

UC Berkeley

UC Berkeley Electronic Theses and Dissertations

Title

Why Do Educational Administrators and Other Stakeholders Fail to Recognize and Learn From Failure? What Lessons Can We Learn From Theories of Irrational Behavior?

Permalink

<https://escholarship.org/uc/item/15j193r1>

Author

Mukerjee, Diane Elizabeth-Wirt

Publication Date

2011

Peer reviewed|Thesis/dissertation

Why Do Educational Administrators and Other Stakeholders Fail to Recognize and Learn From Failure? What Lessons Can We Learn From Theories of Irrational Behavior?

by

Diane Elizabeth-Wirt Mukerjee

A dissertation submitted in partial satisfaction of the

requirements for the degree of

Doctor of Education

in

Education

in the

Graduate Division

of the

University of California, Berkeley

Committee in charge:

Professor Bernard Gifford, Chair
Professor Emeritus Sarah Gonzales
Professor Alex Saragoza

Fall 2011

Copyright

Abstract

Why Do Educational Administrators and Other Stakeholders Fail to Recognize and Learn From Failure? What Lessons Can We Learn From Theories of Irrational Behavior?

by

Diane Elizabeth-Wirt Mukerjee

Doctor of Education

University of California, Berkeley

Professor Bernard Gifford, Chair

This study investigates the persistence of the academic achievement gap through national and state testing data. It considers this gap by discussing studies of compensatory education programs and mandates. The inconclusive findings regarding identifying effective programs led to an exploration of decision making theories and persistence to maintain ineffective programs. This information guided the purpose of this study: to explore why decision makers continue an “irrational” course of action. Through application of the decision making theories of Escalation, Sunk-cost and Prospect, this study explored the rationale of decision makers at two California schools, with ineffective programs, via interviews and scenarios. This study concludes with discussion of the applicability of the decision making theories in education, potential application, and future research.

Dedication

This dissertation is dedicated to my family for their tremendous gifts of encouragement and support. Throughout the process, their patience, understanding and feedback regarding my study helped me in words I cannot begin to completely express in this dedication.

To my parents, Patricia and Ernest Wirt, who instilled in me a drive to continue my education and supported me every step of the way, especially when I didn't think I could find enough time in the day to do everything. Thank you for all your love and encouragement.

To David and Andrea Wirt, my brother and sister in law, who always provided supportive words and a sounding board for my ideas. Maybe you thought our conversations were just casual, but they helped me tremendously!

To my father in law and mother in law, Amiya and Annemari Mukherjee, who provided a great deal of encouragement and understanding. Thanks for your patience while work on my dissertation became my every waking moment.

And, finally, to my most patient, loving, and intelligent husband, Erik Mukerjee, who helped me endlessly through this process and throughout all of life's "trials and tribulations" that occurred concurrently. Without his undying love and support, I know this would never have been possible. I really am the luckiest girl in the world to have found my soul mate – as they say, once every thousand years! And now, we can say we are a "two doctor household"!

Table of Contents

Chapter 1	1
Background and Context.....	1
Statement of Purpose.....	3
Overview of Methodological Design.....	3
Analysis of the Data and Findings.....	4
Limitations of the Study.....	4
Delimitations of the Study.....	4
Summary.....	5
Chapter 2.....	6
Model of Compensatory Education.....	12
Decision Making in Education’s Organizational Structure.....	21
Decision Making Theories.....	22
Summary.....	22
Chapter 3.....	24
Rationale for Qualitative Research Design Approach.....	24
Rationale for a Case Study Approach.....	27
The Research Sample.....	27
Overview of the Research Design and Data Collection.....	28
Data Analysis.....	29
Ethical Considerations.....	32
Validity.....	32
Limitations.....	32
Summary.....	33
Chapter 4.....	34
School Profiles.....	34
Identified Site’s Data Acquisition and Analysis Process.....	37
Site Decision Makers’ Profiles.....	38
Evidence of Irrational Thinking by U.S. Department of Education and California Department of Education the Development of NCLB Goals.....	39
Decision Makers Sense of Program Success.....	41
Frequency of Responses Representing Evidence of Escalation, Sunk-cost, and Prospect Theories.....	42
Escalation Theory Applied to Decision Making Responses.....	42
Sunk-cost Theory Applied to Decision Making Responses.....	44
Prospect Theory Applied to Decision Making Responses.....	47
Lessons Learned from Irrational Decision Making.....	49
Chapter 5.....	51
Limitations and Implications.....	54
References.....	57
Appendix A Interview Protocol #1.....	62
Appendix B Interview Protocol #2.....	63
Appendix C Sample Scenarios.....	64

Table of Figures

Figure 1. Design Research Model.....	25
Figure 2. Applied Design Research Model.....	26

Table of Tables

Table 1. 2008-2009 Performance Indicators.....	9
Table 2. Annual Yearly Proficiency Goals (AYP).....	13
Table 3. Site 1 Demographics based on 2009- 2010 SARC.....	35
Table 4. Site 1 API growth from 2006-2007 CST data to 2009-2010 CST data.....	35
Table 5. Site 2 Demographics based on 2009- 2010 SARC.....	36
Table 6. Site 2 API growth from 2006-2007 CST data to 2009-2010 CST data.....	36
Table 7. Frequency of Responses by Theory.....	42

Acknowledgements

In addition to my family, as noted on the dedication page, I would like to thank several individuals that were instrumental in this process.

I want to take this opportunity to sincerely thank Dr. Bernard Gifford for the guidance he has given me. Through Dr. Gifford's suggestion of exploring the decision making theories while I was trying to make sense of ineffective programs, I was afforded the opportunity to conduct research based on an original application of the theories. I also want to thank him for his endless hours of reading, revising and discussions with me. Your insights and ideas were invaluable to this process. Over the last few years, I have come to view Dr. Gifford as a fantastic advisor and mentor as well as an individual with whom I wish to keep in touch with for years to come. Thank you for all your help.

I would like to thank Dr. Sarah Gonzales for her guidance, support and feedback. Her approachable nature and positive outlook helped me immensely. It has been a pleasure to have had the opportunity to work with her throughout my program.

I would like to thank Dr. Alex Saragoza for his insights and support throughout the dissertation process. His feedback added an important lens to my study and I am most appreciative for his time.

I would like to thank Dr. Rosaisela Rodriguez for her endless hours of support and guidance. Throughout the program, both as my professor and the Academic Coordinator, I learned a great deal from her. Her assistance in helping me in the final days of my dissertation process was invaluable.

Throughout this process, there have been so many people who have touched my life and helped me in numerous ways. Each person played an important part in the completion of this dissertation and I wish to thank you all!

Chapter 1

Background and Context

Making small changes happen in uncomplicated organizational settings characterized by a simple chain of command is more difficult to achieve than one might imagine. If you were to ask a group of successful teachers working in a particular school, a group of public school principals working in the same local educational agency, expert nurses working on the same hospital emergency ward, a group of experienced social workers working with socio-economically disadvantaged immigrant families in similar urban communities, or any other front-line or “street level” employees to explain their theories of action, strategies and practices, you would be likely to receive an extensive array of explanations and conjectures. Even in the case of individuals identified as exceptional performers, explaining how to achieve personal success is too complicated to be reduced to a list of prescriptive “dos and don’ts.” Unsurprisingly, explaining the steps involved in making meaningful change happen in a complicated, multi-leveled, market-driven organizational setting is even more difficult. Successful, private sector executives’ explanation of their theories of action, strategies and practices for changing the behaviors of underperforming units within their firms would likely result in an equally perplexing array of speculations and accounts.

To find an explanatory framework for our first claim, we look at the pioneering research conducted by political scientist, Michael Lipsky, on the local decision-making practices of teachers, law enforcement, nurses, and social workers, and other “street level” public employees (1980, 2010). Lipsky posited that when faced with conflicts between the espoused goals and objectives of their immediate managers, and the realities of being forced to allocate limited attention, expertise and material resources, local decision-makers have no choice but to employ those strategies and practices aligned with their professional training and beliefs. The exercise of discretion by teachers, health care workers, social workers and similarly situated public sector employees within the decision-making framework afforded by hierarchical organized public bureaucracies is an inescapable feature of industrial societies. Lipsky’s observations regarding the behaviors of these “street-level bureaucrats” continue to inform the perspectives and analyses of public policy researchers working in the areas of education, health care, social welfare, and criminal justice (Evans, 2011; Honig & Coburn, 2007; Kosar, 2011; Piore, 2011, Skogan, 2008).

To find evidence for our second claim, we need to look no further than the findings of a recent survey of top-level managers conducted by McKinsey & Company. The survey revealed that only one-third of the strategic change efforts initiated by a representative cross-section of 1500+ top-level executives surveyed were successful, including cases where there was widespread agreement that the firm’s continued economic viability depended upon making substantial change happen on a timely basis (Meaney & Pung, 2008). In other words, even when the future economic well-being of private sector firms was on the line, not even experienced managers, presumably selected on the basis of their executive leadership skills, were able to bring about the required changes.

The one-time, cross-sectional survey and interview data compiled by the McKinsey researchers turns out to be consistent with the findings compiled across three decades of research and practice on organizational change, conducted by Armenakis and Harris (2009). The theories and methods developed by these two leading researchers have greatly influenced the way the

field has conceptualized the difficulties managers seeking to foster lasting, strategic change have had to address the various stages of the organizational change process. However, unlike the emphasis the McKinsey researchers placed on understanding the objectives and perspectives of executives situated at the top of the organizational chain of command, Armenakis and Harris stressed the importance of understanding the beliefs and behaviors of the individuals and groups responsible for making change happen at the interface between the organization and the immediate outside world outside the organization.

This dissertation is also an inquiry into the change process. Unlike the theories of change inspired by Lipsky and by those informed by perspectives similar to those articulated by Armenakis and Harris, this study looks more deeply into the presumption of organizational rationality. What happens to prevailing beliefs and theories of change if the public sector's street-level bureaucrats and their immediate supervisors, and the private sector's individual contributors and middle managers are not the rational decision-makers imagined by the architects of the classical theories of organizational change?

Answers to these questions must begin with a brief reminder of the classic notion of organizational bureaucracy articulated by Max Weber, which he characterized as a setting in which the behavior of individual contributors and front-line managers, particularly in governmental and government-like organizations, are regulated by three factors (Roth & Weber, 1976). These factors include: 1) the level of specialization of contributors and managers, 2) the degree of individual autonomy these agents are expected to exercise when providing advice, services, or materials to individuals or groups external to the organization, and 3) the role the organization's formal rules, procedures, performance and evaluation metrics, incentives, rewards, and sanctions play in determining the future prospects of individual contributors and front-line managers.

In the case of the market-based firms analyzed by Armenakis and Harris (2009) and McKinsey (Meaney & Pung, 2008), the expectation is that individual contributors and middle managers will pay less attention to the third group of organizational factors, and more to the signals and incentives generated by individuals or groups external to the firm. In fact, it is suggested that one of the most salient features of successful firms is their ability to change their existing practices in response to changes in market conditions. In recent years, we have begun to witness the evolution of "networked" organizations in the governmental and not-for-profit sector. These firms straddle the space between stable organizational hierarchy and unpredictable market-driven change. In these network settings, the roles and responsibilities of everyone, individual contributors, middle managers, and individuals and groups external to the organization, are subject to continuous change.

One of the premises that motivated this dissertation is that within these more complicated organizational settings, it is critical that we revisit our existing notions of rationality and irrationality. To illustrate this point, in conjunction with our literature review in Chapter 2, we take a close look at the Annual Yearly Progress (AYP) requirements of the No Child Left Behind Act of 2001 (NCLB). The architects of this landmark educational reform legislation assumed that the power and authority of the Federal government could be utilized to compel state departments of education (SOE) to specify instructional interventions, strategies, plans, and practices capable of lifting all students to the proficient level of academic achievement by the 2013-14 school-year. This effort is a result of the Federal government's attempt to increase

accountability of schools receiving additional funding intended to close the achievement gap. After over four decades of funding, the achievement gap persists.

In Chapter 2, we suggest why we believe the AYP requirements under NCLB are irrational. However, the focus of Chapter 2 is not focused on organizational irrationality but individual irrationality. Consequently, we summarize three kinds of individual irrationality.

Building on Ariely's (2009) detailed discussion of irrational and, specifically, "predictably irrational" behavior, we explore the decision making theories of Escalation, Sunk-cost, and Prospect. Through analysis of these theories in relation to decision making in the fields of economics and medicine, we establish the foundation for application of these theories in analysis of decision making in the field of education.

Statement of Purpose

Utilizing the aforementioned foundation provides a theoretical perspective to explore the purpose of this paper: to explain why educational administrators and other stakeholders continue to support chosen interventions, even in the face of empirical evidence that they are ineffective. Specifically, this study will explore the following questions:

1. Why do educational administrators and other stakeholders fail to recognize an ineffective program and initiate change?
2. How are these failures to recognize and act on program change explained by Escalation theory, Sunk-cost theory, Prospect theory, and identified assumptions.
3. What lessons can we learn from theories of irrational behavior with regards to decision making in the school setting?

Overview of Methodological Design

Chapter 3 includes a detailed explanation of the study's research methodology. It includes the following discussions: (a) rationale for the research design, (b) appropriateness of a case study model, (c) description of the research sample (d) summary of information needed, (e) overview of research design and data collection (f) analysis of data, (g) ethical considerations, (h) validity, and (i) limitations of the study.

Following approval from the University of California at Berkeley's Committee for the Protection of Human Subjects, two California elementary schools were identified as sites utilizing an ineffective reading intervention program, as defined by failure to demonstrate consistent improvement on the state test - the California Standards Test (CST), and were selected for this case study. An auto-ethnographic approach was utilized in this study to provide an opportunity for a constructivist process toward developing an understanding of the influences impacting these decisions in the educational setting.

The researcher applied the lenses of Escalation theory, Sunk-cost theory, and Prospect theory to the responses attained via two interviews and the sample scenarios of the key decision makers of the identified programs. Data were acquired over a three month period. In both cases, the key decision makers were the school principals. While other faculty and staff members had

various levels of involvement with the programs, they were not identified as decision makers with regards to maintenance of the identified program.

Analysis of the Data and Findings

Chapter 4 begins with a deeper exploration of the proposition that the aforementioned AYP goals set forth by the U.S. Department of Education and the California Department of Education are representations of irrational decision making through application of the identified decision making models. After a review of schools' demographic data and progress towards meeting the AYP goals as defined by progress on the state assessment, the California Standards Test (CST), I explore the decision makers' sense of program success with the identified reading intervention programs.

This chapter begins with a frequency analysis of representation of the above mentioned theories. It proceeds to summarize and interpret interviews and responses to the sample scenarios with the two educational administrators, specifically through the lenses of Escalation theory, Sunk-cost theory, and Prospect theory. Finally, this section aims to suggest "lessons learned" and possible applications and potential impact of identifying irrational decision making within the educational setting.

In Chapter 5, a summary of the findings is presented with the discussion focusing on representations of the theories in action as they relate to previous studies conducted in the fields of economics and medicine. The potential impact of irrational models and organizations, such as the California Department of Education's AYP goals created in response to the federally mandated NCLB, on the expectations to make rational decisions is proposed. Findings of this study explore practical application within the educational setting to help identify and mitigate irrational decision making. These applications are discussed along with recommendations for future studies to expand the findings of this two site case study.

Limitations of the Study

Sites were selected based on the criteria that they had a population in need of intervention, utilized a non-mandated, specific intervention program, and did not have significant growth towards meeting the AYP goals, based on CST data over three years. In this study, we explored the decision makers' rationale from two demographically similar schools. Through informal discussions and interviews with the principals from each site, it was clear that decision making on the identified intervention programs was limited to the principals. This presents a challenge in generalizing findings for greater application.

Delimitations of the Study

March, Sproull, and Tamuz (1991) posit that much insight can be gained by exploring the experiences of even one organization. While this case study's database is small, the unique application of Escalation, Sunk-cost, and Prospect Theories to the field of education resulted in findings that suggest trends in responses, rationale and reflective questioning that may impact practice. They further provide a foundation for future studies both at the local level as well as with the larger educational organization.

Summary

Through analysis of key studies including, *Input and Output in California Compensatory Education Projects, Prospects: Final Report on Students Outcomes*, and the *National Assessment of Title I Interim Report*, as well as current student academic achievement data and review of federal mandates, such as NCLB, we explore the persistence of the academic achievement gap (Kiesling, 1971; Puma et al., 1997; Torgesen et al., 2006). The organizational structure of education and the multitude of influences within this complex structure, introduces the consideration of the impact of decision making within the organization (Lasky, 2004). Barnard (1968) suggests decision making is rational. However, Ariely (2009) suggests that not only are decisions not rational but are “predictably irrational”. By looking at the decision making theories of Sunk-cost, Escalation, and Prospect theories, we explore some factors contributing to what appears to be highly irrational decisions. It is by exploring these theories previously applied primarily to the fields of economics and medicine, that we investigate the theories’ applicability in predicting irrational decision making in the field of education and the possibility of mitigating its impact.

Chapter 2

Why do experienced educational administrators continue to advocate instructional improvement strategies they believe, suspect, or know to be ineffective? How does one account for such persistence in the face of counterfactual evidence? In their pursuit of strategies shown to be ineffective, are educational administrators any different from leaders in other organizational settings? The purpose of this study is to address these and similar questions, in the area of reading intervention programs for students in kindergarten through grade 5, in the California public schools. My approach to addressing these questions draws heavily from the pioneering research of Dan Ariely, whose seminal monograph, *Predictably Irrational: The Hidden Forces that Shape Our Decisions* (Revised and Expanded in 2009), summarizes a substantial body of research on what we know and do not know about the type of irrational behavior I explore in this dissertation.

This literature reviewed in this chapter covers three topical areas. The first two are brief, opportunistic reviews of the literature on: (a) the history and progress of compensatory education programs, with a special emphasis on the rise of the kind of complex educational interventions represented by the reading intervention programs mentioned above; and (b) educational organizational structures and their influence on the decision-making strategies and behaviors of educational decision makers. The third topic describes the variety of irrational decision-making in complex organizational settings.

Model of Compensatory Education

In response to concerns regarding the growing academic disparities between those in poverty and the middle class, the nation embarked upon a “War on Poverty.” A key component to this battle included the federal Elementary and Secondary Education Act (ESEA) of 1965. ESEA’s main program component, Title I, provided funding for compensatory education programs to help students of poverty succeed academically (McDill & Natriello, 1998). This funding was intended to help students in need breakthrough the “paralysis that poverty breeds” to have opportunities for economic stability and not repeat the generational cycle of poverty (Kantor, 1991).

