:

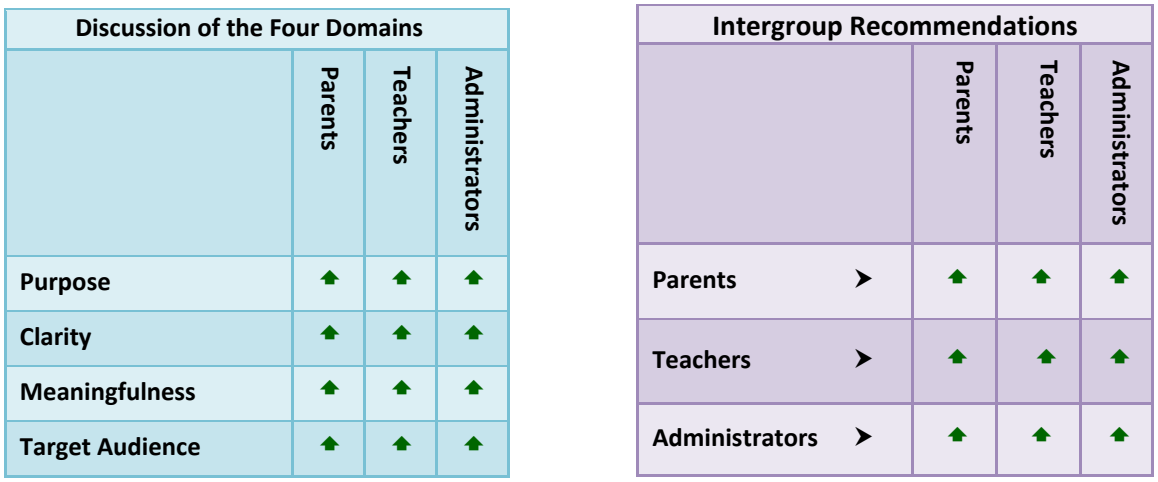
> ***EE (parent)****: Wouldn't it better to use bars instead? Show the (SED) and (non-SED) in bars, comparing the two – I think it would be clearer.*
>
> ***AR (parent)****: I think this is clear – and I don't think they should change the graph. There are different schools which will use different kinds of charts. I think it is important for us to learn these different ways of showing this information. If we get stuck on only seeing it a certain way – then we won't be able to understand it when a school changes it. For me it is very clear – we can see the difference between the two performances.*

Administrators also had recommendations for adjustments to the chart:

> ***AH (administrator)****: To make this chart valuable, from my experience…when you compare White to Hispanic like this, on paper it looks like we have a racial issue that there is a gap. But when you look at the representation of our ELs and Socioeconomic Disadvantaged – if you remove that variable –and look at the performance of our English Only, Hispanic, affluent kids – our performance is very good . So we took that variable off the package -we realized it wasn't race – our issue was EL Status. Then we isolated*

Socio-economic factors and whites, Hispanic without language issues– we see that White still perform better. So now – to really get some information for purposeful intervention or for school change you need to be able to control multiple variables isolate population so that way you can say – you can control for SED, versus EL - for comparison purposes. So you can say which do we address first? For our school the biggest problem is language, the second biggest problem is economic level, and the third biggest level is an 8 point difference between affluent Hispanics and affluent Whites. Right here the trend, if this represented my school there is a high percentage…. like if you look at the Hispanic 75% are SED it's like then that white group is 10%. So if you do SES vs. white – I want to be able to drill down with this chart. I want to be able to see trend lines. I want to see my ELs so I can address the achievement gap.

Intergroup recommendations. All users who provided intergroup recommendations commented positively on the charts potential for success with any group. Parents said that it represented a clear demonstration of the achievement gap.



Discussion of the Four Domains	Parents	Teachers	Administrators
Purpose	↑	↑	↑
Clarity	↑	↑	↑
Meaningfulness	↑	↑	↑
Target Audience	↑	↑	↑

Intergroup Recommendations	Parents	Teachers	Administrators
Parents ➤	↑	↑	↑
Teachers ➤	↑	↑	↑
Administrators ➤	↑	↑	↑

Figure 4.31. Reduction to Achievement Gap Line Graph Domain and Intergroup Discussions.

Summary of data. Overall, informants offered positive comments about the chart and felt it needed no changes for inclusion in the final report.

Achievement Gap: Demographic Proportionality. One of the requests gathered during Stage I was a means of demonstrating the achievement gap differently. The parent focus group requested a way to see if subgroups were proportionally represented in other measures of success (or failure). Specifically, they requested to know if the percentage of Hispanics who were being expelled from a school district was proportional to their percentage of the general population. In other words, they wanted to know if Hispanic students were over-represented in expulsions. Parents got excited about the ability to see this, and thought of other measures they would want to see. These included suspension rates, graduation, reclassification to English fluency, and drop out. Parents felt the most important element was to be able to ascertain if there was improvement in this area over time.

Theoretical underpinnings. Pie charts' major purpose is to show the relative size of components to one another and to the whole.

They are used extensively and are likely to be familiar to most viewers.

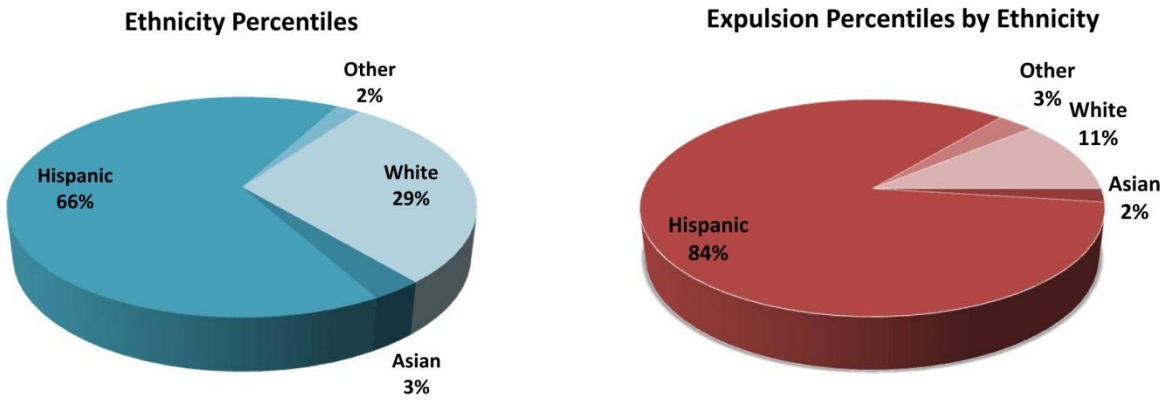


Figure 4.32. Example of Demographic Proportionality Pie Charts.

To create this chart group I used a pie chart to demonstrate the demographic percentage of a subgroup. To isolate this characteristic, the pie chart would only show students who had the characteristic and students who did not (i.e., Hispanic and non-Hispanic).

A second pie chart was developed to show demographic representation in a specified area of success or failure (i.e., the demographic breakdown within the population of expelled students).

The comparison of these two charts offers viewers a means of comparing a subgroups representation in the population in the identified area of success/failure. A subgroup that represents 66% of the population and 84% of the expelled students would thus be over-represented by 18%.

Comments. Perhaps the starkest contrast in perspectives between parents and administrators was documented while discussing these pie charts:

> ***OR (parent):*** *This is great. It shows us in a clear way if schools are being fair in their treatment of students.*
>
> ***AR (parent)****: I find it like that this puts pressure on the school because we see that our students (Hispanics) have more suspensions than the other population. It shows we have problems in our community, in our "raza". It's sad that our students misbehave more. So we need to pay more attention to ourselves, our children. I find it easy to read.*
>
> ***OR (parent)****: Wait, what makes you think the students are behaving worse than anyone else?*
>
> ***AC (parent)****: It's more or less understandable. If I am a parent who just gets this – without narrative descriptions – it is not possible to understand it. I need an explanation as to how the two pie charts relate to each other.*

Administrators, on the other hand, were concerned about the implications of disseminating this kind of data:

> ***AH (administrator)****: It makes me nervous. There are other factors that impact student discipline that are not controlled for this. I think that if you were to take this data and look at Socioeconomic class – you would see a similar disproportional set of numbers. You look at parent at the home – you see a similar disproportionality. You look at hours*

worked – you would see a similar disproportionality. Just doing a straight comparison to a whole can be misleading. School administrators must be careful - I wouldn't want this data to be made public. this data can be very powerful and misleading. That's why I get nervous. … We have a tendency to look at discipline data by ethnicity – but we don't do that for achievement data.

LN (administrator): *But isn't that what equity is about?*

AH (administrator) *With achievement we look at multiple factors. With multiple factors – so we always look at SED – what about SED students or special education students? The interpretation of it is what frightens me – the overgeneralization of this kind of data in a pie chart form without looking at multiple variables – to be able to distinguish between cause and effect – that's what people are looking for. You need to look at the data to see if there was an inconsistency –I think parents would look at this and make accusations that would be inaccurate. The deeper review of data is what informs our practice. This data, in isolation scares me.*

UI (administrator)*: My question is that if there is bias – is it among all administrators or just among one administrator? I would want to break down the data by administrator.*

AI (administrator)*: I was looking at this and thinking of my school – we don't have any white students. So who are you going to compare the Hispanic students to?*

RU (administrator) *I think that if you look at parent's education level you will see that students who come from families that have lower education levels are more likely to be suspended.*

LN (administrator)*: I disagree. I disagree with the statement about parents. There are multiple variables. Rather than having an honest conversation about our practice. It is easier to look outside look at parents. I think there is a combination.*

AH (administrator)*: I ask myself what is the value of this chart – I think the value is that it is very easy to read. It's a good way to prepare data. I think a lot of people understand pie charts.*

UI (administrator)*: I think AH has a point – but I want to come at this from a different point of view. I work at a school where families are very affluent – and they challenge you routinely. I think that this pressure has an effect on the administrator doing the discipline. If I am under that kind of pressure I'm more likely to behave differently than if I work at a school with parents that are more accepting of the administration.*

Discussion of the Four Domains			
	Parents	Teachers	Administrators
Purpose	↑	↑	↑
Clarity	↑	↑	↑
Meaningfulness	↑	↑	↑
Target Audience	↑	↑	↑

Intergroup Recommendations			
	Parents	Teachers	Administrators
Parents ➤	↑	↑	↑
Teachers ➤	↑	↑	↑
Administrators ➤	↓	↑	↑

Figure 4.33. Demographic Proportionality Pie Chart Domain and Intergroup Discussions.

Strategic

CAHSEE Report Clusters with Three-Year Trends. Participants were provided a table that offered information about the performance of students on the California High School Exit Exam (CAHSEE) (see Figure 4.33). The table included summaries of performance on individual report clusters and displayed three-year trends.

	Word Analysis	Reading Comprehension	Literary Response & Analysis	Writing Strategies	Writing Conventions	Average Essay Score
Questions Asked	20	32	10	20	30	2 Essays
Percent Correct by Ethnicity						
• Schoolwide	45.4% ▶	50% ▶	44% ▼	52% ▲	45% ▼	2.8
• African American	50.1% ▼	53% ▲	58% ▲	43% ▶	53% ▼	2.2
• Hispanic	36.8% ▼	24% ▲	45% ▼	44% ▶	38% ▼	2.2
• White	56.8% ▲	44% ▶	42% ▲	45% ▼	53% ▼	3.0
• ELL	46 ▼	24% ▲	45% ▼	44% ▶	38% ▼	2.2
• SED	54 ▲	44% ▶	42% ▲	45% ▼	53% ▼	3.0
• Students w/ Disabilities	45 ▶	40% ▶	45% ▼	50% ▲	45% ▼	2.8

Figure 4.34. Report Cluster Performance of Students on the CAHSEE.

How the data was presented. The figure was presented to focus group members with an interpretive guide. They were informed that the font of the lowest percentile in each row was changed to red, the highest was in green.

***AI (administrator)**: This is pretty useful stuff – I like the color coding – though, why don't we have arrows on the Essay Scores. I would like to know how well we did over 3 years..*

***AH (administrator):** This is about as deep as you can go on CAHSEE – individual student reports also don't give you more detail than this.*

***IO (administrator)**: Especially if they just give you a fraction – they tell you 10 out 15 were met – but most of those are participation rates.*

Teachers commented on the positive aspects of being able to see this "level of detail":

***RS (teacher)**: This is great for teachers who are trying to help students pass the CAHSEE, regardless of what subject area you're teaching.*

***WN (teacher)**: This is first time I see the number of questions being asked.*

***RS (teacher)**:How do you know which questions are worth more.*

***Moderator**: All questions are worth the same number of points. However, different report clusters have different numbers of questions.*

***WN (teacher):** So that's important. By looking at the number of questions in the report clusters we can see how important that section is. So even if a section has a low percentage we might not prioritize it if the total number of questions is small.*

***RS (teacher)**: The key word here is 'was'. We would only have access to last years' test for 10th graders. The state changes the number of questions per report cluster every year.*

Parents were clear in describing the table as giving them more information than they needed:

***OD (parent):** This is a lot of information – I think too much.*

***OR (parent):** I find that confusing.*

***EE (parent):** I understand it, but you have to think about it a little.*

Intergroup Recommendations. Focus group participants recommended this table for teachers and administrators only.

Discussion of the Four Domains

	Parents	Teachers	Administrators
Purpose	↓	↑	↑
Clarity	↓	↑	↑
Meaningfulness	↓	↑	↑
Target Audience	↓	↑	↑

Intergroup Recommendations

	Parents	Teachers	Administrators
Parents →	↓		
Teachers →	↑	↑	↑
Administrators →	↑	↑	↑

Figure 4.35. CAHSEE Report Cluster Performance of Students Domain and Intergroup Discussions.

Discussion summary. This chart seemed to offer teachers and administrators a great deal of information, yet, it was too much for parents.

Safe harbor targets to meet AYP. The Safe Harbor table and Quad Venn are presented in conjunction to offer schools information to help in their efforts to meet AYP targets through Safe Harbor (a mechanism schools have to meet AYP by increasing the population of students who are proficient by 10% . The table demonstrates the Safe Harbor Targets (significantly lower than the traditional target) for each subgroup. In addition, the Venn Diagram demonstrates the number of students who qualify for multiple demographics and thus moving them to proficiency.

Safe Harbor Targets to Meet AYP

Subgroup	Tested in 09-10	#Proficient in 09-10	%Proficient in 09-10	10-11 AYP Safe Harbor Target
Schoolwide	554	203	36.6%	40.1%
Hispanic	526	186	35.4%	39.7%
White	20	15	75.0%	70.0%
English Learners	411	119	29.0%	33.8%
Socioeconomically Disadv.	490	166	33.9%	38.4%
Students with Disabilities	66	18	27.3%	28.8%

Demographic Overlaps

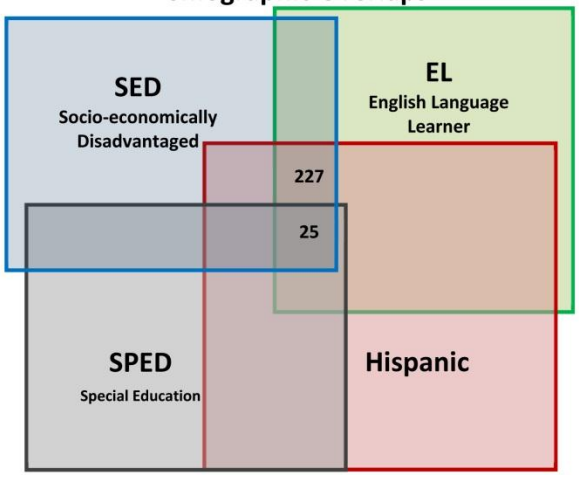


Figure 4.36. Safe Harbor Table and Quad Venn Diagrams.

*Theoretical underpinnings***.** The combination of tables and charts can offer viewers a deep level of understanding that cannot be conveyed with either alone. The power of tables to assist in making comparisons, determining how things are organized, noting relationships between various sets of data, and paired with the power of charts to offer a conceptual understanding of the relationships that tables can guide (Harris, 1999; Clark & Lyons, 2004).

How the data was presented. The table and Venn diagram were presented to focus group members along with an interpretive guide. They were presented with a brief description of Safe Harbor as an alternative mechanism of meeting AYP requirements. Parents asserted their difficulties in comprehending this data:

AR (parent)*: This is clearly for administrators.*

Teachers offered both criticism and praise for the data. The discussion however, quickly drifted away from the design and content of the information to the ethical implications of identifying so called "bubble students" for additional services.

WN (teacher)*: So now that we have this group of students identified – are we going to give them more services because they will give us more bang for our buck on the test? I have real problems with that.*

IA (teacher)*: I do too – but I also have a problem with being PI (in program Improvement). The data, the way it is presented, it is almost begging you to take the bubble kids and get to Safe Harbor.*

Intergroup recommendations. Administrators recommended the data for teachers and administrators. Teachers only recommended it for administrators.

Discussion of the Four Domains

	Parents	Teachers	Administrators
Purpose	↓	↑	↑
Clarity	↓	↑	↑
Meaningfulness	↓	↑↓	↑
Target Audience	↓	↑	↑

Intergroup Recommendations

	Parents	Teachers	Administrators
Parents ➤	↓		↑
Teachers ➤	↓	↓	↑
Administrators ➤	↓	↑	↑

Figure 4.37. Safe Harbor Targets Domain and Intergroup Discussions.

*Discussion summary***.** Focus groups, other than administrators, did not see the value of this data or were unable to interpret it. Administrators, however, identified it as an important source for reform efforts.

Year-to-year comparison by teacher. One of the controversial challenges of late has been the linking of student achievement data to teachers. The ability to do this was a requirement of the applications for the Obama Administration's Race to the Top funds. Several states, including California, have embraced this concept.

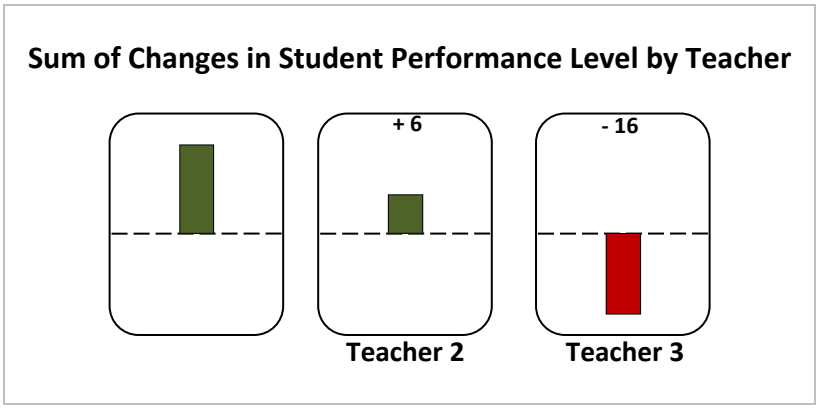


Figure 4.38. Sum of Changes in Student Performance Level by Teacher.

*How the data was presented***.** Focus groups were provided with the charts with an interpretive guide. They learned that each teacher was assigned a score based on a calculation of their California Standards Test (CST) performance level. For a teacher who had a roster of 25 students in the 2009-2010 school year, the calculation would take the students proficiency level for that year and subtract the previous years' proficiency level, then all these differences were added together. Therefore, if a student had a performance level of three in 2008-2009 and a performance level of four in 2009-2010, his teacher would receive one point. A teacher's score was calculated by adding all their students' change in performance levels.

The discussion brought up some key points for parents and perhaps reminded them of their interest in being a part of helping schools make improvements:

EM (parent)*: Communication is so important. And these (Teacher Accountability) reports are so important. Blind, we can't even make a difference for our own child, much less make a difference for the whole school without knowing where to put pressure. Schools want to improve, but many times they only improve if they are forced to…an audit or a petition, or a group of us at board meeting or a lawsuit.*

OR (parent)*: Yes, It's like a speeding car on the highway. They will only slow down if they hear the police officer behind them. Our schools need us to check on them. We are the ones who have the greatest stake. Teachers and administrators may lose their jobs if they don't do well…maybe. But we lose our children's learning and our children's future.*

Parents were enthusiastic about gaining access to this kind of data:

AC (parent)*: I would love to have this information. But when it comes to teachers, they never give this to us.*

OR (parent)*: We should know this stuff.*

EM (parent)*: We need to have this. If a teacher is not doing his job – I may not realize that my son who is with this teacher has gone down so much. This gives me the tools to understand if he has been placed with a good teacher, someone who can help him do his best.*

AR (parent)*: There wouldn't be any help for students – I think we could help our students better. I think we can give more attention to our students.*

OR (parent)*: If we are evaluating our students to see if they are learning. We should evaluate our teachers to see if they are teaching.*

OD (parent)*: Very clear.*

OR (parent)*: I think we also need to recognize the work that is being done by the teachers. Our community does not have an appreciation for all that is done by our teachers. I remember one time when my little one was in 1st or 2nd grade. The phone rang – and they said "mom, it's the teacher of my little one". We all thought she had done something wrong, when I got the phone – the teacher congratulated me and said my daughter was doing great. I thanked her – and was so appreciative. It took a while for us to calm my daughter down though (laughs).*

AC (parent)*: you are right OR. We need to find ways to know who our good teachers are so we can thank them and reward them.*

OD (parent)*: There was a time with my son, when the teacher called me. The same teacher we have spoken about in the past. He called me to tell me my son was acting up. I went the very next day. He told me what was going on. I thanked him for calling me. But he thanked me. He told me that there were 2 other students who had had similar issues – and that he called them several times – they never came, some never even called back. He was so grateful that I came, that I responded, and I was so grateful that he kept me in the loop so I could do something about this.*

EM (parent)*: This communication is so important. And these reports are so important. We can't even make a difference for our own child, much less make a difference for the whole school without knowing where to put pressure. Schools want to improve, but many times they only improve if someoneis watching them.*

OR (parent)*: It's like a speeding car on the highway. They will only slow down if they hear the police behind them. Our schools need us to be checking on them. We are the ones who have the greatest stake. Teachers and administrators may lose their jobs if they don't do well…maybe. But we lose our children's learning and our children's future.*

Teachers questioned the validity of using CST scores from the two different years to measure the effectiveness of a teacher:

RS (teacher)*: How valid is it to be using CST scores as a pre and post assessment. Can you show me one piece of research that supports this as a valid measure for accountability purposes?*

WN (teacher)*: Not only that, but what about all the other factors that affect student performance on a test. I think we would have to really look at the relationship between the standards and the test and what we are being asked to teach.*

RS (teacher)*:I do believe that we need methods to measure the effectiveness of teachers, however, doing it this way is clearly unsound and unfair.*

IA (teacher)*: I think it is an oversimplification of the teaching and learning process, it's reducing a teacher to a one dimension.*

Administrators also, criticized the use of CSTs as the measure, however, one offered an alternative:

AH (administrator)*: I think if we had a validated standards based assessment that was administered at the beginning and at the end of a school year – and the data was presented this way, it would be very powerful.*

Another concern of teachers and administrators was that the calculation and its graphic representation were over-simplistic:

***IA (teacher)**: Let's say a teacher with 10 students who dropped a level, and 10 students who grew a level would have the same score as a teacher who had 20 students who maintained the same level. Too much is lost by presenting it this way.*

Administrators and teachers asked if a redesign could provide more depth to the data.

Intergroup recommendations. Parents recommended the data for all focus groups. However, teachers stated they could not recommend it to anyone. Administrators stated that they would like to see this data to compare it to observations in the classroom.

