

ALASKA'S QUALITY SCHOOLS INITIATIVE: A DESCRIPTION AND ANALYSIS OF 51
SCHOOLS' PERCEIVED STRENGTHS AND WEAKNESSES IN FACTORS ASSOCIATED
WITH ORGANIZATIONAL CHANGE

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**Alaska's Quality Schools Initiative: A Description and Analysis of
51 Schools' Perceived Strengths and Weaknesses in Factors
Associated with Organizational Change**

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by

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Abstract

This descriptive study of 51 schools in Alaska examined how educational personnel are responding to the Alaskan Quality Schools Initiative. While research-identifying factors that accelerate or impede general change in organizations already exist, little research has been done in Alaska to assess personnel's attitudes and beliefs about standards-based education. Past school reforms have only experienced moderate success. This study shows that standards-based instruction is perceived by both rural and urban Alaskan educators to be a reform that could make improved achievement a reality.

A questionnaire was designed and administered to educational personnel assessing present readiness to implement standards-based education and identifying factors which influenced past implementations of change. Profiles of schools, districts, and the state, reveal factors that may limit or expedite the implementation.

Findings indicate that overall past educational change initiatives have been mismanaged. The state scores fall in the low moderate range 60.9 based on Implementation Management Associates Scale of 0 - 100. In regard to readiness to change the participating schools' scores fall in the moderate range (65.3). The majority of respondents believe that there is a high probability of successful implementation. They see a need and purpose for standards-based education. Personnel valued standards and believed that they were compatible with personal and organization values. Surveyed respondents were confident about the ability to change and were willing to focus on new

approaches. The majority indicates the need for more resources and support. A predominant theme in the findings was that organizational stress is very high and personnel are concerned about the adverse effect this change may bring to their jobs.

Past reform initiatives have not been aligned with the culture of the school or district. Ineffective communication coupled with low motivation and inadequate incentives has limited implementation efforts. Due to perceived lack of resources and expertise the majority of respondents question whether or not this initiative will be successful. Most rural schools, which have been characterized as widely resistant to change, were found to be more optimistic about change and had fewer barriers to overcome than urban schools.

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CHAPTER ONE

Framework of the Study

Introduction

“It was the best of times; it was the worst of times.” This quote by Charles Dickens clearly reflects the state of American education at the dawn of a new century. The media and federal government constantly remind the public that elementary and secondary students are not demonstrating acceptable achievement in math, writing, science and reading (Bracey, 2003). The TIMSS (Third International Mathematics and Science Study) shows a modest non-statistical significant gain in mathematics at the eighth grade. However, data shows that the relative position of the U.S. at Grade 8 was below the international average in 1999 just as it was in 1995 (National Center for Education Statistics, 2000). Furthermore, the National Assessment of Educational Progress (NAEP) report showed that the United States and Italy moved from being similar to the international average at the fourth grade in 1995 to significantly below it at the eighth grade in 1999 (Campbell, Hombro, and Mazzeo, 2000 p. 35). Reading scores have improved, but showed less improvement than mathematics scores. Nine and thirteen year-olds are reading better than they did nearly 30 years ago. However, scores for seventeen year-olds remained unchanged (Campbell et al. 2000). National and local reform recommendations, developed as early as the mid-1980s, although ambitious, have yet to be implemented or to accomplish their objectives (Stevenson & Stigler, 1992; Stigler & Hiebert, 1999). As a result, numerous reports suggest that despite twenty years of attention and conversation, American schools and students do

not demonstrate the achievement levels necessary for global competition in an information age (NCES, 2000; Campbell et al. 2000). In addition, test data strongly suggest large achievement gaps between rural and suburban students and among students from diverse ethnic and language groups. NAEP 1999 Trends in Academic Progress provides data related to the nation's ongoing concerns about the educational gap between minorities and whites (Campbell et al.). Despite improvements in the 1970s and 1980s, there have not been consistent decreases in the size of the gaps since 1990 (Campbell et al.).

However, there are also many factors that indicate that this is the best of times for education. All of the national education associations in the various content areas and most of the state departments of education have developed rigorous content standards that specify what learners at different stages should know, understand, and be able to do (Glatthorn, 1992, Kendall & Marzano, 1996). Nearly every state (48) uses a state assessment as the principal indicator of school performance and has developed objective-referenced, norm-referenced, or criterion-referenced tests to measure student progress (Goertz & Duffy, 2001). Researchers have conducted numerous studies to identify the research-based best practices for teaching, learning, and professional development (Glatthorn, 1992; Zemelman, Daniels, & Hyde, 1998; Marzano, 2003; and Stone, 2002). Federal, state, and local governments have provided funding and legislation to encourage implementation of best practices research to enhance student achievement (Holloway, 2000; Zemelman, Harvey, & Hyde, 1998). Lastly, the Internet

provides easy access to research, grants, and best practices strategies for educators involved in reform initiatives (Dwyer, 2002).

Like the rest of the country, Alaska has challenged schools, through the publication of the Alaska Quality Schools Initiative (Holloway, 2002) to raise student achievement by implementing content-based standards, curricula, assessment, best practices professional development, strategic planning, and teaching methods. The Alaska State Department of Education and Early Development developed standards documents that describe what students of a particular age are expected to know and understand (1999). The legislature passed a law (AS 14.03.075) in the spring of 1997, which required all high school students to pass an exit exam in order to receive a diploma. State benchmark assessments to measure student progress in third, sixth, and eighth grades were required to be developed by Senate Bill 36 (Holloway, 2000). A quality schools grant program was also established by Senate Bill 36 and gave districts additional funds if they established plans to adopt standards. Quality schools facilitators, paid by the State Department of Education and Early Development, were made available to consult with school districts and support their reform initiatives (Holloway, 2000).

The Alaska Quality School Initiative challenged districts to create better schools by implementing standards-based instruction, promoting excellent instruction and developing partnerships among families, schools, businesses and communities. Some districts and schools have made phenomenal progress in spite of tremendous barriers, others have not.

Chugach School District with a student population of 214 encompasses 22,000 square miles of Alaskan wilderness. Geographic isolation, high rates of poverty, unemployment, and alcoholism are challenges this district had to overcome to raise the achievement level of their 214 students. This district transformed itself in seven years. In 1994, the average Chugach student was three years behind in grade level in reading and lagging badly in other areas as well. Yet this district has moved its students from the 28th percentile nationally in reading to the 71st percentile: from the 53rd percentile in math to the 78th (Broder, 2002). When state proficiency exams were first administered in 2000 Chugach topped the Alaskan average by 8 % in reading, 17 % in math and 35% in writing (Broder, 2002). Even with these impressive gains only 50% of Chugach schools made adequate yearly progress (AYP) in 2002 as defined by the No Child Left Behind legislation (Department of Education and Early Development, 2003).

Bering Straits School District, composed of 12 school sites, covers an area over 50,000 square miles; an area larger than the State of Minnesota. The district average on High School Qualifying Exam shows that only 16% of the students are proficient in reading, 42% are proficient in writing and 26% are proficient in mathematics (Alaska Department of Education and Early Development, 2003). Only three of the 12 school sites were classified as making adequate yearly progress according to the thirty-one criteria established under NCLB.