Since its inception in 1965, the compensatory education programs funded by ESEA have followed essentially three different models: the “pull out” model, the “school-wide improvement” model or the “curriculum replacement” model. Initially, most compensatory education programs followed a “pull-out” model, targeted to specific types of students. This model can be considered a “simple intervention,” as it is designed to target students for special educational interventions over and above the regular educational services they are being provided in their regular classrooms. In other words, services provided through compensatory education were to be provided “in addition to” the core curriculum. Practically, this meant that neither the local classroom teacher nor the school had to entertain the possibility of making systemic changes in the traditional curriculum.

The intervention is “simple” because it leaves intact the teaching preferences and practices of the teachers from whose classrooms these students are extracted. The intervention is also simple because it leaves it to the educational specialist administering the intervention to determine whether or not the treatment is having the desired effect on the student’s academic advancement. Lastly, the appellation “simple” is appropriate because the pull-out model assumes

that students from different classroom settings could be brought together, and effectively taught what they had failed to pick up in their previous (or current) classrooms, efficiently enough to close the achievement gap separating them and their more educationally advantaged grade-mates.

Kiesling's (1971) report, *Input and Output in California Compensatory Education Projects* examines the first 6 years of the approach to compensatory education funded by ESEA. The study provides an analysis of "input and output" of student achievement following participation in compensatory education programs. As noted previously, the administrators in the US Department of Education responsible for administering ESEA championed the pull-out approach. In reviewing the evidence collected by these administrators, Kiesling noted that he had great difficulty in identifying effective practices.

Kiesling was unable to specify the purpose, organization, implementation, performance monitoring, and corrective measures associated with the compensatory pull-out programs he was asked to review. For example, he found no regular pattern in the manner in which students were selected to participate in these programs, nor in the amount of time students were expected to spend in them, nor in the staffing patterns. In addition, he found it difficult to evaluate how the specialists responsible for instructing the students that had been pulled out of their regular classrooms had determined what they were to teach, or if they employed special techniques to organize their charges into groups of similarly-situated students. He assumed that the small group sessions included work-specific skills taught in the classroom that students were showing difficulty attaining. A clear pre and post skill specific test is not referenced, thus making it difficult to determine actual student gains across samplings. Furthermore, he noted program discrepancies regarding student time spent in the program weekly or organizational management. In a small sampling of the programs, instruction was provided directly by reading specialists. In most programs, instruction was provided by para-professionals under the supervision of the reading specialists.

Kiesling did attempt to evaluate the contributions made by different types of educational practitioners. He found that para-professionals (teacher aides/assistants) were approximately two-thirds as effective as regularly qualified teacher specialists. He also found a positive connection between learning effectiveness and a lower ratio of students to specialists. These findings would appear to suggest that a higher level of instructor professional training was a critical factor in student achievement. Without indicating instructional focus, the study indicates an expected measure of .07 months of progress for each month of instruction for disadvantaged populations (Kiesling, 1971). Students participating in the program studies showed progress of approximately .87 months per month. While these gains were hopeful, it is noted that the lack of commonalities between the programs made conclusions regarding effective practices difficult.

Additionally, regardless of the requirement to be supplemental, many students were removed from the core curriculum throughout the school day to participate in this program (Kiesling, 1971). This practice can be extremely detrimental to students' academic achievement, as these students who are already struggling are consequently missing core instruction. This creates a vicious circle in which the struggling student will continue to have missing skills and continue to be in need of interventions.

The practice of "pull out" targeted instruction specifically for students of poverty continued for approximately 23 years. During this time, any expenditures towards materials or

services intended for students under Title I needed to be provided only for those students who qualified as “impoverished”. Beginning in 1988, schools and LEAs were provided the opportunity to become “school-wide” Title I schools. The purpose of this change was to provide educators greater flexibility, as services did not need to be limited to just students of poverty but could be used for all students. Schools that had populations with over 50% of the students in poverty could apply for the “school-wide” status. While “pull out” interventions were still utilized, they could now serve any struggling students.

With the new flexibility, many schools chose to implement programs on a school-wide scale in an attempt to raise academic achievement for more students. The school-wide program approach by definition is a more complicated intervention, as it suggests that school principals will assume a leadership role in coordinating the strategies and practices of individual teachers, among different grade levels. Logically, these would then impact the schools in a more systemic manner, redirecting time, money and resources from other demands of the organization. If the intervention was shown as beneficial through improving student academic, then the impact of this more complicated intervention would be justified. Unfortunately, academic progress was measured utilizing a variety methods without benefit of uniform academic standards.

After nearly 24 years of funding, schools were utilizing a combination of targeted “pull out” and school-wide intervention models; however, uniform academic standards had yet to be implemented. Consequently, students were being held to varying levels of academic expectations. With this discrepancy in academic goals, schools easily ran the risk of identifying students as academically proficient based on their local understanding of academic expectations. This could, in turn, inflate schools’ sense of intervention program success.

In response to years of Title I funding with meager results, President George H.W. Bush’s administration, in 1989, proposed “an increase in educational accountability based on higher academic standards” (Thomas & Brady, 2005, p.54). While this initiative, known as America 2000, was rejected at the Senate level, it acted as a springboard towards the implementation of common academic standards at state levels. This effort was continued in 1994 with the passage of the Goals 2000: Educate America Act under President William Clinton. This act focused on the following: (1) student achievement levels, (2) development of academic standards, (3) application of standards for all students, (4) utilization of student achievement test data to measure effects of educational reforms (Thomas & Brady, 2005).

In 1997, the Planning and Evaluation Service of the U.S. Department of Education, requested a report regarding the impact of participation in Title I programs on student achievement. This report was the known as the *Prospects: Final Report on Students Outcomes* (Puma et al, 1997). This seminal study did not specifically identify the variations of effect between the “pull out” or school-wide models. Conclusions from this report mirrored Keisling’s 1971 findings indicating that participation in Title I programs probably helped but the services were not strong enough to bring student achievement up to grade level.

Under Goals 2000, the Federal government developed a strong “focus on outcomes and accountability for programs” versus their previous emphasis on program implementation and process (Stallings, 2002, p. 9). This focus influenced states to initiate a more standardized approach towards data gathering through student achievement assessment data. States, including California, began the process of developing and implementing state academic standards and assessments to measure student academic achievement regarding proficiency of these standards.

Recalling the goal of ESEA, Title I funds were allocated to help students of poverty gain the academic skills needed to break the generational pattern of poverty. A disproportionate number of African-American and Latino students have been and continue to be identified at the poverty level and therefore are target groups for the Title I compensatory education programs. The National Assessment and Educational Progress of 1998 reported a myriad of disparities amongst these and other subgroups in academic achievement. This achievement gap was one of numerous findings that initiated the reauthorization of ESEA to the No Child Left Behind Act of 2001 under President George W. Bush (Thomas & Brady, 2005).

This achievement gap remains. To illustrate, Table 1 (Gifford, in progress) shows the 2008- 2009, 4th grade students' demographic composition through the lenses of ethnicity, economically disadvantaged status, and English language proficiency status for California, Florida, Illinois, New York, and Texas. These states were purposefully selected in this original data compilation due to their similarities of having highly diverse student populations.

Exploring the data vertically, the percentage of each state's 4th grade students' scoring basic or above and proficient or advanced on the English Language Arts (ELA) portion of the National Assessment and Education Progress (NAEP) are illustrated. Additionally, students' scoring proficient or advanced on the ELA portion of the state's specific standards assessment are noted. Following these data is the discrepancy between the 4th grade students' scoring proficient or advanced on the ELA portion of the NAEP and those students scoring proficient or advanced on the portion of the state's specific standards assessment. This analysis continues vertically to address the numerous demographic compositions previously identified.

Table 1.

2008-2009 Performance Indicators

2008-09 Demographic & Performance Indicators	CA	FL	IL	NY	TX
<i>Total Number of Students and Totals by Subgroups</i>					
Total Number of Students: 2008-09	6,322,528	2,631,020	2,119,707	2,740,805	4,752,148
Pct. White Students: 2008-09	27.5%	45.2%	53.0%	51.0%	34.0%
Pct. Hispanic/Latino Students: 2008-09	48.5%	25.1%	20.8%	21.3%	47.9%
Pct. African American Students: 2008-09	7.2%	23.1%	19.5%	19.2%	14.2%
Pct. Asian / Pacific Islanders: 2008-09	11.6%	2.5%	4.1%	7.7%	3.6%
Pct. Low Income Students: 2008-09	51.7%	49.6%	39.3%	44.7%	48.8%
Pct. Limited English Proficient Students: 2008-09	24.0%	8.6%	9.7%	6.7%	15.1%
<i>NAEP Data, State Testing Data and Gap Between State Test Data All Students</i>					
NAEP Reading Pct. Basic & Above, Grade 4 - All Students:	54.0%	73.0%	65.0%	71.0%	65.0%
NAEP Reading Pct. Proficient & Above, Grade 4 - All Students:	24.0%	36.0%	32.0%	36.0%	28.0%

2008-09 Demographic & Performance Indicators	CA	FL	IL	NY	TX
Student Achievement in Reading, Grade 4 - All Students: 2008-09	60.1%	74.2%	73.6%	76.7%	83.8%
Gap Between NAEP Proficient & State Achievement	(36.1%)	(38.2%)	(41.6%)	(40.7%)	(55.8%)
NAEP Data, State Testing Data and Gap Between State Test Data (White)					
NAEP Reading Pct. Basic & Above, Grade 4 - White:	74.0%	81.0%	78.0%	81.0%	80.0%
NAEP Reading Pct. Proficient & Above, Grade 4 - White:	39.0%	45.0%	44.0%	45.0%	43.0%
Student Achievement in Reading, Grade 4 - White:	77.1%	83.9%	84.2%	84.9%	91.6%
Gap Between NAEP Proficient & State Achievement	(38.1%)	(38.9%)	(40.2%)	(39.9%)	(48.6%)
NAEP Data, State Testing Data and Gap Between State Test Data (Hispanic/Latino)					
NAEP Reading Pct. Basic & Above, Grade 4 – Hispanic/Latino:	38.0%	71.0%	48.0%	56.0%	54.0%
NAEP Reading Pct. Proficient & Above, Grade 4 - Hispanic/Latino:	11.0%	31.0%	16.0%	22.0%	18.0%
Student Achievement in Reading, Grade 4 - Hispanic/Latino:	48.0%	68.5%	60.1%	64.5%	79.8%
Gap Between NAEP Proficient & State Achievement	(37.0%)	(37.5%)	(44.1%)	(42.5%)	(61.8%)
NAEP Data, State Testing Data and Gap Between State Test Data (African American)					
NAEP Reading Pct. Basic & Above, Grade 4 - African American:	42.0%	56.0%	40.0%	53.0%	58.0%
NAEP Reading Pct. Proficient & Above, Grade 4 - African American:	14.0%	18.0%	11.0%	18.0%	20.0%
Student Achievement in Reading, Grade 4 - African American:	49.1%	59.0%	55.8%	65.1%	76.5%
Gap Between NAEP Proficient & State Achievement	(35.1%)	(41.0%)	(44.8%)	(47.1%)	(56.5%)
NAEP Data, State Testing Data and Gap Between State Test Data (Asian & Pacific Islander)					
NAEP Reading Pct. Basic & Above, Grade 4 - Asian & Pacific Islander:	78.0%	84.0%	91.0%	83.0%	88.0%
NAEP Reading Pct. Proficient & Above, Grade 4 - Asian & Pacific Islander:	48.0%	56.0%	63.0%	52.0%	52.0%
Student Achievement in Reading, Grade 4 - Asian & Pacific Islander:	78.6%	86.0%	88.8%	85.5%	93.0%
Gap Between NAEP Proficient & State Achievement	(30.6%)	(30.0%)	(25.8%)	(33.5%)	(41.0%)
NAEP Data, State Testing Data and Gap Between State Test Data (Low Income)					
NAEP Reading Pct. Basic & Above, Grade 4 - Low Income:	38.0%	64.0%	47.0%	59.0%	54.0%

2008-09 Demographic & Performance Indicators	CA	FL	IL	NY	TX
NAEP Reading Pct. Proficient & Above, Grade 4 - Low Income:	10.0%	25.0%	15.0%	24.0%	17.0%
Student Achievement in Reading, Grade 4 - Low Income:	47.3%	64.7%	59.3%	66.5%	78.2%
Gap Between NAEP Proficient & State Achievement	(37.3%)	(39.7%)	(44.3%)	(42.5%)	(61.2%)
NAEP Data, State Testing Data and Gap Between State Test Data (Limited English Proficient)					
NAEP Reading Pct. Basic & Above, Grade 4 - Limited English Proficient:	25.0%	52.0%	30.0%	29.0%	37.0%
NAEP Reading Pct. Proficient & Above, Grade 4 - Limited English Proficient:	4.0%	13.0%	7.0%	6.0%	8.0%
Student Achievement in Reading, Grade 4 - Limited English Proficient:	33.4%	42.9%	39.6%	41.9%	73.9%
Gap Between NAEP Proficient & State Achievement	(29.4%)	(29.9%)	(32.6%)	(35.9%)	(65.9%)

(Gifford, in process)

In looking at the first of the identified demographic compositions, states identify that at least 77.1% of white students, in California, to as many as 91.6% of white students in Texas are deemed proficient to advanced according to the ELA portion of the state's specific standards assessment. However, when we look at the NAEP data for the same group, we see only 39% of California's white students scoring proficient or advanced and 43% of Texas's white students scoring proficient or advanced. In looking across all the states, there exists a discrepancy of, on average, 41.1% between the two testing mediums. Overwhelmingly, the state assessments appear to overestimate the students' skills, when compared with the NAEP results.

We see this pattern continue through the other demographic compositions. Hispanic students, according to California's state assessment, demonstrated at least 48% proficient or advanced. According to Texas's assessment, at many as 79.8% of Hispanic students are scoring proficient or advance on the state assessment. When compared to the NAEP data for Hispanic 4th grade students, there exists a discrepancy of 37% for California and 61.8% for Texas. In looking across all identified states, the data suggests the state assessments, on average, measure Hispanic students' proficiency at 44.6% higher when compared to NAEP data.

According to California's state assessment, 49.1% of African American students are identified as proficient or advanced. Of the five identified states, Texas continued to demonstrate the highest number of students proficient or advanced according to the state assessment with 76.5% of African American students recognized as such. When looking at the NAEP data in comparison to the state assessment data, an average discrepancy of 44.9% exists, indicating the state assessment designates more students as proficient or advanced when compared to NAEP data.

This concerning pattern persists when looking at the Asian and Pacific Islander demographic. California continues to have the lowest percentage deemed proficient or advanced, according to the state assessment, with 78.6% of students identified with that designation. Texas had the highest percentage of Asian or Pacific Islanders noted as proficient or advanced, with 93% of the population reaching that status. However, when looking at the NAEP data, California and Texas students identified as 48% and 52% proficient and advanced, respectfully.

In looking at the student populations identified as socio-economically disadvantaged (SED) according to the state assessments, one can see that California identified 33.4% of students as proficient or advanced while Texas identified 78.2% as proficient or advanced. The previously identified discrepancy between state assessment data and NAEP data perpetuates a discrepancy for California of 37.3% and 61.2% for Texas. When looking across all states, the discrepancy between state assessment data and NAEP state is, on average, 45%. The state assessment data continue to suggest a much higher proportion of students is proficient or advanced when compared to NAEP data.

The final demographic identifier in this original data compilation is students' identified as Limited English Proficient (LEP). Maintaining the previously identified pattern, California had the lowest number of students identified as proficient or advanced according to the state assessment with 33.4% noted. Texas identified 73.9% of students as proficient or advanced according to its state assessment. However, according to NAEP data, only 4% of California students and 8% of Texas students are identified as proficient or advanced. This translates to a 38.7% discrepancy, on average, across the states.

The percentage of California students scoring proficient or advanced on the ELA portion of the California state assessment, also known as the California Standards Test (CST) as well as students scoring proficient or advanced on the ELA portion of the NAEP data indicate there exist a large disparity between the White population and both the African American population and Latino population. While 77.1% percent of California's 4th grade white students scored proficient or advanced on the ELA portion of the CST, only 49.1% of African American students and 48% of Hispanic students demonstrated proficiency or above. While meeting the specific needs of student's identified as LEP is not the focus of this paper, it is noteworthy to mention that only 33.4% of California's English Learner population was deemed proficient or advanced on the ELA portion of the CST.

Comparing individual state 4th grade students' state assessment scores to the 4th grade ELA NAEP scores illuminates a concern regarding the rigor of the state assessments. Historically, there have also been concerns regarding the assessment models and inflated scores (Rand, 1999). Regardless of the discrepancies between the CST and NAEP data, it is evident a clear achievement gap exists between African American students and Hispanic students when compared to white students. This achievement gap suggests potential influences regarding compensatory education instructional practices to meet the needs of the African American and Hispanic students.

In looking at development of Title I, one can see the federal government's involvement in education is highly significant as education had always been managed at the state level. With the introduction of federal funding came many levels of checks and balances. These checks and balances, though initially very undemanding, opened the doors for higher levels of accountability at the federal level (McDill & Natriello, 1998). The accountability of schools' fiscal management in conjunction with student achievement towards closing the achievement gap resulted in the development of the Adequate Yearly Progress (AYP) by the Federal government.

In an effort to close the achievement gap and ensure that students are proficient by the year 2014, the federal government charged states to identify yearly goals towards achieving this end objective. The series of goals identified by each state indicated the percentage of students who are required to be proficient or advanced each year. Figure 2 indicates California's goals toward proficiency in English Language Arts (California Department of Education, 2007).

Of particular interest in this model is the consistency between anticipated gains despite grade levels. First is the concern that, historically, California (not unlike other states) has not seen these significant gains sustained over years since the inception of the state testing model. Additionally, this model does not consider developmental differences that may exist at different grade levels with regards to academic development and learning. It could be suggested, that this growth model present itself with an unattainable and, perhaps, irrational set of goals.

Table 2.