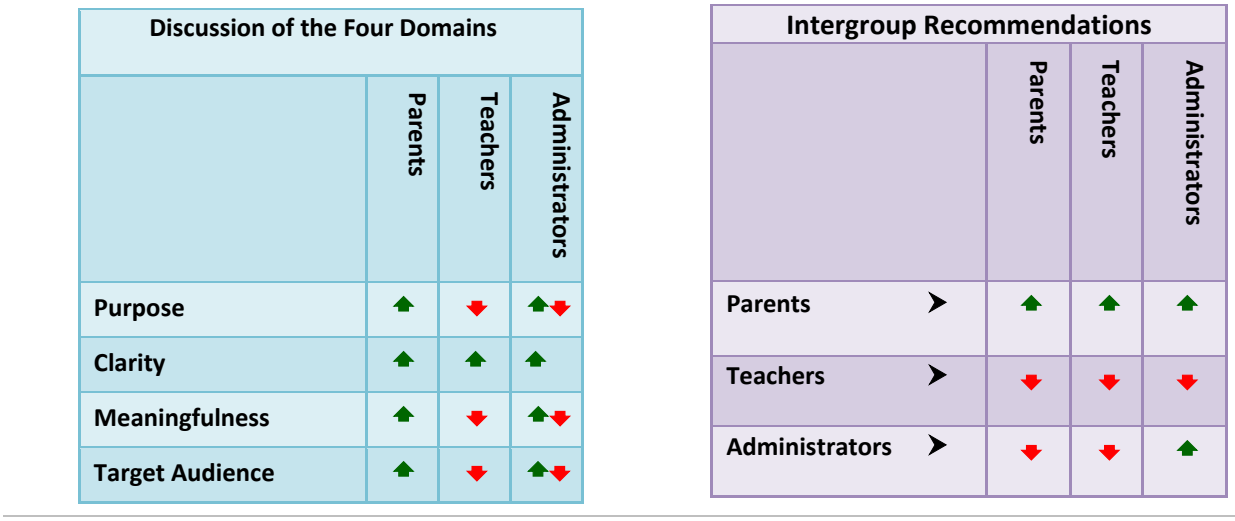


Figure 4.39. Teacher Performance Bar Chart Domain and Intergroup Discussions.

*Discussion summary***.** Having a simple way to summarize the effectiveness of teachers is something parents were very interested in. However, in view of teachers and administrators, the chart over-simplified teacher capacity and raised many questions in regards to its validity.

***Dashboard.** A dashboard has become a common tool to deliver information quickly. It seemed that a comprehensive accountability report card should contain a summary of findings on a one or two pages, that would summarize the much lengthier collection of data.*

Theoretical underpinnings. A dashboard is a user-interface design to deliver information relating to the health of an (organization), and through the use of visual cues and data, focus user attention on important trends and changes. The roots of the this type of approach are deep, and include the pioneering work of General Electric on performance measurement reporting in the 1950's and the work of French process engineers (who created the *Tableau de Bord*, a "dashboard" of performance measures in the early part of the twentieth century) (Kaplan & Norton, 1992). Dashboards represent a carefully designed reduction of data that quickly inform its viewer of key indicators relating to the health of an organization (Kaplan & Norton, 1992).



Figure 4.40. Example of a Dashboard.

Parents were at first overwhelmed with the data – but stated the following:

***OR (parent)**: This like a summary sheet.*

***Moderator**: Yes, it would summarize all the charts into one or two pages.*

EM (parent)*: So we wouldn't have to learn all the charts separately, we could just focus on this report.*

AR (parent)*: I would like an even simpler…*

OR (parent)*: Even simpler! I think we would lose too much information.*

OD (parent)*: But it looks like a lot of information.*

OR (parent)*: But this one page has taken all the information from the other pages and put them here. So I know not all the information is here.*

AC (parent)*: Couldn't you have a summary under each table – Such as "Met API" so we know if all the groups did everything they needed to do.*

OR (parent)*: and use the arrows you used on the other tables.*

Administrators demonstrated a comfort level with the format and design:

AH (administrator)*: I like the design – it gives me a lot of information in one glance. I am assuming you would make each of these a hyperlink so I that I can click on this and drill down. I don't like the consumer reports symbols. To me red is bad and here it is the best thing. I like the format.*

LN (administrator)*: I think it is great. It is useful in that it gives you a lot of information for comparison purposes.*

IO (administrator)*: I like it because whatever you design this dashboard to be you'll focus on.*

AH (administrator)*: That's the intent, to focus on what matters.*

Teachers expressed an interest in the amount of data that was available on one page:

RS (teacher)*: This is what I was expecting all along…*

Moderator*: What do you mean?*

RS (teacher)*: When you first told us we would help creating accountability report cards, I thought this is what they would look like. I am glad this is in here.*

WN (teacher)*: This is the tip of the iceberg approach, right? – Does it tell us where to steer the ship or do we hit it and sink? (laughs).*

RS (teacher)*:What do you mean?*

WN (teacher)*: You know, the part above water of an iceberg is only 10% of the iceberg. But if you know that, you can predict the size of the iceberg under water. That's what these dashboards are supposed to do – tell you where the icebergs are so you can steer clear of them.*

IA (teacher)*: I think the font is too small – but otherwise, I think it's great.*

Stage IV

During stage four, I presented a revised prototypical report card and once again solicited feedback from my informants. The majority of the graphs that appear in this chapter represent the culmination of my constant reading and evaluation.

Modifications and Additions

***Interpretive guide*.** During Stage III, parent participants asserted that they were unclear about "how charts should look" if student achievement was improving. They requested a guide that would help them understand the graphic representation of an improving trend. As a result,

for each chart group, a narrative description was added at the bottom of what an improving trend would look like.

Theoretical underpinnings. For observers to understand a preferred state of the data (in this case, improvement in student achievement), it was necessary to show what Harris (1999) describes as a negatively skewed or right-leaning distribution.

What does improvement look like?

The goal is to see increases in the level 4 and level 5 Performance Levels and a decrease in the lower Performance Levels. A trend of improved student performance would result in the higher bars shifting to the right.

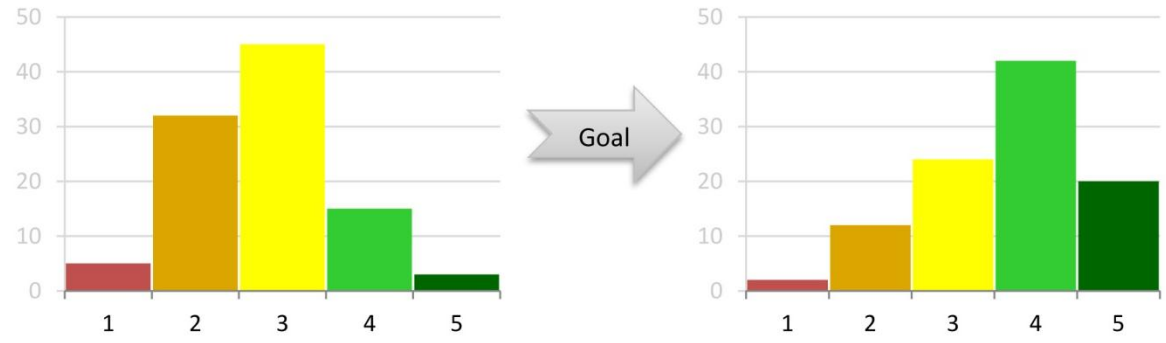


Figure 4.41. Clarifying Addition to the Interpretive Guide

*Comments***.** In Stage IV, informants disclosed an appreciation for this graphical representation of improvement.

EM (parent): *This is very helpful. I now understand what we want to see.*

AC (parent): *But don't we want to see the most students in level 5, then less in 4, and like that and none in 1. Why isn't that the goal?*

OR (parent): *The law says that the goal is to get to 4, which is proficiency. So as long as we get them there then we are doing well.*

Three-Year Bar Graph of Proficiency Targets. Administrators recommended removing the summary text at the bottom of the bar graph that was related to meeting AYP and participation rate. They believed this detracted from the information conveyed in the bars and created confusion – since this information was not represented in the bars. The modified graph is displayed below (see Figure 4.41).

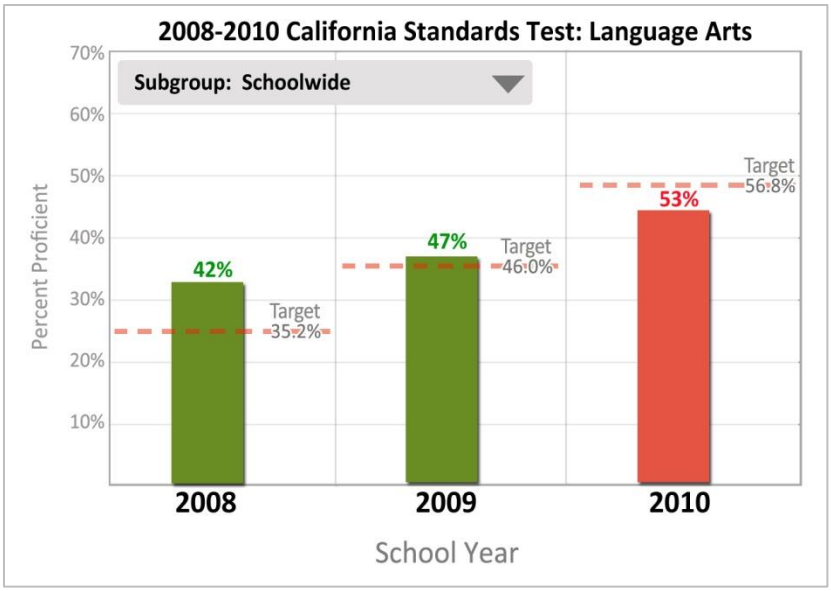


Figure 4.42. Three-Year Bar Graph of Proficiency Targets.

Administrators also recommended a modification to the Three-Year Bar Graph of Proficiency Targets that would only be included in a report to teachers and administrators. They stated that it could be an excellent strategic tool to add a fourth column as a goal and include both annual and Safe Harbor targets. The modified graph is displayed in Figure 4.42.

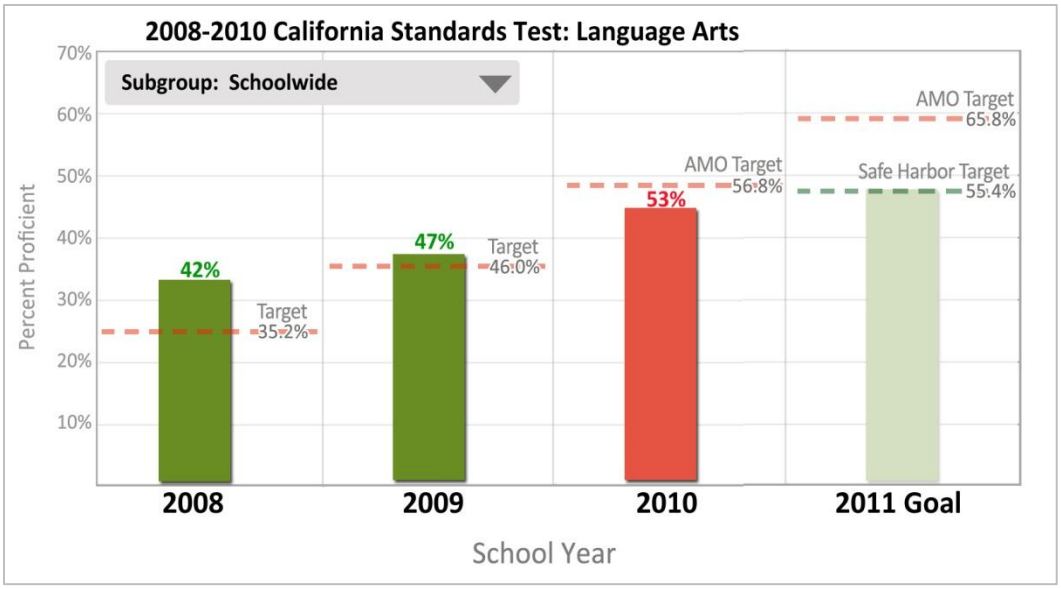


Figure 4.43. Three-Year Bar Graph of Proficiency Targets for Teachers and Administrators.

Three-Year CST Performance Level Distribution. As a result of the data collected from the focus groups, the data revealed that the chart with the 15 bar charts was difficult to understand. All focus groups mentioned a difficulty in understanding the bar chart and in seeing improvements. To increase clarity, a single (1 year) set of bars was utilized and arrows

representing three-year trends were added at the top of each bar chart. During Stage IV, feedback about the redesigned chart was gathered and coded.

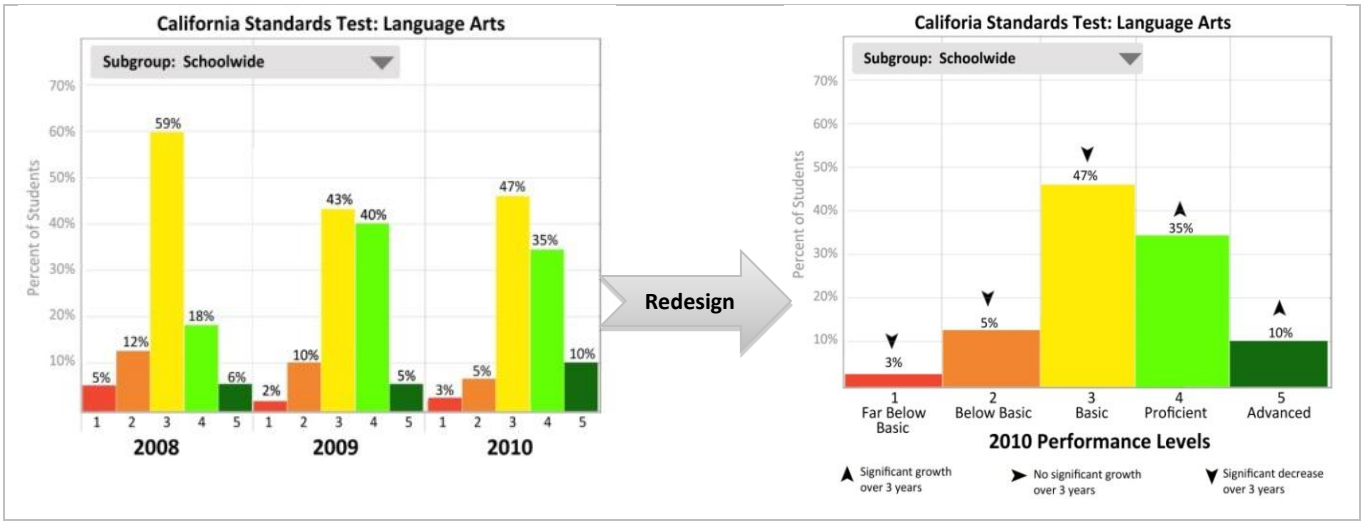


Figure 4.44. Modification to Three Year CST Performance Level Distribution.

***Demographic Proportionality*.** To make comparisons of the demographic proportionality pie charts more explicit, a bar chart was added and the percentages of population and the measure of success/failure placed side by side. The bar chart provides immediate feedback to viewers as to the equitable representation of the subgroup in the measure of success/failure. When subgroups other than ethnicity are utilized, the breakdown is simply students within the subgroup and students outside of the subgroup (i.e., SED and non-SED students, ELs and non-ELs). As with other charts, trend arrows were added to demonstrate changes over a three-year period of time.

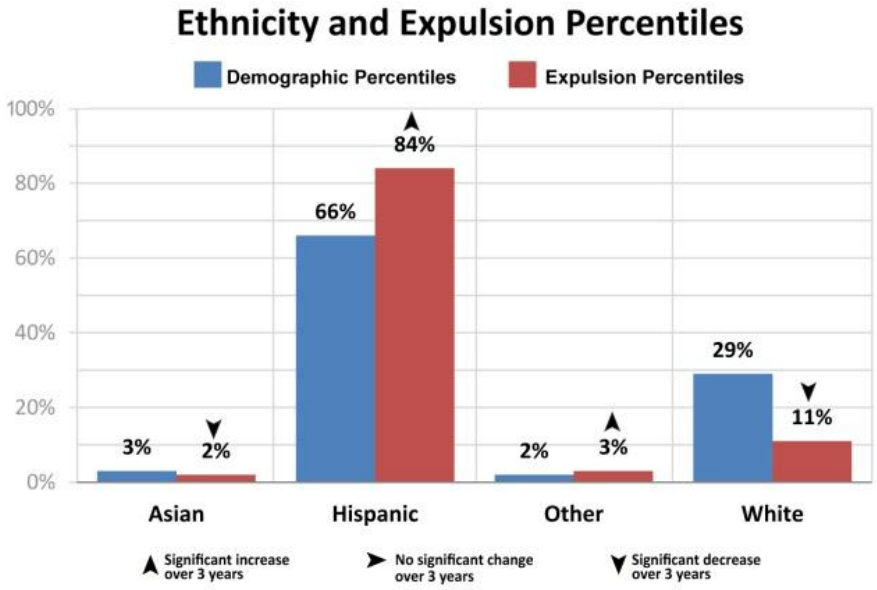


Figure 4.45. Addition to Demographic Proportionality Component.

One administrator questioned the assumption that White students would be used as a comparison group for these charts:

AI (administrator)*: I was looking at this and thinking of my school – we don't have any white students. So who are you going to compare the Hispanic students to?*

AH (administrator)*: It would make more sense to compare groups to other students who are not them.*

Moderator*: You mean, Hispanic and non-Hispanic, and as opposed to Hispanic and White*

AH (administrator)*: Exactly.*

CAHSEE Report Clusters with Three-Year Trend Modifications. As a result of the recommendations collected in Stage 3, several modifications were made to the CAHSEE report using different arrows for trends, removal of color percentages to show lowest and highest, and adding trend arrows to the Average Essay Score.

	Word Analysis	Reading Comprehension	Literary Response & Analysis	Writing Strategies	Writing Conventions	Average Essay Score
Questions Asked	**20**	**32**	**10**	**20**	**30**	**2 Essays**
Percent Correct by Ethnicity						
• Schoolwide	45% ↓	50% →	44% ↓	52% ↑	45% ↓	2.8 ↑
• African American	50% ↓	53% ↑	58% ↑	43% →	53% ↓	2.2 ↓
• Hispanic	36% ↓	24% ↑	45% ↓	44% →	38% ↓	2.2 ↓
• White	56% ↑	44% →	42% ↑	45% ↓	53% ↓	3.0 ↑
• ELL	46% ↓	24% ↑	45% ↓	44% →	38% ↓	2.2 ↓
• SED	54% ↑	44% →	42% ↑	45% ↓	53% ↓	3.0 ↑
• Special Education	45% →	40% →	45% ↓	50% ↑	45% ↓	2.8 ↑

↑ Significant Increase over 3 years → No Significant Change over 3 years ↓ Significant Decrease over 3 years

Figure 4.46.Modifications to CAHSEE Report Cluster Table.

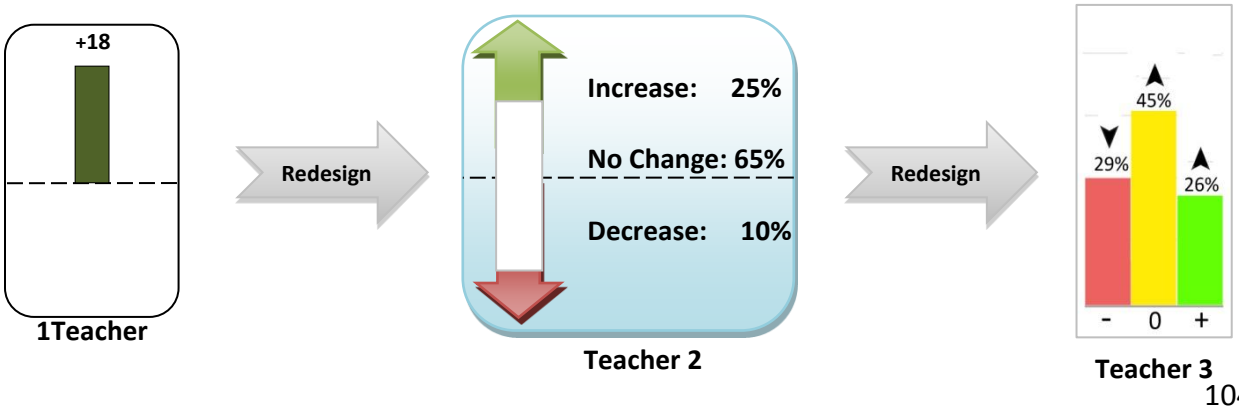


Figure 4.47. Modifications to Teacher Accountability.

Teacher Accountability*.* The attempts to redesign the teacher accountability chart did not result in much improvement in the comments from the focus groups, especially in addressing the limitations of using CST scores. The first redesign offered users a percentile distribution of the students who increased their performance level or stayed the same, and the percentage of students who decreased a level. Parents felt this was less clear. Though administrators preferred this chart to the initial design, comments were marginally better.

> ***AH (administrator):*** *I think this tells us more – but I think we need to move away from using proficiency levels – scaled scores would be a much more meaningful use of the data.*
>
> ***UI (administrator):*** *At least that way the scores would be more continuous.*
>
> ***LN (administrator):*** *I thought we said we would not use CSTs – I think we could use CELDT scaled scores –since those can be compared year to year.*
>
> ***RS (administrator):*** *CELDT would be more scientifically sound.*
>
> ***UI (administrator):*** *What about all the other students who don't take CELDT, like RFEPs and EOs, we would need another assessment that can be compared year to year or be given twice.*

The third redesign utilized a two-dimensional bar chart that contained a simple distribution of students who decreased performance levels or scale scores and those who increased or remained at the same level. Again, administrators saw this as an improvement. Parents preferred the first design:

> ***AR (parent)****: I think you are making it harder for us to get the information we need. There has to be a way of showing us which teachers are teaching and which teachers are not.*

Dashboard. As a result of the data collected from the focus groups, the dashboard was modified to add some of the additional assessment elements that were identified. These include achievement gap calculations with three year trends resource allocations, and other measures of student success.