Fairbanks North Star Borough School District, the second largest school district in the state, has been reporting student data from nationally normed tests since before the enactment of the Alaska Quality Schools Initiative. Standardized state tests show

that students, on average, score in the 63rd percentile. Standardized tests show that the average student in this district performs better than the average student in Alaska (Shortt, 2003). However, none of the secondary schools made adequate yearly progress, even though they were successful in meeting 85% of the AYP requirements (Shortt, 2003). Achievement gaps exist among some groups of students based on socio-economic factors, ethnicity, and gender (Stayrook, 2002). This news was not unique to Fairbanks. Anchorage School District, the largest public school district in the state had 60% of their schools that did not make adequate yearly progress. Alaska reported 42% of the schools, 283 of its 488, did not make AYP in 2003 (Alaska Department of Education and Early Development, 2003).

Becoming a standards-based school or district is not an easy process. The use of standards-based curricula requires teachers to change their units of instruction and their teaching practices. How do schools achieve these goals, implement reform initiatives, and increase student achievement? How do educational leaders support this change? Which organizational factors and characteristics predict the demise or effectiveness of a change or reform initiative? How can knowledge of these factors and their characteristics across different school organizations be used to develop and guide successful change initiatives?

Statement of the Problem

On August 20, 2003 Commissioner Roger Sampson proclaimed, “ For the first time in the history of our state and nation, the Alaskan public will have the necessary information about the performance of their public schools they can use to make

significant strides in school and student performance” (2003,p.1). The Commissioner based this statement on the fact that Alaska has adopted performance standards and student assessments in reading, writing, and mathematics. Labeling a school as meeting or not meeting adequate yearly progress and. taking a long hard look at student performance is not the end of the story. There is more. Are the Alaskan schools personnel willing and ready to adopt standards-based education? Do Alaskan schools have a history of factors and practices that will accelerate this innovation or does their past implementation efforts indicate barriers to implementing these new initiatives? The problem this study will examine is: What are school personnel’s responses to the Alaska Quality School Initiative? This study was conducted to determine present readiness to implement standards-based education, and identifying factors, which influenced past implementations of systemic reforms.

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In the late nineties, in response to legislation most, if not all school districts in Alaska adopted policies that supported a standards-based approach to curriculum, instruction, and assessment. Fairbanks’ resolution (Fairbanks North Star Borough School Board Minutes, 1997), for example, states that the Fairbanks Board of Education supports the development of a plan for the implementation of a standards-based approach to curriculum, instruction, and assessment. The resolution also delineates

specific requirements that are included in many standards implementation plans.

Specifically the district resolved to adopt performance standards that indicate how well they expect students of a particular age to perform with regard to challenging academic content standards. The resolution also resolved to provide professional development for teachers in how a standards-based approach to curriculum, instruction, and assessment can be accomplished in the classroom.

These resolutions, along with the development of a graduation examination, which students must pass by 2004, gave schools clear direction. However, there is no one faultless model for implementing standards-based reforms. When presented with a problem or challenge as complex as transforming schools into standards-based, high achieving learning communities, many educators respond to the overwhelming complexity of the mission by seeking simple plans, linear, sequential procedures, common protocols, or checklists to make the task more manageable. Unfortunately, a school does not become a standards-based learning community by simply marching through predefined steps on a checklist.

There is an inherent danger in over simplifying a complex, multifaceted task. A cookie cutter approach seldom works. Fullan (1993) points out that what succeeds in one setting may not apply in another; that change is rarely, if ever, a linear process; that conflict and resistance are predictable and inevitable during change; that problems need to be reframed as opportunities for creative thinking; that organizations don't change until the individuals within them change; and that most educators need a repertoire of

strategies for dealing with the difficult task of changing a school's traditional practices and moving toward the implementation of research-based best practices (Fullan, 1993). Instead of searching for the perfect prescription for implementing a standards-based curriculum, individual schools may be more successful with standards-based reform if they were to use an analysis of their own strengths and weaknesses to formulate a comprehensive, tailor-made continuous improvement plan. In addition, the professional developers who work with educators during the change process must acknowledge that they do not have all the answers and that there is no short cut for solving a problem as complex as school reform. Lastly, school districts must commit to working toward their goal over a lengthy period of time.

Related research in education and the business community has identified the factors and characteristics of those factors that predict successful or unsuccessful institutional change (Alexander, 1995; Cawelti, 1995; Darling-Hammond, 2000; Darling-Hammond, L, & McLaughlin, M., 1995; Guskey, 1999; Hall & Hord, 2001; Hammer & Champy, 1994; Joyce & Showers, 1988; Kanter, 1983; McLaughlin & Talbert, 1993; Owens, 1991; and Schmoker, 1993). The development of an individual school or district profile, based on these factors and characteristics, holds promise for assisting schools to develop an individualized school reform plan. Such a profile would provide a school district and its administrators, consultants, teachers, and facilitators with an analysis and evaluation of the resources, reinforcements, and communication required by change sponsors to implement change successfully. This study will develop such a profile for a variety of educational settings in Alaska.

Related Literature Pertinent to This Study

Over time, most teachers have had the opportunity to participate in many initiatives that have been formulated because related research has documented improvements in student achievement. Some of these initiatives were implemented successfully and still exist as successes in many school districts; other initiatives never reached the implementation stage or lasted no longer than two to three years (Berends, McKelvey, and Sullivan, 1998). Often, the reason an initiative meets its demise can be traced to the implementation and professional development strategies used to promote it. Research by Huberman and Miles in 1984, and Louis and Miles in 1990 has shown that adopted changes go nowhere unless central office staff members and building principals provide specific implementation pressure and support (Moffett, 2000 p. 37). The strategies that educators employ to implement an educational enhancement initiative can breathe life into a newborn program or can fail to provide the program with the right amount of oxygen needed to survive and succeed.

The professional literature regarding change, professional development, and implementation offers some insights about successful and unsuccessful educational change. Since 1960, this literature has helped the field of education formulate a new paradigm for educational reform and enhancement. In this study, the three most relevant bodies of literature (change, professional development, and implementation) were reviewed, examined and summarized in order to develop appropriate research questions and the related research design.

Purpose of This Study

This research study was concerned with the identification and measurement of organizational factors associated with school improvement, especially as they pertain to Alaska's initiative to implement a standards-based curricula as a means for increasing student achievement. Related literature suggests that the recognition, assessment, and analysis of these factors can be used to help a school profile its organizational strengths and weaknesses. In turn, this knowledge can be used to ameliorate weaknesses and use strengths to create strategic plans, professional development activities, and curriculum guides to support standards-based reforms.

Research Questions

To implement standard-based reforms successfully one needs to identify and address the practices and factors that research suggests predict the success and failure of an innovation. This research was designed to determine various schools' prospects for successful implementation of standards-based education and to identify barriers that are likely to limit implementation success. The research also provides an analysis of specific reasons why schools appear to embrace or resist the change to standards-based education.

In order to address the problems cited in an earlier section of this chapter and the purposes of the study that are cited above, the following methodological research questions guided this study:

1. To what extent and in what manner do teachers' responses to individual items on a readiness for change survey vary when compared to average item responses

for all teachers? Which items are significantly higher or lower than the overall item average?

2. To what extent and in what manner do individuals' responses within schools on individual items of a readiness for change survey vary when compared to the average item responses across the school sites?
3. To what extent and in what manner do teachers' perceptions of their experience with implementation vary across the eleven factors measured in the "Implementation History" survey?
4. To what extent and in what manner do educational personnel's average perceptions within each school of their experience with implementation history vary across school sites?
5. To what extent and in what manner do the average responses of individuals in different schools with regard to factors associated with a readiness for change and implementation history vary when compared to the state average for schools?
6. To what extent and in what manner can demographic variables predict schools' scores on a readiness for change and an Implementation History questionnaire?