Annual Yearly Proficiency Goals (AYP)

Annual Yearly Progress Proficiency Goals for Students with Regards to State Testing

Year	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	High School
2001-02	14%	14%	14%	14%	14%	14%	-
2002-03	14%	14%	14%	14%	14%	14%	11%
2003-04	14%	14%	14%	14%	14%	14%	11%
2004-05	24%	24%	24%	24%	24%	24%	22%
2005-06	24%	24%	24%	24%	24%	24%	22%
2006-07	24%	24%	24%	24%	24%	24%	22%
2007-08	35%	35%	35%	35%	35%	35%	33%
2008-09	46%	46%	46%	46%	46%	46%	45%
2009-10	57%	57%	57%	57%	57%	57%	56%
2010-11	68%	68%	68%	68%	68%	68%	67%
2011-12	78%	78%	78%	78%	78%	78%	78%
2012-13	89%	89%	89%	89%	89%	89%	89%
2013-14	100%	100%	100%	100%	100%	100%	100%

(Gifford, in process)

Regardless of the potential irrationality of the model, schools are expected to achieve the AYP goal school-wide and in every significant subgroup (California Department of Education Policy and Evaluation Division, 2007). If a school receiving Title I funds fails to meet this goal, they may be identified as a Program Improvement (PI) school. Beginning in the 2007-2008 academic year, the AYP goal began a steady upward trend of a gain of 11.1% of students scoring proficient or advanced per year according to the state assessment. Decisions regarding

programs implemented to help students achieve these goals are essential to not only students' successes but also imperative to maintain schools' and districts' status with regards to sanctions.

States are required to implement a plan to help LEAs and schools achieve their AYP. In California, the Academic Performance Index (API) was developed to set a series of goals to guide LEAs and schools to the end AYP goal of 100% proficiency. Schools that fail to meet these goals may be placed in sanctions. One such sanction in California is the School Assistance Intervention Team (SAIT).

The California Department of Education requires that districts with SAIT schools contract with outside consultants to lead the schools through reforms in accordance to the Academic Program Survey (APS). Schools that are identified for SAIT receive extra funding resources intended to fund the consultants and meet the requirements of the APS. These resources, however, have very strict guidelines. The APS has nine areas of evaluation. Its primary focus is to improve student achievement through instructional practices. "The school/district provides the most recent State Board-adopted core instructional program materials in mathematics and English Language Arts (2001-2008 adoptions), documented to be in daily use in every classroom, with materials for every student" (California Department of Education, 2005). This expectation is further defined by the amount of time to be spent on daily instruction. The programs are expected to be fully implemented in all classrooms. In addition to the full fidelity of core programs, intervention programs are also required for students who are two years below grade level beginning at the fourth grade level. This practice illustrates the third model, replacement curriculum. This model can be referred to as "highly complex" in that it systemically affects not only the school but also the district and state organizational structures.

In the course of dramatic changes to 1965's ESEA, studies regarding the effectiveness of reading intervention curricular programs continued. By this time, the three intervention models ("pull out", school-wide, and replacement curriculum), with their varying levels of complexity and systemic impact on the organization, have been in practice. In 2006 the *National Assessment of Title I Interim Report* was published (Torgesen et al., 2006). This report includes the "skill specific pre and post test" data that Kiesling's report was criticized as missing (Torgesen et al., 2006). In this report, students participating in specific interventions were further assessed to determine instructional needs (Torgesen et al., 2006). Based on these needs, students participated in programs specific to their identified need. For example, students who needed further help in phonics or phonemic awareness may participate in a program such as the Spell Read Phonological Auditory Training (P.A.T.). P.A.T. focuses on the decoding element of reading instruction yet also provides fluency and comprehension components. Approaches such as Failure Free Reading and Wilson Reading System combine vocabulary knowledge and building automaticity incorporated in to practice in context (Torgesen et al., 2006). Failure Free Reading emphasizes vocabulary development over decoding while the Wilson Reading System focuses on decoding. Both programs incorporate fluency and comprehension components (Torgesen et al., 2006). Interventions also may be combined with cross-age tutoring to provide more practice in the act of reading or fluency practice through strategies such as Neurological Impress Method (NIM) (Fezell, 2004; Taylor et al., 1997).

Results from the aforementioned specific strategies suggest positive, but not definitive, results. Overall gains were noted in the specific areas of instruction. Students who participated in a single dimensional intervention, such as only phonics, did not show as much growth as those

in combined interventions cross multiple strands of literacy (Torgesen et al., 2006). Interventions were provided within the school day thus removing students from the regularly scheduled academic program. Longitudinal data following the completion of the intervention is still needed to determine the long term effects of the program.

Similar to Keisling's (1971) and Puma et al.'s (1998) studies, this report does not specifically explore the effectiveness of one model versus another. It did, however, focus on instructional intervention programs targeted at specifically identified skills. Paralleling Keisling's (1971) and Puma et al.'s (1998) findings, results from the instructional intervention programs indicated positive, yet inconclusive, results.

While all three seminal studies indicate inconclusive findings, the researcher must acknowledge that a multitude of factors impact the data. These factors include the lack of random assignment of students, lack of control groups, level of professional development, planning time, and participation minutes in the program, to name a few (Kiesling, 1971; Puma et al., 1997; Torgesen et al., 2006). However, these factors will continue to be a challenge when examining program effectiveness as the nature of schools do not easily lend themselves to controlling the aforementioned variables.

In reviewing the seminal studies, it is of significance that there is a lack of conclusive evidence regarding program effectiveness. While in some instances there is evidence of improvement, it cannot be definitively associated to a particular program or approach. This inconclusiveness prompts an exploration of factors behind programmatic decision making to investigate why programs are implemented and continued despite evidence that they are not effective.

Decision Making in Education's Organizational Structure

As demonstrated in the discussion regarding compensatory education's ineffectiveness in closing the achievement gap as well as well as challenges identifying highly effective programmatic approaches, there have understandably been increasing concerns regarding low student academic achievement. These concerns have initiated a bevy of educational reform policies and programs (Elmore, 1995; Hatch, 2001). Policy development at the state level has directly influenced a rise in local policies intended to increase student achievement. In response to these policies, a number of intervention programs have emerged to address both the needs for school-wide reform or targeted assistance (Hatch, 2001).

The decision to adopt and implement one reading intervention program over another can be made at various levels in education's organizational structure. These levels may range from the classroom, school site, district, or state department of education.

The organizational structure of education, in our current reality, is defined by its task – to educate large numbers of students (Elmore, 1995). In order to accomplish this task, decisions regarding student grouping, teachers' responsibilities, time allocation, and the measurement of progress need to be determined (Elmore, 1995). A general consensus regarding the aforementioned components' structures has created what Elmore (1995) compares to the "basic genetic code" upon which school organizations are constructed.

Beyond the localized school level "basic genetic code", exists an extended system that includes state, district and other entities that influence the decision making process (Hatch,

2001). The components of this system are interconnected and may result in a “hierarchical” relationship or function more as an “ecosystem” (Hatch, 2001; Lasky, 2004).

In a hierarchical relationship, entities such as the state and district create pressures upon the schools and teachers to implement reforms. This model suggests that the direction to implement reforms occurs in isolation without notable effects on other aspects of the organization. In the ecosystem model, the state, district, school, teachers, and other influences all share the same resources (Hatch, 2001). In the latter model, when one element, such as an intervention, is introduced, it creates an effect on other elements within the school. The ecosystem model has become more prevalent as numerous educational reform policies and programs have been concurrently implemented to address the achievement gaps.

The various policies in addition to the wide range of needs in schools have resulted in the implementation of multiple intervention programs at school sites. Utilizing Hatch’s (2004) ecosystem analogy, these various intervention programs have a range of implementation demands affecting one system.

Regardless of the numerous demands, the programs are typically managed by a limited number of personnel (Lasky, 2004). Specifically, the individuals managing these programs are often coordinating and making critical decisions regarding numerous, independent programs. As a result, the programs may not be successfully coordinated for thorough implementation as well as to adequately measure effectiveness on student academic gains (Lasky, 2004).

Further compounding the impact of limited personnel managing numerous programs is the element of individual decision making. As suggested by numerous researchers, it is assumed that decisions are made based on a rational foundation (Brousseau et al., 2006; Martin, 2007; Rogers & Blenko, 2006). However, the decision to maintain an ineffective intervention program could be perceived as irrational. Therefore, it is suggested unrecognized and unaware influences impacting the decision maker may result in a choice to continue use of a program that may be ineffective in meeting students’ needs.

As demonstrated through historical perspective of compensatory education, decision making has become more removed from the localized level, leaving schools less autonomous. Arguments can be made pro or con in response to this approach; regardless of where in the organizational system a decision is made, what is consistent is that the critical role of programmatic decision making is often left in the hands of a small number of individuals. Evidence of past practices regarding maintaining ineffective reading intervention programs suggest influences other than empirical evidence impact the decision making process. To that end, an investigation of unrecognized and unaware influences impacting decision making could potentially shed light on the practice to maintain programs that are not demonstrating effectiveness in improving academic achievement.

Decision Making Theories

The practice of staying with an ineffective, failing endeavor may be viewed as highly “irrational” (Ariely, 2009). In recent years a number of psychologically-oriented economists and psychologists have sought to explain this type of irrational decision-making. Utilizing research from economics and psychology will provide a theoretical perspective to explore the purpose of this paper: to explain why educational administrators and other stakeholders continue to support interventions, even in the face of empirical evidence that they are ineffective.

Educational studies do not typically explore why schools decide to maintain ineffective programs. In order to differentiate rational and irrational decision-making, we must first explore both sides of the decision making perspective.

According to BusinessDictionary.com, decision making is defined as:

The thought process of selecting a logical choice from among the available options. When trying to make a good decision, a person must weigh the positives and negatives of each option, and consider all the alternatives. For effective decision making, a person must be able to forecast the outcome of each option as well, and based on all these items, determine which option is the best for that particular situation (“Decision Making”, 2007).

The definition provided includes parameters that the author finds necessary to construct “effective decisions”. Furthermore, the definition indicates that decision making process involves a “logical choice” (“Decision Making”, 2007).

Several researchers have suggested elements that need to be included in the decision making process. Within these discussions, the researchers appear to “assume” that decisions will be made logically (Brousseau et al., 2006; Martin, 2007; Rogers & Blenko, 2006). In order to differentiate between logical, rational decision making and irrational decision making, we must first explore the former.

Chester Barnard (1968) describes logical, rational decision-making in administrative settings as a “logical process of discrimination, analysis and choice” (p.185). He acknowledges the influences of external forces but contends that the decision itself is due to a series of logical choices. Rational-choice theory assumes that decisions are made based on, “multiplying the probability of getting what [you] want by the amount of pleasure (utility) that getting what [you] want will bring” (Lehrer, 2010, p.100).

Building on Barnard’s (1968) premise, Simon (1997) explores the concept of logical, rational decision making. In his study regarding decision making in the administrative organization, he postulates:

It is impossible for the behavior of a single isolated individual to reach any high degree of rationality. The number of alternatives he must explore is so great that even an approximation to objective rationality is hard to conceive. (p. 92)

Simon (1997) notes the impacts of environmental and social influences affecting the decision making process, resulting in irrational decisions.

Ariely (2009) contradicts Barnard’s (1968) “assumption” that decisions are made logically. He suggests that decisions are often not logical and also adds a framework to Simon’s (1997) suggestions regarding the extent to which external forces affect decision making. Ariely (2009) proposes the concept that decision making is more than just influenced by the external factor but can be, in fact, “predictably irrational”. He suggests that careful analysis of these influences can help determine the potential “irrational” decision that will be made.

Ariely’s monograph, *Predictably Irrational: The Hidden Forces that Shape Our Decisions* (Revised and Expanded in 2009), richly illustrates evidence of “predictably irrational” behaviors as they occur in daily experiences and, specifically, how business and marketing

models utilize this predictability of irrational decision making to their advantage. Influences contributing to irrational decision making include relativity of choices as well as preconceived expectations of beneficial outcome. Gladwell (2002) also suggests the influence of context. He posits that decisions made in unique situations and environments are highly influenced by those circumstances, often to the detriment of rational decision making. However, Ariely (2009) notes that by carefully examining the presence of the influences, the irrational decision can be anticipated and, possibly, circumvented.

Of particular note in this discussion is that the decision maker does, indeed, believe his decision is rational and based on a thorough, logical evaluation of factors. The irrational decision can often result in meager or negative outcomes. Several contemporaries in their exploration of irrational decision making suggest that, despite these inadequate outcomes, the decision makers will often fail to recognize the negative outcome and instead persist with the venture (Ariely, 2009; Burton, 2008; Gladwell, 2002; Lehrer, 2009). It is suggested that this persistence is due to both the influence of the aforementioned influences as well as the decision maker's emotions.

Burton (2008) posits that the rational mind and emotions work together in the decision making process. This concert of influences makes it difficult for the decision maker to distinguish between rationality and emotional decisions. Pham (2007) concludes that this "ageless question" of the relationship between emotions and rationality cannot be definitively classified (p.155). This conclusion supports Burton's (2008) proposition that even the concept of rationality is challenging to define as it depends on the individual's perceptions regarding how the mind works. Consequently, it can be presumed that the concept of irrationality can be equally challenging to define.

For the purposes of this paper, irrational decision making will be defined as the decision making process that results in a less than ideal outcome as a consequence of other forces influencing the decision maker. Ariely's (2009) concept of predictably irrational behavior will be applied in an effort to suggest a means to predict irrational decision making traps prior to putting plans into action.

A multitude of factors that influence decision making often result in an irrational choice of action. The influences of expectations, framing and other forces not easily apparent, heavily color the decision making process. After an extensive review of the literature, I identified three theories that embody the majority of decision making schools of thought and appear to be generally agreed upon by definition in the research community. These theories are Escalation theory, Sunk-cost theory, and Prospect theory. These theories are appropriate for educational settings and the methodologies associated with them appear to be appropriate for examining the decision-making practices of educational administrators and other stakeholders. This autoethnographic study will apply Escalation theory, Sunk-cost theory, and Prospect theory in attempt to explain why stakeholders continue usage of K-5 reading intervention programs despite the lack of student achievement according to the California Standards Test.

In order to provide the theoretical and methodological foundation for the study, we must first explore each theory individually. As previously stated, application of these theories in decision making by administrators in education was not identified in the review of the literature; however, research and methodologies as applied to business and economic theories are discussed.

Escalation theory. Escalation theory refers to the decision maker's tendency to allocate additional resources to a failing endeavor due to a sense of personal accountability and responsibility to the venture (Drummond, 1998; Keil et. al, 2000; Staw and Fox, 1977).

The state, district, school, teachers, and other influences all share the same resources (Hatch, 2001). Consequently, with the decision to implement one program over another, resources will be redirected to that program. As implementation of the program continues, the program may prove to be less effective than anticipated. Staw and Fox (1977) suggest that in many situations, decision makers do not acknowledge the failure and instead persist in a higher level of commitment to the program as well as a rationalization of the initial decision. This behavior is known as "escalation" of commitment (Drummond, 1998; Keil et. al, 2000; Staw and Fox, 1977).

Staw and Fox (1977) conducted an experimental design with undergraduate business students. In this study, scenarios were presented to the students in which the students must play a key role in a financial decision making process. The students were then separated in two versions of the study. One group experienced a high level of personal responsibility and the other a low level of personal responsibility. Students were asked to provide written narrative responses indicating their decided course of action as well as an explanation defending their decision. In the light of a failing venture, the students participating in a scenario with a high level of personal responsibility contributed more resources to the venture than those students with a low level of personal responsibility (Staw, 1976; Staw and Fox, 1977). This suggests the individual sense of personal accountability and investment would be a contributing factor in the decision to maintain an ineffective intervention program. This heightened level of commitment can also be interpreted as "due diligence" (Drummond, 1998, p. 921). Individuals would fear being viewed as irresponsible if they did not sustain the project (Drummond, 1998).

The experimental design utilized by Staw and Fox (1977) was an appropriate methodology adding to Staw's (1976) previously posited theory regarding escalation of commitment and resources in situations with high levels of personal accountability. Since the participants were not genuinely involved in a "real life" situation, this may have skewed their responses.

Drummond's (1998) qualitative case study consisted of numerous interviews in order to demonstrate the "contextual richness and complexity of decision scenarios" (Drummond, 1998, p. 913). While this approach would not posit a generalizable theory, it added descriptive elements featuring the complexity of escalation theory to this already researched theoretical perspective.

Drummond's (1998) ex post facto study focused on a failed IT project commissioned by the London Stock Exchange known as Taurus. Taurus was an electronic system designed to expedite share transactions. In preparation for the implementation of Taurus, millions of pounds were allocated and consequently lost when the project was cancelled prior to its implementation (Drummond, 1998).

Drummond utilized three data sources: media reports, documentation (such as letters, market briefings, and memos), and interviews. The various data sources were employed to triangulate data and add reliability to the findings (Drummond, 1998).

Interview questions were prepared in advance and were open-ended. Interviews did not have a time constraint but were concluded when “accounts became heavily repetitive” (Drummond, 1998, p.914). Interviews were taped, transcribed and coded. Special consideration was made to interpret statements. For example, one interview with a technical team member produced the statement, “You bash one peg down and another flies up at you” (Drummond, 1998, p.914). While this was interpreted as frustration, it also represented commitment to a given course of action. Drummond’s (1998) approach helps illuminate the complexity of the organizational escalation of commitment through responses and detailed coding.

Both Staw and Fox’s (1977) and Drummond’s (1998) methodologies gained further perspectives within their escalation theoretical perspectives. Utilizing Staw and Fox’s (1977) “scenarios” could increase in understanding regarding how people “feel” they should act without the added level of personal responsibility in a real situation. Drummond’s (1998) interview methodology will be essential in this research to allow the researcher to get to the “contextual richness and complexity of decision scenarios” (Drummond, 1998, p. 913). Through this interview process, information regarding real situations and scenarios can be attained.

Sunk-cost theory. Sunk-cost theory suggests the decision to continue to invest in venture that has proven less successful than anticipated is heavily influenced by the element of the decision maker’s perception of previously incurred expenses. Expense may be defined as monetary or other resources such as time and personnel. However, one may also not see the sunk-cost as a loss but instead choose the alternative choice due to extenuating circumstances such as personal preference or outside relationships. This latter factor is not as influential as time committed to the venture increases.

Arkes and Blumer’s (1985) study provides an example of a short term venture commitment through a ski trip scenario. When participants were told they had purchased two ski trips, one being more expensive than the other, they were asked to choose which of the two trips they would attend. Participants were informed that they would enjoy the second trip far more than the first trip. Most participants chose the first, more expensive trip. While this was a short term investment, the findings suggest that commitment time is not highly influential when discussing sunk-costs.

In Bornstein et al.’s (1999) study regarding Sunk-cost theory in the medical field, two other aspects of decision making were uncovered: decision making for someone else and effects of decision making outside of the participants area of expertise. Participants in this study were residents and undergraduates. While differences existed between the two groups, general responses will only be discussed in this review.