Sample Dashboard

STATIC REPORTS

Performance on CST Language Arts: AYP	Percent Proficient	AMO Target	Safe Harbor Target	3 Year Trend	95% Participation	Met AYP
Schoolwide	55.0%	68.3%	54.3%	↑	✓	✗
Hispanic	34.5%	68.3%	34.5%	→	✓	✓
White	64.0%	68.3%	64.0%	→	✓	✓
African American	65.0%	68.3%	65.0%	↓	✓	✓
English Learners	34.5%	68.3%	34.5%	↓	✓	✗
Socio Economically Disadvantaged	56.6%	68.3%	56.6%	↑	✓	✓
Special Education	48.9%	68.3%	48.9%	↑	✓	✗

Performance on CST Math	Participation 95%	Other Criteria	Percent Proficient	3 year Trend	Met Safe Harbor	Met Objective
Schoolwide	✓	✓	54.3%	↑	✗	✗
Hispanic	✓	✓	34.5%	→	✓	✓
White	✓	✓	64.0%	→	✗	✗
African American	✓	✓	65.0%	↓	✗	✓
English Learners	✗	✗	34.5%	↓	✗	✗
Socio Economically Disadvantaged	✓	✓	56.6%	↑	✓	✓
Special Education	✓	✓	48.9%	↑	✗	✓

GROWTH REPORTS

GROWTH: API	Met Participation: 95%	API Target	API Achieved	3 Year Trend	Matched Band Trend	Met API
Schoolwide	✓	600	600	↑	→	✗
Hispanic	✓	600	567	→	→	✓
White	✗	600	543	→	↓	✓
African American	✗	600	345	↓	↓	✓
English Learners	✗	600	567	↓	↓	✗
Socio Economically Disadvantaged	✗	600	543	↑	↑	✓
Special Education	✓	600	444	↑	↑	✓

ACHIEVEMENT GAP	Lang. Arts Gap	3 year trend	Time to Eliminate Gap	Mathematics Gap	3 year trend	Time to Eliminate Gap
SED and Non-SED	7%	→	∞	12%	→	∞
EL/R-FEP and Non-EL/R-FEP	10%	↑	6 yrs	14%	↓	∞
SPED and Non-SPED	8%	↓	∞	20%	↑	8 yrs
Migrant and Non-Migrant	8%	↑	4 yrs	4%	↓	∞
Hispanic and Non-Hipanic	7%	↓	∞	20%	↑	6 yrs
African Amer. vs. Non-African Amer.	4%	↑	2 yrs	4%	↓	∞

Growth Data:	Drop Outs	Expulsions	Suspensions	Students with 1 or more	Fluent English Proficient	Reclassification of ELs to	Reading at Grade Level	Graduation Rate (9-12)	A-G Preparation
Schoolwide	15% ↓	2% ↓	8% ↓	55% ↑		48% ↑	77% ↑	18% ↑	
African American	25% ↓	3% ↓	10% ↓	65% ↓		32% ↓	65% ↓	14% ↓	
Hispanic	28% →	3% →	9% ↓	35% →		38% →	55% →	12% ↑	
White	9% →	1% →	6% →	35% ↓		66% →	84% →	28% →	
English Learners	25% ↓	4% ↓	9% ↓	35% ↓		21% ↓	54% ↓	8% ↓	
Socio Economically Disadvantaged	27% ↓	3% ↓	10% ↓	45% →		31% ↑	57% ↑	11% ↑	
Special Education	12% ↓	1% ↓	6% →	49% ↑		29% ↑	49% ↑	11% ↑	

RESOURCE ALLOCATION

Strategic Data: Resource Allocation	Highly Qualified Teachers	Student to Teacher Ratio	Student to Counselor Ratio	$ Spent on Administration	$ Spent on Salaries & Benfits	$ Spent per Student	Williams Case Complaints	Williams Complaints Resolved
School Year 2009-2010	97% ↑	32 ↓	600 ↑	18% ↑	84% ↓	$7,432 ↓	34 ↓	34 →

x

Figure 4.48. Modified Dashboard.

General Conclusions

Parents stated their appreciation for their participation in the process and asserted the value they placed on the accountability tools they were helping to develop. Administrators were very complex in their deliberation. They seemed at home in providing positive and

negative commentary for **every** chart – making it difficult to create contrast for coding and to determine their preferences. Teacher comments were not as prolific. The process offered a wealth of data in a short time span. Overall, the process generated a plethora of useful data that allowed for the identification and design of effective data and design elements.

CHAPTER FIVE

Summary, Implications, and Recommendations

Summary of the Problem

Robert F. Kennedy was ahead of his time when he stated:

> I wonder if we couldn't have some kind of system of reporting, either through some testing system that would be established which the people at the local community would know periodically as to what progress had been made under this program….I just question whether [school administrators] have number one, focused attention on where the real problems are and secondly, whether they have the ability to really perform the functions. (McLaughlin, 1974, p. 4)

Kennedy hoped that an evaluation mandate would provide parents a new source of political influence to hold schools accountable and pressure school administrators to address effectively the needs of disadvantaged children. Kennedy was disclosing his belief that unless parents and the community at large had access to clear information about the progress of students and schools, administrators would not feel the pressure to strive for their disadvantaged students (McLaughlin, 1974). History and the research literature have validated his hypothesis.

States have stumbled in their efforts to modify their accountability systems to meet the more rigorous requirements of the law. Many states appear to be meeting minimum reporting requirements of *No Child Left Behind* (NCLB); however, these reporting systems are far from achieving the intent of the Elementary and Secondary Education Act (ESEA), one that Robert F. Kennedy advocated for, namely, to empower parents and other stakeholders to hold schools accountable for meaningful reform. Perhaps, most importantly, school leaders seem to be striving for compliance and not using the accountability structures as guides for improvement. In fact, there is little evidence that these efforts provide stakeholders with meaningful information to reform our schools (Schmoker, 1999; Schwartz, 2002; Goodman & Hambleton, 2004; Heritage & Yeagley, 2005).

Nearly 40 years after Kennedy discussed ESEA at Senate hearings, we are still struggling to achieve his vision. However, the reporting requirements of *No Child Left Behind* and the Public Schools Accountability Act of California continue to offer an opportunity to invite parents and other stakeholders to be a part of developing clear, meaningful accountability systems.

Summary of the Study

Grounded in versions of Continuous Improvement methodology, Plan-Do-Study-Act (PDSA) and Define-Measure-Analyze-Improve-Control (DMAIC) cycles – the study worked through multiple stages to gather data from focus groups as they discussed current accountability tools and designed new accountability reports.

- **Stage I**: During stage one, I solicited the opinions of a diverse group of educators and parents on the features and characteristics most likely to optimize the informational value of public reports cards. The observations of these informants were aided by a wide-ranging discussion of the advantages and shortcomings of the annual public report cards issued by the California Department of Education (CDE) and the School Accountability Report Card. The intent here was not to imagine the abstract ideal,

but to create the possibility of change and improvement through the means of non-abstract critique of the status quo.

- **Stage II**: During stage two, I aggregated the opinions and observations expressed during stage one, and using this input and the research literature, sought to identify and organize the data elements and design components identified during stage one as being essential to an easy-to-understand, informative public report card. I utilized a Visual Design Model for planning the development to create a prototypical accountability report.
- **Stage III**: During stage three, I shared the report card and again solicited the opinions of another group of informants. Using the feedback from this second group of informants, a group that included parents, classroom teachers, and administrators, I revised the prototype report card.
- **Stage IV**: During stage four, I presented a revised prototypical report card and, once again, solicited feedback from my informants.

Findings and Implications

Summarized Presentation of Findings

The data from the focus groups supported the research that current accountability reports are inaccessible and confounding the stakeholders, especially parents. Focus group findings have been summarized into three categories: design, domain, and content.

***Design*.** This section isolates the design elements that were identified by focus group members as either positive or negative. When possible, I included specific elements.

***Content*.** Feedback was also coded and categorized in the five content areas identified by the study: demographic, static, growth, achievement gap, and strategic. Again, positive and negative comments were consolidated when informants discussed different content found within the reports.

Domains. In addition, commentary from focus group participants was classified by the study's discussion domains of Purpose, Clarity, Meaningfulness, and appropriateness for their Target Audience.

The summaries of these categories are presented in figures with symbols representing the distilled summary of the group's judgment of that area. Symbols (✓or ✗), the same symbols selected by focus group members, are utilized to either "recommend" or "not recommend" the reviewed reports performance in the identified area (table row) **.**

Adequate Yearly Progress (AYP) Report. Focus groups reviewed a recent download from the California Department of Education Web site AYP report for an individual school. The following figure represents a coded summary of the discussion that ensued within each of the three focus groups (see Figure 5.1).

Design Element	Parents	Teachers	Administrator
Table Design	✗	✗	✗
Inclusion of rows without data	✗	✗	✗
Placement of Participation rate first	✗	✗	✗
AYP Criteria (e.g. met 13 of 17)	✗	✗	✗
Content			
Demographic	✗	✓	✓
Static	✗	✗	✗
Growth	✗	✗	✗
Achievement Gap	✗	✓	✓
Strategic	✗	✗	✗
Domains			
Purpose	✗	✗	✗
Clarity	✗	✗	✓
Meaningfulness	✗	✗	✗
Target Audience	✗	✗	✓

✓ Recommended ✗ Not Recommended

Figure 5.1. AYP Report Summary of Findings.

Academic Performance Index (API) Report. Focus groups reviewed a recent download from the California Department of Education Web site API report for an individual school. The following figure represents a coded summary of the discussion that ensued within each of the three focus groups (see Figure 5.2).

Design	Parents	Teachers	Administrator
Table Design	✗	✗	✗
Inclusion of rows without data	✗	✗	✗
Extensive use of footnotes	✗	✗	✗
AYP Criteria (e.g. met 13 of 17)	✗	✗	✗
Content			
Demographic	✗	✗	✗
Static	✗	✗	✗
Growth	✗	✓	✓
Achievement Gap	✗	✗	✓
Strategic	✗	✗	✗
Domains			
Purpose	✗	✓	✓
Clarity	✗	✗	✗
Meaningfulness	✗	✓	✓
Target Audience	✗	✗	✗

✓ Recommended ✗ Not Recommended

Figure 5.2. API Report Summary of Findings.

***Sample School Accountability Report Card*.** Focus groups reviewed a recent download of a SARC that had utilized the CDE template. The following figure represents a coded summary of the discussion that ensued within each of the three focus groups (see Figure 5.3).

Design	Parents	Teachers	Administrator
Table Design	✓	✗	✗
Narrative guides	✓	✓	✓
Extensive use of footnotes	✗	✗	✗
AYP Criteria (e.g. met 13 of 17)	✗	✗	✗
Content			
Demographic	✗	✗	✗
Static	✗	✓	✓
Growth	✗	✓	✓
Achievement Gap	✗	✗	✗
Strategic	✗	✗	✗
Domains			
Purpose	✗	✓	✓
Clarity	✗	✗	✗
Meaningfulness	✗	✓	✓
Target Audience	✗	✗	✗

✓ Recommended ✗ Not Recommended

Figure 5.3. SARC Summary of Findings.

Development of New Content

Summarized Presentation of Findings

As a result of the study process, focus group participants generated a wealth of data in short time span. The discussion offered a rich collection of recommendations for the design of new graphic tools to help stakeholders garner more meaning from accountability reports.

Specifically, the coded data from transcripts allowed for the identification of specific design elements (See Figure 5.4) and charting preferences (See Figure 5.5) for each of the stakeholder groups. In addition, stakeholders were able to identify charts that did not convey enough information to warrant the frustration they felt in deciphering it. These charts were recommended for deletion (See Figure 5.7).

Design	Parents	Teachers	Administrator
General Design			
Use of color in charts	✓	✓	✓
Reduced-contrast gridlines	✓	✓	✓
Two dimensional (flat) bar chart	✓	✓	✓
Traditional-Venn (circles) diagram	✓	✓	✓
Quad-Venn (rectangles) diagram	✗	✗	✓
Use of Interpretive guides	✓	✓	✓
Tables			
Banded rows	✓	✓	✓
Space between Ethnicities/other subgroups	✓	✓	✓
Symbols in table cells (✓ / ✗)	✗	✓	✓
Words in table cells (Yes / No)	✓	✗	✗
Three year trend arrows (▲/▼)	✓	✓	✓
Use of font color to highlight text	✗	✗	✗
Bar Chart			
Three years (bars) of Data	✓	✓	✓
Inline target line (dotted line for target)	✓	✓	✓
Additional data in text (not in chart)	✗	✗	✗
Color bars (Green = Met / Red = Not Met)	✓	✓	✓
Histogram			
Additional data in text (not in chart)	✗	✗	✗
Color Intervals (5 colors, Far Below to Adv.)	✓	✓	✓
Use of 3 year trend lines	✓	✓	✓

✓ Recommended ✗ Not Recommended

Figure 5.4. Prototypical Accountability Report Design Elements.

Chart Type Preference. Certain kinds of charts obtained more positive feedback than others. Figure 5.5 displays a summary of this feedback for each chart by focus group.

Chart Type	Parents	Teachers	Administrators
Bar Chart	✓	✓	✓
Frequency Polygon	✗	✗	✗
Line Graph	✓	✓	✓
Stacked Bar Chart	✗	✗	✓
Histogram with 5 class intervals (3 years)	✗	✗	✗
Histogram (1 year w/ Trend arrows)	✓	✓	✓
Stacked Line Graphs (w/ gap emphasized)	✓	✓	✓
3D Pie Charts	✓	✓	✓
Dashboard	✓	✓	✓

✓ Recommended ✗ Not Recommended

Figure 5.5. Chart Type Preferences.

Data and Chart Type. The feedback from participants reflected a pattern or a common preference for certain chart types for specific data. This relationship is displayed in Figure 5.6.

Data Element	Chart Type	Parents	Teachers	Administrators
Static Data				
3 Year AMO	Bar Chart	✓	✓	✓
3 Year AMO w/ next year AMO & Safe Harbor Target	Bar Chart	✗	✗	✓
Growth Data				
Performance Level Growth	Histogram	✗	✗	✓
Matched Performance Level Growth	Histogram	✗	✗	✗
Achievement Gap Data				
3 year Achievement Gap Trend by Subgroup	Line Graph w/ gap emphasized	✓	✓	✓
Demographic Proportionality	Two 3D Pie Chart with Bar Graph	✓	✓	✓
Strategic Data				
CST/CAHSEE Report Clusters	Banded Table w/ 3 yr. trend lines	✗	✓	✓
Safe Harbor Targets	Banded Table and Quad/Venn	✗	✓	✓
Teacher Performance	Single Bar Chart	✓	✗	✗
Teacher Performance	Histogram	✗	✓	✓
Teacher Performance	Histogram	✗	✓	✓

✓ Recommended ✗ Not Recommended

Figure 5.6. Chart to Data Couplings.

Removed Charts. Several charts were found by focus group participants to be problematic in their delivery of information. These charts were removed from the final report (see Figure 5.7).

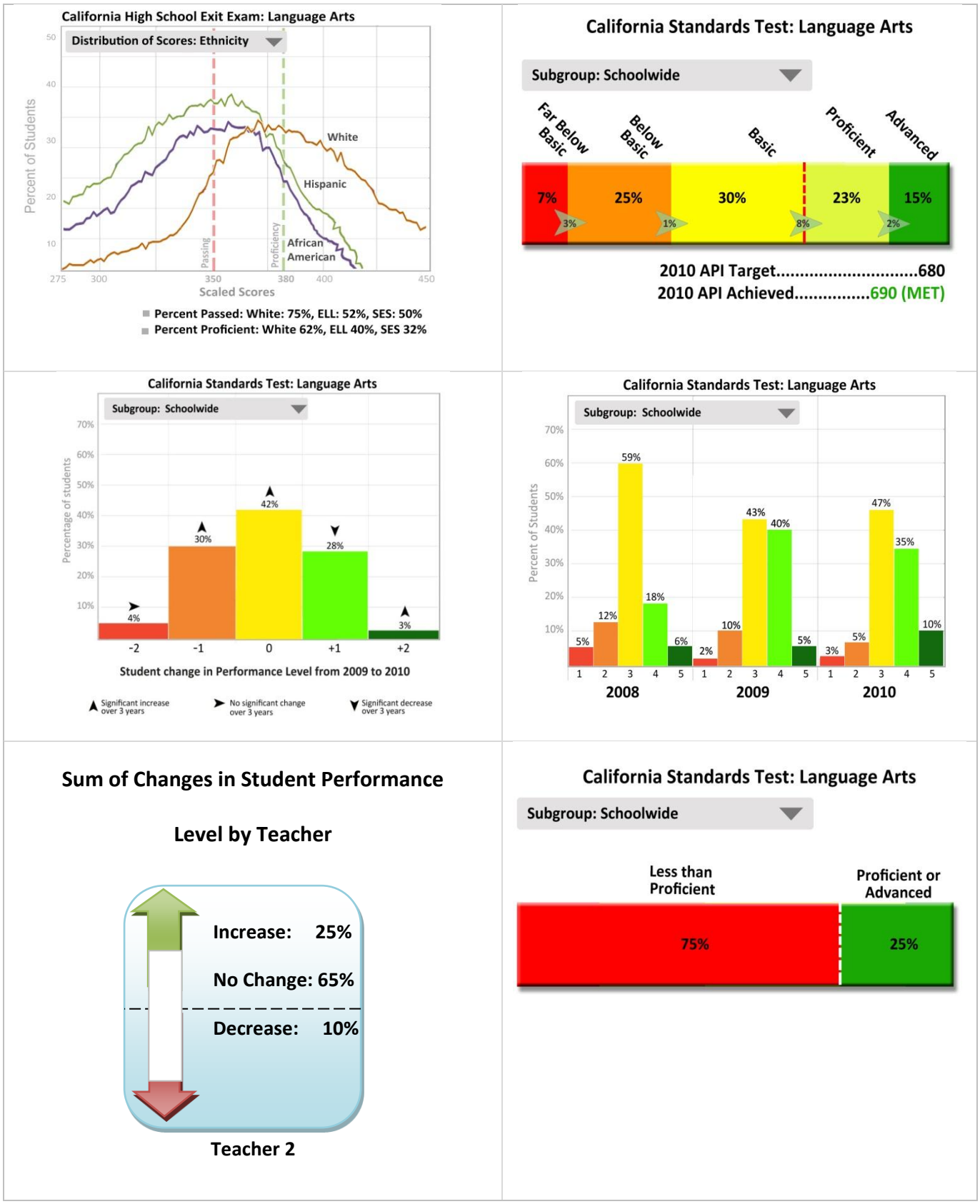


Figure 5.7. Charts that were removed from the report.

Connections to Prior Research

The findings of this study are tangible and applicable to the current context of our schools. A context sometimes riddled with budget cuts, a disenfranchised parent community, and unreliable growth in student learning and achievement. The findings are congruent to the research literature that indicates that creating a culture around the use of data is necessary if it is going to contribute significantly to improving student achievement at the school site (Heritage & Yeagley, 2005; Earl & Katz, 2005; Datnow, Borman, Stringfield, Overman, & Castellano, 2003).

Coburn and Talbert (2006) assert that there is a growing body of literature on the promise and challenges of evidence, touting its promise for use in increasing organizational performance. However most of this evidence is found at the school and classroom level, not the district level or within the context of a community (Coburn & Talbert, 2006). The methodology achieves two goals and thus may overcome two challenges (a) strengthening accountability tools, and (b) garnering buy-in from stakeholders by having them be the designer of these tools.

Methodological Implications

Although none of the research methods used in this study were new, this study combined them in unique ways. In particular, as described in Chapter 3, perhaps the most meaningful result of this study is not the final report that was generated by the collaborative work of the focus groups, it is the process that was utilized to develop this report.

The success of the study – to be able to review current accountability reports and to generate new design elements – in two 2-hour sessions affirmed the power of the use of focus groups with a design experiment. Though this method was conducted for academic purposes, the large amounts of data that were generated in these short sessions may be extremely valuable to a school leader who wishes to develop accountability tools that are relevant to their community. Replication and scalability of this model seems very feasible.

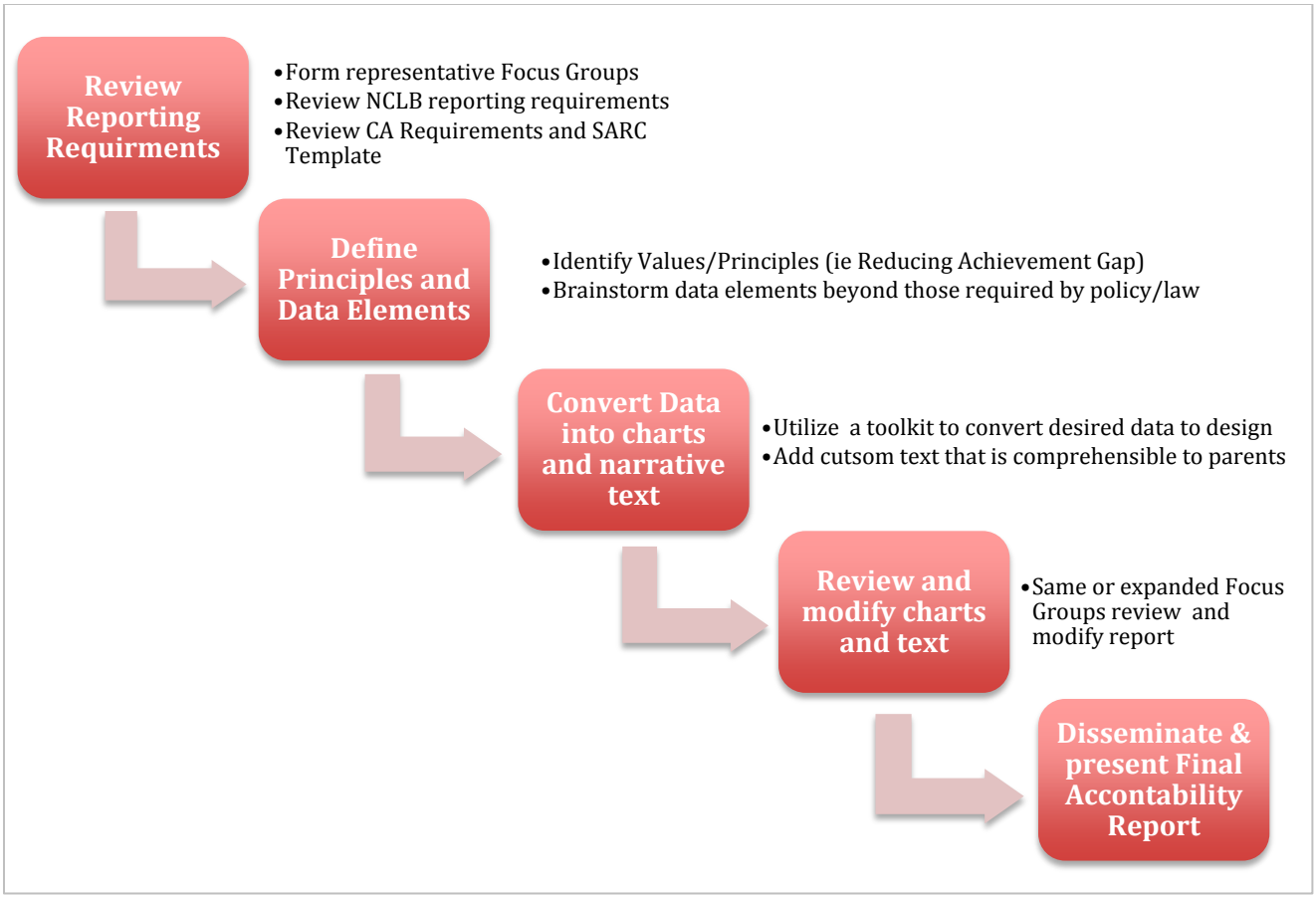


Figure 5.8. Proposed Flow Chart of Accountability Report Design Creation.

DMAIC Methodologies. The use of the DMAIC process holds a great deal of promise to develop meaningful accountability report cards. These report cards can function as part of a feedback loop for a comprehensive accountability system once imbedded within a cycle of inquiry or collaborative inquiry (Robinson, 2010), such as PDSA.



Figure 5.9. Representation of the Hybrid PDSA and DMAIC Process.