Research Design

There are a plethora of factors (e.g. curriculum, parent and community relations, safety, and facilities), but what specific teachers bring to the schooling process is the major influence on achievement for students at all achievement levels (Marzano, 2000). Teachers' perceptions, beliefs, knowledge, and skills play a major role in determining

what and how students learn and whether an innovation or change will be effective (Marzano, 2000; Sanders & Horn, 1994; Wright, Horn, & Sanders, 1997). For this reason, this research will focus on classroom educational personnel's perceptions of the factors and practices associated with the successful implementation of a reform initiative.

The method of research design was a qualitative and quantitative analysis that will employ the cross-sectional survey approach. The sample was collected in 1999 directly after the first administration of the High School Qualifying Exam in Alaska, and before cut scores and grading of the exam had occurred.

This study involved secondary teachers, administrators and staff members who work in Alaska's major cities. In rural Alaska, all staff members in K-12 schools were invited to participate in the study. All schools selected for participation were sent a letter, instructions for completing the survey and enough questionnaires for all staff members (see Appendix A, Letter to Participating Schools and Instructions for Questionnaire and Appendix B, Questionnaire: Evaluating the Acceptance of Change to Standards-Based Education). The surveys were distributed with postage paid envelopes to all schools selected for the sample. The questionnaires were tabulated as they were returned. The last surveys that were part of the study were returned in early September 1999. Results were tabulated and an interpretation of each school's scores was mailed in the fall of 2000 to 31 schools requesting results (See Appendix C, Interpretation of Evaluating The Acceptance Of Change to Standards-Based Education District 16 School 130.) The interpretation(s) gave the participating schools' a state profile and a

school profile that described a school's attitudes and beliefs about standards-based education. The interpretation(s) provided a site-specific analysis of a schools' capacity to implement programs and it identified potential sources of resistance to standards-based education.

After the schools, districts and the state initial interpretations were completed; data from the instruments were used to further generate information about how the schools, districts, and the State of Alaska were responding to the Alaska Quality Schools Initiative. All data obtained were used to look for constructs that bring order to descriptive studies of this type, themes present in the phenomena investigated, and patterns, which represent possible relationships among the phenomena.

Instrumentation and Data Collection Techniques

The following two surveys/assessments developed by Implementation Management Associates, INC. (IMA) were used: The Implementation History Assessment provided an overall indication of the prospects for current implementation success and identified the specific barriers, to be eliminated or reduced to increase the probability of success. Individual Readiness Assessment provided an indication of the schools', districts', and the states' willingness to assist or resist the change to standards-based education.

The questionnaire also included 1) a question to frame the completion of the surveys, asking participants what changes in educational organizations they have completed. 2) Ten demographic multi-choice questions that requested information about

the person completing the survey. 3) Two open-ended questions (optional) about standards-based education.

Significance of This Study

A thorough analysis of the specific reasons why and how individuals, schools, and districts are responding to a change to standards-based education, is critical to increasing the probability of implementation success. Strategies and tactics can be developed to anticipate likely barriers and to manage successfully the implementation project towards the accomplishment of important educational objectives. In this manner, different frames of reference about the change can be identified and effectively managed.

Limitations of this Study

The cross-sectional approach has specific limitations, but for this research, a number of inferences about change can be assessed within the constraints of the approach. This study is based on several premises that are considered to be commonly held beliefs, making the study credible.

1. If schools base their current curricula on standards, academic achievement will improve.
2. Current professional development and strategies, policies, and practices influence the likelihood of change in business and education.
3. Knowledge of perceptions, beliefs, and attitudes can affect the success of an innovation.

4. Surveying people's perceptions about current practices is a valid measure of actual practices.

Generalizations from this study are limited by the sample size and data collection over a period of time. Schools in Alaska were the focus of the study. The uniqueness of geography and demographics of the state, and Alaska's standards movement in general, would limit the ability to generalize these findings to other states or the nation.

This research was based on self-report questionnaires; respondents could conceal information or not report information they did not want others to know. When measuring or asking about attitude, individuals could hide their true attitude in order to receive a more socially acceptable score. The confidentiality of each respondent was assured when the survey was distributed. Taking these measures allowed individuals to respond without fear of being identified for their beliefs or practices.

The surveys measured many variables. The possibility exists that the survey developed by IMA could have a limitation due to reliability and validity of the instrument. However, previous use of the instruments with businesses indicated that both tools have strong reliability and are excellent measures for determining key characteristics of implementation success.

Organization of the Dissertation

Since the fall of 1999, the results were analyzed and the studies are detailed in the following chapters: Chapter One introduces this study and identifies relevant terms. Chapter Two provides a review of change literature, professional development

literature, and implementation literature. Chapter Three describes the methodology of the study. A sequence of events explains the self-reporting survey distributed. Chapter Four contains a description of the sample and results and findings regarding: teachers' perception of their readiness to implement standards-based education, schools' perceptions of readiness to implement standards-based education, a comparison of teachers' and schools' results of Individual Readiness profile, a content analysis of major educational changes in the last five years as reported by the individuals comprising the sample, teachers' perceptions of their implementation history, schools' perception of their implementation history, and a comparison of teachers' and schools' results from the implementation survey. Additionally chapter Four includes distribution of school scores on the implementation survey the Individual Readiness survey, the demographic differences associated with the results of implementation history and the readiness to change surveys, and content analysis of opened-ended questions. Chapter Five concludes with a synthesis of the research results, and a discussion of the results that include additional implications and research proposals for the future.

CHAPTER TWO

Review of the Literature

In this chapter the relevant research in three areas is reviewed. The first section includes research related to change in organizations. Specifically, change literature will be reviewed: the basic principles of change, concerns and constructs of change, and the dynamics of the change process. The second section, professional development literature, includes definitions of attributes associated with the acceptance of change in educational programs and research on effective staff development and current staff development models. The final section, implementation literature, includes research related to innovation implementation in educational organizations, the nature of the implementation process, and the nature of the conceptual framework from which new initiatives are developed.

Change Literature

Basic Principles of the Change Process

Michael Fullan in his book Change Forces (1996), states that new paradigm books, e.g.: Managing on the Edge (Pascale, 1990), The Fifth Discipline (Senge, 1990), Flow (Ciszkoszcentmihali, 1990), Breakpoint and Beyond (Land and Jarman, 1992), The Critical Path to Corporate Renewal (Beer, Eisenstat and Spector, 1990), Managing the Unknowable (Stacey, 1992), and Voltaire's Bastards (Saul, 1992), have given a new picture of dynamic change. He suggested that, "organizations need to think about educational change processes as an overlapping series of dynamic complex phenomena" (Fullan, p, 21). Based on the work of the new paradigm authors Fullan suggests eight

lessons about change in educational organizations. The eight lessons cannot be viewed in isolation; they work together as an interconnected set.

Eight lessons about the change process. Lesson one contends that change of a teacher's belief, practices or skills cannot be done by mandates. People cannot change by being told to do so. Fullan suggests using mandates as a catalyst to examine past and present educational practices (1996).

Lesson two recognizes the concept that change is non-linear and that restructuring reforms are complex. Solutions for particular settings cannot be blueprinted and known in advance. Change, according to Fullan, is loaded with uncertainty and the solutions cannot be known prior to their initiation.