Participants were asked to review scenarios both in and outside of the medical profession. Responses were indicated on a ten-point scale to add clarification to the intensity of the decision. A majority of respondents indicated that they would pursue a different course of action if they did not initiate the course of action, regardless of sunk-costs. Conversely, the participants indicated that if the “present treating physician” initiated the treatment, the course of action should be maintained (Bornstein et al., 1999, p.220). This was justified by a sense of responsibility to the course of action, as suggested in Escalation theory. When participants were asked about decisions regarding non-medical scenarios, they indicated a high susceptibility to the influence of sunk-costs. Since decision making in the medical field seems to withstand the

influence of sunk-costs, Bornstein (1999) suggests further exploration of the decision making component in medical training should be explored.

A study regarding the tendency for entrepreneurial firms to expand geographically or relocate explores the effects of commitment to a venture over time (Stam, 2007). Stam's (2007) comparative case study utilized quantitative and qualitative methods. Quantitatively, Stam (2007) constructed a series of criteria to identify "young fast-growing", start-up entrepreneurial firms (Stam, 2007, p.34). Following the identification of firms, extensive interviews of the "founding owners-managers" were conducted (Stam, 2007, p. 34). This data was triangulated with media and company archived documents.

Findings from Stam's (2007) study indicated a high susceptibility to sunk-cost in accordance with the possibility of geographical relocation and expansion. In the earlier years, firms were more likely to relocate or expand into other branches; however, the longer the firm existed, the less likely it was to relocate or create branches. Interview data suggested the lack of desire to relocate was due to a sense of the previously incurred cost of personnel resources at the current firm. Another element contradicting sunk-cost theory is the findings that newer firms chose not to open other branches due to the ability to "easily expand and reach other markets without maintaining a physical presence in them" (Stam, 2007, p.46). This latter explanation does not relate to sunk-costs as much as it does to the increasing technological advances allowing firms to have "virtual offices" where individuals can represent a firm through a home office (Stam, 2007, p. 46).

The quantitative method utilized in Stam's (2007) study allowed for intentional selection of case studies representative of the elements intended for his study. Following identification of the cases to be studied, the qualitative aspects of interview, documents, and media analysis added understanding to the complexity behind the decision making process (Drummond, 1998; Stam, 2007).

Prospect theory. Prospect theory suggests the decision to continue with a failing venture due to the influence of "framing" and "valuation". Framing refers to the decision maker's tendency to look at the situation in a different manner to make it appear more favorable. Valuation involves the decision maker's perception of not only the worth of the outcome but also considers the significance of the act of participating in the venture itself (Kahneman & Tversky, 1992; Whyte, 1986).

In more detail, the "framing" element refers to the constructed "representations of the acts, contingencies, and outcomes that are relevant to the outcome" (Kahneman & Tversky, 1992, p.299). The framing component adds an element of perception of the situation. When faced with a failed venture, individuals may "distort negative consequences to make them appear more favorable" (Whyte, 1986, p.311).

In Hammond et al.'s (1998) study, a group of insurance professionals were questioned regarding which scenario would be the best course of action to minimize cargo loss in a barge company. Initially, two scenarios were presented to half the members of the group. One scenario emphasized a determined result while the other introduced the element of probability. 71% of the respondents chose the course of action viewed as "less risky" that described a determinate number of barges being "saved" versus the second option that described the probability that the same number of barges that would be "saved" and included the potential of those "lost" (Hammond et. al, 1998, p.124). However, when the scenarios were reframed to

emphasize the same courses of actions with relation to the number of barges “lost”, 80% of the second group of respondents selected the scenario that discussed the probability of barges being “lost” but also included the probability of barges being “saved” (instead of just discussing a determinate number of barges “lost”). Again, all four scenarios were similar in outcome but differed in emphasis of losses and gains as well as the element of probability (Hammond et al, 1998).

While it was not indicated if Hammond et al.’s (1998) study utilized scenarios in a written format or verbally, it is assumed that participants did not get the opportunity to discuss their decision nor rationale. If that opportunity were provided, perhaps the insurance professionals would have realized the folly in their process.

The valuation aspect of Prospect theory addresses not only the outcome of a given course of action but also the value of the participation in the process (Kahneman & Tversky, 1992; Markowitz, 1952). In a review of the literature, this decision making process is often referred to as a “measurement of utility” (Markowitz, 1952; Mosteller & Nogee, 1951).

In Mosteller and Nogee’s (1951) study, participants were asked to provide written directions regarding how a third party should submit their (the participants) gambling bets. This scenario was based on a series of bets. An element to be considered included the participants’ perceptions and sense of importance of existing wealth and potential wealth. This would have an impact on their betting patterns. This study indicated that the participants provided a myriad of different “rules for play”. If play were not influenced by gains or losses, the “frequency distribution of final wins and losses would be symmetric” (Markowitz, 1952). However, other elements would influence decision making. Decisions regarding winning and losing potential would change the gambler’s course of action, encouraging the player to stop playing due to large losses, keep playing due to moderate wins or losses, or stop due to winning a large amount. Adding to this factor is the process itself. Markowitz (1952) discusses the influence of the “fun of participation” (p.157). This element will potentially influence the previously assigned “rules of play” dependent upon the value attached to the process.

Prospect theory combines not only one’s perception of the situation but also adds the elements of value of outcome and value of participation in the process. The aspect of “fun of participation” could be related to individuals’ sense of value being associated and participating in a venture with lesser regard to the potential outcome. The numerous elements to Prospect theory suggests that qualitative data gathered through open ended questions, such as those gathered in Mosteller and Nogee’s (1951) study, and interviews, would add clarity to the complex decision making theory.

The decision making theories of Sunk-cost, Escalation and Prospect provide a strong foundation to explore the phenomenon of irrational decision making. While current data does not apply to these theories in the field of education, the concepts and methodologies discussed establish a reliable model to inform this dissertation’s study.

Summary

In over four decades of compensatory education’s funding, there has been little progress toward closing the achievement gap. Three key studies, *Input and Output in California Compensatory Education Projects*, *Prospects: Final Report on Students Outcomes*, and the *National Assessment of Title I Interim Report*, all conducted by outside agencies, conclude that

interventions provided through compensatory education are not sufficient to make adequate academic growth (Kiesling, 1971; Puma et al., 1997; Torgesen et al., 2006).

With the increasing levels of fiscal and program accountability at the federal level due to a history of poor student gains, local controls regarding educational policies and practices have diminished. Standardized achievement goals were developed in response to alarming statistics regarding the achievement gap, as illustrated in Table 1 (Gifford, in progress), and poor results following participation in intervention. Schools and LEAs that fail to achieve the goals are subject to sanctions. Policy regarding educational practices is highly impacted by research reports such as those discussed in this review of the literature (Wirt & Kirst, 2005). Considering the meager results and questionable studies related to the research, it is not surprising that the achievement gap still exists and students continue to struggle.

Looking at the organizational structure of education and the multitude of influences within this complex structure, it is understandable that conclusions regarding effective programs and practices have been difficult to establish. The impact of the intervention program itself cannot be determined without considering the impact of the influential members and their decision making within the organizational structure (Lasky, 2004).

The factors contributing to the individual's decisions within an organizational structure to maintain ineffective practices can be viewed separately from the programmatic components of an intervention. The choice to maintain a program that is not showing academic progress can be considered highly irrational. By looking at the decision making theories of Sunk-cost, Escalation, and Prospect theories, we can explore some factors contributing to what appears to be highly irrational decisions.

Chapter 3

The purpose of this study was to explore the practice by administrators and other stakeholders to persist with intervention programs despite empirical evidence that they are ineffective. As established in Chapter 2, in response to ESEA, public schools in California utilize a variety of reading intervention programs to address the learning needs of their students. Despite nearly four decades of funding, while there has been some evidence of student gains, progress is far from sufficient to close the achievement gap. The considerable time and money invested with little gain provides justification for the need to explore the decision making behind the practice of maintaining programs that are proving ineffective. The review of the literature suggests that exploration of specific program elements and models will continue to be inconclusive. However, the literature does suggest that the decisions made at the various levels of the educational organization's structure are highly influential in the implementation and maintenance of programs. In the review of the literature, factors contributing to the decision to continue an ineffective intervention program in a K-5 elementary environment were not identified. By exploring the decision making process, the researcher hoped to illuminate influential factors that may lead to decisions contributing to the persistence of ineffective programs -- decisions that ultimately compromise academic gains towards closing the achievement gap. This study applied the theoretical perspectives of Sunk-cost theory, Escalation theory, and Prospect theory, as demonstrated in organizational behavior studies, to this phenomenon in the K-5 public education sector.

In an attempt to understand this phenomenon, this study focused on the following research questions: (a) Why do educational administrators and other stakeholders fail to recognize an ineffective program and initiate change? (b) How are these failures to recognize and act on program change explained by Escalation theory, Sunk-cost theory, Prospect theory, and identified assumptions? (c) What lessons can we learn from theories of irrational behavior with regards to decision making in the school setting?

This chapter details the study's research methodology. It includes the following discussions: (a) rationale for the research design, (b) appropriateness of a case study model, (c) description of the research sample (d) summary of information needed, (e) overview of research design and data collection (f) analysis of data, (g) ethical considerations, (h) validity, and (i) limitations of the study.

Rationale for Qualitative Research Design Approach

According to Kuhn (1962), research is a process that aids in the understanding of a phenomenon. "Understanding in most western research communities is knowledge that allows the prediction of the behavior of some aspect of the phenomenon" ("Design Research in Information Systems", 2007, p.1).

The Association for Information Systems, in its discussion of Design Research in Information Systems (2007), describes Design Research as the following:

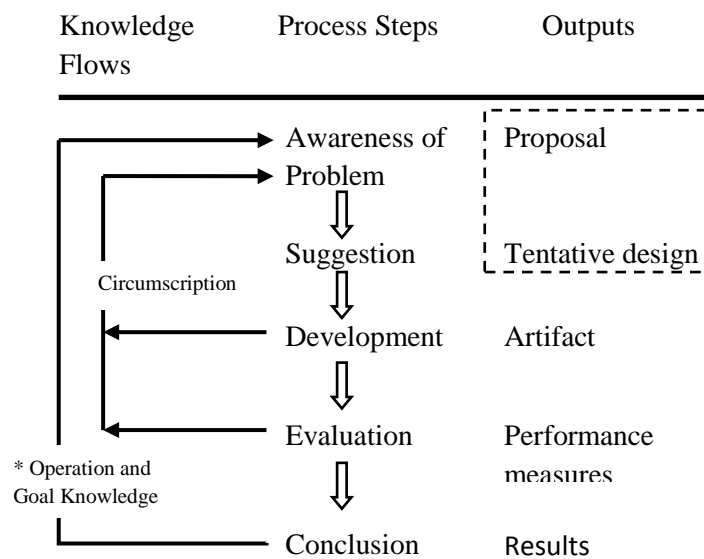
In the case of design research, all or part of the phenomenon may be created as opposed to naturally occurring. The phenomenon is

typically a set of behaviors of some entity(ies) that is found interesting by the researcher or by a group – a research community.
(p.1)

Since the phenomenon of continuing usage of intervention programs despite the lack of student achievement according to the California Standards Test data entails decision making on the part of the stakeholders, and is not a natural phenomenon, a Design Research approach will be utilized to aid in understanding the behaviors involved this process.

The methodology of Design Research (Figure 1) is modeled in the following diagram (“Design Research in Information Systems”, 2007, p.9).

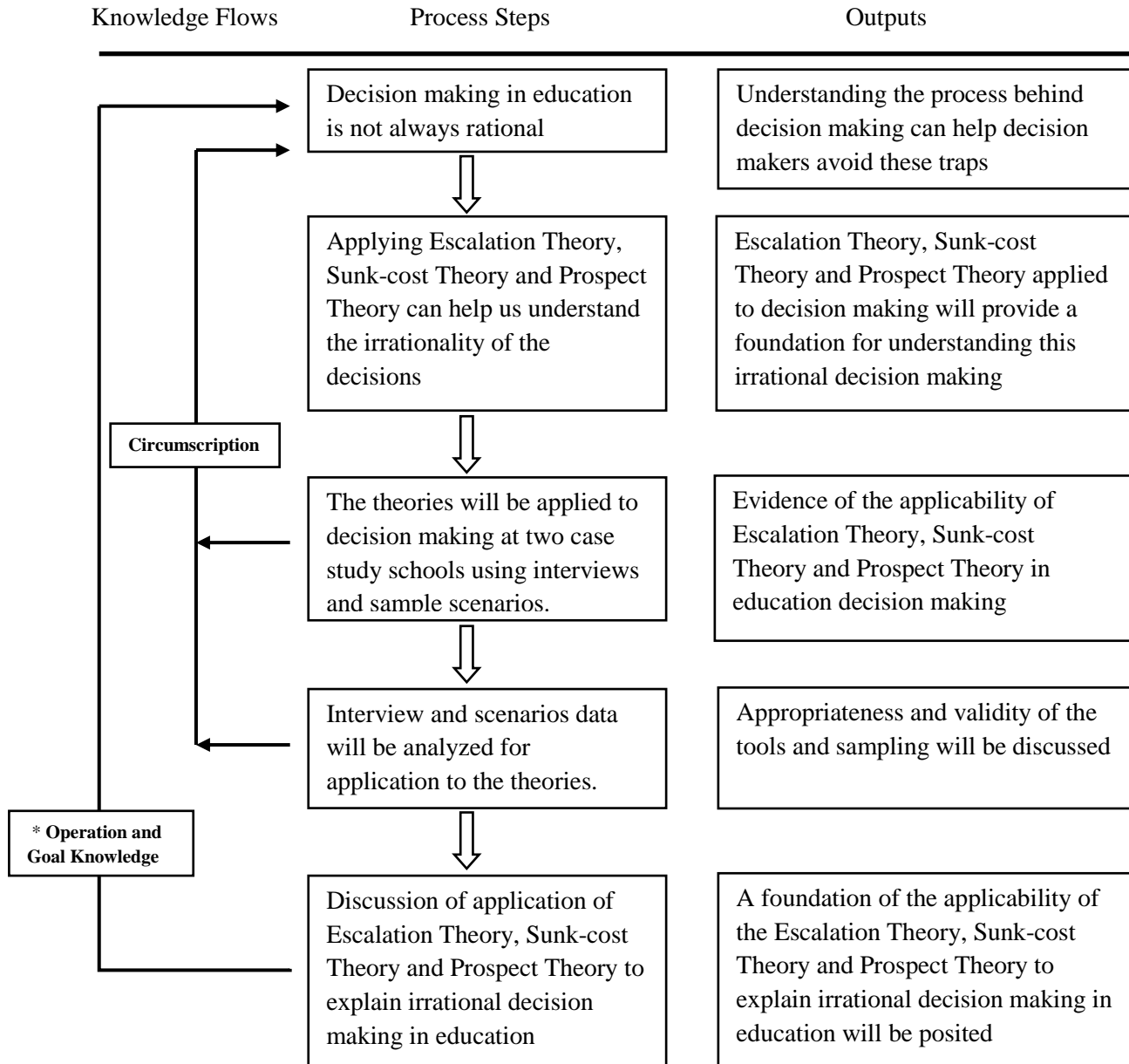
Figure 1.
Design Research Model



(*Design Research in Information Systems, 2007*)

Utilizing the Design Research model from the Association for Information Systems, the steps of this study are identified in the following diagram (2007):

Figure 2.
Applied Design Research Model



It was the researcher’s belief that this qualitative design approach (Figure 2) would most likely provide a rich level of details and nuances to further understanding of the stakeholders’ decision making processes when viewed through the lens of irrational decision making theories.

Through exploration of the persistence of the academic achievement gap and decision making theories and influences in Chapter 2, the awareness of the presence of predictably irrational decision making in education is proposed. Based on that review, I suggest that

identifying and understanding the factors contributing to irrational decision making can help decision makers in education avoid their influence and, ultimately, result in more rational decisions.

The decision making theories of Escalation theory, Sunk-cost theory, and Prospect theory were identified as they represented the concentrate of irrational decision making theory. Furthermore, the theories seemed to transfer well in applicability from looking at business and medical scenarios to education.

Based on an analysis of studies regarding evidence of the aforementioned theories in business and medical scenarios, a series of interview questions and sample scenarios were constructed to explore the representation of the theories at two school sites identified as persisting with at least one ineffective reading intervention program. This evaluation then provides a foundation for the presence and potential influence of Escalation, Sunk-cost, and Prospect Theories on decision making in the educational sector.

Rationale for a Case Study Approach

Within the realm of qualitative design research, the researcher chose a case study approach. Specifically, two K-5 school sites identified as having at least one ineffective reading intervention program implemented for at least two years were selected. Creswall (2003) describes a case study as a design “in which the researcher explores in depth a program, an event, an activity, a process, or one or more individuals” (p.15). A case study approach provided an opportunity for an intimate investigation and deeper understanding of the factors contributing to complexity of the process of decision making at these sites.

As noted by March, Sproull, and Tamuz (1991), a great deal of insight can be attained by exploring the experiences of even one organization. By exploring one entity’s understanding of a phenomenon, we can better understand the numerous influences that contribute to the perceived reality or practice. As with any case study, findings may not be generalizable but will create a foundation for the application of Escalation theory, Sunk-cost theory, and Prospect theory to the decision making process in the K-5 educational environment.

The Research Sample

As suggested by Hatch (2001), there are various levels to the hierarchy of the educational organization system. This study aimed at focusing the lens on the localized level of school based decision making. By illuminating decisions at the local level, the researcher was able to focus on decisions that were made to directly influence a faculty and students (as opposed to decisions made at the district level affecting the various needs of schools within the districts as a larger entity). Therefore, in order to focus on decision making at the school site level, it was essential to identify schools that made localized programmatic decisions and were not mandated to utilize the identified ineffective program.

Schools that are not mandated to utilize specific intervention programs tend to have higher student achievement according to the California Standards Test (CST) data; however,

they still have a population of students in need of additional academic support or interventions. Since program selection is not mandated by the California Department of Education (CDE) in response to NCLB, it was assumed that there was more local autonomy in the selection process as well as the decision to continue use of a program.

Consequently, schools that are not obligated to implement mandated programs are assumedly not required to continue with ineffective programs. The researcher's professional experiences as an administrator in California public schools provided her opportunities to experience both mandated and non-mandated intervention programs through the progression of initial program identification, implementation, monitoring, and the decision making process to continue with the programs. Specifically looking at non-mandated programmatic decisions, both personally experienced and observed in other school sites, administrators and other stakeholders (district personnel, parent advisory teams and teachers) frequently decide to continue use of ineffective intervention programs.

For the purposes of this study, "ineffective intervention programs" was defined as the following: based on participating students' CST scores, the majority of students did not attain the state defined desired goal of "proficient or advanced" following two years of participation in the program. Despite the lack of accelerated academic growth, educational interventions that have persistently failed to deliver promised benefits continue to be utilized in the schools.