Implications for Future Research

***Impact of Parent Involvement*.** The research literature and the study results reveal potential areas for additional research related to parent involvement. A fundamental assumption of this study, made by Robert F. Kennedy, is that a more aware populace of parents will hold schools and districts accountable in a way that will improve reform efforts and, hence, student achievement. Studies that test this hypothesis could begin by searching for correlations between informed parents (perhaps as measured by an assessment) and effective reform strategies (perhaps as measured by significant improvement in student achievement). More sophisticated studies could attempt to infer causality if data from which the correlation was computed were obtained by experimental means with appropriate care to avoid confounding variables that threaten the internal validity of the experiment. Studying schools before and after the implementation of the development of accountability report cards would offer experimental opportunities that may isolate the "parent awareness" dependent variable.

Parent involvement in schools is influenced by a complex combination of factors, such as language, parent cliques, education level, attitudes of the school staff, cultural influences, and family issues (Peña, 2000). Research is needed to understand the role that schools, and specifically communication, have in encouraging or inhibiting parents from taking a more active role in education.

Parent involvement in schools can take different forms. Parents can advocate for their own child, for example, by meeting with teachers and counselors, using the school's online tools about the student, attending parent conferences and back to school night, and staying informed about their child's progress. Parent involvement can also take the form of involvement in governance and policy making, such as participation in the school site council, advisory committees, in personnel hiring interviews, and other kinds of school-wide advocacy. While significant research has identified a correlation of parent involvement in their own child's education with student achievement (Desimone, 1999), there is little research that examines the impact of parent involvement in governance and policy development on student achievement of the whole school or specific subgroups. An example of such a correlation study would be to compare the performance of English Learners (EL) (specifically California English Language Development Test (CELDT) scores over time, or reclassification rates) in schools that have a very informed and involved English Learner advisory committee versus schools that do not.

***Additional Research*.** Additional areas of research that were identified as a result of the findings in this study could include the following:

- In this study, focus group participants reviewed one School Accountability Report Card (SARC) utilized by a large school district. Most districts have outsourced their development to corporations. An area of research could be a review of current designs and uses of SARCs across California. A study could look at how much effort is put into submitting the data and how SARCs are utilized as an accountability tool at the local level.
- Develop an accountability report card using this study's process and send it out to a larger audience to survey.

- Develop a validated rubric of the effectiveness of reports utilizing the four domains: Purpose, Clarity, Meaningfulness, and Target Audience.
- Develop a validated rubric for a district efforts to inform its parents and the community at large of progress on predetermined accountability measures.
- In the spirit of Tufte's (1983) data to ink ratio, a study could attempt to create a data to information ratio. This would be a means of measuring the effectiveness of different graphic tools to convey depth of meaning. Information could be measured a number of way (pre and post testing, surveys, or focus groups).
- Applications of the process to R30 report, English Learner Self-Assessment (ELSA).
- Use a means of communicating how money is being spent.

In discussing how administrators would react to parents seeing the ethnicity demographic of suspensions at their school, one focus group administrator stated that "If I am under that kind of [parent] pressure I'm more likely to behave differently than if I work at a school with parents that are more accepting of the administration" (need first initial, last name of administrator, personal communication, date). This concept, of identifying the impact of parent pressure on administrative behavior as is it relates to disciplinary consequences for students represents a fascinating area of research. Research in this area could involve a qualitative component (the administrator's perception of parent pressure) and a quantitative one (the disciplinary consequences documented in student information systems).

Implications for Policy and Practice

***Application for Communicating Budget Allocations and Expenditures*.** When discussing the benefits of better information, parents disclosed their interest in learning more about how money is being spent, "If we could do this for the budget – we could understand how money is being spent." This resonates with Kennedy's concerns 40 years ago, "my feeling is that even if we put money into those school districts, then it will be wasted" (McLaughlin, 1974, p. 2). Currently the SARC template requires disclosure of expenditures per pupil, school site teacher salaries, types of services funded, and teacher and administrative salaries. However, parents disclosed an interest in learning more detailed information about expenditures, such as expenses on consultants and increasing costs of benefits. Replicating this process as mechanisms for parents to develop accountability reports related to resource allocation could be an excellent complement to a report on student achievement.

***Toolkit for Chart Design*.** The advances in instructional design research can allow for the development of chart design systems, or toolkits, for accountability reporting. A chart design toolkit would include a methodology that would offer users some guidelines to select the best graphic representation of the information they wish to make accessible to parents and other stakeholders.

This proposed toolkit would require participants to define the principles or goals (such as learning to read), identify the appropriate measure, and determine how to implement the guidelines. They would then apply this principle to identifying how students should be compared. An example of the hierarchy that could guide graphic design from principle to comprehensible information is as follows:

- *Principle*: Are students learning to read in elementary school?
- *Objective*: Are students at grade level in reading by the end of fifth grade?

- *Measure*: Average Instructional Reading Level for sixth graders on the Diagnostic Reading Assessment.
- *Comparisons*: NCLB Subgroups.
- *Appropriate Chart* for this type of data: Line Graph.
- *Historical Trend*: Three Years.

Another example includes:

- *Principle*: Utilize all of our district-based categorical funds.
- *Objective*: By May 30th – all funds will be expended or encumbered.
- *Measure*: Fund balances in the districts (Standard Account Code System) budget system.
- *Comparisons*: Different: Largest six categorical programs (Title 1a, Migrant Education, Title III, etc.).
- *Appropriate Chart* for this type of data: Bar Chart showing percent of expended/encumbered by May 30th.
- *Historical Trend*: Three Years.

Administrator Data Analysis Skills. During the study, I was struck by a statement made by one administrator, "*We can interpret this chart because we have been trained in data analysis."* The statement on the surface seemed unsubstantiated; administrators have very little formal training in the interpretation and analysis of data and the research literature shows they often lack these skills (Heritage & Yeagley, 2005). However, they have been so exposed to reports the last 20 years, especially since the implementation of NCLB, that many have become adept at interpreting data in different formats. In fact, I was impressed by some administrators' facility with different kinds of reports and charts. Consistently, their interpretation of the data was correct to a high percentage, though in some cases they made some interpretation errors similar to those of parents and teachers.

The next step, the ability to turn raw data into meaningful information for themselves, and to share with staff and parents, is an important skill that many administrators lack. Research related to implementation of inquiry methodologies and professional learning communities point to the importance of the role of the principal in guiding the development of a data-driven culture (Jandris, 2001; Robinson, 2010). According to Heritage and Yeagley (2005):

> [Many educators] do not understand the possibilities for creating data elements and indicators. It is our belief that the more practitioners are exposed to examples of combined data use that encourage unique solutions to problems, the more they will be able to collect and use other types of data in conjunction with achievement data for school improvement. (p. 328)

Clearly, this fundamental skill-set should be incorporated into administrator credentialing course work, certifications, and the evaluation process. Ensuring that administrators have these skills would improve their effectiveness in the utilization, communication, and dissemination of accountability information and, therefore, their success in participating and leading the change process.

- Creating an encyclopedia of charts and graphs - a smaller educational (perhaps online) version of Harris' (1999) that focus groups can review and select to custom design their accountability report.
- Schools could replicate the methodology as a means of reviewing and improving their SARCs. By involving different stakeholders in the design process, they would get more buy-in from the demographic they represent. For example, if schools want the support of business community funding, they can involve key players in the design of the accountability report cards. I think business leaders would appreciate this kind of involvement.
- Modifying the SARC template – to include components that will require schools and districts, and the third party corporations they contract, to create reports that provide parents and other stakeholders with meaningful data.
- Capacity building for parents.
- Create a dialogue about data analysis – raw data used to evaluate programs.

The Future of ESEA and Accountability Reporting

Accountability under President Obama. On February 17, 2009, President Obama signed into law the American Recovery and Reinvestment Act of 2009 (ARRA), legislation designed to stimulate the economy, support job creation, and invest in critical sectors, including education. Education spending was a major focus within the economic stimulus bill, entitled the American Recovery and Reinvestment Act. The act appropriated over $40 billion in stabilization aid to state governments to alleviate budget shortfalls, as well as additional funds through the Individuals with Disabilities Act and Title I of ESEA. The stabilization aid is meant to fund short-term programs, as the funding will not be available past the 2011 fiscal year, but some states have replaced some of their own educational appropriations with federal funds, leading some to worry that state education funding could decrease sharply when stabilization aid ends.

In addition, the administration has tied further state stimulus aid to a federal education reform agenda. This includes the Race to the Top Fund, a $4.35 billion competitive grant program that requires states that apply for the funds to submit a plan addressing four education reform goals, including the use of internationally-benchmarked standards and assessments, the recruitment and retention of effective teachers and principals, the adoption of data systems to track student progress, and the improvement of low-performing schools. In addition, states must remove any statutory barriers to using data about student achievement to assess the performance of teachers and administrators, and must remove limits to the number of charter schools allowed in the state (NYSED, 2009).

***Future Re-Authorization of ESEA*.** Future re-authorizations of ESEA, while sure to make significant changes, are unlikely to dilute the accountability measures of NCLB. The Obama administration has identified teacher quality as a major component in working toward educational equity. The 2009 appropriations bill included a massive increase in funding for the Teacher Incentive Fund, a program available to state and local education agencies that provide funds for increased performance-based salaries for teachers and principals in high-need schools (NYSED, 2009).

***Common Core Standards*.** Another evolution of the course of accountability is the movement towards Common Core Standards. One of the greatest challenges that plagued the implementation of ESEA since 1965 is the inconsistent academic standards that exist within

each state. States are able to gauge proficiency in reference to these standards. A solution to these discrepancies is the development of a set of agreed upon standards in all states. The Common Core State Standards Initiative is a state-led effort coordinated by the National Governors Association Center for Best Practices and the Council of Chief State School Officers CCSSO. The standards were developed in collaboration with teachers, school administrators, and experts, to provide a clear and consistent framework to prepare students for college and other post-secondary options. The standards offer teachers and parents a common understanding of what students are expected to learn. These consistent standards provide, for the first time, learning benchmarks applicable throughout the United States.
According to the CCSSO(2011), the standards:

- are aligned with college and work expectations;
- are clear, understandable and consistent;
- include rigorous content and application of knowledge through high-order skills;
- build upon strengths and lessons of current state standards;
- are informed by other top performing countries, so that all students are prepared to succeed in our global economy and society; and
- are evidence-based.

The implementation of these common standards will allow for the development of common assessments. This change will finally address the hypocrisy and misinformation of state definitions of proficiency that are exposed when student learning is gauged by consistent tools such as the National Assessment for Educational Progress (NAEP) (Peterson & Hess, 2006). Common standards allow for the development of NAEP-type examination for all students, and a student in Tennessee, found by Peterson and Hess (2006) to be the lowest performing state, can be held to the same standard as a student in Massachusetts, found to be the highest.

The advent of consistent standards and consistent assessments has the potential of expanding the generalizability of the findings of this study. Across schools, districts, and states, improved accountability report cards could be used as a foundation that could be complimented with additional, locally prioritized data.

Conclusion

Robert F. Kennedy's concern for our students and our schools is perhaps more applicable today than it was 45 years ago. Our schools and our school leaders need to continue finding bold solutions to engage our parents and student community, to create new tools that help guide our reform efforts, and hold ourselves accountable that we get it done. The study offers a methodology of how developing accountability report cards can merge the realms of legal requirements, academic research, and address the concerns and interests of different stakeholders.

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Appendix A

Legislation and California Education Code Related to the School Accountability Report Card (SARC)

Proposition 98 - **Approved by California voters on November 8, 1988:**

Declared that " . . . (i)t is the intent of the People of California to ensure that our schools spend money where it is most needed. Therefore, this Act will require every local school board to prepare a School Accountability Report Card to guarantee accountability for the dollars spent."

Added Section 8.5(e) to Article XVI of the *California Constitution*, which requires that "(a)ny school district maintaining an elementary or secondary school shall develop and cause to be prepared an annual audit accounting for such funds and shall adopt a School Accountability Report Card for each school."

Added Section 33126 to the California *Education Code (EC),* which directs the State Superintendent of Public Instruction to develop and present for adoption to the State Board of Education (SBE) a model SARC containing an assessment of various school conditions.

Added *EC* Section 35256, which mandates all elementary and secondary school districts in California annually to prepare for each school within the district a SARC that contains the items described in *EC* Section 33126, to publicize the SARCs, and to notify parents or guardians of students that a copy of the SARC will be provided on request.

Senate Bill 280 - **Effective November 8, 1988**

EC sections 35256.1, 41409, and 41409.3 were added [Chapter 1463, Statutes of 1989] to require that specified Average Salary information be included in each SARC.

Assembly Bill 1248 - **Effective January 1, 1993**

EC sections 41409 and 41409.3 were amended [Chapter 759, Statutes of 1992] to require that specified Average Salary information be based on district expenditures rather than district budgets, and revised the specific types and sizes of school districts for which the information is determined.

Assembly Bill 198 - **Effective January 1, 1994**

EC Section 33126 was amended [Chapter 1031, Statutes of 1993] to require that the statewide model school accountability report card also include, as a school condition to be assessed, the degree to which students are prepared to enter the work force.

Appendix A - continued

Legislation and California Education Code Related to the School Accountability Report Card (SARC)

Senate Bill 1665 - **Effective January 1, 1995**

EC Section 33126 was amended [Chapter 824, Statutes of 1994] to add the total number of instructional minutes offered in the school year to the list of conditions to be assessed in each SARC.

Assembly Bill 572 - **Effective January 1, 1998**

EC Section 33126 was amended [Chapter 912, Statutes of 1997] to add the following required items to each SARC:

- The results by grade level from the assessment tool used by the school district, and after it is developed, the statewide assessment
- Average verbal and math Scholastic Assessment Test scores
- The one-year dropout rate
- The percentage of pupils in kindergarten and grades 1 to 3, inclusive, participating in the Class Size Reduction Program
- The total number of the school's credentialed teachers
- The annual number of school days dedicated to staff development
- The suspension and expulsion rates for the most recent three-year period

Assembly Bill 568 - **Effective January 1, 1998**

EC Section 33126 was amended [Chapter 918, Statutes of 1997] to require each school district that is connected to the Internet to make the information contained in the SARC accessible on the Internet on or before July 1, 1998, and to update the SARC information annually.

Senate Bill 1632 - **Effective September 30, 2000**

EC Section 33126 was amended and *EC* Section 33126.1 was added [Chapter 996, Statutes of 2000] to require the California Department of Education to:

- Develop and recommend to the State Board of Education (SBE) for adoption a standardized SARC template
- Post the completed and viewable template on the Internet
- Develop and recommend to the SBE for adoption a set of standardized definitions for the SARC's required data elements
- Maintain links to the SARCs posted on the Internet

- These statutory changes also added additional assessments of school conditions to be included in SARCs, required districts with access to the Internet to make their SARCs available on the Internet, and required schools to ensure that all parents receive a copy of the SARC.

Public Law 107-110 Section 1111(h)(2) - **Effective September 1, 2002**

The federal No Child Left Behind (NCLB) Act established new requirements for reporting accountability data related to schools and local educational agencies. In particular, NCLB added the following school reporting requirements:

- The status of "Adequate Yearly Progress" as defined by NCLB
- Graduation rates according to a formula approved by the United States Department of Education
- The status of Title I Program Improvement, if applicable
- The extent to which highly qualified teachers are teaching classes in core content areas

Senate Bill 550 - **Effective September 29, 2004**

- This urgency measure [Chapter 900, Statutes of 2004], which took effect immediately, implemented portions of the settlement agreement in the case of *Williams, et al.* v. *State of California, et al.* that impact the SARC.
- With respect to the SARCs to be published in the 2004-05 school year, Senate Bill 550 added additional reporting requirements relating to (1) any needed maintenance to ensure good repair of school facilities; (2) the number of teacher misassignments, including the misassignment of teachers of English learners; (3) the number of vacant teacher positions; and (4) the availability of sufficient textbooks and other instructional materials.
- Senate Bill 687 - **Effective January 1, 2006**
- *EC* Section 33126 was amended and *EC* Section 33126.15 was added [Chapter 258, Statutes of 2005] to expand the existing SARC content requirements in the areas of teacher salaries, per pupil expenditures, career technical education, and textbook sufficiency.
- Assembly Bill 1061 - **Effective January 1, 2008**
- *EC* Sections 33126, 33126.1, 35256, and 35258 were amended [Chapter 530, Statues of 2007] to delete the following requirements:

Appendix A - continued

Legislation and California Education Code Related to the School Accountability Report Card (SARC)

- Participation in Class Size Reduction Program
- School Discipline Practices
- Substitute Teacher Availability
- Teacher Evaluation Process
- Local Assessment Results
- State Award and Intervention Programs
- College Admission Test Preparation Program
- SAT Reasoning Test
- School Instruction and Leadership
- Instructional Minutes
- Minimum Days in School Year

The bill added the following requirements to the SARC:

- A description of and the Internet address for the online tool, DataQuest
- A statement in the SARC template describing Internet access that is available at public libraries and other locations that are publicly accessible
- A description of admission requirements for the University of California and the Internet address for such information
- A description of admission requirements for the California State University and the Internet address for such information
- Added visual and performing arts to the content areas that are subject to the sufficiency of instructional materials requirement

The bill amended one existing requirement in the SARC:

- Professional Development

Appendix B

Sample AYP Report (Stage I)

2009 -10 Accountability Progress Reporting (APR)

School Report
2010 Adequate Yearly Progress (AYP) Report

California Department of Education
Assessment, Accountability and Awards Division
3/21/2011

School:
LEA:
County:
CDS Code:
School Type: Elementary

Direct Funded Charter School: No

2010 AYP and PI Links:
School Chart
School PI Status
LEA List of schools
County List of Schools
(An LEA is a school district or county office of education.)

2009-10 APR		2009-10 State API			2010 Federal AYP and PI		
Summary	Glossary	Base	Guide	Growth	AYP	PI	Guide

Federal Accountability: Adequate Yearly Progress (AYP)

Made AYP: No
Met 9 of 17 AYP Criteria

Participation Rate

GROUPS	English-Language Arts Target 95% Met all participation rate criteria? Yes: Enrollment First Day of Testing	Number of Students Tested	Rate	Met 2010 AYP Criteria	Alternative Method	Mathematics Target 95% Met all participation rate criteria? Yes: Enrollment First Day of Testing	Number of Students Tested	Rate	Met 2010 AYP Criteria	Alternative Method
Schoolwide	401	401	100	Yes		401	401	100	Yes	
Black or African American	0	0	--	--		0	0	--	--	
American Indian or Alaska Native	0	0	--	--		0	0	--	--	
Asian	1	1	100	--		1	1	100	--	
Filipino	7	7	100	--		7	7	100	--	
Hispanic or Latino	382	382	100	Yes		382	382	100	Yes	
Native Hawaiian or Pacific Islander	1	1	100	--		1	1	100	--	
White	10	10	100	--		10	10	100	--	
Two or More Races	0	0	--	--		0	0	100	--	
Socioeconomically Disadvantaged	372	372	100	Yes		372	372	100	Yes	
English Learners	313	313	100	Yes		313	313	100	Yes	
Students with Disabilities	49	49	100	--		49	49	100	--	

Percent Proficient - Annual Measurable Objectives (AMOs)

GROUPS	English-Language Arts Target 56.8 % Met all percent proficient rate criteria? No: Valid Scores	Number At or Above Proficient	Percent At or Above Proficient	Met 2010 AYP Criteria	Alternative Method	Mathematics Target 58.0 % Met all percent proficient rate criteria? No: Valid Scores	Number At or Above Proficient	Percent At or Above Proficient	Met 2010 AYP Criteria	Alternative Method
Schoolwide	372	106	28.5	No		372	183	49.2	No	
Black or African American	0	--	--	--		0	--	--	--	
American Indian or Alaska Native	0	--	--	--		0	--	--	--	
Asian	1	--	--	--		1	--	--	--	
Filipino	7	--	--	--		7	--	--	--	
Hispanic or Latino	354	97	27.4	No		354	169	47.7	No	
Native Hawaiian or Pacific Islander	1	--	--	--		1	--	--	--	
White	9	--	--	--		9	--	--	--	
Two or More Races	0	--	--	--		0	--	--	--	
Socioeconomically Disadvantaged	346	92	26.6	No		346	167	48.3	No	
English Learners	296	71	24.0	No		296	138	46.6	No	
Students with Disabilities	49	8	16.3	--		49	13	26.5	--	

Academic Performance Index (API) - Additional Indicator for AYP

2009 Base API	2010 Growth API	2009-10 Growth	Met 2010 API Criteria	Alternative Method
700	698	-2	Yes	

2010 API Criteria for meeting federal AYP: A minimum "2010 Growth API" score of 680 OR "2009-10 Growth" of at least one point.

Graduation Rate Goal: 90 Percent

Current Year: Graduation Rate Results

2009 Graduation Rate (Class of 2007-08)	2010 Graduation Rate (Class of 2008-09)	2010 Target Graduation Rate	2010 Graduation Rate Criteria Met	Alternative Method
			N/A	

Next Year: Graduation Target

2011 Target Graduation Rate

Graduation Rate Criteria: (1) met or exceeded the goal of 90%, or (2) met the fixed target graduation rate, or (3) met the variable

Appendix C

Sample API Report (Stage I)

2009 -10 Accountability Progress Reporting (APR)

School Report - API Growth and Targets Met
2010 Growth
Academic Performance Index (API) Report

California Department of Education
Assessment, Accountability and Awards Division
3/21/2011

School: [redacted]
LEA: [redacted]
County: [redacted]
CDS Code: [redacted]
School Type: Elementary

2010 Growth API Links:
School Chart | School Demographic Characteristics | School Content Area Weights | LEA List of Schools | County List of Schools
(An LEA is a school district or county office of education.)

Direct Funded Charter School: No

2009-10 APR		2009-10 State API			2010 Federal AYP and PI		
Summary	Glossary	Base	Guide	Growth	AYP	PI	Guide

State Accountability: Academic Performance Index (API)

Number of Students included in the 2010 Growth API	API				Met Growth Target		
	2010 Growth	2009 Base	2009-10 Growth Target	2009-10 Growth	Schoolwide	All Subgroups	Both Schoolwide and Subgroups
372	698	700	5	-2	No	No	No

Similar Schools Report

Similar Schools

Median API	
2010 Growth	2009 Base
723	703

Click on the median value heading to link to the list of 2009 Base API similar schools. This list contains schools which were selected specifically for the reported school for the 2009 Base API Report.

Subgroups

	Number of Students Included in 2010 API	Numerically Significant in Both Years	Subgroup API: 2010 Growth	2009 Base	2009-10 Growth Target	2009-10 Growth	Met Subgroup Growth Target
Black or African American	0	No					
American Indian or Alaska Native	0	No					
Asian	1	No					
Filipino	7	No					
Hispanic or Latino	354	Yes	691	700	5	-9	No
Native Hawaiian or Pacific Islander	1	No					
White	9	No					
Two or More Races	0	No					
Socioeconomically Disadvantaged	346	Yes	688	692	5	-4	No
English Learners	296	Yes	676	694	5	-18	No
Students with Disabilities	49	No					

Click on the column header to view notes.

In order to meet federal requirements of No Child Left Behind, a 2010 Growth API is posted even if a school or LEA had no 2009 Base API or if a school had significant population changes from 2009 to 2010. However, the presentation of growth targets and actual growth would not be appropriate and, therefore, are omitted.