Problems are endemic in any serious change effort is the third lesson. Problems are the route to deeper change and should be viewed as essential. Schools that have made successful reforms had effective problem finding and problem solving techniques.

Lesson four suggests that vision and strategic planning should evolve through the dynamic interaction of organization members and leaders. Vision and strategic planning should not take place before individuals in the organization have had some interaction with the new innovation. Visions die prematurely if they are mere paper produced by leadership teams (Fullan, p.30).

Lesson five describes the need to have a balance between individualism and collectivism. Fullan suggests that, in moving toward greater collaboration we should not lose sight of the 'good side' of individualism" (Fullan p.34). Neither centralized nor decentralized management in an educational organization allows change to flourish.

Lesson six states that a balance between the centralization and decentralization is needed for complex change to flourish. Lesson seven states, successful change initiatives increase effectiveness by knowing the context in which it operates. The final lesson is that change is too important to leave to the experts, that every teacher has the responsibility to help in the creation of an organization capable of individual and collective inquiry and continuous renewal, or it will not happen (Fullan, p 39).

Need for assessment of attitudes and perception. Change is highly complex, multivariate, and dynamic. Hall and Hord, authors and developers of the model Concerns-Based Adoption Model (CBAM), have been studying change in educational organizations for the last 30 years. They have developed principles that they feel are basic to the change process. Hall and Hord's principles of change are very similar to Fullan's eight lessons. They contend that a systematic educational reform effort cannot be successful without respect for these principles.

Depending on the type of innovation, interventions are the actions and events that are the key to the success of the change process (Hall and Hord, 2001). Real change, according to Hall and Hord (2001), whether desired or not, represents a serious personal and collective experience characterized by ambivalence and uncertainty; and if the change works out, it can result in a sense of mastery, accomplishment and professional growth. Hall and Hord suggest that by determining which interventions are needed, the challenge of changing educational practices is reduced. It would follow that having data about the past history of educational organizations and data on

individuals' readiness to change would allow implementers to provide appropriate interventions.

The federal government and state of Alaska have mandated schools to become standards-based. However, this mandate offers no prescribed method of implementation. In a recent study (2003) a variety of models were used to implement the high stakes testing regime. This study found 3% used the Cox model, 7% used the Chugach model, 24% listed a number of other models i.e. standards-based, Quality Schools, Kagan, 10% cited specific academic programs, five percent reported that their district has its own model and twenty percent were not sure what approach was being taken (McBeath and Reyes, 2003). Having the state mandate prescribe a method of implementation would increase consistency of implementation of standards-based education.

Patterns and Constructs of Change

Change in the 21st century is different. Change is happening faster, it is more complex, and the implications are more serious. However, one sometimes wonders if, historically change has really occurred in schools, or if the language of change has been used, while the everyday activity of schools remained basically the same.

Nature of change. A review of this literature asserts that most purposeful change in educational organizations takes three to five years in order to create a high level impact (Hall & Loucks, 1977, and Hall and Rutherford, 1976). Failure to address key aspects of the change process can extend the number of years it takes to implement the

change, or even prevent successful adoption of different professional practices in a school.

However, an understanding of the nature of change can motivate all those involved, teachers, administrators and school community, to want to change. Special adult learning strategies need to be used to promote the implementation of any change. The development of an improved organizational culture in the local school district is a necessary precondition to the effective use of knowledge.

According to Owens (1991), “No matter how good the channels which transmit knowledge and products to practitioners, it appears that such products will spread slowly and see little effective use until schools and districts develop the capacity to engage in active search for solutions to their own problems, to adapt solutions to the particulars of their own situation and equally important to adapt themselves as organizations to the requirements of the selected solutions (p.221).

Determining the areas that need to be addressed, and listing all the forces that could be involved in implementing an innovation or change in a school or district is a daunting task. Almost all valuable educational change requires new skills, behaviors, and beliefs or understandings by all educational personnel (Fullan and Stiegelbauer, 1991).

Study of change in educational practice. Fullan and Stiegelbauer (1991) after reviewing the relatively new field of change in educational practice, divided the research into four different phases: adoption, implementation, implementation success,

and intensification vs. restructuring. The categories were identified based on the most prevalent educational practice, which occurred during the phase.

The first phase identified by Fullan and Stiegelbauer, adoption, began in the early 1960's after Sputnik and emphasized the acceptance of innovations. It began many new practices and programs. It was characterized by the acceptance of many adoptions, the more the better. The number of innovations that were adopted is difficult to estimate although New York's City's Board of Education piloted 781 innovative programs between 1979 and 1981 (Cited in Fullan, 1991 p.4). There were large-scale curriculum innovations, new math, open education, and individualized education.

Fullan and Stiegelbauer believe that phase two began in the early 1970's. Adoption gave way to the implementation phase (1970-78). During this time many of the policies and latest innovations introduced during the adoption emphasis failed. Innovation, which supposedly had been implemented for the past 30 years, failed to improve student achievement. Goodlad et al. (1970) Gross et al. (1971) and Sarason (1971) all completed major studies that demonstrated failed implementations. These researchers exposed the fact that no one was asking why the change was needed and if the innovations were actually being implemented.

The third phase was labeled implementation success (1978-1982). Not all new ideas were a success at this time, but many changes in the educational organization had evidence that supported the fact that effective change had taken place. Graduation rates, attendance, standardized testing, and self-reporting by schools indicated that these

changes were successful (Fullan, 1991). School improvement plans; implementation research and practice, effective schools, staff development, coaching and mentoring all had documented success stories.

The fourth phase (1983-1990) was entitled intensification vs. restructuring and started with the Nation at Risk document published by the National commission of Education in 1983. The Nation at Risk report indicated comprehensive reform was essential. However, the direction of this comprehensive reform was not obvious. In fact, this report dispelled the idea that innovations could take place one at a time.

The first waves of reform at this time concentrated on the what and how of teaching (Wise, 1988; Corbet & Wilson, 1990; Firestone, Fuhrman & Kirst, 1989). Standardized tests, aligned with curricula, specification of teaching, administrative methods backed up by evaluation, monitoring, and mandated textbooks, all focused on the process of teaching. At about the same time, restructuring, which takes different forms, was developing and included initiatives such as; school based management, enhanced roles for teachers in instruction and decision making, integration of multiple innovations, restructured timetables supporting collaborative work cultures, reorganization of teacher education programs, and the inclusion of new roles such as mentors, coaches, and other school leaders. These new waves of reform were comprehensive and because the stakes were so high, it was all the more important to pay attention to the process of change.

The present change phase has been labeled standards and accountability. Forty-eight states have adopted state mandated standards that specifically state what students

should know and be able to do at a certain age. Most states have developed assessment tools that require students to meet standards. Students must demonstrate their ability to know specific information and complete specific types of processes in order to graduate. Schools are being classified based upon student achievement of these standards. Federal legislation challenges schools to certify that all students can meet these learning mandates.

The next step in the present phase of the educational, organizational change is to implement standards and use them to improve student achievement. Some initial reports indicate that whole school reform seemed to be the most successful. Whole school reform is changing teaching practices and instruction, the curriculum, structures of the school and the culture of the school. A recent study, *Special Strategies for Educating Disadvantaged students* (Western Regional Educational Laboratory, 1997) noted, “Students in schools working with whole-school reform tended to achieve greater gains than did students in schools attempting various pull-out programs” (p. 8).