The researcher identified districts that still permitted site level programmatic decision making. Within those districts, schools that met the 750 – 850 API criteria were identified. The 750 – 850 API was identified as the range for initial contact as, based on the researcher's experience, schools within those API scores are not necessarily "at risk" but still have a population of students in need of intervention services. From that list, numerous schools were contacted. As potential sites were identified based on length of program implementation, the researcher reviewed the sites' 4 year CST data to determine if the sites had steady growth. If the schools had steady growth, this would suggest that the intervention program was effective. If the school had little or fluctuating growth, this would suggest that the intervention program was ineffective; sites demonstrating little or fluctuating growth would be identified to request participation in the study. Two schools sites in the East Bay of the San Francisco region agreed to participate in the study.

Overview of the Research Design and Data Collection

The first phase of the study was a quantitative exploration of CST and other data of schools that utilize reading intervention programs. These data was acquired through the California Department of Education's database and various district/ school websites. The study was narrowed to schools where the program had been implemented for at least 2 years and was not effective in improving student achievement according to CST data. Two school sites that were representative of the group, or significant for some reason, were identified for the second phase of the study.

In the second, qualitative phase, I explored factors influencing the stakeholders' decision making process through interviews and sample scenarios (Appendices A & B). Qualitative data

was gathered in a 3 month study of two similar schools which had continued usage of K-5 reading intervention programs despite the lack of student achievement according to the California Standards Test. Interview protocols and sample scenarios were developed by the researcher as well as existing questions from research studies (Bornstein et al., 1999; Weick & Sutcliffe, 2001). Interviews were conducted at least two days apart. Site 1 was administered the Sample Scenario following the interviews. Site 2 was administered the Sample Scenarios prior to the interviews. This sequencing procedure was implemented to explore the possible influence of prior exposure of either tool (the interview questions or sample scenarios) on responses to future responses within the study.

Sample Scenario data was recorded and analyzed for commonalities and differences within individuals' responses as well as between the two site representatives' responses. Interview and observational data collected employed a qualitative analysis. Interviews were transcribed and coded. Ongoing analysis of the data acquired resulted in follow-up interviews for clarification.

Data Analysis

Analysis of the transcripts and Sample Scenarios data focused on identifying representation of the aforementioned decision making theories. This process was completed utilizing a coding method following receipt of the Sample Scenarios documents and transcripts. Codes were developed to note representation of: Sunk-cost theory, Escalation theory, Prospect theory. After identifying initial representation of the decision making theories, the researcher revised the data to further code at a more specific level identifying instances where demonstration of the theories were evidenced as well as avoided.

To clarify the analysis process, the following are the Sample Scenarios utilized to attain perspectives regarding Escalation theory, Sunk-cost theory and Prospect theory. The Sample Scenarios utilized in this study are modified from previous research. Following the Scenarios is a discussion suggesting how responses may represent evidence of the specific decision making theories:

1. Agatha decides that she wants to take cello lessons. She spends \$100 on a beginner cello and an additional \$40 on the first month of lessons. After 1 month of lessons, Agatha realizes that she no longer enjoys the cello and wants to stop taking lessons. That is, it is almost certain that if Agatha signs up for more lessons, she will not enjoy them and will never enjoy playing the cello. What should Agatha do? (Bornstein et al., 1999, p.221)
2. Michael is a 4th grade student who struggles with basic decoding. Michael's teacher decides to purchase a special program she heard about at a conference that is designed to help students like Michael learn basic decoding skills. The teacher purchases the \$40 program with her own money. After utilizing the program for 6 weeks, the teacher does not see any marked improvement for Michael. The teacher is not confident this program will help Michael learn the necessary decoding skills. What should the teacher do?

3. Marcy's aunt was a renowned ice skater and she hopes that her niece will following in her footsteps. Marcy's aunt purchases her a \$500 pair of ice skates for her 16th birthday. Marcy enjoys skating but never took it too seriously. After skating a few mornings, she decides she would not like to pursue this sport in a serious manner. Now that the skates are used, they may not be returned nor sold. What should Marcy do?
4. A school district's previous administration enters into a contract for \$18,000 in a year long professional development program for all elementary teachers. The professional development is directed to help teachers help English Learners achieve academically. Every month, the 300 elementary teachers attended 4-hour training after school. The teachers were all compensated at \$33.00 per hour for their attendance. Midway through the year (following 5 sessions), the participants note that the information presented by the professional development group is very generic and, in some cases, contradicts the EL goals for academic achievement set forth by the district. It is almost certain that the information to be covered in the remaining sessions will not be new to the teaching staff and in some cases, may be confusing with regards to the district's goals. What should the current school district do?

In Bornstein et al.'s 1999 study, questions were administered to individuals involved in the medical field to determine their tendencies to be influenced by sunk-costs. Participants were administered one of two different versions of the sample scenarios. For each group, the sample scenarios were the same but the financial allocations varied. One sample represented a "high" sunk-cost while another represented a lower sunk-cost. In addition to this difference, one version of the scenario would represent a "same original decision maker" and the other would represent an "other" decision maker (Bornstein et al., 1999, p.221).

Sample scenario 1 is a direct example of Bornstein et. al.'s 1999 questions. In sample one, Agatha represents the "same original decision maker" and the financial investments of \$40 and \$100 are consider "lower" (Bornstein et al., 1999, p.221). Conversely, scenario 3 suggests an "other" decision maker – Marcy's aunt originally invested the resources but Marcy is now deciding to continue or stop her ice skating. Scenario 3 also represents the "higher" sunk-cost of a \$500 pair of ice skates.

If participants in this study are affected by sunk-costs, they will be influenced by the amount of the initial expenses. Consistency with the plan of action also is a contributing factor of sunk-cost theory. Often, individuals will choose to stay with the course of action even when initiated by another. When the initial decision is made by the "same original decision maker", individuals may feel committed to stay with the initial decision since they do not wish to be seen as "wrong", even if the first course of action is far less desirable (Arkes & Blumer, 1985).

Sample scenario 2 is similar to scenario 1 by having "low" initial investment and "same original decision maker". Sample scenario 4 is similar to scenario 3 representing "high" initial investment and "other" decision maker. Scenarios 2 and 4 differ from scenarios 1 and 3 with regards to setting. Scenarios 2 and 4 are scenarios related to the field of education while 1 and 3 are related to "everyday" experiences. Bornstein et al. (1999) suggest that questions related to one's field of expertise may influence the responses, thus avoiding the effects of Sunk-cost.

While this was demonstrated with participants from the medical profession in Bornstein et al.'s (1999) study, question 2 and 4 aim to see if the resistance to sunk-cost in profession-specific scenarios is present in the field of education.

If the participants are influenced by escalation theory, they will be heavily influenced to remain consistent with the course of action in scenarios 1 and 2 due to a sense of personal responsibility and accountability. Conversely, they would be less inclined to maintain the course of action in sample scenarios 3 and 4 since they are "other" initiated.

Prospect theory's aspect of valuation would be represented in scenarios 1, 2, 3, and 4. If the participants exhibit the influence of prospect theory, they will indicate in their responses a commitment to the given course of action due to the "value" of the outcome of the endeavor as well as participation in the act itself. For example, in scenario 3, Marcy may choose to continue ice skating because she will receive positive attention from her aunt Marcy; also, Marcy may feel that persisting in ice skating will provide opportunities for her to meet new friends in her town. Utilizing those rationale, Marcy finds "value" in the participation of the activity through attention from her aunt and making new friends. Even though she does not consider the expected outcome by her aunt to become a "renowned" ice skater, Marcy has a determined value in participation of the activity.

The number of participants for this study is far fewer than previously cited research. Due to this limitation, it will not be possible to address the "framing" aspect of Prospect theory using sample scenarios 1, 2, 3, and 4.

In order to illuminate the influence of "framing", sample scenario 5 is as follows:

5. The following options are available for you to purchase:
 - a. **Children's Dictionary Software Site License - \$500**
computer software for Children's Dictionary (site license)
 - b. **Children's Dictionary Print Copies - \$1000**
250 Children's Dictionary Print Copies for \$1000
 - c. **Children's Dictionary Software Site License and 250 Children's Dictionary Print Copies - \$1000**
Computer software for Children's Dictionary (site license) and 250 Children's Dictionary Print Copies for \$1000

Which would you choose? Please explain your choice.

Scenario 5 is modeled after an example demonstrated by Dan Ariely (2009) in *Predictably Irrational*. A subscription to a magazine, on a web site, offered three possible subscription methods. The first method was the online magazine version for \$59 per year; the second was a print subscription for \$125 per year; The third was both the online and print versions for \$125 per year. Ariely (2009) found that due to our "human nature" to compare, we reframe our choices not to look at each item individually but instead to compare the choices. Given the three aforementioned options, 84 of 100 participants chose the online and print offer for \$125 while the remaining 16 participants chose the online version only.

If participants in this study demonstrate the influence of framing in their responses to scenario 5, option “c”, both the site license and print copies will be selected by a high percentage of participants.

Due to the subtle differences regarding reasoning to maintain or abandon an endeavor, it was imperative that participants in this study were encouraged to write detailed responses. While the Sample Scenarios were designed to specifically explore the decision makers tendency to demonstrate vulnerability or other representation of the “traps” of Escalation, Sunk-cost, and Prospect Theories, the interview questions provided a more exploratory approach. While interview questions were designed to investigate elements of particular theories, the participants were allowed the opportunity to elaborate on their responses and often proceeded to demonstrate representation of other theories not intended as the target theory for the given question. Consequently, upon analysis and coding of the transcripts, evidence of the theories was extended to the interviews in their entirety instead of targeting indication by questions originally designed to address the particular theory or theory element.

Ethical Considerations

While the participation in the project presented low risk, precautions were utilized to ensure the participants would be protected. Initial identification to participate was conducted utilizing information from public websites. Following identification, participants were informed that their participation was voluntary. Participants received and signed consent forms detailing the intent and procedures of the study. Additionally, data gathered was kept in a secure location and utilized pseudonyms.

Validity

Data collected from the site decision makers was recorded, and transcribed. Following transcription, the interviewees were provided the transcription to ensure accuracy. Transcribed data from the interviews and responses to the written scenarios were reviewed and coded for evidence of the identified theories. Following this coding, informal follow up interviews were conducted for further clarification of the decision makers’ reasoning, as needed.

Limitations

Sites were identified based on the criteria that they had a population in need of intervention, utilized a non-mandated, specific intervention program, and did not have significant API growth over three years. With the increasing practice of mandating programs in non-sanctioned schools by districts, the applicable pool for potential study was greatly reduced. Furthermore, upon investigation with the participating sites, it became apparent that the decision makers for these programs were limited to the principals. This presents a challenge in generalizing findings for greater application. The findings in this study, however, do suggest trends in responses, rationale and reflective questioning that may impact practice.

Summary

This chapter provided a description regarding this study's research methodology. A design research, case study approach was utilized to allow for depth of data collection and analysis to explore the phenomenon of irrational decision making as explained through Escalation, Sunk cost, and Prospect theories. The participant sample consisted of two sites that were carefully selected to meet the criteria of sites continuing to utilize intervention programs despite empirical data that the programs are ineffective. Qualitative data was acquired utilizing two interviews and responses to a Sample Scenarios sheet.

The literature review in Chapter 2 provided the foundation for the methodology of the study. It further established the framework for the key themes of Sunk-cost, Escalation, and Prospect theories. Interpretation of these theories from prior research was used directly in the analysis of this study's data.

Chapter 4

The purpose of this chapter is to summarize interview data gathered from the two educational administrators who agreed to serve as subjects for this study. In addition to soliciting their perspectives on why local educational administrators continue to champion programs they know or may not recognize to be ineffective, the subjects were also asked to respond to sample scenarios designed to elicit their perspectives on three theories of irrational behavior. Since these administrators are required to operate within the decision-making framework afforded by NCLB and the regulations related to this legislation promulgated by U.S. Department of Education and the California Department of Education, and since there are irrational elements embedded in these regulations, when possible I've attempted to identify those occasions when the predictably irrational behaviors of these subjects are further compounded by the irrational character of some of these State and Federal regulations. The requirement of NCLB that all students at all grade levels advance towards proficiency at the same rate is an example of this irrationality. A more rational model would have recognized that annual yearly progress (AYP) rates need to be sensitive to the grade-levels and prior educational experiences of different segments of the population, and different stages of their school careers. I explore this issue more deeply below.

I began selection for these inquiry processes by utilizing the California Department of Education's database to recognize elementary public schools in Northern California that had API scores around 750 – 850. The rationale for this selection criterion was that schools within this API range would have student populations requiring intervention but would not be mandated to use specific programs as they would not be placed under sanctions.

Upon identification of prospective schools, the researcher contacted numerous sites to inquire about their current intervention programs. Surprisingly, while several schools contacted were not identified as sanctioned school sites, a majority of sites had mandated programs by the district. From further inquiry, it was determined that these districts typically had some schools under sanctions and therefore required all schools in their districts to function under the same guidelines. In those cases, the districts mandated schools to utilize specific programs; for that reason, further investigations through the lens of this study were not appropriate. The researcher identified schools in districts that still allowed site based, programmatic decision making.

School Profiles

In the tables that follow, the demographics and California State Testing data for the two sites identified for participation are discussed. It is important to note that the API scores discussed are the common language utilized by California schools to measure progress towards achieving AYP goals. While schools may not achieve their AYP goals yearly, California bases sufficient achievement on steady gains made by the API goals established by the state. Therefore, if the schools show steady API gains, they are assumedly on track to meet AYP goals according California's guidelines.

Site 1. Site 1 is an elementary school located in a school district serving approximately 30,000 students. According to the school's 2009-2010 School Accountability Report Card (SARC), the school population consisted of:

Table 3.
Site 1 Demographics based on 2009- 2010 SARC

Group	Black or African American	American Indian or Alaska Native	Asian	Filipino	Hispanic or Latino	Native Hawaiian/Pacific Islander
Percent Enrollment	4.3%	1.5%	8.9%	6.6%	28.7%	1.3%
Group	White	Two or More Races	Socioeconomically Disadvantaged	English Learners	Students with Disabilities	
Percent Enrollment	45.4%	3.3%	34.5%	18.8%	15.5%	

The demographics at Site 1 are not representative of the overall state student population as suggested in Figure 1. Specifically, it indicates there is a far higher White population of 45.4% versus the state average of 27%. Additionally, it has a far lower Latino/ Hispanic population at 28.7% versus the state average of 48.5%. Site 1 also has a smaller socio-economically disadvantaged population at 34.5% when compared to the state average of 51.7%. It is important to note that sites more representative of the state's population typically were already in sanctions and did not have site based programmatic decision making and were therefore inappropriate choices for this study.

In 2009-2010, the school's API was 809. Site 1's API over the past four years was:

Table 4.

Site 1 API growth from 2006-2007 CST data to 2009-2010 CST data

Year	API	Gain/Loss
2006-07	873	-9
2007-08	812	35
2008-09	798	-14
2009-10	809	12

This data suggests that while there were years of positive growth, there were also years of negative growth. Over four years, a gain of only 24 API is recognized. While a gain of 24 points might indicate success, the fluctuations between losses and gains in alternate years does not indicate meeting positive growth targets according the CST goals set forth by the California Department of Education.

Site 2. Site 2 is an elementary school located in the same large district as Site 1. According to the school's 2009-2010 SARC, the school population consisted of:

Table 5.
Site 2 Demographics based on 2009- 2010 SARC

Group	Black or African American	American Indian or Alaska Native	Asian	Filipino	Hispanic or Latino	Native Hawaiian/Pacific Islander
Percent Enrollment	3.7%	0.5%	5.0%	7.6%	37.4%	0.5%
Group	White	Two or More Races	Socioeconomically Disadvantaged	English Learners	Students with Disabilities	
Percent Enrollment	44.2%	2.4%	39.5%	27.9%	18.2%	

Similar to Site 1's student demographics, Site 2's demographics were not indicative of the overall state of California's student population. As previously mentioned, schools that were representative did not fit the profile for this study, as they were typically under sanctions already and lacked localized decision making. Both sites had similar demographics except with regards to the Latino/ Hispanic and English Learner populations. Site 2 had approximately 10% more Latino/ Hispanic students as well as roughly 10% more English Learners. This data suggests an additional element of programmatic decisions as site 2 has larger Latino/ Hispanic and English Learners target populations for test score gains when allocating resources to the school population as a whole. While this need for potential higher resource provisions to meet the needs is suggested, it was not fully addressed in the data attained as the focus was on meeting the needs of the general population versus targeted groups.

In 2009-2010, the school's API was 810. Site 2's API over the previous four years was:

Table 6.

Site 2 API growth from 2006-2007 CST data to 2009-2010 CST data

Year	API	Gain/Loss
2006-07	807	-16
2007-08	764	-37
2008-09	805	43
2009-10	810	5

This data suggests there was an element of positive growth totaling 27 API points. However, similar to the overall gains recognized in Site 1's CST data, the instability between losses and gains over the 4 year span years did not meet positive growth targets according to the California Department of Education's CST goals.

Both Site 1 and Site 2 provided similar demographic scenarios so similarities and contrasting data between decision makers allowed the researcher to delve more deeply into the different nuances of the decision makers' rationale without needing to consider drastically different populations.

Identified Site's Data Acquisition and Analysis Process

Upon identification of a sample of prospective schools, inquiries were made about their intervention strategies and programs for students thought to be in need for targeted supplementary assistance. As potential sites were identified based on length of program implementation, the researcher reviewed the sites' 4 year CST data to determine if the sites had steady growth. If the schools had steady growth, this would suggest that the intervention program was effective. If the school had little or fluctuating growth, this would suggest that the intervention program was ineffective; those sites would be identified to request participation in the study.

Data was acquired through interviews and written responses to a Sample Scenarios sheet. Interview data was transcribed using the Dragon Systems natural speaking software. Minor discrepancies in the speech recognition software records were corrected by the researcher while concurrently listening to the recorded interviews and reading transcriptions.

The researcher analyzed the transcriptions and Sample Scenario responses. In the analysis, the researcher noted and coded representations of decision making as influenced by the Escalation theory, Sunk-cost theory, and Prospect theory discussed in Chapter 2.

As previously discussed, programs in schools were identified as "not effective" if the schools did not exhibit steady, positive growth on the CST. Additionally, these schools needed to be utilizing a non-mandated intervention program for at least three years. Chapter 4 explores the probable irrationality of AYP goals and its potential effects on the possibility of making rational decisions within an irrational model. Following these subsections is a discussion of responses by the decision makers in the sense of program success. Through an analysis of the findings, I will then explore the decision makers' responses looking specifically through the lenses of Escalation, Sunk-cost and Prospect theories. Finally, this chapter will explore the lessons we can learn from evidence of the influence of these theories on the decision making process in schools.