"N/A" means a number is not applicable or not available due to missing data.
"*" means this API is calculated for a small school, defined as having between 11 and 99 valid Standardized Testing and Reporting (STAR) Program test scores included in the API. The API is asterisked if the school was small either in 2009 or 2010. APIs based on small numbers of students are less reliable and therefore should be carefully interpreted.
"A" means the school or subgroups scored at or above the statewide performance target of 800 in 2009.
"B" means the school did not have a valid 2009 Base API and will not have any growth or target information.
"C" means the school had significant demographic changes and will not have any growth or target information.
"D" means this is either an LEA, an Alternative Schools Accountability Model (ASAM) school, or a special education school. Target information is not applicable to LEAs, ASAM schools, or special education schools.
"E" indicates this school was an ASAM school in the 2009 Base API Report and has no target information even though the school is no longer an ASAM school.

Targets Met - In the "Met Growth Target" columns, the growth targets reflect state accountability requirements and do not match the federal Adequate Yearly Progress (AYP) requirements. The AYP requirement for the API is a 2010 Growth API of 680 or a one-point increase from 2009 Base API to 2010 Growth API for a school or LEA.

Appendix D

Sample SARC Report Reviewed in Stage I

2009-10 School Accountability Report Card Report (SARC)

I. Data and Access

DataQuest

DataQuest is an online data tool that contains additional information about this school and comparisons of the school to the district, the county, and the state. Specifically, DataQuest is a dynamic system that provides reports for accountability (e.g., Academic Performance Index API, Adequate Yearly Progress AYP), test data, enrollment, graduates, dropouts, course enrollments, staffing, and data regarding English learners.

Internet Access

Internet access is available at public libraries and other locations that are publicly accessible (e.g., the California State Library). Access to the Internet at libraries and public locations is generally provided on a first-come, first-served basis. Other use restrictions include the hours of operation, the length of time that a workstation may be used (depending on availability), the types of software programs available on a workstation, and the ability to print documents.

II. About This School

Message From The Principal

The School Accountability Report Card is issued annually for each school in the State of California and provides an assessment of selected conditions related to the school, its resources, its successes, and the areas in which improvements may be needed.

As you read this report for our school, I believe that a picture will emerge of a school dedicated to improvement, a qualified faculty that is professionally and personally committed to meeting the learning needs of students, and a student body which is motivated to perform well.

Our school puts forth efforts to involve parents and community in our school and to keep them informed. This is done through meetings with groups such as Parent Teacher Student Association (PTSA)/PTA, School Advisory Councils, school volunteers and Adopt-A-School Partners.

As a parent or other interested person, you may be interested in additional information regarding the school or parent/community involvement. For such information, please call the school office.

Principal

Appendix D - continued

Sample SARC Report Reviewed in Stage I

Opportunities for Parental Involvement (School Year 2009-10)

- Advisory Council
- Governance Council
- PTA/PTO
- Classroom Volunteer
- Office Volunteer
- Supervision Volunteer
- Fund Raising
- School Beautification

To participate with any of the above opportunities, contact the school principal.

Student Enrollment Grade Level (School Year 2009-10)

This table displays the number of students enrolled in each grade level at the school.

Grade Level	Enrollment
Kindergarten	64
Grade 1	74
Grade 2	77
Grade 3	76
Grade 4	79
Grade 5	80
Total Enrollment	450

Student Enrollment Racial and Ethnic Subgroups (School Year 2009-10)

This table displays the number and percent of students enrolled at the school by subgroup.

Racial and Ethnic Subgroup	# of Students	% of Students
African American	26	5.8%
American Indian or Alaska Native	3	0.7%
Asian	20	4.4%
Filipino	17	3.8%
Hispanic or Latino	334	74.2%
Pacific Islander	0	0.0%
White (Not Hispanic)	50	11.1%
Two Or More Races	Not Available	Not Available

Average Class Size and Class Size Distribution (Elementary)

This table displays by grade level the average class size and the number of classrooms that fall into each size category (a range of total students per classroom).

Grade Level	2007-08				2008-09				2009-10			
	Avg. Class Size	Number of Classrooms			Avg. Class Size	Number of Classrooms			Avg. Class Size	Number of Classrooms		
		1-20	21-32	33+		1-20	21-32	33+		1-20	21-32	33+
K	21.0	1	2	0	19.7	3	0	0	20.7	1	2	0
01	19.0	4	0	0	16.3	4	0	0	15.8	2	3	0
02	19.8	3	1	0	19.0	4	0	0	20.0	1	3	0
03	18.0	4	0	0	17.6	5	0	0	23.3	0	3	0
04	25.3	0	3	0	20.5	1	3	0	24.3	1	3	0
05	23.7	0	3	0	23.7	0	3	0	31.0	0	2	0

III. School Climate

Our school makes every effort to provide a safe, clean environment for learning. Classroom space is used to support our instructional program. Emergency drills are routinely held for earthquake and fire preparedness for our students and staff.

School Safety Plan (School Year 2009-10)

As required by California Education Code (CEC), Section 35294, the school's Safe School Plan was revised and reviewed with staff on the following dates:

Safe School Plan	Date revised	Date reviewed with staff
Volume 1 Prevention Programs	11/24/09	11/24/09
Volume 2 Emergency Procedures	09/15/10	09/15/10

Suspensions and Expulsions

This table displays the number and rate of suspensions and expulsions at the school and district levels for the most recent three-year period. The rate of suspensions and expulsions is the total number of incidents divided by the school's total enrollment as reported by CBEDS for a given year.

	School			District		
	2007-08	2008-09	2009-10	2007-08	2008-09	2009-10
Number of Suspensions	11	0	2	52,432	42,620	38,223
Rate of Suspensions	2.4	0.0	0.4	7.6	6.2	5.7
Number of Expulsions	0	0	0	418	324	260
Rate of Expulsions	0.0	0.0	0.0	0.1	0.0	0.0

IV. School Facilities

School Facility Conditions, Planned Improvements, and Needed Repairs (School Year 2010-11)

The District takes great efforts to ensure that all schools are clean, safe, and functional within the available resources. The District has established cleaning standards for all school facilities in assigning and inspecting custodial work. Food service and restroom facilities are given highest priority on a daily basis to ensure the health and safety of students and staff. Other cleaning functions may be scheduled on a less than daily frequency due to the limitation of available custodial resources.

School facility data is as of October 15, 2010.

Appendix D - continued

Sample SARC Report Reviewed in Stage I

School Facility Conditions and Planned Improvements (School Year 2010-11)				
Determination of repair status is based on the most recent Safe School Inspection. The assessment areas listed as "Poor" have been determined to have deficiencies as described in the Department of Education "Interim Evaluation Instrument." Deficiency details can be found at *www.lausd-oehs.org* under "School Inspection Results." Additional information about the condition of the school facilities may be obtained from the school.				
Item Inspected	Repair Status			Repair Needed and Action Taken or Planned
	Good	Fair	Poor	
Gas Leaks	X			
Mechanical Systems	X			
Windows/Doors/Gates (interior/exterior)	X			
Interior Surfaces (walls, floors, and ceilings)	X			
Hazardous Materials (interior and exterior)	X			
Structural Damage	X			
Fire Safety	X			
Electrical (interior and exterior)	X			
Pest/Vermin Infestation	X			
Drinking Fountains (inside and outside)	X			
Restrooms	X			
Sewer	X			
Playground/School Grounds	X			
Roofs	X			
Overall Cleanliness	X			

Note: "Poor" means that cited maintenance deficiencies in the category have not been repaired or mitigated to date, but have been reported via Trouble Call or identified as a major maintenance or bond project and will be completed as soon as feasible.

Overall Summary of School Facility Good Repair Status (School Year 2010-11)

This table displays the overall summary of the results of the most recently completed school site inspection.

Item Inspected	Facility Condition			
	Exemplary	Good	Fair	Poor
Overall Summary	X			

V. Teachers

Teacher Credentials

This table displays the number of teachers assigned to the school with a full credential and without a full credential. Detailed information about teacher qualifications can be found at the DataQuest Web page http://dq.cde.ca.gov/dataquest/.

Teachers	School			District
	2007-08	2008-09	2009-10	2009-10
With Full Credential	27	26	26	32,302
Without Full Credential	1	0	0	487

Teacher Misassignments and Teacher Vacancies

This table displays the number of teacher misassignments (those classes that do not have a teacher with a state recognized certificate or credential) and the number of teacher vacancies (those classes without a full-time, permanent teacher).

	2008-09	2009-10	2010-11
Misassignments of Teachers of English Learners*	0	0	1
Misassignments of Other Subjects*	1	***	0
Total Teacher Misassignments*	1	0	1
Vacant Teacher Positions	0	0	0

Note: Misassignments and vacancies for the 2010-11 school year are as of October 1, 2010.

Core Academic Classes Taught by No Child Left Behind (NCLB) Compliant Teachers (School Year 2009-10)

NCLB compliant teachers meet the following standards: (1) a bachelor's degree, (2) a state credential (or an Intern Certificate/Credential for no more than three years), and (3) demonstrated subject-matter competence for each core subject to be taught by the teacher.

This table displays the percentage of classes in core academic subjects taught by NCLB-compliant and non-NCLB compliant teachers at the school, at all schools in the district, in high-poverty schools in the district, and in low-poverty schools in the district. More information on teacher qualifications required under NCLB can be found at the CDE Web site at http://www.cde.ca.gov/nclb/sr/tq/.

	Percent of Classes In Core Academic Subjects	
	Taught by NCLB Compliant Teachers	Taught by Non-NCLB Compliant Teachers
This School	95.2%	4.8%
All Schools in District	88.2%	11.8%
High-Poverty Schools in District	88.5%	11.5%
Low-Poverty Schools in District	95.6%	4.4%

VI. Support Staff

Academic Counselors and Other Support Staff (School Year 2009-10)

This table displays, in units of full-time equivalents (FTE), the number of academic counselors and other support staff who are assigned to the school. One FTE is defined as a staff person working 100% (i.e., full time). Two staff persons working 50% of full time also equals one FTE.

Title	Number of FTE Assigned to School
Academic Counselor	0.0
Counselor (Social/Behavior Or Career Development)	No Data Available
Library Media Teacher (Librarian)	0.0
Library Media Services Staff (Paraprofessional)	0.0
Psychologist	0.5
Social Worker	0.0
Nurse	0.0
Speech/Language/Hearing Specialist	0.4
Resource Specialist (Non-Teaching)	0.0
Other	0.4

Note: Please contact school principal for updated counts of support staff for this school.

VII. Curriculum and Instructional Materials

Quality, Currency, and Availability of Textbooks and Instructional Materials (School Year 2010-11)

Elementary Schools

The Open Court Reading (Foro Abierto Para la Lectura) Program provides standards-based instruction literacy development. Health textbooks were purchased for grades K-5/6 in Spring 2005 and implemented in 2005-06. History/Social Science textbooks and instructional materials were adopted in Spring 2006 and implemented in 2006-07. FOSS kits were adopted for Science textbooks in Spring 2007 and implemented in 2007-08. New Mathematics textbooks were adopted in Spring 2008 and implemented in 2009-10.

Sample SARC Report Reviewed in Stage I

Sufficient core program textbooks and instructional materials are available in the 2009-10 school year for on-track students in grades K-12 to support the core curriculum areas of Reading/English/English Language Development (ELD), English as a Second Language (ESL), and/or Intervention, History/Social Science, Mathematics, and Science. Thus, there is a one textbook per pupil ratio for on-track pupils at multi-track schools. Since the District is not required to have one textbook per off-track student at multi-track schools, except in classes where homework is assigned, the off-track ratio of textbooks per pupil at multi-track schools varies from school to school.

To provide sufficient textbooks in subject areas consistent with the content and cycles of the curriculum framework adopted by the State Board of Education, the Los Angeles Unified School District continued to target State textbook money, available District general funds, categorical funds, as well as any additional funding provided by the State, toward the purchase of core textbooks and instructional materials. In 2009-10, the District expended $64.7 million for Core and Required textbooks (of which $31 million was funded through the State Instructional Materials Realignment Fund Program IMRFP). In the 2010-11 final budget, the District has a budget of $60.5 million (of which $30.9 million is from IMRFP) primarily to purchase other Core and Required textbooks in 2010-11 and/or in 2011-12. As of September 7, 2010, the District has already expended and encumbered $43.3 million ($43.1 million of which is charged to IMRFP).

Textbooks and instructional materials are from the most recent adoption.

Core Curriculum Area	Quality, Currency, and Availability of Textbooks and Instructional Materials	Percent of Pupils Who Lack Textbooks and Instructional Materials	Most Recent SBE or Local Governing Agency Approved Textbooks and Instructional Materials
Reading/Language Arts (including ELD)	Sufficient	0%	Yes**
Mathematics	Sufficient	0%	Yes
Science	Sufficient	0%	Yes
History-Social Science	Sufficient	0%	Yes
Foreign Language	Sufficient	0%	Yes
Health	Sufficient	0%	Yes
Visual and Performing Arts	Sufficient	0%	Yes
Science Laboratory Equipment (grades 9-12)	N/A	N/A	N/A

Note: Textbook sufficiency data are as of October 19, 2010.

**As a result of the budget crisis, the District received a waiver to postpone the adoption.

VIII. School Finances

School Site Teacher Salaries (Fiscal Year 2008-09)

Appendix D - continued

This information provides a comparison of the average teacher salary at the school site with the average teacher salaries at the district and state levels.

Average Teacher Salary			Percent Difference Between School Site and	
School Site	District	State	District	State
$66,662	$66,435	$68,179	0.3%	-2.2%

Expenditures Per Pupil (Fiscal Year 2008-09)

This information provides a comparison of a school's per pupil funding from unrestricted sources with other schools in the district and throughout the state.

School Site Expenditures per Pupil			Expenditures per Pupil from Unrestricted Sources		Percent Difference Between School Site and	
Total	Restricted Sources	Unrestricted Sources	District	State	District	State
$9,509	$4,187	$5,321	$4,594	$5,681	15.8%	-6.3%

Types of Services Funded (School Year 2009-10)

This section provides information about the programs and supplemental services that are available at the school and funded through either categorical or other sources.

Title I

Title I funds are used to support effective, research-based educational strategies that close the achievement gap for students not meeting the state's challenging academic standards in English Language Arts and mathematics. Title I funds are distributed to schools with a minimum of 40% poverty on a per-pupil basis. Based on an analysis of student achievement data, Title I resources may be used for professional development, supplemental instruction and intervention, parental involvement, personalization and support for students with at-risk behaviors. As a result of the federal American Recovery and Reinvestment Act (ARRA), the District received additional Title I resources in FY 2009-10 and FY 2010-11. The mandates that apply to Title I also apply to Title I ARRA funds.

Title II

Title II funds may be used for professional development in content knowledge and classroom practice, developing and implementing strategies to retain highly qualified teachers, and for class size reduction. All classroom teachers hired for class size reduction must meet ESEA requirements to be considered highly qualified.

Title III

Title III funds assist English Learners (EL) in acquiring English fluency, gaining access to the curriculum, and achieving grade-level and graduation standards. Funds are distributed to school sites based on the number of EL students enrolled.

Economic Impact Aid (EIA) is a state categorical program that provides supplemental funds to support programs for English Learners. Use of supplemental EIA funds for English Learners at the school level is administered through the Single School Plan as approved by the School Site Council and the local governing board. Typical examples include the purchase of supplemental materials and expenses that support paraprofessionals, supplemental resource teachers, and the operation of EL advisory committees.

EIA State Comp Ed

Economic Impact Aid (EIA) funds provide compensatory education services for educational disadvantaged students. Additional support may be provided through the lowering of class size, professional development and support for students with at-risk behaviors.

Teacher and Administrative Salaries (Fiscal Year 2008-09)

This table displays district-level salary information for teachers, principals, and superintendents, and compares these figures to the state averages for districts of the same type and size. The table also displays teacher and administrative salaries as a percent of a district's budget, and compares these figures to the state averages for districts of the same type and size. Detailed information regarding salaries may be found on the Certificated Salaries and Benefits Web page.

Category	District Amount	State Average for Districts In Same Category
Beginning Teacher Salary	$39,788	$42,377
Mid-Range Teacher Salary	$63,553	$63,667
Highest Teacher Salary	$78,906	$87,102
Average Principal Salary (Elementary)	$108,013	$108,894
Average Principal Salary (Middle)	$118,046	$113,713
Average Principal Salary (High)	$117,816	$124,531
Superintendent Salary	$250,000	$223,323
Percent of Budget for Teacher Salaries	38.10%	40.20%
Percent of Budget for Administrative Salaries	5.50%	5.50%

IX. Student Performance

California Standards Tests (CST)

The California Standards Tests (CST) show how well students are doing in relation to the state content standards. The CSTs include English-Language Arts and Mathematics in grades 2 through 11; Science in grades 5, 8, 9, 10 and 11; and History-Social Science in grades 8, 9, 10, and 11. Student scores are reported as performance levels. Detailed information regarding the CST results for each grade and proficiency level, including the percent of students not tested, can be found at the CDE website at http://star.cde.ca.gov

Note: To protect student privacy, asterisks appear in any cell whenever 10 or fewer students had valid test scores.

CST - Results for All Students - Three-Year Comparison

This table displays the percent of students achieving at the Proficient or Advanced level (meeting or exceeding the state standards).

Subject	School			District			State		
	2007-08	2008-09	2009-10	2007-08	2008-09	2009-10	2007-08	2008-09	2009-10
English-Language Arts	41%	44%	42%	35%	38%	41%	46%	50%	52%
Mathematics	58%	62%	59%	35%	37%	39%	43%	46%	48%
Science	36%	43%	52%	36%	38%	43%	46%	50%	54%

CST - Racial/Ethnic Groups - Most Recent Year

Data reported are the percent of students achieving at the Proficient or Advanced level (meeting or exceeding the state standards).

Subject	African-American	American Indian or Alaska Native	Asian	Filipino	Hispanic or Latino	Pacific Islander	White (Not Hispanic)	Two Or More Races
English-Language Arts	42%	**	**	**	38%		67%	Not Available
Mathematics	68%	**	**	**	56%		72%	Not Available
Science	**		**	**	49%		**	Not Available

CST - Other Subgroups - Most Recent Year

Data reported are the percent of students achieving at the Proficient or Advanced level (meeting or exceeding the state standards).

Subject	Male	Female	Economically Disadvantaged	English Learners	Students with Disabilities	Students Receiving Migrant Education Services	All Students In School	All Students In District
English-Language Arts	38%	46%	38%	22%	14%		42%	41%
Mathematics	59%	59%	56%	43%	19%		60%	39%
Science	49%	56%	45%	4%	24%		52%	33%

California Physical Fitness Test (School Year 2009-10)

The California Physical Fitness Test is administered to students in grade 5, 7, 9 only. This table displays by grade level the percent of students meeting fitness standards (scoring in the healthy fitness zone on all six fitness standards) for the most recent testing period. Detailed information regarding the California Physical Fitness Test, and comparisons of a school's test results to the district and state levels, can be found at the CDE website at http://www.cde.ca.gov/ta/tg/pf/.

Note: To protect student privacy, scores are not shown when the number of students tested is 10 or less.

Grade Level	Percent of Students Meeting Healthy Fitness Zones		
	Four of Six Standards	Five of Six Standards	Six of Six Standards
05	17.7%	24.1%	45.6%

API Changes by Student Group - Three-Year Comparison

This table displays by student group the actual API changes in points added or lost for the past three years, and the most recent API score.

Group	Actual API Change at the School			2010 Growth API Score		
	2007-08 Growth Points	2008-09 Growth Points	2009-10 Growth Points	School	District	State
All Students at the School	9	16	0	764	709	767
African American					663	686
American Indian or Alaska Native					736	728
Asian					883	890
Filipino					837	851
Hispanic or Latino	2	30	-9	746	686	715
Pacific Islander					734	753
White (Not Hispanic)					849	838
Two Or More Races	Not Available	Not Available	Not Available	Not Available	711	808
Socioeconomically Disadvantaged	12	27	-4	748	691	712
English Learners	12	16	1	700	644	692
Students with Disabilities		9		550	501	580

Appendix D - continued

Sample SARC Report

"N/A"	means a number is not applicable or not available due to missing data.
"*"	means this API is calculated for a small school, defined as having between 11 and 99 valid Standardized Testing and Reporting (STAR) Program test scores included in the API. The API is asterisked if the school was small either in 2009 or 2010. APIs based on small numbers of students are less reliable and therefore should be carefully interpreted.
"A"	means the school or subgroups scored at or above the statewide performance target of 800 in 2010.

"B"	means the school did not have a valid 2009 Base API and will not have any growth or target information.
"C"	means the school had significant demographic changes and will not have any growth or target information.
"D"	means this is either an LEA, an Alternative Schools Accountability Model (ASAM) school, or a special education school. Target information is not applicable to LEAs, ASAM schools, or special education schools.
"E"	indicates this school was an ASAM school in the 2009 Base API Report and has no target information even though the school is no longer an ASAM school.

Adequate Yearly Progress (AYP)

The federal No Child Left Behind (NCLB) Act requires that all schools and districts meet the following Adequate Yearly Progress (AYP) criteria:

- Participation rate on the state's standards-based assessments in English-Language Arts (ELA) and Mathematics
- Percent proficient on the state's standards-based assessments in ELA and Mathematics
- API as an additional indicator
- Graduation rate (for high schools)

Detailed information about AYP, including participation rates and percent proficient results by student group, can be found at the CDE website at http://www.cde.ca.gov./ta/ac/ay/

AYP Overall and by Criteria (School Year 2009-10)

This table displays an indication of whether the school and the district made AYP overall and whether the school and the district met each of the AYP criteria.

AYP Criteria	School	District	State
Overall	No	No	No
Participation Rate - English-Language Arts	Yes	Yes	Yes
Participation Rate - Mathematics	Yes	Yes	Yes
Percent Proficient - English-Language Arts	No	No	No
Percent Proficient - Mathematics	No	No	Yes
API	Yes	Yes	Yes
Graduation Rate	N/A	No	No

Federal Intervention Program (School Year 2010-11)

Schools and districts receiving federal Title I funding enter Program Improvement (PI) if they do not make Adequate Yearly Progress (AYP) for two consecutive years in the same content area (English-Language Arts or Mathematics) on the same indicator (API or graduation rate). After entering PI, schools and districts advance to the next level of intervention with each additional year that they do not make AYP. Detailed information about PI identification can be found at the CDE website at http://www.cde.ca.gov/ta/ac/ay.

	School	District
Program Improvement Status	IN PI	In PI
First Year of Program Improvement	2009-2010	2004-2005
Year in Program Improvement	2	Year 3
Number of Schools Currently in Program Improvement	N/A	432
Percent of Schools Currently in Program Improvement	N/A	50.0%

XII. Instructional Planning and Scheduling

Professional Development

Beginning with the 2009-10 school year, all professional development efforts have been aligned to a multi-tiered framework called Response to Instruction and Intervention (RtI²). RtI² is student-centered, data-based, and promotes the practice of providing high-quality, effective instruction to all students across all arenas - academic, social-emotional, and behavioral. There is district-wide emphasis on the problem-solving model that utilizes and builds on:

- the work of educators who team together to increase student engagement, motivation, and achievement;
- standards-based content knowledge and access strategies to support the achievement of diverse learners-English Learner (EL) and Standard English Learner (SEL) students, Gifted/High Achieving students, and Students With Disabilities (SWD);
- the analysis of multiple sources of data; and
- standards and evidence-based instruction and intervention matched to student need.