A growing body of knowledge suggests that working with externally developed school reform models can be a powerful catalyst for improvement when integrated into a school’s overall school reform plan (WestED, 1997). The benefits of comprehensive reform can only be realized if the schools actually implement the plan. Even promising school reform designs are likely to fail if they are implemented one element at a time: rather than in a more comprehensive process (Hargreaves and Fink, 2000).

Experience of change. Individuals experience change in different ways, at a different rate, and with a different intensity (Guskey, 1993). Change occurs on several

levels: 1) personal, 2) professional, 3) organizational, and 4) societal. According to Manion (1995) “people experience changes on all three levels simultaneously” (p. 41). To deal effectively with change, one needs to realize that every change involves psychological adaptation and periods of transition on all four levels. School wide reform requires individuals to make small changes such as, how attendance is monitored, how many minutes are spent in a class, what is the content of a class and how a teacher teaches and assesses a student’s achievement. Comprehensive school reform requires changes in practices of all individuals involved, administration, teachers, students, families and community

Time and energy involved in change. Change in an educational organization is a complex process requiring time and energy. Imposing a change, by state mandate, or administrative policy, no matter how desirable it may appear to be, violates all of the conventional dictates of collaborative management. At the same time, failing to exert any leadership toward desirable ends produces institutional chaos (Fullan, 1999, p.37). A carefully planned and managed change process by educational leaders benefits the entire community and creates a productive spirit of ownership and collaboration within each school setting.

Establishing the need for change. The discrepancy that exists between what members of the organization perceive to be the actual state of educational affairs and what they consider to be the ideal state of affairs arouses a need to change. It is the job of the school change agent to persuade individuals in the system either to see things as they actually are, or see things as they could be, in order to strengthen the need to

change the system. The strength of the need that is produced by this discrepancy is a function of several things: the desirability of the ideal circumstance, the unpleasantness of the actual situation, and the size of the gulf that exists between what is and what can or should be. The strength of a need for change is defined by the perceptions of the individuals in the organization. If the members of the organization believe that a problem exists and perceive that it has either been treated unsuccessfully or is currently being ignored, and if they believe there is enough merit to the problem, then the need to change will be evident to those individuals. McBeath and Reyes found in a recent study that greater efforts to implement standards have been exerted in the rural schools (2003). They concluded that greater efforts on the part of rural educators is because of the greater challenges the new testing regime presents to rural students (McBeath and Reyes, 2003).

Role of leadership in change. Black (1997) and Lambert (2000) investigating the changing role of the administrator found that principals must learn to keep students as the central focus, to share power, to foster risk-taking, and to establish a climate of inquiry. Administrators need to remember to take time to interact with students, teachers, and community, and keep the larger vision in the forefront of debate, action, and the continuous reassessment of change. Prestine, as cited by Fullan, (1993) identified similar issues in her study of four schools in Sizer's coalition network. "Where progress was made principals were able to help evolve new conceptions of power, link school restructuring to larger systemic agreements in the district, and participate as coaches, confidants, and catalysts for the change process" (p.72).

Administrators also have to secure the necessary infrastructure changes and long-term resource supports if use of an innovation is to continue indefinitely. According to Hall and Hord (2001), “policy-makers need to design policies that legitimize the infrastructure changes and innovative practices and encourage the continued use of the innovation” (p. 14).

Leadership consists in part of keeping everyone’s mind on the shared vision, being explicit about which areas are not going to be changed, stating what factors put constraints on decisions, watching for uneven participation or group pressure, and keeping time managed. Then as events move toward accomplishment, leaders can provide rewards and feedback, tangible signs that their participation mattered. Hall and Hord, (2001) contend that leaders for successful change are those who guide and support individuals in their implementation efforts.

Context for change. In order to succeed in the change effort, an organization must personalize professional development activities for their setting. Fullan states how an organization can succeed.

We must understand that what works in one setting may not apply in another, that change is rarely, if ever, a linear process; that conflict and resistance are predictable and inevitable during change; that problems need to be reframed as opportunities for creative thinking; that organizations don’t change until the individuals within them change; and that they need a repertoire of strategies for dealing with the complexity of helping a school move from where it is to where it is to where it wants to be (Fullan, 1992).

There is no perfect blueprint for change; no plan that once formulated cannot be altered (Fullan, 1993). Change is a journey with different participants, at different stages of transition. The context in which the school organization operates can be determined by the culture (people or human factors) and the situational variables (physical or structural barriers). Boyd and Hord (1994) identified seventeen factors that describe an educational context conducive to change. These seventeen factors can be clustered into four general categories: reducing isolation, increasing staff members capacity, providing a caring productive environment, and promoting increased quality.

Darling-Hammond (1996), Lieberman (1995), Little (1982), McLaughlin and Talbert (1993), and Rosenholz (1989) contend that a context that supports and nurtures collaboration of teachers is necessary if change initiatives are going to be successful. Increased student efficacy and adoption of new classroom behaviors occur more readily in an environment that supports collaboration.

Transitions in the change process. A description of the stages of concern that occur as an organization changes an institutionalized practice is graphically portrayed by Busick and Inos in Hall and Hord's book Implementing Change (2001). This implementation dip (See Figure 1, Implementation dip) shows how a change has been designed and developed by implementers at the school district level and introduced to colleagues. As individuals attempt to put an innovation into practice they struggle to make the innovation work, and they go through the dip of difficulties before they reach the top and emerge at a higher level, which is an improved status. What appears to be clear is that people who have to put an innovation into practice may suffer to some

degree during change – experiencing anger, uncertainty, disorientation, and various other forms of stress and trauma (Hall and Hord, 2001). Awareness of the seven stages is needed as change agents seek an antidote to the trauma of change. The seven stages are not necessarily a straight journey through each stage. Participants may be at one stage and then return to a different stage or simultaneously be at different stages. Individuals or staff members may also become entrenched at one stage and fail to implement the innovation.

Stage zero individuals are at an awareness level and show little concern about or involvement with the innovation. Individuals don't expect the innovation to affect them so they give little attention to it. Stage one individuals are interested in learning about the innovation. There is a general awareness of the intervention and an expressed interest in learning about the innovation. Stage two entitled personal is the stage where an individual is uncertain about the demands of the innovation. An individual questions their role in the innovation. In the corporate sector, which is also interested in transitional phases, Bridges (1991) labels this stage as endings. An individual in the ending stage may experience a sense of loss or grief over teaching practices that must be left behind. Scott and Jaffe (1989) would label the personal stage, denial and resistance, suggesting that individuals at this stage are focused on the past and deny or question the need for change.