The questions specifically addressed in the study include:

1. Why do educational administrators and other stakeholders fail to recognize an ineffective program and initiate change?
2. How are these failures to recognize and act on program change explained by Escalation theory, Sunk-cost theory, Prospect theory, and identified assumptions.

3. What lessons can we learn from theories of irrational behavior with regards to decision making in the school setting?

Site Decision Makers' Profiles

The following is a description of the identified decision makers, in respect to their position as a decision maker.. Through this description, I hope to identify similarities and differences between the decision makers' rationale and preliminary contributing factors that may influence the choice to continue with failing programs. Additionally, the researcher discusses the decision makers' rationale regarding the principals as the only decision makers with regards to the choice to maintain the identified programs.

Site 1. The administration at Site 1 has been the principal for the past eight years. She has implemented the Read Naturally program at Site 1 for four years. The Read Naturally program is a targeted (pull out) intervention program. While inquiring about additional stakeholders regarding the decision to continue implementation of the program, she indicated that she was the decision maker who continued using the program.

Site 1 principal noted that the culture of the school upon her arrival eight years ago was to have parents work in small groups with students who were having a difficult time with reading. She noted that this format was very much like a parent reading with a child. With enrollment drops came a drop in parent participation. There was a small group of teachers that worked with the principal to identify programs that would provide a similar support but were more research based. After identifying the program, the site utilized its general funds and purchased the basic program. Teachers oversaw the program and parents implemented it.

While Site 1 Principal notes that other teachers were instrumental in implementation of the program, she did not think they played an active role in determining whether or not the Read Naturally program would be continued. She indicated that as long as she thought it was making a difference, they would not discuss it. When asked directly about other decision makers participating in that discussion, Site 1 principal noted:

No, we don't [have that discussion]. And that's interesting that we don't.

She further elaborated that there are so many things to discuss with the staff that they just don't have time to discuss everything. Consequently, this principal would be the only stakeholder deciding the program's sustained use.

Site 2. The principal has been at Site 2 for the past six years. The Language! program has been implemented for the past four years. While the Language! program is a mandatory intervention program identified by the district for the English Learner (EL) population, it is not mandated for the non-EL population. This program has been utilized for the past four years to meet the needs of the non-EL struggling students. This program was implemented at Site 2 following the curriculum replacement model. Initial identification to use the Language! program occurred following program piloting at other schools sites and based on those sites' impressions that it was successful (it was not indicated if this was empirical or observational evidence). The Principal of Site 2 indicated:

We had to have an intervention program during the day so we just, unfortunately, just did it. There was just a small team of people who decided to try it [based on hearing the feedback], get trained and then they just implemented it.

While the principal did identify two other faculty members as decision making stakeholders in continuing use of the program, in meeting with those individuals, it became apparent that they did not see themselves as the decision makers regarding the decision to continue use of the program. Therefore, similar to what occurred at Site 1, the primary discussion of the decision to continue use of programs despite empirical evidence that they are not effective was based on the key identified stakeholders/ decision makers from the two sites, the principals.

Evidence of Irrational Thinking by U.S. Department of Education and California Department of Education the Development of NCLB Goals

As first introduced in Chapter 2, Table 2 (Gifford, in process) presents the potentially irrational model of student achievement goals as interpreted by the state of California and suggests the influence of such an irrational model as hindering the potential to create rational decisions within the irrational model.

Table 2.

Annual Yearly Progress Proficiency Goals for Students with Regards to State Testing

Year	Grade 3	Grade 4	Grade 5	Grade 6	Grade 7	Grade 8	High School
2001-02	14%	14%	14%	14%	14%	14%	-
2002-03	14%	14%	14%	14%	14%	14%	11%
2003-04	14%	14%	14%	14%	14%	14%	11%
2004-05	24%	24%	24%	24%	24%	24%	22%
2005-06	24%	24%	24%	24%	24%	24%	22%
2006-07	24%	24%	24%	24%	24%	24%	22%
2007-08	35%	35%	35%	35%	35%	35%	33%
2008-09	46%	46%	46%	46%	46%	46%	45%
2009-10	57%	57%	57%	57%	57%	57%	56%
2010-11	68%	68%	68%	68%	68%	68%	67%
2011-12	78%	78%	78%	78%	78%	78%	78%
2012-13	89%	89%	89%	89%	89%	89%	89%
2013-14	100%	100%	100%	100%	100%	100%	100%

(Gifford, in process)

As previously mentioned, the AYP goals anticipate that regular, steady gains will be made regardless of specific needs both academically and developmentally that may exist at the different grade levels. Regardless of this possible incongruency students' needs versus academic test score gains, this model has become the cornerstone of programmatic decision making throughout California schools.

Throughout the interview process, indication of the influence of this model was evidenced. Specifically, numerous references to the pending threat of sanctions regarding the need to increase student achievement scores were mentioned. For example, in one interview, Site 2 principal commented:

For example at a recent staff meeting we went over [that the district] is probably in its year 1 of being PI district so went over the instructional minutes. Principals had to go and meet with a team and they discussed instructional minutes and what people are going to be looking at. And we don't do, we're supposed to be doing 15-30 minutes of intensive minutes of math intervention a day.

The recognition of designated content area instruction minutes, despite student's needs, was not questioned by the principal, but was instead interpreted as a way to minimize her sense of responsibility to the programmatic decision making and perhaps encourage her staff to move away from the failing program. She did not, however, mention the possible negative outcomes of delocalized decisions.

On numerous occasions, principals referred to the AYP/ API goals as a highly influential factor on decision making. They often justified decisions as targeting students below "proficient and advanced". While it is of concern to increase student achievement, conversations of justification of the program choices, either positive or negative, were made in reference to the AYP/ API data, even though empirical data suggested otherwise.

An additional focus was to move students scoring below proficient or advanced by focusing on students on the "edge of the bubble" between basic and proficient. This is a commonly used technique by many schools to show quick student achievement gains. It does however, create further problems as the students functioning below the "bubble" continue to stay below; this creates a larger achievement gap in upcoming years. In justifying the Read Naturally programmatic choice, Site 1 principal noted:

...it is a research based program that shows the data that it does improve fluency – more in fluency than in comprehension. It's those children are right on the cusp that need the fluency so they can start comprehending.

An additional element as noted by Site 1 principal was that her school was a site identified as an "NCLB receiving school". This status required her site to accept populations from schools identified as underperforming based on parent requests. While this may appear to be a successful approach to having students attend continually struggling schools, it has created a challenge at Site 1, as it has begun to see a change in its population. Consequently, decisions made for its past school population are no longer appropriate, as they are constantly changing.

Of particular interest was the lack of comments by the principals suggesting the model was irrational or the goals unattainable. Instead, the principal appeared to accept the goals to be followed with little questioning of their achievability.

Based on the overall irrationality of the AYP model as well as the consequences that have emerged in response to meeting the needs of this model, it is questioned if the opportunity exists for decision makers to actually have the opportunity to make rational decisions while under the influence of a potentially irrational model. While this question is not the focus of this study, it is difficult not to bring this possible influence to the reader's attention. Consider that the decision makers may be functioning under an irrational model. We now explore their responses about program success and explore evidence of the theories of irrational decision making through the lenses of Escalation, Sunk-cost and Prospect.

Decision Makers Sense of Program Success

Site 1 principal suggested that the program has made quite a difference. When asked about fluctuating CST growth/ losses over the last several years, she indicated that she thought other programmatic changes could very well have been the reason for the gains/ losses. Additionally, she noted that her school has a more recent issue with transiency that she indicated has also affected CST scores.

When asked specifically about individual student gains as a result of participating in the program, she noted that Read Naturally is based on a level system. Growth is noted when students make two levels of growth. As soon as a student makes two levels of growth based on the program associated worksheet, the student is removed from the program to accommodate another student.

On the other end of the spectrum, Site 2 indicated that the program has not been effective for the targeted non-mandated students. Students enter in the Language! program for a year-long commitment. They are only formally assessed with the Language! program yearly. When asked about growth on the CST, she noted:

It affects some but it doesn't affect all. I've seen kids maybe go up one level, nothing huge. Maybe they'll go from Far Below Basic to Below Basic – they might go one. Or, I've had kids flatline or go down. It's not been consistent.

While she thought the program had certain beneficial components, in comparison with other intervention programs, it was not the strongest she had utilized in the past at other schools. Furthermore, the program is designed to be conducted during the students' core reading time, thus creating a situation where the students were missing grade level appropriate core instruction. The principal indicated that this was of significant concern as the school did not have any plan to help students later receive that missed content. She thought that this may be a key reason why the students were not progressing academically.

Over the course of the four year program implementation the principal noted that the program had been adjusted to fit into the larger daily schedule and had consequently been cut down from a 90 minute per day program to a 45 minute per day program. She noted that after class size reduction was eliminated two years prior in her district, they no longer had the staffing to effectively conduct the program. She lamented:

So, we aren't even doing it right anymore. And it costs a lot of money, and it seems like a waste.

She noted that, at this point, the Resource Specialist and Speech Therapist are the individuals teaching the intervention sessions. She thought they probably believed it was successful. Site 2 Principal stated that she would need to begin a discussion with the staff next year about discontinuing the program since she is not seeing success.

Both sites have similar experiences with gains and losses. It is of particular note that both sites have a myriad of programs intended to meet students' needs both at the core and intervention levels. It is a challenge to separate the influences of these program as well as other factors to determine impact. Despite this challenge, Site 1 and Site 2 principals have chosen to continue with programs that, even as part of a larger academic program, are not demonstrating empirical evidence of success according to the CST scores over the past four years.

Frequency of Responses Representing Evidence of Escalation, Sunk-cost, and Prospect Theories

The following chart notes the frequency of responses indicating evidence of falling into the targeted traps following review of the two interviews and sample scenarios.

Table 7.

Frequency of Responses by Theory

Theories	Site 1	Site 2
Evidence of Falling into Escalation trap	3	4
Evidence of Falling into Sunk-cost trap	9	12
Evidence of Falling into Prospect trap	5	12

Of particular note is that Site 2 principal acknowledged that the program was failing. It was easier to identify evidence of falling into the traps as she was specifically recognizing why she thought she had stayed with the program. This was significant information as it presents evidence of rationales that may be more difficult to identify if the principal simply maintains that the program is effective. Site 1 principal is an example of this latter perspective. However, while Site 1 principal thought her program was effective, when she did elaborate on rationale via interview questions and sample scenarios, evidence of falling into traps was apparent.

It is also of particular note that there was far more frequency of falling into the Sunk-cost and Prospect traps at both sites. It is important to also note that similar responses repeated throughout the interviews increased some frequency counts. A deeper analysis of all three theories as well as suggestions regarding the higher frequency of responses in Sunk-cost and Prospect Theories follows.

Escalation Theory Applied to Decision Making Responses

Escalation theory suggests that often decision makers feel compelled to pursue a course of action as a sense of personal obligation. Site 2 principal noted a personal sense of obligation to the decision to continue the program since she introduced it to the school. She recalled:

I just wanted it to work and here I'm saying 'let's go and do this' and I sent everyone out there and maybe a little bit of, you know, well, some people have a hard time admitting they haven't done something right.

Similar to her own sense of personal accountability, it was her notion that the faculty also did not wish to consciously acknowledge that the program was not working. In the course of the interview, she shared that the faculty, while still stating that they thought the program works, was

pulling back on implementation. When asked about why she thought they were diminishing the practice, she stated:

I don't think that they're saying 'oh this doesn't work, we don't want to do it', I think it's just kind of naturally happening.

In her reflection on the sample scenario during the interview, she also noted the possible decision of that principal to continue program usage due to personal reluctance to admit the program is not working.

When asked if she ever needed to justify the use of the program to a supervisor or the superintendent, she indicated that she was never accountable to answer regarding this particular program. She further added that, while the program was not mandated, the district was supportive of the program in numerous schools and this support may indeed be an additional reason why she did not feel pressure to address it at this time.

Related to Site 2 principal's exhibition of Escalation theory, Site 1 principal had a strong example of the sense of personal responsibility. While this example does not demonstrate falling into the Escalation "trap", it demonstrates the influence of the role of personal responsibility. While Site 1 principal maintains, despite a lack of empirical CST data, that the Read Naturally program was successful, she shared an experience with the implementation of the Language! program. This is the same program examined with Site 2.

Site 1 Principal indicated that they implemented the Language! program, with full fidelity, for three months. Following those three months, she reviewed the students' Language! assessment data and found there was little to no growth. She further noted that the programmatic grouping requirements resulted in student groupings comprised of students with significant behavior concerns. Additionally, she thought the scripted format and low interest materials added to the poor response. After the three month period, she informed her district they would no longer use the program. She indicated that the district was not supportive of this decision. She recalled:

The district had hired a specialist to help sites implement [Language!]. So she was just going to do me in and went to the Assistant Superintendent and [she] said it's only been three months and how can you tell whether or not a program is working only after three months?

To that, Site 1 Principal responded:

I see them regressing because their self confidence, they don't feel good, and then so the data doesn't show it's doing a darn thing for these children.

She further discussed the strong, negative response from the district was not supportive of her stance that the program was not working but that she felt a great sense of responsibility since she introduced it to the school. Concerns from teachers indicated that they were feeling the program was not beneficial based on their day to day experiences with students. When discussing that teachers shared concerns regarding the program, Site 1 principal further shared she felt responsibility for bringing in the program. She noted:

...that's why I went in because the Resource Specialist was doing the teaching of it. And she said 'I am not seeing this working'. So I said 'let me come in and teach it'. And then I said 'ok give them the post assessment and let's see'. But absolutely, bringing it in and [it was a failure].

When asked about how admission of a poor choice is received by the district, Site 1 principal responded:

Admission of something's not working isn't seen as good thing.

This response suggests that the culture within the school perpetuates the tendency to fall into the Escalation trap despite the decision maker's possible identification that the program is ineffective. Comparable to the previous suggestion that the AYP model creates a situation where it may be impossible to make rational decisions within an irrational model, this culture could also create a similar predicament.

Site 1 principal's example of not falling into the escalation trap is further substantiated by her responses to the written sample scenarios. Despite "low or high" investment and "self or other" decision makers, Site 1 principal consistently indicated the venture needed to be discontinued. She thought that it was not worth continuing a venture that, in her opinion, did not provide any value to the individuals. Furthermore, she indicated that the "self" decision maker in scenario 1, Agatha, probably saved up for the cello and lesson with her own money, so she should:

...stop before she wastes any more money. She should stop the lessons and sell the cello.

This response suggests Site 1 principal thought the decision maker should not feel a sense of personal responsibility with regards to deciding to continue with the venture; instead, the decision maker should consider the potential loss of funds to possibly pursue another, more favorable, venture.

Site 2 principal demonstrated a distinction between the evidence of escalation theory with regards to field related decision making versus non-field related decisions. In the non-field related scenarios, she suggested the decision maker discontinue the venture. However, for the other field-related scenarios, she suggested the decision makers analyze the venture but ultimately continue to utilize it. She did not specify that the decision to continue may be based on personal responsibility or the initial investment. Therefore, her reasoning may be an example of escalation or sunk-cost theories in action (sunk-cost will be discussed in the following subsection). Regardless of the specific theory, responses suggest that field related versus non-field related decision making presented a more vulnerable situation for the decision maker to possibly fall into a "trap".

These responses substantiate that escalation theory as defined through personal responsibility certainly influences the decision making process in education. While exhibited differently with both decision makers, the tendency to fall into the escalation trap based on sense of personal responsibility is supported, particularly in the field.

Sunk-cost Theory Applied to Decision Making Responses

Sunk-cost theory suggests the decision maker will decide to stay with a failing venture due to previously incurred costs. These costs can be financial or time invested.

When asked about financial influences on the decision to continue the program, Site 2 principal indicated that the program was extremely expensive and training was time consuming during initial implementation. While this was a not a recurring expense, nor did it need additional funds, she thought the initial site based expense was significant enough to justify continuing the program for the last few years. She stated:

It was a lot of money. So once we spent that we thought, we need to give it a shot for more than a couple of years because sometimes, it takes time implementing a program properly.

When later reflecting on the ineffectiveness of the program, she lamented:

And it costs a lot of money, it seems like a waste, sorry.

This was further substantiated in Site 2 principal's response to the interview scenario. She indicated that the scenario's principal chose to continue with the program because of costs and time initially incurred. In addition to previously noted reasoning, she suggested that discontinuing the use of the program could demonstrate a "devaluating" of the faculty's work and time. Furthermore, Site 2 principal recommended that the decision makers maintain the ventures in written scenarios 2 – 4 due to time and money invested. While contradicting her reasoning for written scenarios 2-4, Site 2 Principal's reasoning for discontinuing the venture in written scenarios 1 was justified by what she indicated as:

...short time investment and relatively low financial investment. She can keep the cello in case she is interested in the future.

This would suggest that the perception of "low or high" investments is a factor considered in maintaining failing ventures.

Sunk-cost theory does not always refer to acknowledgment of incurred financial expenses or time and personnel but can also be a justification if the continuation of the venture is, according to the decision maker, justified by an alternate gain, such as personal preference or relationships. In the case of Site 2 Principal's decision to continue usage of the Language! program, she indicated:

Honestly, I just left it alone. I know that's horrible but I thought, I'm not dealing with it this year... I will admit, there were just so many other things going on. The teacher's are happy doing it.

In discussing the decision to implement the Read Naturally program, Site 1 principal noted that the initial decision to implement the program came from the staff. She noted:

It was primarily the teachers that wanted it and then I brought it forward to [Site Council].

She implied that the staff's desire to implement the program was highly influential on her decision to continue implementation of the program. A reoccurring theme between both sites was the need to maintain high faculty morale. Decisions that would contradict faculty wishes were avoided or delayed. This element of the complex nature of schools could contribute to irrational decision making.

Contradicting Site 2 principal's exhibition of Sunk-cost theory by deciding to continue the program based on the aforementioned reasoning, Site 1 principal demonstrated an example of not falling into the Sunk-cost "trap" in her account of the decision to discontinue the Language! program. Of significant note in this example of avoiding the Sunk-cost "trap" is that the program was not purchased by or initially for Site 1. The principal indicated that the materials were purchased by another site that chose to no longer use the program. In further discussion with the principal, she noted that while time was invested in training and implementation, the fact that school designated funds were not involved and that the staff was clearly experiencing the behavioral issues during instruction, it was an easy decision to not continue, despite the negative reaction at the district level. She recalled:

It was awful. I didn't see any growth in the pre test and post test after the 3 months...And it's every day for 50 minutes.