Time Dedicated Annually To Professional Development For Teachers

AM/PM Kinder

Academic Year	Banked Time (up to)	Buy Back (up to)	Pupil Free (up to)	Total Possible Hours (up to)
2009-10	0 Hours	0 Hours	0 Hours	0 Hours
2008-09	0 Hours	0 Hours	6 Hours	6 Hours
2007-08	0 Hours	18 Hours	6 Hours	24 Hours

Elementary Schools (Full Day Kinder - 5/6)

Academic Year	Banked Time (up to)	Buy Back (up to)	Pupil Free (up to)	Total Possible Hours (up to)
2009-10	26 Hours	0 Hours	0 Hours	26 Hours
2008-09	26 Hours	0 Hours	6 Hours	32 Hours
2007-08	26 Hours	18 Hours	6 Hours	50 Hours

Appendix E

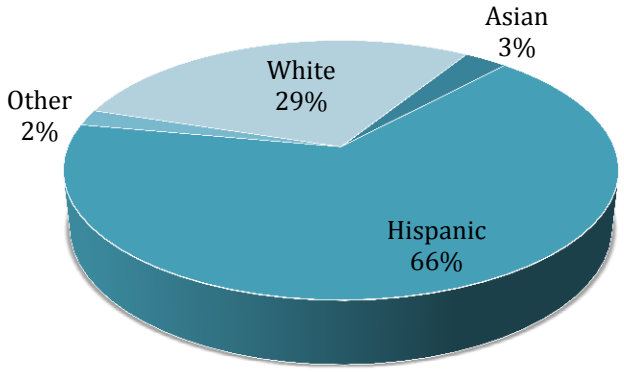
Sample Charts of Prototypical Report

DEMOGRAPHICS

☑ Parents ☑ Teachers ☑ Administrators

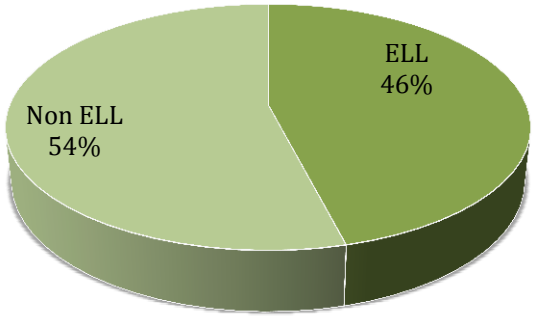
The First step in the process is understanding the population of students within the school.

Ethnicity



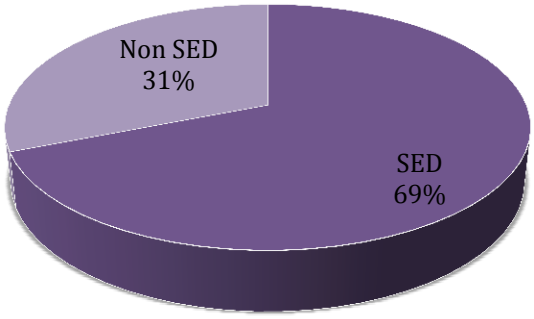
The ethnic composition of the school is 66% Hispanic, 29% White, 3% Asian, and 2%Other. Hispanic and White students are the only ethnic groups with sufficient numbers to be considered significant for the accountability reports. The other ethnic groups will not appear on the reports.

English Language Learners (ELLs)



The English Learners represent 46% of the school population. This group also includes students who became fluent in the last 3 years. This represents a significant subgroup.

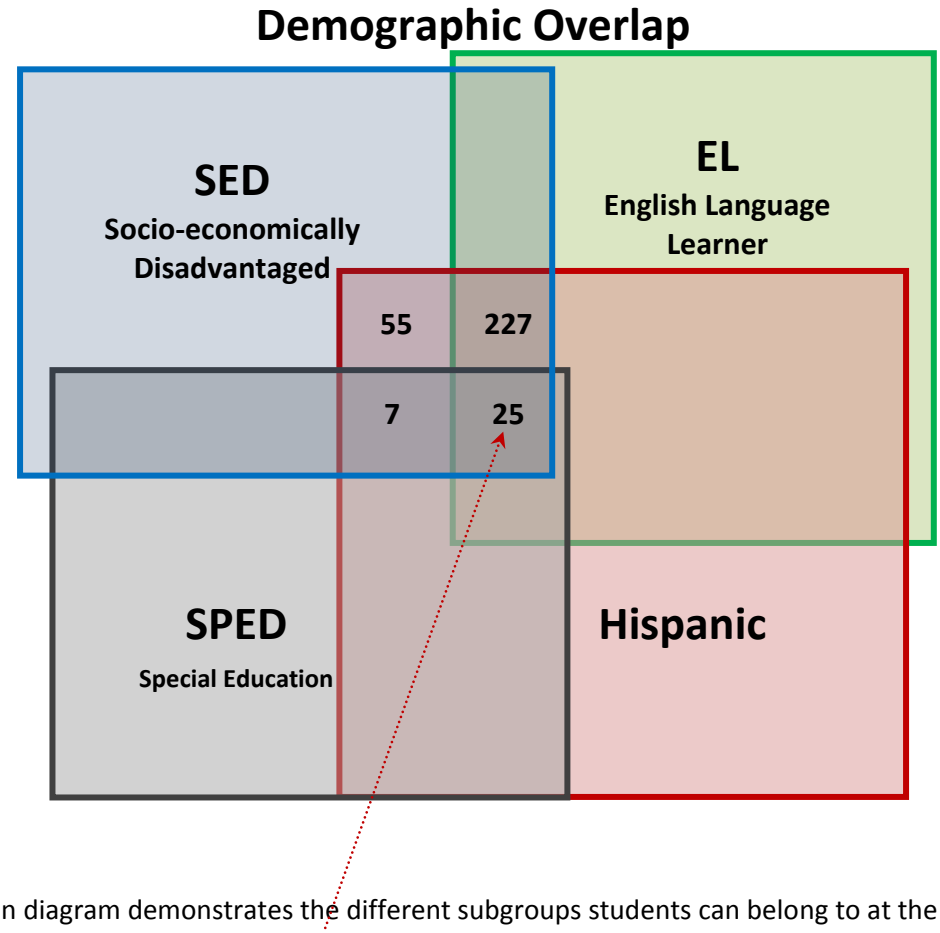
Socio-economically Disadvantaged (SED)



The Socio Economically Disadvantaged students are those who qualify and applied for the Free and Reduced Lunch Program. They represent 69% of the population of the school. They represent a significant subgroup.

DEMOGRAPHICS (cont.)

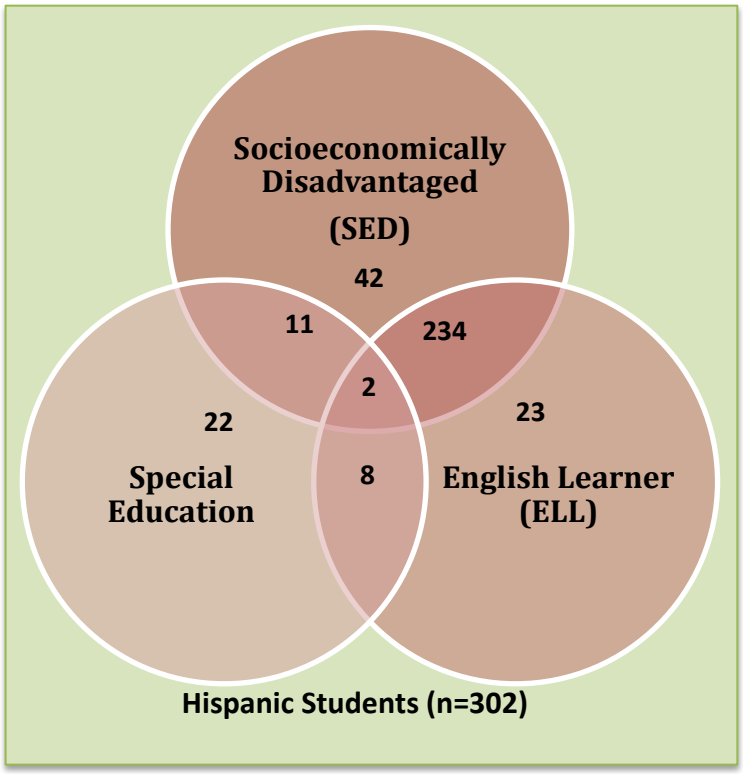
☐ Parents ☑ Teachers ☑ Administrators



The Venn diagram demonstrates the different subgroups students can belong to at the same time. In this example we see there are **25** students within the blue, green, red, and black boxes - who are therefore, identified as SED, EL, Hispanic, and SPED, respectively. Also, 227 are SED, EL, Hispanic but do not qualify for SPED. 7 students are SED, Hispanic, and qualify for SPED, but not Hispanic. This kind of data is useful when developing targeted strategies that impact students who are part

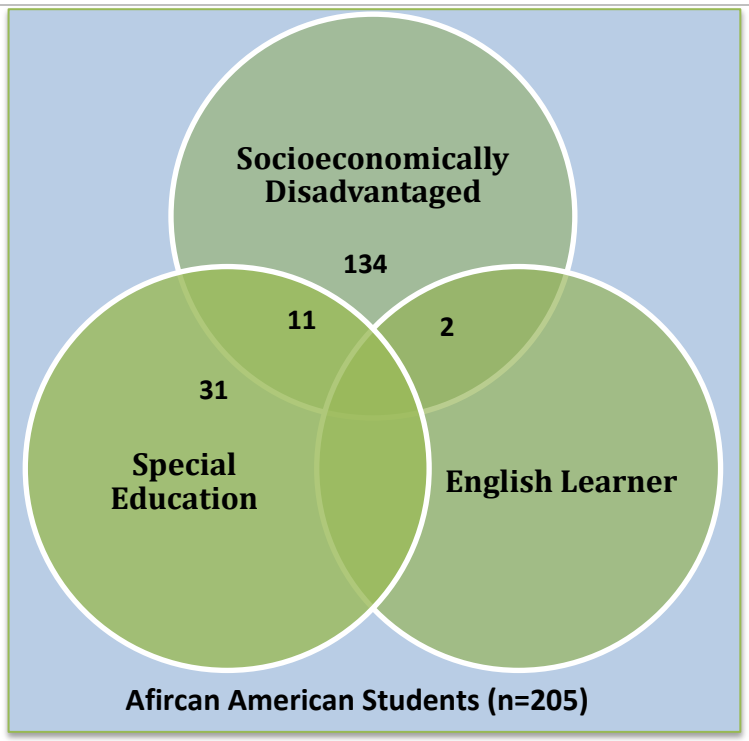
DEMOGRAPHICS (cont.)

☑ Parents ☑ Teachers ☑ Administrators



Overlap of Demographics for Hispanic Students

When looking only at the Hispanic students we find that 2 of them qualify for Special Education, SED, and are ELLs. The largest group (234) is composed of ELLs and SED. 43 Hispanic students do not qualify for any of the 3 other subgroups.



Overlap of Demographics for White Students

When looking only at the White students, we find the largest group to qualify only as SED. 102 White students do not qualify for any of the 3 other subgroups.

Sample Charts of Prototypical Report

STATIC: Adequate Yearly Progress Reports (Static)

☑ Parents ☑ Teachers ☑ Administrators

2010 California Standards Test: Language Arts

Proficiency Goal = 56.8%

	Valid Scores	Met 95% Participation	Percent Proficient	3 Year Trend	Met AYP
Schoolwide	432	✓	57%	↑	✓
African American	24	✓	34%	↑	✗
Hispanic	321	✓	14%	↓	✗
White	80	✓	53%	→	✓
English Learners	203	✓	24%	↓	✗
Socioeconomic Disadvantaged	255	✗	44%	↑	✗
Special Education	54	✗	14%	→	✗

Key	
↑ Significant increase over 3 years	✓ Met Target
→ No significant change over 3 years	✗ Did not Meet Target
↓ Significant decrease over 3 years	

Table 1. Sample Redesigned Table and Key

Explanation

The table shows the Adequate Yearly Progress data that is required by No Child Left Behind.

- The first column lists the subgroups that must meet AYP for the year. Only subgroups that have enough students to be considered significant are listed.
- 2010 Target: has the percentage of students who must be proficient to meet the requirements for the state of California.
- Percent Proficient: displays the percentage of students who were found to be proficient for each subgroup
- 3 Year Trend: shows the 3 year trend of the percentage of students found to be proficient. The key explains the significance of each of the symbols
- Met 95% Participation: lists if each subgroup met the 95% participation requirement when taking the test
- Met AYP: Shows the subgroup that met all AYP requirements.

Appendix E - Continued

Sample Charts of Prototypical Report

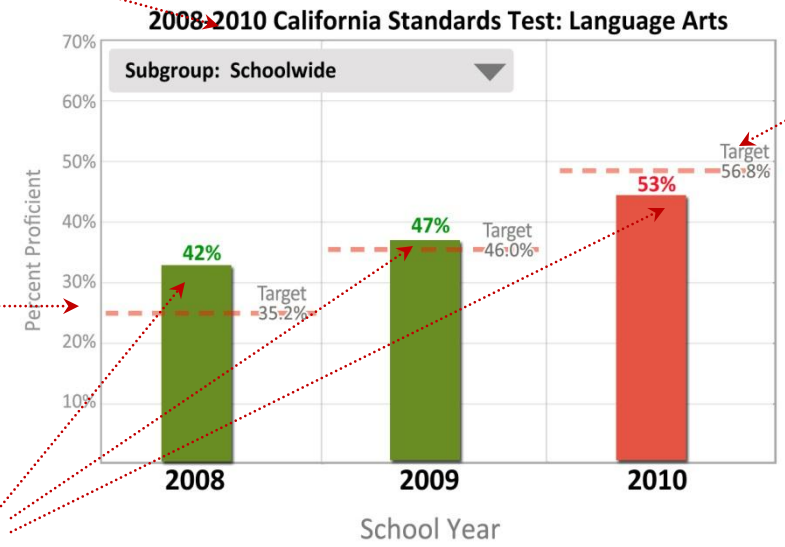
STATIC: 3 Year Trends to AYP Targets

How to interpret this graph

The chart shows the percentage of students who were proficient in the last 3 assessment cycles. The percent proficient is displayed as a bar graph. Each year also shows the target for proficient for that year.

The Test that is being charted

Subgroup



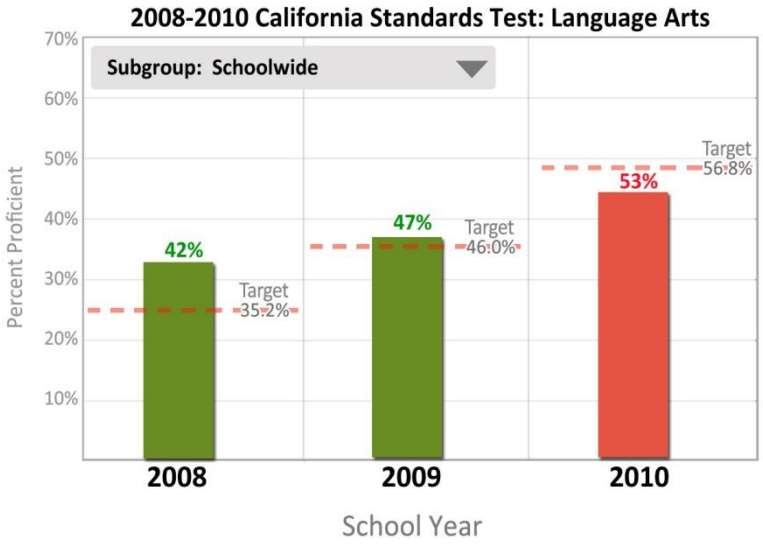
For each year, the target the state proficiency target is identified with the red dashed lines

Percentage of student who scored at that band

The percentage of students who scored proficient on the test are shown as a bar graphs - three years of scores are reviewed

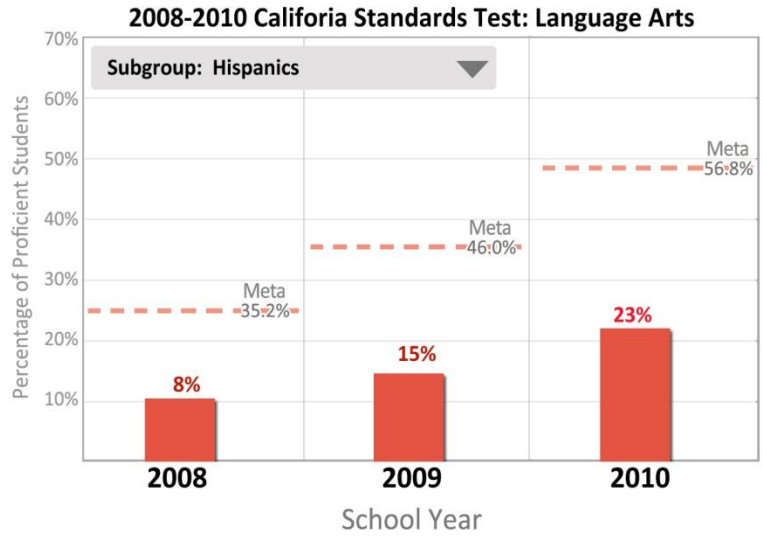
STATIC: 3 Year Trends to AYP Targets (cont.)

☑ Parents ☑ Teachers ☑ Administrators



Schoolwide

The chart shows the performance of all students on the California Standards Test in Language Arts. The data shows that at least 95% of students did take the test. The percent of students who are scoring at proficient has increased over the last three years, from 42% in 2008 to 53% in 2010. This increase however, has not matched the increasing targets that have grown from 35.2% in 2008 to 56.8% in 2010. Therefore, the AYP Language Arts target for 2010 has not been met.



Hispanic

The chart shows the performance of Hispanic students on the California Standards Test in Language Arts. The data shows that at least 95% of Hispanic students did take the test. The percent of students who are scoring at proficient has increased slightly over the last three years, from 8% in 2008 to 23% in 2010. This increase however, has consistently been well below the state targets. Therefore, the 2010 AYP Language Arts target for Hispanic students has not been met.

Appendix E - Continued

Sample Charts of Prototypical Report

GROWTH: Academic Performance Index

☑ Parents ☑ Teachers ☑ Administrators

2010 Academic Performance Index

	Valid Scores	2009 Base	2010 Growth	2010 Target	3 Year Trend	Met API
Schoolwide	**430**	**698**	**702**	**704**	↓	✗
African American	**54**	**694**	**697**	**702**	↑	✗
Hispanic	**320**	**692**	**699**	**698**	↑	✓
White	**78**	**702**	**703**	**707**	→	✗
English Learners	**204**	**694**	**699**	**699**	↓	✓
Socioeconomic Disadvantaged	**260**	**692**	**703**	**697**	↑	✓
Special Education	**55**	**690**	**695**	**695**	→	✓

Key	
↑ Significant increase over 3 years	✓ Met Target
→ No significant change over 3 years	✗ Did not Meet Target
↓ Significant decrease over 3 years	

Explanation

The table shows the Academic Performance Index that measures….

- The first column lists the subgroups that must meet AYP for the year. Only subgroups that have enough students to be considered significant are listed.
- 2010 Target: has the percentage of students who must be proficient to meet the requirements for the state of California.
- Percent Proficient: displays the percentage of students who were found to be proficient for each subgroup
- 3 Year Trend: shows the 3 year trend of the percentage of students found to be proficient. The key explains the significance of each of the symbols
- Met 95% Participation: lists if each subgroup met the 95% participation requirement when taking the test
- Met AYP: Shows the subgroup that met all AYP requirements.

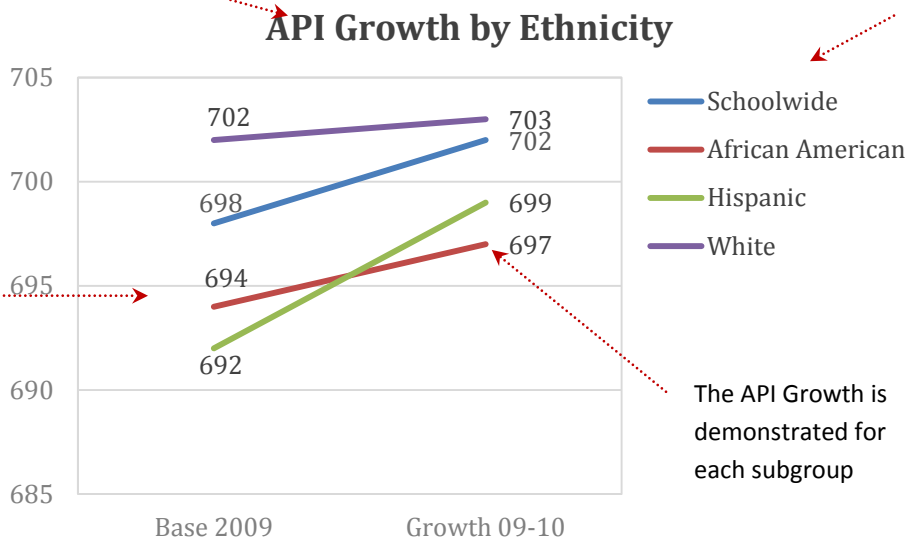
GROWTH: Academic Performance Index (cont.)

How to interpret this graph

The chart shows the percentage of students who were proficient in the last 3 assessment cycles. The percent proficient is displayed as a bar graph. Each year also shows the target for proficient for that year.

The title informs us that this is looking at the Academic Performance Index

Subgroups are identified by color

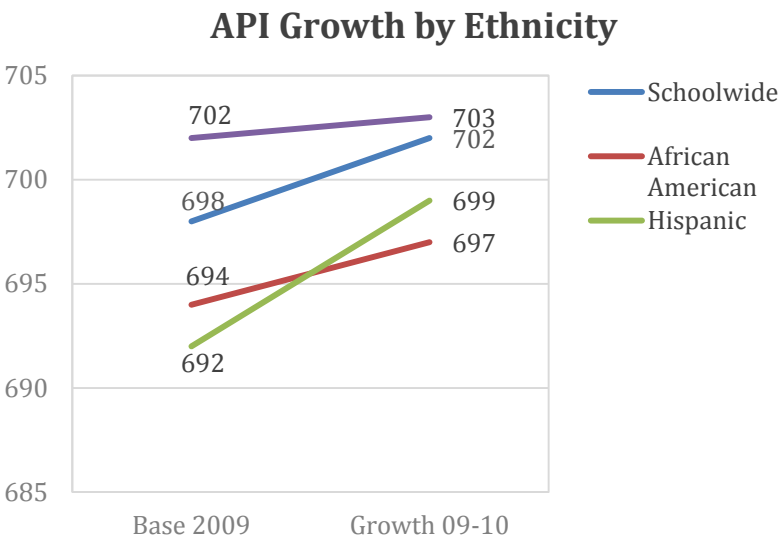


API Base Scroes for each subgroup

The API Growth is demonstrated for each subgroup

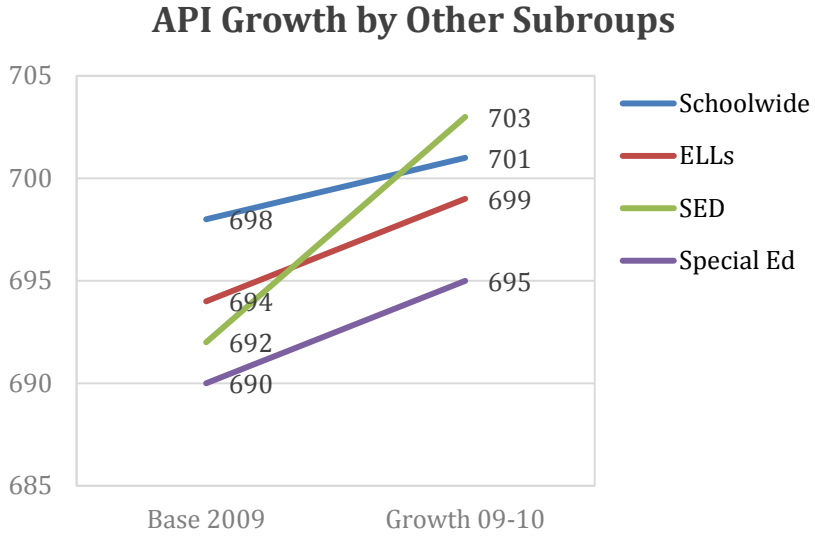
GROWTH: Academic Performance Index (Cont.)