The third stage is management; an individual's attention at this stage is on processes and tasks of using the innovation. During this stage individuals and organizations operationalize the innovation. They think about the possibilities the

innovation can bring, but they are uncertain about how things will work. This stage is characterized by chaos (Hall and Hord, 2001). The management stage has been given different names by various researchers. The management stage is identified as the

IMPLEMENTATION DIP

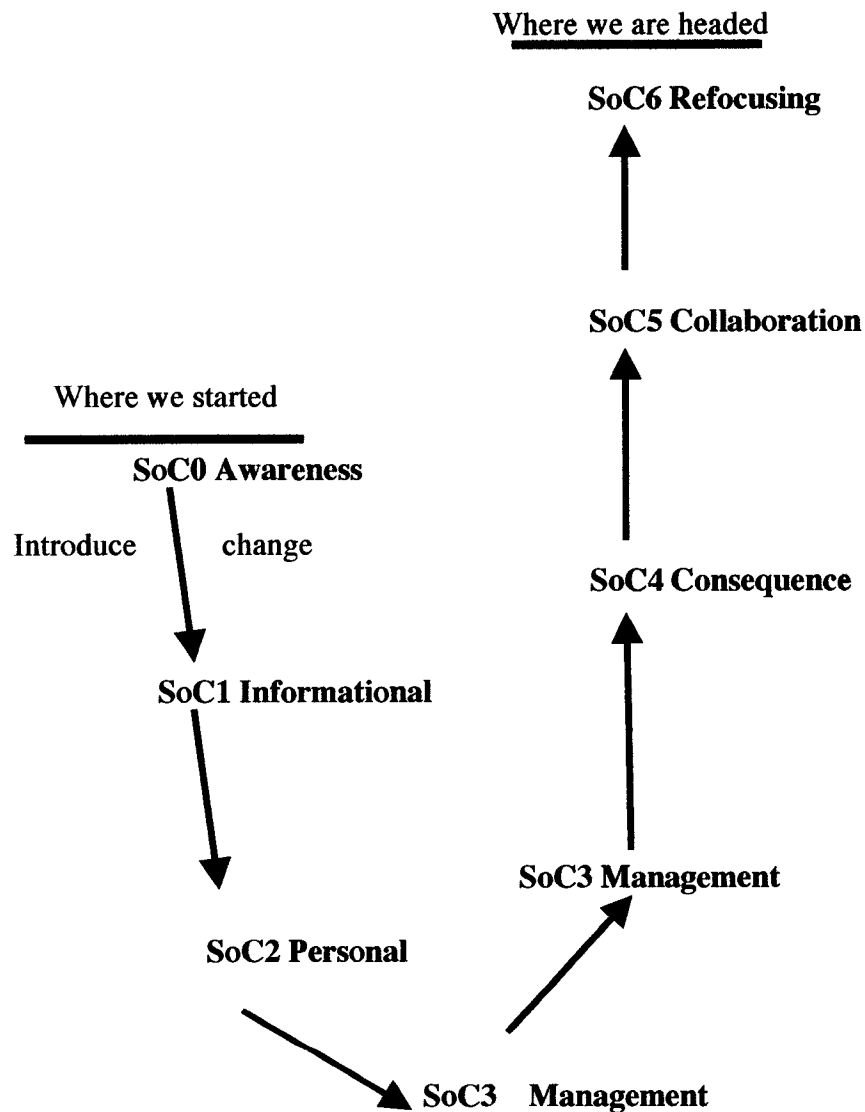


Figure 1. Implementation Dip. Using Stages of Concern to Explain the Implementation Dip From Implementing Change: Patterns, Principles, and Potholes by Gene E. Hall and Shirley M. Hord, 2001, Allyn and Bacon, Boston.

as the explorations phase by Scott and Jaffe, (1989) the neutral zone by Bridges, (1991) and the dip by Fullan, (1992). Individuals at this stage are focused on the past and deny or question the need for change. Individuals at this stage are fearful and uncertain and express these emotions often as resistance to the new innovation. Individuals in the fourth stage, consequence, are focused on the impact that the innovation may have on its clients. The focus is on relevance for clients and evaluation of the outcomes. Individuals in the fifth stage are concerned with coordination and cooperation with others regarding the use of the innovation. The sixth stage is the refocusing stage, individuals are now ready or thinking about how to replace the innovation with an even more powerful alternative (Hall and Hord, 2001, p. 193).

Assessing and evaluating change process. Change agents who are attempting to implement a change to standards-based education need information about where individual staff members are in the process to provide appropriate aid and support to each individual (Guskey, 1993). All aspects of a change process need to be assessed and change agents need to modify and adjust interventions and professional development activities based on the results of assessments.

By knowing a teacher's level of concern the appropriate intervention can be devised by the change agent. Interventions designed to facilitate change need to be aligned with the concerns of those who are engaged with the change. The monitoring of the change process should include regular and ongoing assessment (Hall and Hord, 2001; Guskey, 2000).

Professional Development Literature

Professional development is the process of improving staff members' skills and competencies needed to produce outstanding educational results for students (North Central Regional Educational Laboratory, 1999). Teachers' effectiveness, their skills, attitudes, and behaviors have a profound effect on student achievement. Marzano found a thirty four-point percentile gain in student achievement, if a student attended an effective school. Twenty-seven points of this gain are dependent on whether the student had an effective teacher (Marzano, 2003). Clearly the literature on professional development is important both at the beginning of a reform initiative and during the implementation phase (Moffet, 2000).

The implementation of standards-based education requires the willingness of teachers to take on new roles and responsibilities. Research has shown that quality staff development determines whether an innovation lives or dies (Berman & McLaughlin, 1977; Huberman & Miles, 1984; Louis & Miles, 1990; and McBeath & Reyes, 2003). An assessment of school personnel's status with regard to key features of their professional development, which this research provides, supplies the background data needed to support high quality staff development. An examination of what is and is not effective professional development provides a key to implementing standards-based education.

What is high quality staff development? How can a school, district, or state create a professional learning program that will support the implementation of standards-based education? What is the best process for creating an exemplary

professional development program? To find the answer to these questions, the research literature of professional development will be reviewed to determine: 1) what criteria are used to create a successful staff development program; 2) what key principles or components must be in place to provide meaningful staff development; and 3) what specific factors need to be considered when creating a professional development plan.

Criteria for a Successful Staff Development Program

Professional development literature has provided an extensive body of knowledge about how to sustain effective staff development. Within, the last decade thirteen different lists of characteristics of effective professional development have been published (Guskey, 2003). Research that includes information on best practices and that supports teachers' intellectual development, content knowledge and pedagogy have been developed. The characteristics identified vary widely, but some common themes are evident in most lists.

Content and pedagogical knowledge. One of the most prevalent characteristics cited was the enhancement of teachers' content and pedagogical knowledge (Guskey, 2003). Many researchers have recognized the importance of focusing on teacher intellectual development, content knowledge, and pedagogy (Western Regional Educational Laboratory, 2000; North Central Regional Educational laboratory, 1999; National Association of Secondary School Principals, 1996; Colburn, 1993). Content and pedagogy need to be addressed at the same time, not as separate issues (Consortium for policy research in education, 2001). Helping teachers to understand more deeply the content they teach and the ways students learn that content appears to be a vital

dimension of effective professional development (Guskey, 2003: Consortium for policy research in education, (CPRE), 2001).

Time and resources. The provision of substantial time and resources for professional development was listed as a key element in several recent studies. In 1996, the Carnegie Foundation in conjunction with the National Association of Secondary Schools Principals released a report entitled, “ Breaking Ranks; Changing an American Institution” (1996). One of their key recommendations in the study was, “The high school – with the help of the school district – will provide adequate funding, time, and other resources to ensure that professional development is a continuous ongoing process. This recommendation was echoed by Western Regional Educational Laboratory (2000), North Central Regional Laboratory, (1999), and Colburn (1993). A fundamental lesson about school reform from the past decade is that far more time is required for staff members learning. But just providing time and resources will not solve the problem. As Guskey states, “ professional development surely requires time, it’s clear that the time must be well organized, carefully structured, and purposefully directed” (Guskey, 2003). In a survey study completed in 2003 (McBeath and Reyes) found, “... more than one-third of principals believed teachers had benefited from more planning time, but only a small majority of teachers who would be most likely to know if they had such time, agree” (2003).