This creates a significant observation pertaining to the impact of financial obligation and decision making as it relates to Sunk-cost theory. Additionally, the short amount of time dedicated to the program along with the faculty's negative response to student behavior on a day to day basis, may mitigate Site 1 Principal's decision to maintain use of their program due to time and personnel resources invested. While Site 1 principal does note the students were not progressing, she did not indicate that this data was brought to the faculty. Based on her previous discussions regarding data review, it was inferred in our discussion that she looked at it alone to substantiate her decision.

Complimenting Site 2 principal's response to the interview scenario, Site 1 principal indicated that the scenario principal most likely decided to continue use of the program as a result of incurred cost. She noted in her response to why the principal would continue:

That there's money involved. And it would be pretty tough to go to Site Council and to say this is what we used [the school funds] for and it's not working. I would think that would be the most difficult. And if it's a big chunk of change, there'd be a lot of questions...that's the only reason I would think she'd move forward with it.

While Site 1 Principal suggested that financial obligations were strong influencers in decision making, this was contradicted in her responses to the written scenarios. Site 1 principal recommended all ventures be discontinued citing that they were not effective or advantageous to the target group. One exception to abandoning invested monies was the response to written scenario 3. This scenario indicated that materials for the venture cannot be returned, sold, or thrown out. The subject was deciding to continue skating following receipt of an expensive pair of skates. Site 1 principal suggested the subject keep the skates in case she may wish to use them in the future. This could be attributed to the "high" initial investment, but it could also be due to the information that the investment (skates) could not be returned nor sold.

It appears clear that financial investments and time invested are strong deciding factors influencing Site 2 Principals' decision making. Based on the different scenarios, it is difficult to determine these influences in Site 1 Principal's decision making. In careful evaluation of her responses, it appears that the factors are strongly considered but, as demonstrated, there are numerous examples where Site 1 Principal avoids the Sunk-cost trap (in contrast with Site 2 principal's tendency to be highly influence by the factors). This adds understanding to the data provided in Table 7 suggesting that Site 1 principal showed less frequency in falling into the Sunk-cost trap. While it was not evidence of falling in to the trap, there was recognition by Site 1 principal of the trap itself, though avoided. This poses the question concerning what were the significant conditions that allowed Site 2 principal to avoid this trap as it pertains to financial and time investments. The different conditions could not be determined in the scope of this study as it appeared similar conditions were represented in the various scenarios. While not the focus of this study, perhaps a deeper study regarding philosophical perspectives and leadership styles would illuminate this phenomenon.

Both Site 1 and Site 2 principals suggested that the influence of "alternate gain" heavily weighting their decisions. Both sites indicated that the faculty's feelings and attitudes towards the program, despite any formal conversation, were deciding factors.

Consequently, it is evidenced that the risk of falling into the sunk-cost "trap" is supported. There is evidence, while varied, of the influence of financial and time investments. Consistently, the influence of "alternate" gain in the form of staff approval and support is strongly represented.

Prospect Theory Applied to Decision Making Responses

Prospect theory suggests that the decision maker may choose to continue a failing venture by "framing" the status of the current situation, or potential value of continuing the program, to justify the decision. It can be interpreted that Site 2 principal has shown evidence of prospect theory through framing the decision to continue. Site 2 principal thought that she was justified to continue use of the program since the faculty seemed to feel supportive of implementation. She commented:

Because the people teaching it feel like it works.

While this could also be considered representation of Sunk-cost theory through "alternate gains", it could be a justification for her choice based on assessment of the larger school needs. She further discussed that while they do seem to support the program, it appears they are "subconsciously" pulling back, as yearly they seem to be working with fewer and fewer students. The principal did not seem concerned with this practice as she allows her faculty to identify the students in need of the services. She did note the concern that only 12 students were currently being served, and she knew more students required interventions. This explanation suggests that, while she acknowledged the program was not successful, she is justifying the choice to continue by recognizing it is slowly discontinuing itself. This would create a situation where she did not need to approach the staff about discontinuing a program, and possibly adversely affect the rapport with the staff, and instead let it discontinue "itself".

Site 2 principal further suggests the misconception of effectiveness during the first year of implementation. When reflecting about the current effectiveness of students in the program, she remarked:

They might go up one. Or I've had kids flatline or go down, it's not been consistent. Does that make sense? It's been all over the place. Our first year we thought they were going up more, but I don't think so.

This suggests that other factors may have “framed” the principal’s perception of gains, particularly during the first year. While it cannot be determined what those contributing factors were, it can be interpreted based on her response that participation in the program that first year was not effective.

Despite the lack of CST evidence indicating academic progress based on the Read Naturally program, Site 1 principal maintains that it is making a difference. Despite empirical evidence, she noted on at least 5 different occasions during the interview:

It really works. Students are really improving.

In our interview, she referred to the impact of a separate district mandated reading intervention program and the empirical evidence it has of positive effects on student academic gains. She noted:

For 2nd and 3rd graders we do the Reading Support Intervention Program, a phonics based program, we do for students who just can't read. It's part of the Houghton Mifflin program and students are really progressing on district assessments.

While the conversations did not note the CST results, of specific note is the detail to which she discusses the effects of this program in contrast to her discussion regarding the empirical evidence related to the impact of the Read Naturally program. Evidence based on the latter program was founded on results of the assessment created by Read Naturally as opposed to the larger scope of school assessments.

This would suggest that there are other factors framing Site 1 principal’s decision to maintain the Read Naturally program. As previously indicated, the staff does not actively engage in looking at gains in academic scores according to school/ district/ state based tests. This suggests the program may have been continued based on other factors that could lend themselves to the application of Prospect theory. In the interview responses, it can be assumed that this may be based on perceived benefits and, almost more significantly, the benefits of staff programmatic support. This would be consistent with Prospect theory’s “trap” resulting in the inclination to maintain a program based on perceived future benefits of student gains and staff support, despite lack of empirical evidence.

Further supporting evidence of framing was Site 1 principals’ indication that low CST scores could be due to an increase in transiency and the implementation of other programs that she has felt were not effective. She noted:

It's become more transient. There's Section 8 housing behind the [restaurant] that's part of our neighborhood and since, after the Winter Break, we have 14 new children at our

school - for the first time... And we're also an NCLB receiving school... It happens, I don't have any statistics. Increasingly each year. Where they're here and they're gone. In November they're gone, then they're here.

Without careful empirical review of the impact of these factors, it is difficult to determine the effect on CST scores. To that, it can be suggested that this information is being used as justification to continue use of a program despite empirical evidence that the program is not effective.

While evidence of Prospect theory was not evidenced in written scenarios 1-4, responses to written scenario 5 indicated evidence of "framing". When posed with the choice to purchase dictionary software for \$500, hard copies for \$1000, or a software and hard copies combination for \$1000, both principals indicated they would purchase the software and hard copies combination.

Site 2 principal indicated that both would be advantageous since they did not have enough computers to accommodate all students. Therefore, that rationale does not demonstrate the Prospect theory "trap". Site 1 principal indicated that they currently didn't have any space for dictionaries and that the sets they had were just "taking up space". However, when posed with the decision, she indicated she would take the software and hard copy combination because she thought it would provide more options. This contradicts her earlier statement about the available space for hard copies suggesting the "framing" of the purchases was a contributing element to her decision.

There is support for the perception that the Prospect theory has an impact in decision making of the case studies. There was a strong tendency to "frame" the situation to justify the decision to continue with the program. Of particular note is the overall shared belief of most educators that students will not show academic achievement until three years into program implementation. While this may not be shared by all at all times, it is a common belief that can contribute to the Prospect theory trap. If no achievement is seen after three years, often poor implementation is indicated, versus programmatic concerns. Consequently, "framing" is utilized to both excuse poor empirical data and justify failure after finally abandoning the program.

In the analysis of the data, primarily due to the dynamic of the complex organization of the school setting, it is difficult to separate out influences to determine cause and effect. Consequently, the practice of identifying a myriad of confounding and extraneous variables was utilized to justify decisions.

Lessons Learned from Irrational Decision Making

Analysis of the data collected from the decision makers from Site 1 and Site 2 indicate clear representation of the presence of Escalation theory, Sunk-cost theory and Prospect theory in practice.

Examples of Escalation theory through sense of personal responsibility have been strongly demonstrated both through examples of falling in the "trap" and avoiding the "trap". It appears that there are numerous layers pertaining to the sense of personal responsibility in the school setting. Decision makers indicated varying senses of responsibility to staff and upper management. These influences strongly impact each other as the decision maker may feel

conflicted between sense of personal responsibility to staff over upper management, and vice versa, dependent upon the support provided by both groups.

A strong indication of the Sunk-cost was also evidenced in the analysis of the data. Both elements of financial and time investments were considered in interview questions and sample scenarios. While responses varied to demonstrate examples of falling in to the “trap” and avoiding the “trap”, it was clear that the influence was substantial. Of particular interest was Site 2 principal’s inclination to recognize, yet not be as affected, by the influences of financial and time investment. It is possible that the other factors indicative of Escalation or Prospect theory may have had greater influence, or that she simply was able to avoid the “trap” due to previous experiences and perspectives.

Very clearly supported by both Site 1 and 2 was the influence of Sunk-cost by means of “alternate gains”. It was strongly suggested that compliance and support of staff was a critical deciding factor in continuance of a program. This suggests that the dynamic of gaining and maintaining staff support is highly influential in coloring decision makers’ choices to continue usage of a failing program.

There were also indications of Prospect theory at both sites. While there were examples of “framing” decisions to justify less than optimal choices, the “framing” described typically included reasoning that could be associated with Sunk-cost theory. However, due to the multiple, variables that contribute to a students’ academic progress, it was a common practice to refer to these other variables as ways to explain the lack of consistent CST gains despite a lack of empirical evaluation of the particular programs. This creates a tricky situation in that it is difficult to suggest programmatic cause and effect with regards to student gains. However, it does suggest that school programmatic decisions are not regularly evaluated. Instead, it appears specific programs within the larger program are identified for evaluation when there may also be other programs that are not effective, contributing to the poor results.

Additionally, there was evidence suggesting that the tendency to fall into a “trap” was field related. Site 2 Principal did not indicate evidence of the theories when posed against non-field related scenarios. This suggests the “rational” thinking is present but is possibly influenced by the decision maker’s role and experience in the field.

Of significant interest is the change in the decision makers’ attitude towards their practices through the course of the interviews and written experiences. Site 2 Principal decided in the course of her interview that she needed to begin the discussion to discontinue use of the Language! program for the upcoming year. While Site 1 Principal still maintained that the Read Naturally program was effective, she did indicate that she needed to involve her staff more in reviewing program results and deciding to continue usage of programs. This noteworthy finding suggests great application to practice. The case participants’ comments indicate that the reflective interviews and scenarios focused on identifying Escalation, Sunk-cost and Prospect theory’s “traps” helped the decision makers reflect on their own practices and, accordingly, identify possible examples of both falling into the “traps” and avoiding the “traps”. While we suggested the hindrance or, perhaps, impossibility of making rational decisions within the previous suggested irrational model of AYP goals under NCLB, this change in decision makers’ attitudes implies the possibility of mitigating an irrational mandate through awareness of potential traps.

Chapter 5

Creating and maintaining change is a challenge in both uncomplicated and complex organizations. Further compounding these challenges is the potentially irrational nature of the organizations and mandates imposed upon those initiating change. The irrational goals set forth by the State of California's AYP targets, in response to the federally mandated NCLB, has potentially created a situation where it may be impossible to make rational decisions at the school or "street level". While the concept of the influence of irrationality within a larger organization or mandate was not the focus of this study, it became evident through a review of the literature and the data analysis. This recognition provided an perspective to the lens brought to this study.

A brief and opportunistic review of the history and progress of compensatory education programs, with a special emphasis on the rise of the complex educational interventions, suggested that we are unable to conclusively determine the effectiveness of specific intervention programs. While evidence of success was apparent, there was not a definitive consensus regarding effective intervention strategies or programs. Consequently, this inconclusiveness prompted an exploration of educational organizational structures and their influence on the decision-making strategies and behaviors of educational decision makers.

Through this lens, the complex nature of education's organizational structure was discussed. Utilizing Hatch's (2001) ecosystem model, we briefly explored the numerous factors impacting education's organizational structure. One instrumental member of the organization identified was the "street level" decision maker. Thus, factors that influence the individual decision maker's choices will have a powerful impact on the course of the decision.

As Barnard (1968) discussed, there is often an "assumption" that decisions will be rational. However, Ariely (2009) posits that decisions are often not rational and that irrational decisions can be predicted. Throughout the course of this study, there were numerous examples of what could be defined as "irrational" behavior. Further suggested by Ariely (2009), by identifying contributing factors to irrational decision making, it is hoped that future "irrational" decisions can be avoided.

Utilizing Ariely's (2009) concept of "predictably irrational" behavior, we further defined decision making theories through Escalation, Sunk-cost, and Prospect theories. Building on the three theories' foundations as related to the fields of economics and medicine, we suggested their application in analysis of decision making in the field of education.

The aforementioned research provided the foundation to investigate why educational administrators and other stakeholders continue to support chosen interventions, even in the face of empirical evidence that they are ineffective. Specifically, this study aimed to explore the following questions:

1. Why do educational administrators and other stakeholders fail to recognize an ineffective program and initiate change?

2. How are these failures to recognize and act on program change explained by Escalation theory, Sunk-cost theory, Prospect theory, and identified assumptions.
3. What lessons can we learn from theories of irrational behavior with regards to decision making in the school setting?

When exploring the decision maker's sense of program success, Site 1 and Site 2 represented two very different situations in which ineffective programs were maintained despite negative empirical evidence. Site 1 sustained that the program was effective while Site 2 acknowledged that the program has not been very effective. However, each site decided to maintain the program.

It could be suggested that the decision to maintain these ineffective programs is irrational (Ariely, 2009). Analysis of the data suggested these irrational decisions could strongly be attributed to the influence of Escalation, Sunk-cost, and Prospect theories.

The decision to further allocate resources or maintain a current course of action due to a sense of personal accountability and responsibility (as defined by Escalation theory) was demonstrated to varying degrees in the study. Staw and Fox's (1977) position that decision makers do not acknowledge failure but instead pursue a higher level of commitment was demonstrated through Site 2 principal's decision to continue use of the program since she felt personally responsible as she introduced the program to the school. This was further substantiated by her response to the sample scenarios in which she felt the educator should continue use of the ineffective program.

Converse to Site 2 principal's representation of Staw and Fox's (1977) findings, Site 1 principal strongly acknowledged the role of personal responsibility but did not demonstrate it as a factor contributing to the decision to maintain a failing program. Instead, she suggested that personal responsibility influenced her choice to pursue termination of the program when she felt it was ineffective.

Since the selection of the program at each site was already a high level of personal responsibility, the most effective way to explore a lower level of responsibility was through the sample scenarios. Consistent between Site 1 and Site 2, the principals did not seem affected by the level of personal responsibility and were consistent in their responses. This finding supports Staw and Fox's (1977) suggestion that a lower level of responsibility would result in higher occurrences of abandoning the course of action.

Application of Sunk-cost theory was strongly represented in the study. Sunk-cost may be represented by a sense of time and money previously invested or other alternate gain, such as personal relationships (Bornstein, 199; Stam, 2007). The concept of time invested was a significant factor in Site 2 principal's decision to maintain use of the program. Building on her sense of personal responsibility (as a part of Escalation theory), she felt the teachers had invested a great deal of time and energy in training and implementation of the program. Similar to Site 1 principal's inclination to recognize the Escalation trap of personal responsibility but not "fall into the trap", Site 1 Principal shared a personal experience when she decided to discontinue what she perceived as a failing program before much time was invested.

Site 1 and Site 2 principals demonstrated strong evidence of decisions to maintain programs due to what Stam (2007) refers to as alternate gain. Both indicated that the faculty and school community's desire to continue with a venture was a significant factor. Site 2 principal's example of discontinuing a program due to staff disagreement about program effectiveness, despite district office pressure to maintain the program, illustrates the high level of influence of alternate gain.

While both Site 1 and Site 2 did suggest that money invested was a contributing factor in decision making, it appeared to be less significant when looking at all three aspects of Sunk-cost: time investment, financial investment, and alternate gains. However, as evidenced in analysis of the sample scenarios, the level of financial investment can contribute to the decision making. Site 2 Principal was inclined to suggest abandoning a venture when the initial financial investment was perceived as "low".

Similar to Saw and Fox (1977), Bornstein et al. (1999) suggested that decision makers were less inclined to continue with a failing venture when there was a low level of responsibility. As previously discussed, we did not see evidence of this phenomenon in this study. However, Bornstein et al. (1999) further posited that the decision maker will be less likely to maintain a failing venture when presented with decisions outside their area of expertise. This concept was supported by Site 2 principal's recommendations to discontinue failing ventures when presented with non-education scenarios. This suggests a higher vulnerability for educational decision makers to fall into "traps" when faced with decisions within the education field.

In addition to representation of Escalation and Sunk-cost Theories, decisions to maintain programs due to the influence of "framing" or "valuation" (Prospect theory) were evidenced in the findings of this study. As suggested by Kahneman and Tversky (1992), the framing elements of Prospect theory contributed to the perception of the situation where the decision maker may misrepresent less favorable results to make them appear more positive. These perceptions were a rationalization within the decision maker's thinking and not a purposeful, outward deception.

In an analysis of the data, there were numerous representations of "framing" and "valuation". For example, there was evidence that both Site 1 and Site 2 principals perceived the need to wait to see programmatic effects. Site 2 principal indicated that she perceived the program was effective under this premise only to later realize it was not.

Schools are complex organizations with a multitude of factors contributing to and detracting from students' daily experiences. These factors include school and community environments, programs, and teacher quality, just to name a few. In analysis of Site 1 and Site 2 principals' responses, it was not uncommon for a variety of these other factors to be noted as the main contributors to the students' lack of academic achievement. This could further be considered evidence of "framing". While it is not to be interpreted that the intervention program was the only contributing factor to poor academic achievement, it is of interest that Site 1 principal inclined to not consider the chosen program as a potential weakness but to focus only on other factors in the school.

Limitations and Implications

According to March, Sproull, and Tamuz (1991), a great deal of insight can be attained by exploring the experiences of even one organization. In this study, we explored the decision makers' rationale from two similar schools. The original design of this study anticipated approximately five decision makers from each identified site. Through informal discussion and interviews with the principals from each site, it became clear that other school community members were not involved in the decision making process on the identified intervention program – this resulted in a very small database. The opportunity to explore the rationale of other decision makers within the same school setting as well as from other perspectives in the school organization would have added to the discussion of theory applications. Therefore, future studies including more sites with more decision makers at various levels within the organization would provide a richer opportunity to examine similarities and differences about irrational decision making “traps”. Through this, common traps may be identified for future application.