☑ Parents ☑ Teachers ☑ Administrators



API by Ethnicity

The chart shows the performance of all students on the California Standards Test in Language Arts. The data shows that at least 95% of students did take the test. The percent of students who are scoring at proficient has increased over the last three years, from 42% in 2008 to 53% in 2010. This increase however, has not matched the increasing targets that have grown from 35.2% in 2008 to 56.8% in 2010. Therefore, the AYP Language Arts target for 2010 has not been met.



API by other Subgroups

The chart shows the performance of Hispanic students on the California Standards Test in Language Arts. The data shows that at least 95% of Hispanic students did take the test. The percent of students who are scoring at proficient has increased slightly over the last three years, from 8% in 2008 to 23% in 2010. This increase however, has consistently been well below the state targets. Therefore, the 2010 AYP Language Arts target for Hispanic students has not been met.

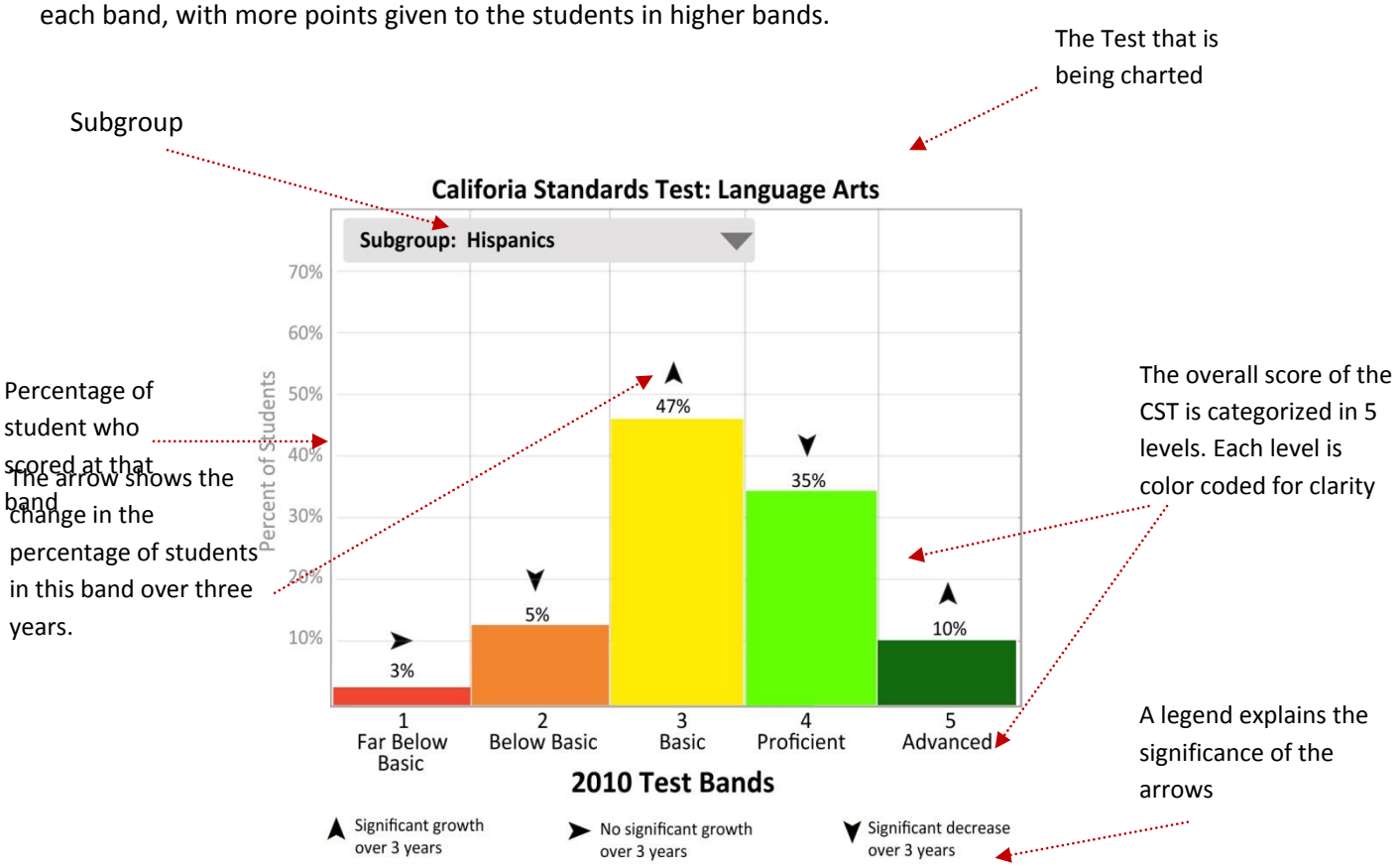
Appendix E - Continued

Sample Charts of Prototypical Report

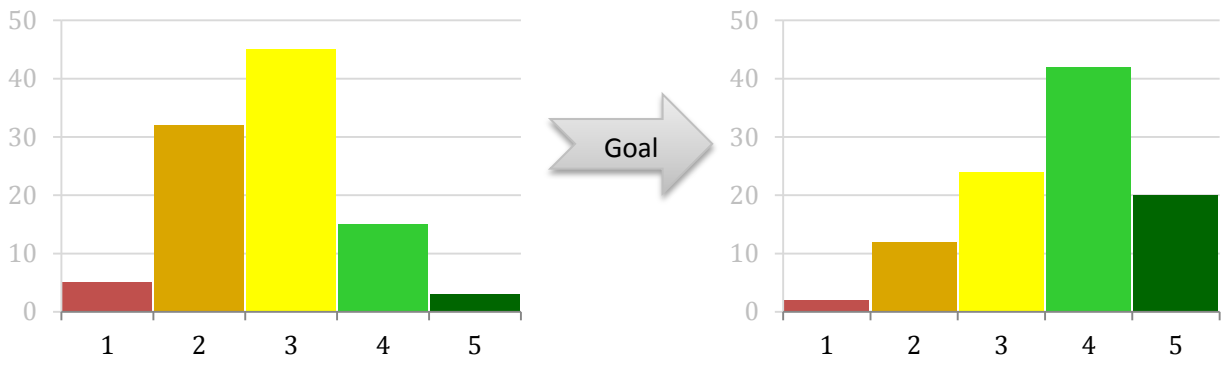
GROWTH: Performance Level Distribution with 3 Year Trend Arrows

How to interpret this chart

The chart shows the percentage of students who scored at each of the 5 bands of the California Standards Test in Language Arts. The API calculation assigns points based on how many students are in each band, with more points given to the students in higher bands.

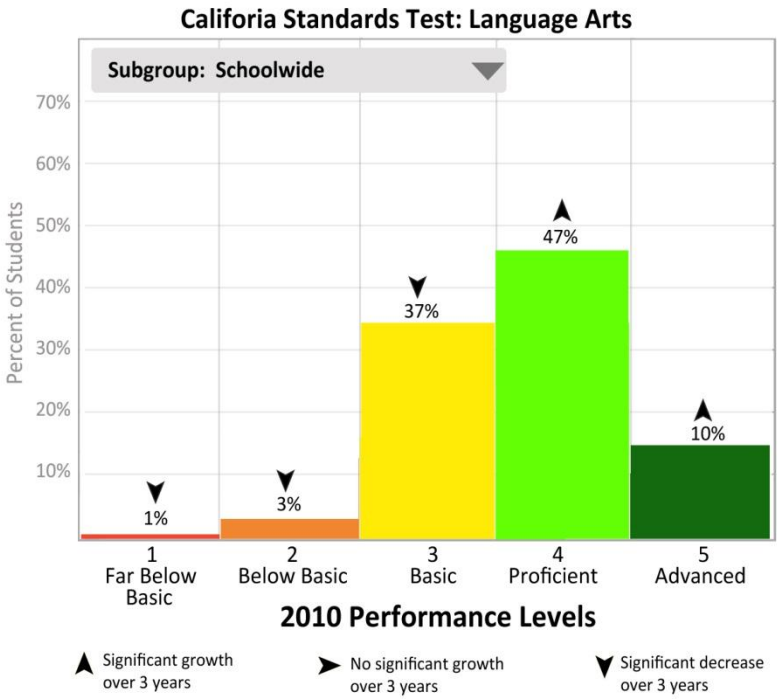


The goals is to see increases in the level 4 and level 5 performance levels and a decrease in the lower performance levels. .



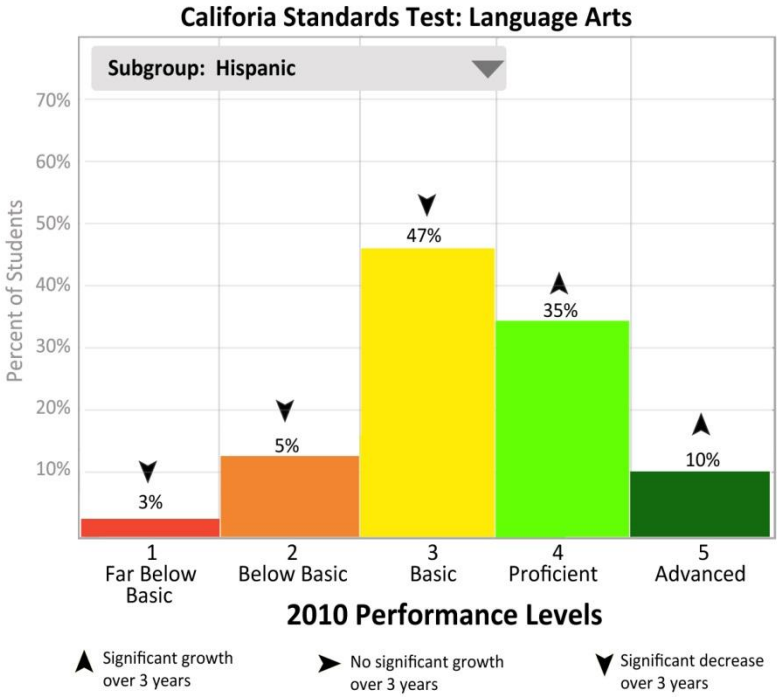
GROWTH: Growth Across Performance Levels (Cont.)

☑ Parents ☑ Teachers ☑ Administrators



Schoolwide

The chart shows the 2010 percentiles and has arrows to show how these percentiles changed from the previous year. This chart shows that the greatest growth took place in the percentage of students who moved from Basic to Proficient. Every band grew, and this total growth earned the points (690) necessary for the schoolwide group to meet it API target (680).



Hispanic

The chart shows the distribution of Performance Levels on the 2010 California Standards Test in Language Arts by Hispanic students. The chart the greatest change in the distribution is between Basic and Proficient (8%). All distribution changes were positive (to the right) except for a 1% shift from Basic to Below Basic. The API calculation demonstrates that the Hispanic students did not earn sufficient points (620) to meet their target of 680.

Appendix E - Continued

Sample Charts of Prototypical Report

: Performance Level Changes

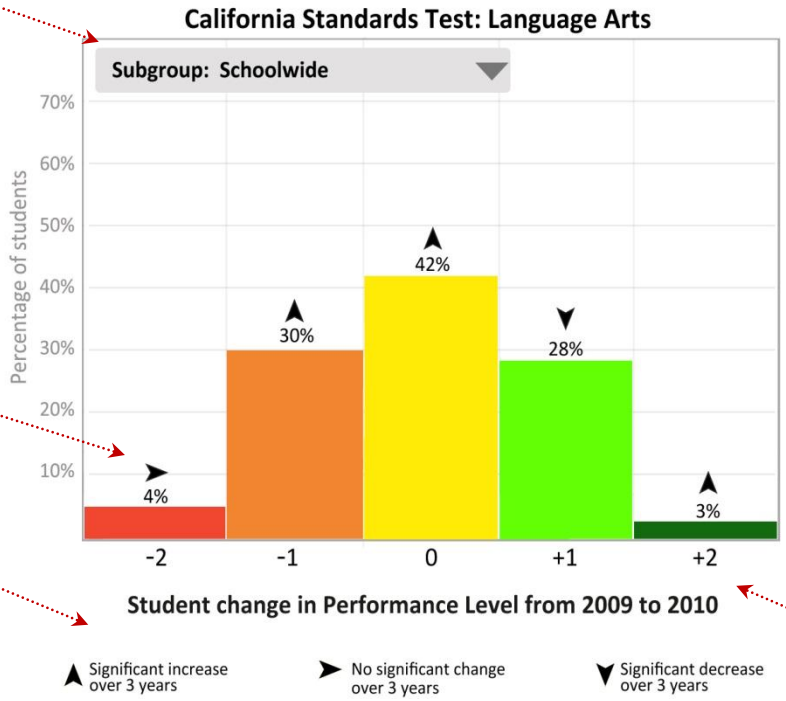
☑ Parents ☑ Teachers ☑ Administrators

How to Interpret this Graph

This chart shows trends in the percentage of students whose perforamcen level changed from one year to the next. The data matches student performance levels from one year to the next, and calculates what number of student decreased, increased, or kept the same performance level. For example, if a student has a performance level of 1 (Far Below Basic) in 2009 and then a 2 (Below Basic) in 2010 – the student would be counted in the bar labeled "+1". If another student has a performance level of 4 in 2009and also a 4 in 2010, then the student would be counted in the bar labeled "0".

Subgroups being compared

The Test that is being reviewed

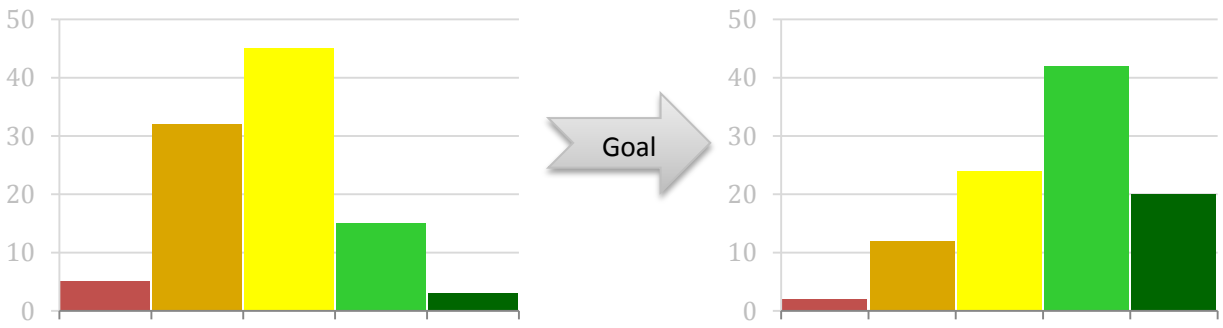


The chart shows the percentage of students who had a calculated growth at the base of each chart. For example, In 2008, 5% of the students dropped 2 performance levels.

A legend explains the significance of the trend arrows above each bar.

The change in performance level from 1 year to the next

The goals is to see growth in the number of students who increase their performance level from one year to the next. On the chart this would show growth on the light and dark green bars .

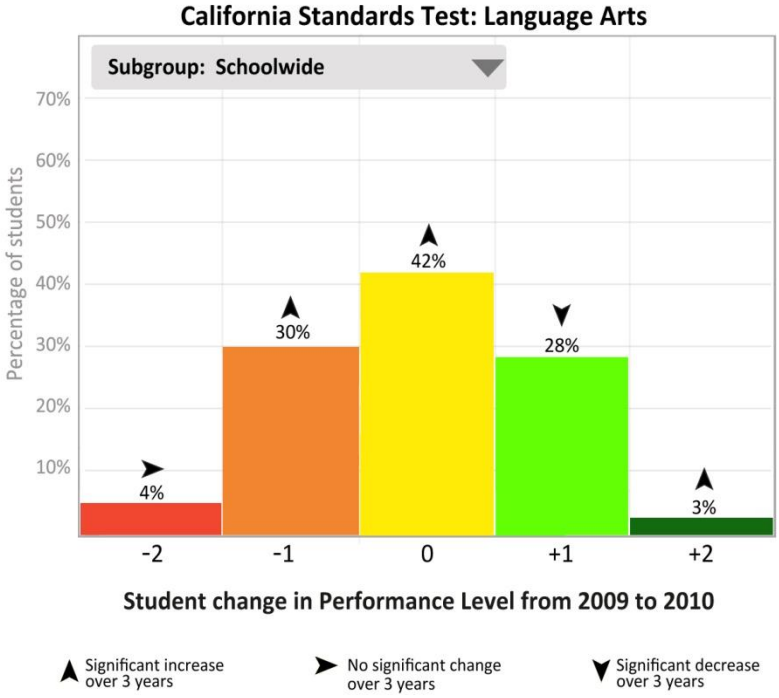


Appendix E - Continued

Sample Charts of Prototypical Report

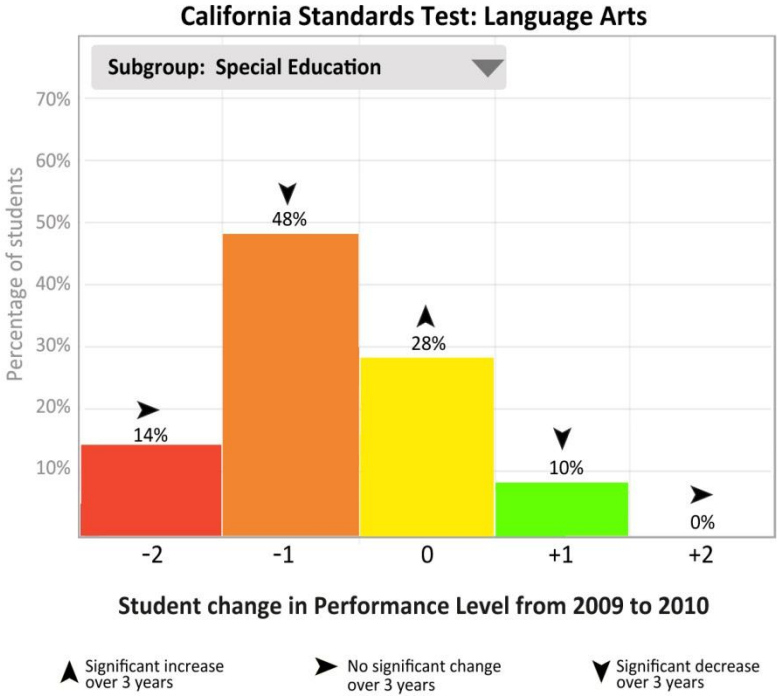
GROWTH: Performance Level Changes (Cont.)

☑ Parents ☑ Teachers ☑ Administrators



Change in Performance Levels from 2009 to 2010: Schoolwide Group

The Schoolwide group demonstrates a pattern where nearly the same percentage of students are dropping 1 performance Level (30%) as the percentage of students increasing a performance level (28%). However, the three year trend shows that the percentage of students increasing by 1 performance level is decreasing. The percentage of students who are performing at the same performance level is at 42%.



Change in Performance Levels from 2009 to 2010: Special Education

The Special Education subgroup demonstrates a pattern where nearly half (48%) the students are decreasing by 1 performance level. However, the three year trend for students decreasing 1 level is reducing. The percentage of students who have increased a performance level from one year to the next is only 10%.

Appendix E - Continued

Sample Charts of Prototypical Report

ACHIEVEMENT GAP: 3 Year Achievement Gap Comparisons

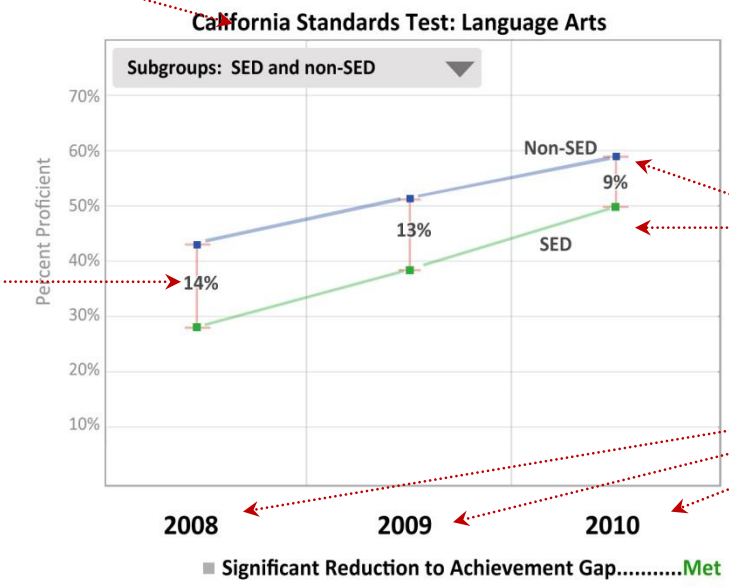
☑ Parents ☑ Teachers ☑ Administrators

How to interpret this chart

This chart shows a three year trend of two subgroups and shows the difference in performnce of the two groups over that time span. The discrepancy between these two group represents the "Achievement Gap" between these two groups.

Subgroups being compared

The Test that is being reviewed



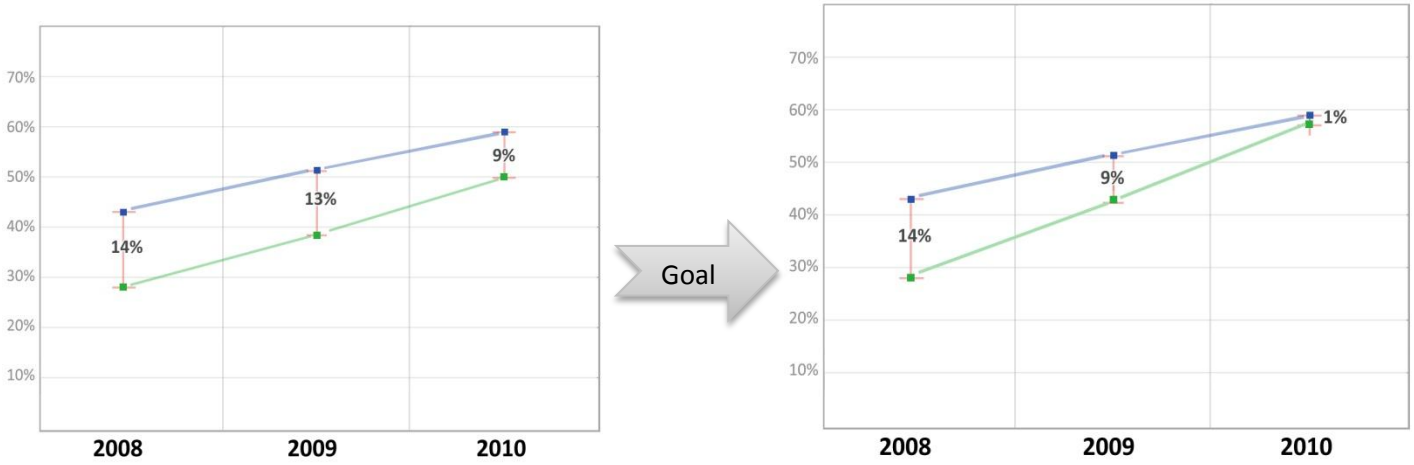
The difference in performance between the 2 comparison groups

The performance of each comparison group is identified

Three years of scores are reviewed

Whether the change over 3 years represents a significant decrease in the achievement gap

The goal is to see the achievement gap reduced over the three year span, to the point where achievement of the two groups is or will soon be equivalent.