Collegiality and collaborative exchange. The importance of collegiality, collaboration and an environment that supports teacher growth is another concept that has been documented in recent research. Staff development needs to be focused,

ongoing, organizational learning built on collaborative reflection and joint action (Western Regional Laboratory, 2000; North Central Regional Laboratory, 1999; National Association of Secondary School Principals, 1996; Colburn, 1993).

Linda Darling- Hammond states that schools must be restructured and personnel reallocated so, “ teachers have time to work intensively with students and collaboratively with each other” (1997). The type of collaboration should include time for educators to work together, reflect on their practices, exchange ideas, and share strategies (Guskey, 2003 and Colburn, 1993). It must be remembered that teachers can collaborate to block change or inhibit progress so the collaboration should be structured and purposeful (Guskey, 2003). Hargreaves suggests that the “central task in creating cultures of educational change is to develop more collaborative working relationships between principals and teachers” (1997, p.2).

Evaluation of professional development. The standards movement along with the push to increase the use of data in educational decision-making has intensified the pressure on school administrators to prove that professional development is showing positive results (Kelleher, 2003). Recent research has highlighted the need to not just evaluate whether a staff member was satisfied with professional development activities but if the activities offered improved teaching and learning of the students (Darling-Hammond, 1997). Personnel will not benefit from more staff development, if the time is not used to increase skills or efficacy. McBeath and Reyes found in 2003 that nearly half of the Alaskan educators they surveyed mentioned increased professional development activities and in-services. However, the vast majority of principals

believed they had encouraged staff development, whereas less than a majority of teachers claimed to benefit from it (2003). If a teacher attends a conference, or experiments with a new idea how will the teacher or the district know or evaluate if student learning has been affected?

Context and culture of professional development. Research over the past 15 years reinforces the fact that context matters. In their 1993 study, Contexts that Matter for Teaching and learning, McLaughlin and Talbert found that the cultural norms that characterize the context in which teachers work heavily influence teachers' sense of efficacy with students. Studies also confirm that schools with weak professional learning communities are instructionally ineffective with students (Little, 1982; Rosenholrz, 1989; McLaughlin, 1990, McLaughlin and Talbert, 1993; Newman and Wehlage, 1995). Sarason warns that school reform programs are destined to fail if school and district leaders don't examine whether the culture of the school and of the district support the desired report (1993).

Specific Factors Effecting Professional Development Examined

The following factors have been identified as being crucial in establishing a school improvement plan: educational structure, organizational stress, implementation history, sponsorship or administrative support, target readiness, cultural fit, leadership or agent capacity, motivation incentives, communication, and integration, or the role of teachers in change process (Colburn, 1993; Schmoker, 1993; Guskey, 1999; Little, 1997; Darling-Hammond, 1999; Joyce and Showers, 1988; Alexander, 1995, McLaughlin and Talbert, 1993). These specific factors were also used in this study to

assess the acceptance of change to standards-based education. To obtain a clear understanding of the importance of these factors in accelerating acceptance of change, the literature of professional development with regard to these factors was reviewed.

Structure. Educational structure refers to how a school is organized, for example, grade levels, classes, school levels, and departments. Structure is reflected in a school's organization hierarchy; who directs whom. Quality expert W. Edwards Deming (Cited in Colburn, 1993) estimates that 85 percent of the barriers to improvement reside in an organization's structure and processes, not in the performance of individuals. Linda Darling Hammond suggested that school leaders can institutionalize professional development by altering the schedule to allow time for ongoing staff development in the form of team planning, joint discussion of student work, data collection, and peer coaching (Darling-Hammond, 1997).

Organizational stress. Organizational stress is measured by how much stress an individual is facing due to changes in the organization. If a teacher or principal feels overwhelmed by the changes demanded, the outcome might be stress or burnout. This finding is important because there is a difference between standards-based reform and reforms that have preceded it. Standards-based education is a complex change. More teacher time must be allocated if the reforms currently being implemented are to reach their full promise. Research suggests fragmentation and overload have characterized many previous school improvement efforts, this dangerous fallout causes feelings of being overwhelmed, and as a result, reform stops dead in its tracks (Moffett, 2000). As stated in Racing with the Clock, (Adleman, Walking Eagle, and. Hargreaves 1997),

research has found the psychological highs and lows of the change process are related to the magnitude of the demands on teachers' time (Adelman, Walking Eagle, and Hargreaves, 1997). Research suggests that the majority of teachers do their best work during their first seven years after that they start to decline. The reasons given for this is: isolation, lack of professional recognition, and the need for pats on the back. According to Schmoker (1993), without this nurturance a feeling of " helplessness and the inevitable accumulation of negatives start to dominate" (p. 70).

Implementation history. Past implementation of an innovation by a school or district have taught the staff members what to expect in the current implementation. An understanding of implementation history of an organization provides staff developer's information on how to guide the new initiative. Creative innovations depend on breaking metaphorical connections (See Figure 2, Implementation of new innovations) with old facts and feelings and then inventing connections with new facts and feelings (Rothenberg, 1976, p. 255). By knowing the facts and feelings about learning from the past, the implementation of new learning can be built into organizations' normal structures and practices (Fullan and Miles, 1992 and Miles and Louis, 1990).

Sponsorship and administrative support. A school principal affects the autonomy that teachers have regarding classroom decisions, participation in school-wide decision making, opportunities for collaboration, and the allocation of resources (Firestone and Pennell, 1993). "How the principal and teachers are able to organize and coordinate the work life of the school, shapes not only the learning experiences and achievement of

students, but also the environment in which this work is carried out” (Heck, Larsen, and Marcoulides, 1990, p.122).