Based on the two participants responses, it became increasingly apparent that, while some similarities existed between the decision makers' responses, there was also strong indication that one principal appeared to avoid “traps” more effectively. While the overall school demographics and demands appeared similar, the data suggested that there are other factors, such as personal philosophy and professional experience which may have had influence. A future study to incorporate data collection on these aforementioned factors may add deeper understanding to the elements that may be useful in avoiding decision making traps.

Site 1 and Site 2 principals' explanations of decision making suggested strong evidence of the influence of Escalation, Sunk-cost, and Prospect theories in action. It remains, however, difficult to draw clear distinctions to establish that one theory is more strongly represented than another. While limited to evidence provided by 2 case studies, the researcher concludes that we can certainly identify factors represented in the aforementioned theories that, when present, can contribute to irrational decision making. Interview and sample scenario tools that are more sensitive in identifying the theories in action could assist in flushing out the nuances between responses and add clarity.

I posit that irrational decision making as defined through Escalation, Sunk-cost, and Prospect theories is a contributing factor to the decision to maintain ineffective programs. Building on the foundations established from the review of the literature and based on this research project's findings, it is suggested that the following factors contribute to irrational decision making by decision makers in education:

1. Sense of personal responsibility as instructional leaders - this was particularly evident when the decision maker initiated the original exploration of the program.
2. Perception of time invested - this was significant when combined with the factor of “alternate gain” in relationships.
3. Perception of money invested - it is evidenced that the higher the investment, the higher the inclination to maintain the course of action.
4. Need for “alternate gain” – this was most significantly the need for the approval, support and compliance of the faculty and school community.

5. Inclination to “frame” results and outcomes to justify decisions – complex entities such as schools have numerous variables that can be referenced as contributing factors to poor programmatic results despite actual impact as represented by empirical data.

It remains challenging to separate out the numerous variables contributing to the complexity of determining the effectiveness of a specific intervention program. Due to the complex nature of the education field, this may be an insurmountable challenge to rectify. However, it is suggested from the data in this study that by raising awareness of the aforementioned influential factors identified as contributors to irrational decision making, the inclination to maintain ineffective programs can be diminished.

To that end, it is of significant note that, in the course of this study, both Site 1 and Site 2 principals changed their perceptions towards maintaining the program as it currently stands. As represented in Site 1 principal’s final interview, she indicated the need to include the faculty more actively in the decision making process. Furthermore, Site 2 principal concluded that she would initiate discussion with her faculty to discontinue the program in the upcoming school year.

These changes in programmatic decision making after two interviews and one sample scenarios sheet implies implications for practice. Ariely (2008) suggested that irrational decision making is predicable but can possibly be mitigated if the decision maker is aware of the possible factors contributing to these irrational decisions. The interview and sample scenario process possibly provided a platform for reflection that may have illuminated the “traps” previously identified. Consequently, a reflection tool might be a beneficial means of assisting decision makers in recognizing inclinations towards irrational decision making prior to action.

As illustrated and discussed in the original compilation of data represented in Table 2 (Gifford, in process), the AYP goals, as interpreted by the state of California in response to the federal NCLB mandate, create an irrational model. This posits a question regarding the feasibility of rational decision making within an irrational situation. Further research exploring the effects of irrational organizations and models on the potential to make rational decisions is warranted.

Based on the aforementioned discussions, the findings of this study suggest recommendations for practice and further investigation:

1. Replicate this study to include more sites with a wider variety of decision makers at various levels within the organization to provide further data to examine similarities and differences about irrational decision making “traps”.
2. Explore the impact of irrational mandates, such as the California Department of Education’s AYP goals in response to NCLB, on rational decision making at the district and school site levels.
3. Assist decision makers in recognizing and mitigating irrational decision making traps at the local, district and state levels through utilizing tools (such as the interview questions and sample scenarios) employed in this study and aimed at helping decision makers identify traps.

Prior to this study, the decision making theories of Escalation, Sunk-cost and Prospect were primarily applied in the fields of economics and medicine. This unique application of the theories to the field of education has provided a foundation suggesting its relevance and use in determining irrational decision making “traps”. By bringing awareness of these traps through use of tools such as those employed in this study, there is potential to mitigate the impact of irrational decision making in programmatic choices to maintain use of ineffective programs within the educational organization at the school site, district, and state levels.

References

- Ariely, D. (2009). *Predictably irrational: the hidden forces that shape our decisions*. New York, NY: HarperCollins Publishers.
- Arkes, H. R., & Blumer, C. (1985). The psychology of sunk cost. *Organizational Behavior and Human Decision Processes*, 35(1), 124-140.
- Armenakis, A. A., & Harris, S. G. (2009). Reflections: Our journey in organizational change research and practice. *Journal of Change Management*, 9(2), 127-142.
- AYP state data. (2007, February 8). California Department of Education Policy and Evaluation Division. Retrieved April 7, 2007 from <http://ayp.cde.ca.gov/reports/APIBase2006/2006StSummary.aspx>
- Barnard, C. (1968). *The function of the executive*. Cambridge, MA: Harvard University Press. (Original work published 1938)
- Bornstein, B., Elmer, A., Chapman, G. (1999). Rationality in medical treatment decisions: is there a sunk-cost effect? *Social Science & Medicine*, 49, 215-222.
- Brousseau, K., Driver, M., Hourihan, G., & Larsson, R. (2006, February). The seasoned executive's decision-making style. *Harvard Business Review*, 84(2). 110-121, 165.
- Burton, R. (2008). *On being certain*. New York, NY: St. Martin's Press.
- California Department of Education. (2005). *Academic Program Survey*. Retrieved August 10, 2011 from <http://www.cde.ca.gov/ta/ac/ti/documents/apselem09.doc>
- California Department of Education. (2008). *Closing the Achievement Gap*. Retrieved August 10, 2011 from <http://www.closingtheachievementgap.org/cs/ctag/print/htdocs/about.htm>
- Decision Making. (2007). In *BusinessDictionary.com*. Retrieved from August 10, 2011 from <http://www.businessdictionary.com/definition/decision-making.html>
- Department of Education. (2002). The No Child Left Behind Act of 2001. Washington, D.C: Author. Retrieved March 26, 2010 from <http://ed.gov/policy/elsec/leg/esea02/107-110.pdf>
- Design research in information systems. (2007, August 4). Association for Information Systems. Retrieved August 7, 2008, from <http://www.isworld.org/Researchdesign/drisISworld.htm#ovrDesRsch>
- Drummond, H. (1998). Is escalation always irrational? *Organization Studies*, 19(6), 911-929.
- Elmore, R. F. (1995). Teaching, learning, and school organization: Principles of practice and the regularities of schooling. *Educational Administration Quarterly*, 31(3), 355-374.
- Evans, T. (2011). Professionals, managers, and discretion: Critiquing street-level bureaucracy. *British Journal of Social Work*, 41(3), 368-386.

- Feazell, V. S. (2004). Reading acceleration program: A school wide intervention. *Reading Teacher*, 58(1), 66-72.
- Gifford, B. R. (In process). Accountability and academic achievement among disadvantaged students since the passage of No Child Left Behind: Changing objections without changing the learning, teaching and profession development enterprise.
- Gladwell, M. (2002, July 22). The talent of myth: Are smart people overrated?. *The New Yorker*, 28-33. Retrieved August 10, 2011 from <http://www.gladwell.com/archive/pdf/talent.pdf>
- Hammond, J., Keeney, R., Raiffa, H. (1998). The hidden traps in decision making. *Harvard Business Review*. Retrieved August 10, 2011 from http://www.mdecgateway.org/olms/data/resource/7807/Hidden_Traps_in_Decision-Making_1.pdf
- Hatch, T. (2001). Incoherence in the system: Three perspectives on the implementation of multiple initiatives in one district. *American Journal of Education*, 109(4), 407-437.
- Honig, M. I., & Coburn, C. (2008). Evidence-based decision making in school district central offices. *Education Policy*, 22(4), 578-608.
- Kahneman, D. & Tversky, A. (1992). Advances in prospect theory - cumulative representation of uncertainty. *Journal of Risk and Uncertainty*, 5(4), 297.
- Kantor, H. (1991, November). Education, social reform, and the state: ESEA and federal education policy in the 1960s. *American Journal of Education*, 100(1), 47-83.
- Keil, M., Saarinen, T., Tan, B., Tuunainen, V., Wassenaar, A., Wei, K. (2000). A cross-cultural study on escalation of commitment behavior in software projects. *MIS Quarterly*, 24(2), 299-325.
- Kiesling, H.J. (1971). *Input and output in California compensatory education projects*. Santa Monica, CA: RAND Corporation.
- Kosar, K. R. (2011). Street-level bureaucracy: The dilemmas endure. *Public Administration Review*, 71(2), 299-302.
- Kuhn, T. (1962). *The Structure of Scientific Revolutions* (Excerpt). Chicago, University of Chicago Press.
- Lasky, S. G. (2004). *Toward a policy framework for analyzing educational system effects report* (CRESPAR no. 71). Baltimore, MD: The Johns Hopkins University.
- Lehrer, J. (2010). *How we decide*. New York, NY: Mariner Books.
- Lipsky, M. (1980). *Street-level bureaucracy: Dilemmas of the individual in public services*. New York: The Russell Sage Foundation.
- Lipsky, M. (2010). *Street-level bureaucracy: Dilemmas of the individual in public services*. 30th Anniversary Edition. New York: The Russell Sage Foundation.

- March, J., Sproull, L., & Tamuz, M. (1991). Learning from samples on one or fewer. *Organization Science*, 2(1), 1-13.
- Markowitz, H. (1952). The utility of wealth. *Journal of Political Economy*, 60(2), 151-158.
- Martin, R. (2007, June). How successful leaders think. *Harvard Business Review*, Retrieved August 10, 2011 from <http://www.blended.com.au/leadership-demo/resources/docs/r0706c.pdf>
- McDill, E. L., & Natriello, G. (1998). The effectiveness of the title I compensatory education program: 1965-1997. *Journal of Education for Students Placed at Risk (JESPAR)*, 3(4), 317-335.
- Meaney, M. & Pung, C. (2008, August). July 2008 McKinsey global survey results: Creating organizational transformations. *The McKinsey Quarterly*, 1, 1-7.
- Mosteller, F., Noguee, P. (1951). An experimental measurement of utility. *The Journal of Political Economy*, 59 (5), 371-404.
- Pham, M. T. (2007). Emotion and rationality: A critical review and interpretation of empirical evidence. *Review of General Psychology. Special Issue: Emotion and Decision Making*, 11(2), 155-178.
- Piore, M. J. (2011). Beyond markets: Sociology, street-level bureaucracy, and the management of the public sector. *Regulation and governance*, 5(1), 145-164.
- Puma, M. J., Karweit, N., Price, C., Ricciuti, A., Thompson, W., & Vaden-Kiernan, M. (1997). *Prospects: Student outcomes. final report*. Cambridge, MA: Abt Associates, Inc.
- RAND Corporation (1999). *Test-Based Accountability Systems*. Retrieved August 10, 2011, from http://www.rand.org/pubs/research_briefs/RB8017/index1.html
- Rogers, P. & Blenko, M. (2006). Who has the D?: How clear decision roles enhance organizational performance. *Harvard Business Review*, 84(1), 62-74.
- Roth, R., & Weber, M. (1976). History and sociology in the work of Max Weber. *British Journal of Sociology*, 27(3), 306-318.
- Simon, H. (1997). *Administrative behavior: A study of decision making processes in administrative organizations*. New York, NY: The Free Press. (Original work published 1916)
- Skogan, W. G. (2008). Why reforms fail. *Policing and Society*, 18(1), 23-34.
- Stallings, D. T. (2002). A brief history of the United States Department of Education: 1979-2002. *Center for Child and Family Policy*. Durham, NC: Duke University.
- Stam, E. (2007). Why butterflies don't leave: Locational behavior of entrepreneurial firms. *Economic Geography*, 83(1), 27-50.

- Staw, B. M. (1976). Knee-deep in the big muddy: A study of escalating commitment to a chosen course of action. *Organizational Behavior & Human Performance*, 16(1), 27-44.
- Staw, B. M., & Fox, F. V. (1977). Escalation: The determinants of commitment to a chosen course of action. *Human Relations*, 30(5), 431-450.
- Taylor, B., Hanson, B., Justice-Swanson, K. & Watts, S. (1997, November). Helping struggling readers: Linking small-group intervention with cross-age tutoring. *Reading Teacher*, 51(3), 196-209.
- Thomas, J. & Brady, K. (2005). The Elementary and Secondary Education Act at 40: Equity, accountability, and the evolving federal role in public education. *Review of Research in Education*. 29. 51-67.
- Torgesen, J., Myers, D., Schirm, A., Stuart, E., Vartivarian, S., & Mansfield, W. et al. (2006). *National assessment of title I: Interim report. volume II: Closing the reading gap: First year findings from a randomized trial of four reading interventions for striving readers*. National Center for Education Evaluation and Regional Assistance. Jessup, MD: ED Publishers.
- Weick, K. & Sutcliffe, K. (2001). *Managing the unexpected: Assuring high performance in an age of complexity*. San Francisco: Jossey-Bass.
- Whyte, G. (1986). Escalating commitment to a course of action: A reinterpretation. *Academy of Management Review*, 11(2), 311-321.
- Wirt, F., & Kirst, M. (2005). *The political dynamics of American education*. Richmond, CA: McCutchan Publishing Corporation.

Appendix A

Interview Protocol #1

Why do stakeholders' decide to continue usage of K-5 reading intervention programs despite the lack of student achievement according to the California Standards Test?

Time of Interview:

Date:

Place:

Interviewer:

Interviewee:

Position of interviewee:

The purpose of this study is to identify factors influencing the decision to continue usage of K-5 reading intervention programs.

Questions:

1. Could you describe the reading intervention program utilized at _____ Elementary School? (task-related grand tour)
2. What was the process to initially select the _____ program?
3. How does the _____ program compare to other reading information programs you may have experienced/ utilized? (contrast) (framing)
4. What has been your role in the decision to continue usage the _____ program? (descriptive – rapport building) (sense of accountability)
5. What do you see as the most influential factors that contribute to your decision to continue usage of the _____ program? (structural) (sunk-costs)
6. a. How often do you, individually or in a larger group, evaluate student achievement data?
b. How does is that information utilized? (use of evidence – rationalization)

Thank you for your time today. Your information and insights have been very helping in further my understanding regarding factors influencing the decision to continue usage of K-5 reading intervention programs. Your identity will remain confidential. Is it ok if I contact you by phone if I need to ask any follow up questions?Thanks again for your time today.

Appendix B

Interview Protocol #2

Time of Interview:

Date:

Place:

Interviewer:

Interviewee:

Position of interviewee:

1. We have already explored the background regarding the selection and implementation of the _____ program. In our conversation, you mentioned _____, _____, and _____. Have I left anything out?
2. Please discuss the personal/ professional level of responsibility in making decisions to continue implementation of a program?
3. Have you ever made a programmatic decision that you eventually found was less than optimal? What do you think influenced that decision?
4. In addition to the items you mentioned above, do you feel the following factors influenced your decision
 - a. Time invested in the program - if so, how did time influence?
 - b. Money invested in the program - if so, how did money influence?
 - c. Personal/ professional sense of responsibility as an instructional leader implementing the program – if so how did that influence?
5. I'm going to now present to you a scenario. After reading the scenario, I am going to ask you about your thoughts regarding the decision maker and possible influences on choices made.

Two years ago, Principal Thompson introduced, purchased and implemented the SuperReaders Intervention program at San Marcos School. The staff was amenable to the program and, following training, implemented it right away. In the fall, Principal Thompson evaluated the participating students' CST scores. She was disappointed to see that a majority of the participating students had made little to no academic growth according to the CST. She looked at school based assessments and noticed the students were not making progress at that level, either. She verified that they all had regular attendance, so she knew that was not the concern. Now, Principal Thompson must decide whether or not to continue implementation of the program. She ultimately decides to continue implementation and prepares to present this direction to the School Site Council at the next meeting.

Question: What do you think influenced Principal Thompson's decision to continue implementation in the face of the empirical data that students were not progressing?

Appendix C

Sample Scenarios

Please respond to the following in a short written response. Please explain your answer. Please use additional paper if necessary.

1. Agatha decides that she wants to take cello lessons. She spends \$100 on a beginner cello and an additional \$40 on the first month of lessons. After 1 month of lessons, Agatha realizes that she no longer enjoys the cello and wants to stop taking lessons. That is, it is almost certain that if Agatha signs up for more lessons, she will not enjoy them and will never enjoy playing the cello. What should Agatha do?

2. Michael is a 4th grade student who struggles with basic decoding. Michael's teacher decides to purchase a special program she heard about at a conference that is designed to help students like Michael learn basic decoding skills. The teacher purchases the \$40 program with her own money. After utilizing the program for 6 weeks, the teacher does not see any marked improvement for Michael. The teacher is not confident this program will help Michael learn the necessary decoding skills. That should the teacher do?

3. Marcy's aunt was a renowned ice skater and she hopes that her niece will follow in her footsteps. Marcy's aunt purchases her a \$500 pair of ice skates for her 16th birthday. Marcy enjoys skating but never took it too seriously. After skating a few mornings, she

decides she would not like to pursue this sport in a serious manner. Now that the skates are used, they may not be returned nor sold. What should Marcy do?

4. A school district's previous administration enters into a contract for \$18,000 in a year-long professional development program for all elementary teachers. The professional development is directed to help teachers help English Learners achieve academically. Every month, the 300 elementary teachers attended 4-hour training after school. The teachers were all compensated at \$33.00 per hour for their attendance. Midway through the year (following 5 sessions), the participants note that the information presented by the professional development group is very generic and, in some cases, contradicts the EL goals for academic achievement set forth by the district. It is almost certain that the information to be covered in the remaining sessions will not be new to the teaching staff and in some cases, may be confusing with regards to the district's goals. What should the current school district do?

5. The following options are available for you to purchase:
- a. **Children's Dictionary Software Site License** - \$500
computer software for Children's Dictionary (site license)
 - b. **Children's Dictionary Print Copies** - \$1000

250 Children's Dictionary Print Copies for \$1000

- c. **Children's Dictionary Software Site License and 250 Children's Dictionary Print Copies - \$1000**

Computer software for Children's Dictionary (site license) and 250 Children's Dictionary Print Copies for \$1000

Which would you choose? Please explain your choice.