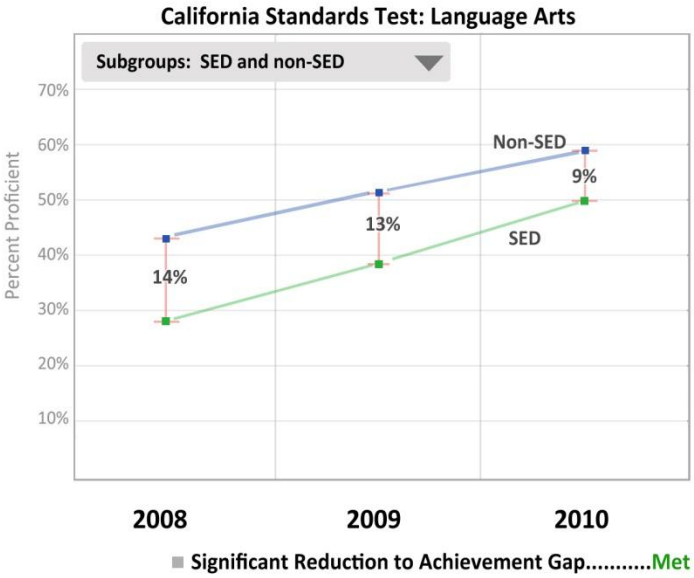


Appendix E - Continued

Sample Charts of Prototypical Report

ACHIEVEMENT GAP: 3 Year Achievement Gap Comparisons (cont.)

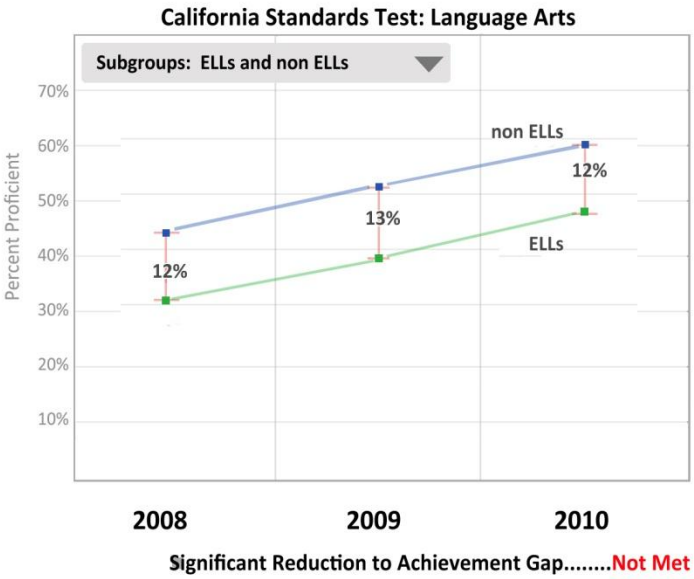
☑ Parents ☑ Teachers ☑ Administrators



Achievement Gap between

Hispanic and White Students

Students who qualify for Free and Reduced lunch are identified as Socio-economically Disadvantaged (SED). The achievement gap between SED and non-SED students has been diminishing on the California Standards Test in Language Arts over the last 3 years. The gap between SED and non SED students has decreased from 14% in 2008 to 13% in 2009, to 9% in 2010. This represents a significant reduction in the achievement gap. If the current trend continues – we predict that SED students will have equivalent performance to their non-SED peers in the year 2013.



Achievement Gap between

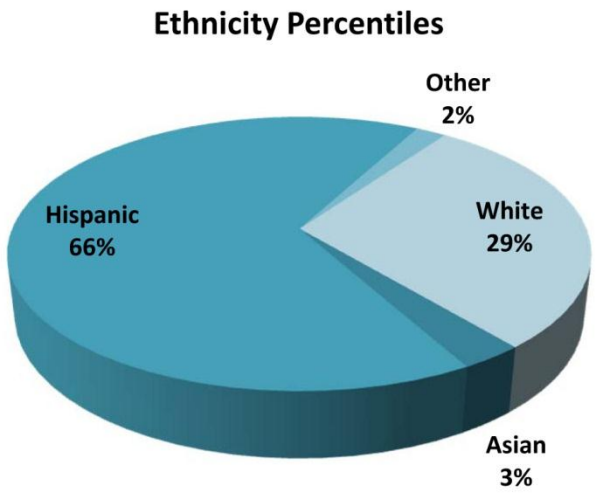
ELLs and non- ELLs Students

English Language Learner (ELLs) students are those who are not fluent in English. The achievement gap between non ELL students and ELL students has not diminished significantly on the California Standards Test in Language Arts. The gap between non-ELLs and ELL students has remained relatively consistent at 12% over the last 3 years. This does not represent a significant reduction in the achievement gap. If the current trend continues – we predict that ELL students will never perform at the same level as their non-ELL peers.

Appendix E - Continued

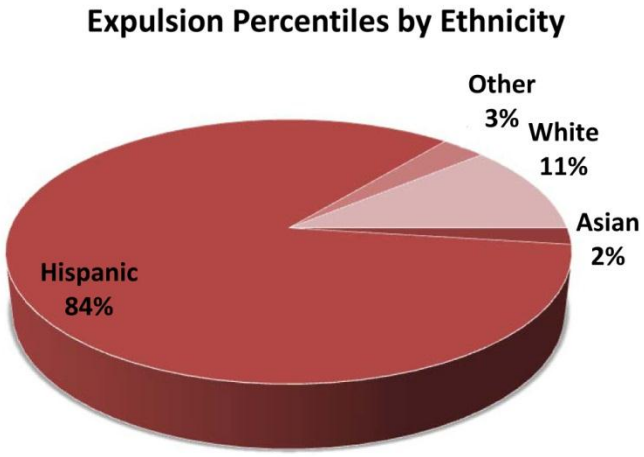
Sample Charts of Prototypical Report

ACHIEVEMENT GAP: Demographic Proportionality in other measures



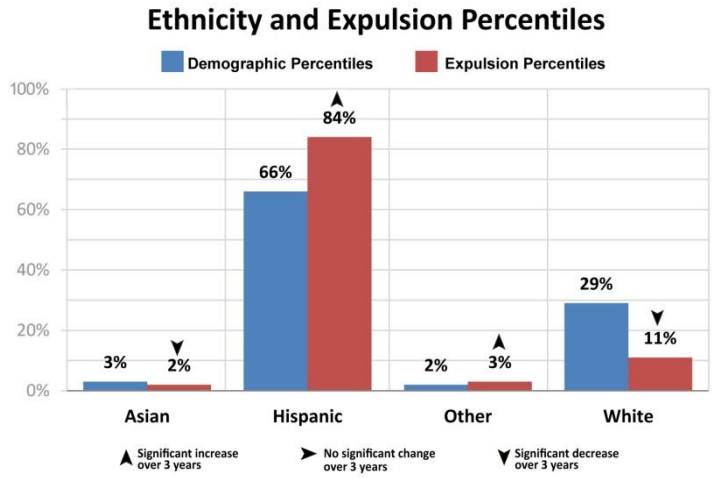
Achievement Gap between Hispanic and White Students

The ethnic composition is 54% Hispanic, 36% White, 8% African American, and 2% Other.



Achievement Gap between ELLs and non- ELLs Students

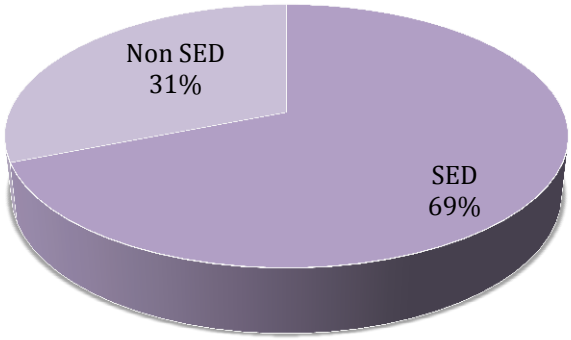
The chart shows that of the students who have 1 or more suspension, 72% are Hispanic, 17% are white, 9% African American, and 2% other.



ACHIEVEMENT GAP: Demographic Equity in other measures

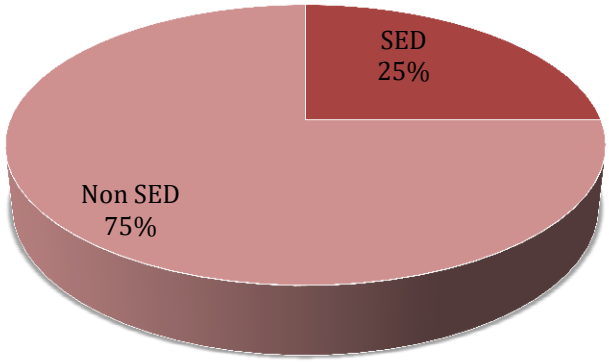
☑ Parents ☑ Teachers ☑ Administrators

Demographic: Socio-economically Disadvantaged (SED)



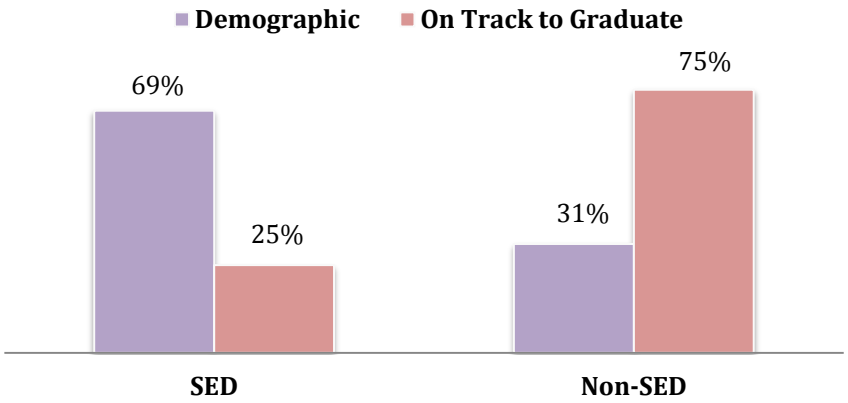
The language proficiency of the school is 46% English Learner, 19% Redesignated Fluent English Proficient, 28% English Only, and 7% Initially Fluent.

Students On Track to Graduate



When looking only at students who are on track to graduate, 42% of them are SED and 58% are non-SED.

Socio-Economically Disadvantaged and On Track to graduate



If we compare the On track to graduate percentiles to the demographic percentiles, we find that SED students are under-represented in being on track to graduate.

Appendix E - Continued

Sample Charts of Prototypical Report

STRATEGIC: CAHSEE Report Clusters with Trend Symbols

☐ Parents ☑ Teachers ☑ Administrators

Subgroups are shown in row names

	Average Scale Score	Percent Passed	Percent Proficient	Met 95% Participation
Schoolwide	332	57%	23%	Yes
White	358	60%	43%	Yes
Hispanic	320	53%	32%	Yes
African American	325	24%	32%	Yes

Subgroups are shown in row names

Report Clusters are shown in column headings

The numbers of questions asked in each report cluster are shown in the first row

	Word Analysis	Reading Comprehension	Literary Response & Analysis	Writing Strategies	Writing Conventions	Average Essay Score
Questions Asked	**20**	**32**	**10**	**20**	**30**	**2 Essays**
Percent Correct by Ethnicity						
• African American	**50% ▼**	**53% ▲**	**58% ▲**	**43% ►**	**53% ▼**	**2.2 ▼**
• Hispanic	**36% ▼**	**24% ▲**	**45% ▼**	**44% ►**	**38% ▼**	**2.2 ►**
• White	**56% ▲**	**44% ►**	**42% ▲**	**45% ▼**	**53% ▼**	**3.0 ▼**
• Schoolwide	**45% ►**	**50% ►**	**44% ▼**	**52% ▲**	**45% ▼**	**2.8 ▼**

Each score contains a symbol that demonstrates the three year trend (▲Increase, ▼Decrease, ► No change)

STRATEGIC: CAHSEE Report Clusters (Cont.)

☑ Parents ☑ Teachers ☑ Administrators

Overall Performance

	Average Scale Score	Percent Passed	Percent Proficient	Met 95% Participation	Met AYP
Schoolwide	332	57%	23%	✓	✗
White	358	60%	43%	✓	✓
Hispanic	320	53%	32%	✓	✗
African American	325	24%	32%	✓	✗
Male	328	44%	32%	✓	✗
Female	338	44%	38%	✓	✗
English Learners	302	44%	38%	✓	✗
SED	314	24%	32%	✓	✗
Special Ed	290	28%	24%	✓	✗

Report Clusters

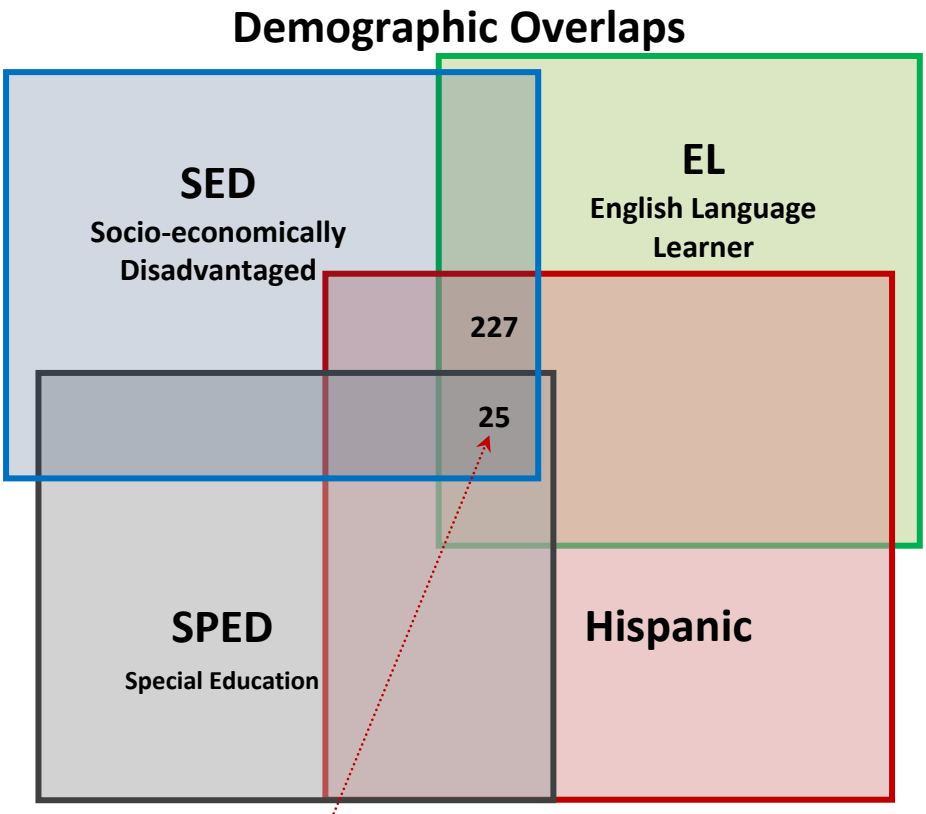
☐ Parents ☑ Teachers ☑ Administrators

	Word Analysis	Reading Comprehension	Literary Response & Analysis	Writing Strategies	Writing Conventions	Average Essay Score
Questions Asked	**20**	**32**	**10**	**20**	**30**	**2 Essays**
Percent Correct by Ethnicity						
• Schoolwide	45% ↓	50% →	44% ↓	52% ↑	45% ↓	2.8 ↑
• African	50% ↓	53% ↑	58% ↑	43% →	53% ↓	2.2 ↓
• Hispanic	36% ↓	24% ↑	45% ↓	44% →	38% ↓	2.2 ↓
• White	56% ↑	44% →	42% ↑	45% ↓	53% ↓	3.0 ↑
• ELL	46% ↓	24% ↑	45% ↓	44% →	38% ↓	2.2 ↓
• SED	54% ↑	44% →	42% ↑	45% ↓	53% ↓	3.0 ↑
• Special	45% →	40% →	45% ↓	50% ↑	45% ↓	2.8 ↑

↑ Significant Increase over 3 years → No Significant Change over 3 years ↓ Significant Decrease over 3 years

English Language Arts 09-10 CST Data and 10-11 Safe Harbor Projections

Subgroup	Tested in 09-10[1]	#Proficient in 09-10[1]	%Proficient in 09-10[1]	10-11 AYP SH Target[2]	Needed in 10-11 for Safe Harbor[2]
Schoolwide	330	233	70.6%	71.2%	235
Hispanic	95	45	47.3%	47.3%	45
White	217	175	80.6%	80.2%	174
SED	70	32	45.7%	45.7%	32
EL[3]	33	5	15.2%	18.2%	6
SPED[3]	34	5	14.7%	17.6%	6



The Venn diagram demonstrates the different subgroups students can belong to at the same time. In this example we see there are **25** students within the blue, green, red, and black boxes - who are therefore, identified as SED, EL, Hispanic, and SPED, respectively. Also, 227 are SED, EL, Hispanic but do not qualify for SPED. This kind of data is useful when developing targeted strategies that impact students who are part of multiple subgroups.

Appendix E - Continued

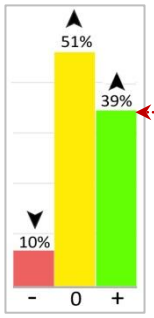
Sample Charts of Prototypical Report

STRATEGIC: Teacher Correlations to Student Achievement (cont.)

☑ Parents ☑ Teachers ☑ Administrators

Growth 1 Year Matched Score Trend by Teacher

The percentage of students who grew a level is displayed in green, the percentage of students who had the same proficiency band in yellow, and the percentage of students who dropped a level in red.



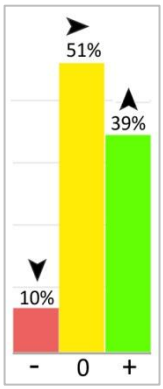
Arrows show the 3 year trend for that category. An upward arrow signifies that this column has increased over the last 3 years.

The Score is calculate simply by subtracting the number of students who decreased a proficiency band from the percentage of students who increased a proficiency band

Teacher 1

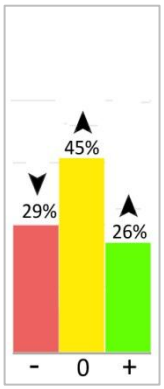
Score: +29%

Student Performance Level Growth by Teacher



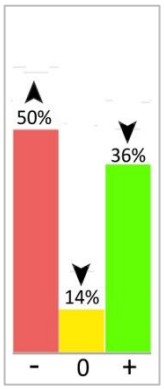
Teacher 1

Score: +29%



Teacher 2

Score: -3%



Teacher 3

Score: -14%

Appendix E - Continued

Sample Charts of Prototypical Report

STRATEGIC: Dashboard Design

☑ Parents ☑ Teachers ☑ Administrators

STATIC REPORTS

Performance on CST Language Arts: AYP	Percent Proficient	AMO Target	Safe Harbor Target	3 Year Trend	95% Participation	Met AYP
Schoolwide	**55.0%**	68.3%	54.3%	↑	✓	✗
Hispanic	**34.5%**	68.3%	34.5%	→	✓	✓
White	**64.0%**	68.3%	64.0%	→	✓	✓
African American	**65.0%**	68.3%	65.0%	↓	✓	✓
English Learners	**34.5%**	68.3%	34.5%	↓	✓	✗
Socio Economically Disadvantaged	**56.6%**	68.3%	56.6%	↑	✓	✓
Special Education	**48.9%**	68.3%	48.9%	↑	✓	✗

Performance on CST Math	Participation 95%	Other Criteria	Percent Proficient	3 year Trend	Met Safe Harbor	Met Objective
Schoolwide	✓	✓	54.3%	↑	✗	✗
Hispanic	✓	✓	34.5%	→	✓	✓
White	✓	✓	64.0%	→	✗	✗
African American	✓	✓	65.0%	↓	✗	✓
English Learners	✗	✗	34.5%	↓	✗	✗
Socio Economically Disadvantaged	✓	✓	56.6%	↑	✓	✓
Special Education	✓	✓	48.9%	↑	✗	✓

GROWTH REPORTS

GROWTH: API	Met Particiption: 95%	API Target	API Achieved	3 Year Trend	Matched Band Trend	Met API
Schoolwide	✓	600	600	↑	→	✗
Hispanic	✓	600	567	→	→	✓
White	✗	600	543	→	↓	✓
African American	✗	600	345	↓	↓	✓
English Learners	✗	600	567	↓	↓	✗
Socio Economically Disadvantaged	✗	600	543	↑	↑	✓
Special Education	✓	600	444	↑	↑	✓

ACHIEVEMENT GAP	Lang. Arts Gap	3 year trend	Time to Eliminate Gap	Mathematics Gap	3 year trend	Time to Eliminate Gap
SED and Non-SED	7%	→	∞	12%	→	∞
EL/R-FEP and Non-EL/R-FEP	10%	↑	6 yrs	14%	↓	∞
SPED and Non-SPED	8%	↓	∞	20%	↑	8 yrs
Migrant and Non-Migrant	8%	↑	4 yrs	4%	↓	∞
Hispanic and Non-Hipanic	7%	↓	∞	20%	↑	6 yrs
African Amer. vs. Non-African Amer.	4%	↑	2 yrs	4%	↓	∞

Growth Data:	Drop Outs	Expulsions	Suspensions	Students with 1 or more	Reclassification of ELs to Fluent English Proficient	Reading at Grade Level	Graduation Rate (9-12)	A-G Preparation
Schoolwide	15% ↓	2% ↓	8% ↓	55% ↑	48% ↑	77% ↑	18% ↑	
African American	25% ↓	3% ↓	10% ↓	65% ↓	32% ↓	65% ↓	14% ↓	
Hispanic	28% →	3% →	9% ↓	35% →	38% →	55% →	12% ↑	
White	9% →	1% →	6% →	35% ↓	66% →	84% →	28% →	
English Learners	25% ↓	4% ↓	9% ↓	35% ↓	21% ↓	54% ↓	8% ↓	
Socio Economically Disadvantaged	27% ↓	3% ↓	10% ↓	45% →	31% ↑	57% ↑	11% ↑	
Special Education	12% ↓	1% ↓	6% →	49% ↑	29% ↑	49% ↑	11% ↑	

RESOURCE ALLOCATION

Strategic Data: Resource Allocation	Highly Qualfied Teachers	Student to Teacher Ratio	Student to Counselor Ratio	$ Spent on Administration	$ Spent on Salaries & Benfits	$ Spent per Student	Williams Case Complaints	Williams Complaints Resolved
School Year 2009-2010	97% ↑	32 ↓	600 ↑	18% ↓	84% ↓	$7,432 ↓	34 ↓	34 →