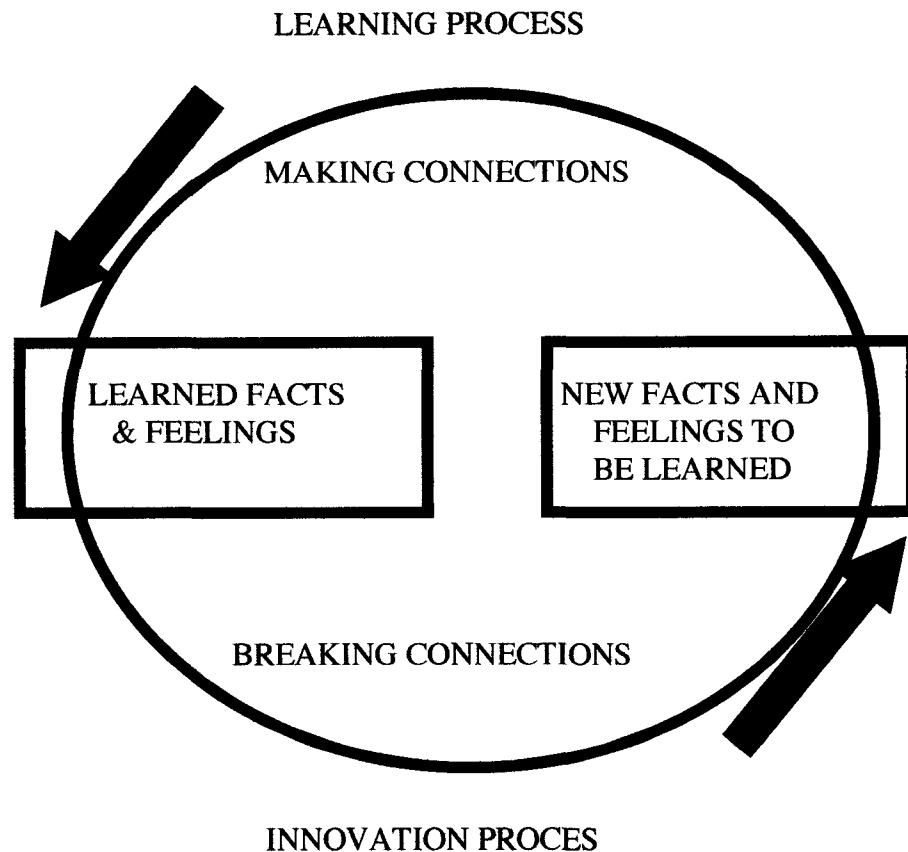


Figure 2. Implementation of new innovations

There is no optimal style for all school principals. What seems to matter most is the fit between the principal’s leadership style and the various subcultures in the school community (Reed, Smith, and Beekley, 1997; Smith and Andrews, 1989; and Wilson and Corcoran, 1987). Principals’ behaviors also determine in large part teachers’ perspectives toward professional development and their commitment to improvement (Anderman, Smith and Belzer, 1991; Newman, Rutter, and Smith, 1989).

Target readiness. Determining a school or district's readiness for change involves assessing the organization's advocacy, support, accommodations, facilitation, and recognition of those involved in the improvement process (Guskey, 1999). This determination is called organizational capacity. Within the context of organization reform capacity, is the ability of the education system to help the educators who work within that system do whatever is necessary to accomplish the reform (Guskey, 1999 p. 173). Managing sources of resistance to change is necessary if the professional development project is to be successful. Little (1997) asserts that highly effective schools are those that are able to weather the conflicting policy mandates and practices to which they are subjected and still maintain a clear path with well-established goals to interact and dialogue among people using the new materials.

Cultural fit. Understanding how well a new innovation or process fits with the culture of the school gives direction for how to proceed and determines the type of staff development that is needed. Change agents must be aware of the history and culture of the building. A problem arises when individuals become so universally in favor of tradition that they cannot see the need for and desirability of change in specific areas. If a person is truly grounded in the past, and feels strongly that changes in the past 20 to 30 years have diminished rather than enhanced the quality of life, he is unlikely to be motivated to embrace the new innovation (Adams, 1986, p.64). A school's culture reflects its members' values, beliefs and behaviors. Without a supportive environment where they truly believe and feel commitment to the changes, teachers may comply

with administrative expectations, but they will rarely make the innovations part of their own professional repertoire (Owings and Kaplan, 2003, p. 62).

Agent capacity and leadership. Most educators view professional leadership as something that belongs to persons who fulfill official leadership roles (e.g. administrators, supervisors, and staff development specialists) or persons with status based on their professional activities (e.g. researchers, professors, outside consultants). A school that has consistent leaders who place high priority on change efforts and allocate time and money toward the change is critical to the success of the reform. In schools that experienced a change in leadership and shifting budget priorities, reform efforts slow. Pink (as cited in Fullan, 1990) and Huberman, and Miles, (1984) confirm the importance of ongoing assistance in their detailed examination of 12 case studies of innovation. Huberman and Miles state, “Large-scale change-bearing innovations lived or died by the amount and quality of assistance that their users received once the change process was underway...” (p. 273)

Motivation incentives. Unfortunately, the teaching profession has not had a tradition of providing incentives for teachers who want to develop high levels of expertise targeted on improving the work of other teachers or creating materials or organizational structures designed to improve the school as a whole. It is important to provide incentives for teachers to pursue new strategies. Alaskan educators reported in a recent survey by McBeath and Reyes that the standards and accountability system of the state have initiated more work and less compensation. The following paragraph

from this study illustrates the frustrations that personnel especially rural educators are experiencing.

Most educators reported an increase in their workload due to Alaska's implementation of high stakes testing. Of teacher respondents, 71.3% of rural and 59.7% of urban teachers saw themselves spending more time, without additional compensation, at school and with students. About 84% of both rural and urban principals believed they were working more hours to respond to assessment requirements. Nearly a third of the teachers 30% rural and 32% urban believed they had no input in the changes – accost to their feelings of efficacy – as compared to only 11% of the site administrators who lacked input. (McBeath and Reyes, 2003).

Guskey (1986) suggests that evaluation and reports on professional development should be provided on an ongoing basis and this information would be an incentive to teachers. Evaluation provides teachers with information and motivation they need to continue effective practices.

The Holmes Group, made up of the deans of education of several major universities, has expressed the view that the flat career pattern of the typical teacher is itself a deterrent to self-improvement and professional ambition. This group recommends a three-tiered system of teacher licensing that prescribe career phases: 1) an entry phase, 2) a professional phase, and 3) a career professional phase (Alexander, 1995)

Monetary rewards can be used to express appreciation and spur additional effort. But if such rewards rank employees or result in gross disparities, they could be potentially demoralizing and even undermine a willingness to share the expertise essential to continuous improvement. According to Schmoker (1993) there is a “ need to work much harder to connect effort to purpose to what satisfies people’s intellectual, spiritual, social, and economic needs and desires” (p. 160). No matter how talented the problem-solver, frustration and detail work are inescapable in problem solving. “ Unless you truly want to solve a problem (for pleasure, money, prestige, comfort, or whatever) you probably will not do a very good job” (Adams, 1986, p. 64). Different people are motivated by different needs and rewards. In order to captivate, motivate, and sustain teacher interest and development it is necessary to provide differentiated carrots.

Communication, resources, and clear goals. Successful implementation is dependent upon effective communication. Clear goals and a rationale are necessary at every level of the organization, and must be communicated in a frame of reference for each group. Guskey and Sparks (1996), after reviewing research studies on the conditions that are necessary for lasting educational improvement, concluded that although teachers and administrators are the prime targets of professional development efforts, any school employee who has an effect on student learning should also be included. Change only comes with experimentation and adaptation, both of which require access to plentiful resources, often in the form of people whose experience, expertise, and empathy can be drawn upon as needed. R. Murray Thomas stated in his

book Overcoming Inertia in School Reform (2002), that the complex force that resists change is increased in proportion to the difficulties proponents of a change experience in communication clearly to the program's participants.

Integration or the extent of the groups' involvement in the change effort.

Integration refers to the level in which a group is involved in the planning and implementation of change. To examine how a teachers' role might be restructured, one must analyze the process of total quality management, the creative process, what roles a teacher might fulfill, and the environment/culture that is necessary for the changing roles. Corcoran stated that too often school leaders undermine the legitimacy and effectiveness of professional development by failing to include participants in planning and delivery (1995). McLaughlin and Talbert (1993) found in a five-year study of nearly 900 educators, that teachers who belonged to strong professional communities were better able to adapt to challenges of teaching today's students.

Factors for Creating an Effective Professional Development Model

Research has shown unequivocally that professional development is most effective when it is embedded in teachers' work (Kelleher, 2003). The best professional development helps teachers to think critically about their practice, to develop new instructional strategies, along with new techniques for creating curricula and assessments; and to measure how new practices have affected student learning. Professional development activities should be linked to district goals as well as outcomes for students (Kelleher, (2003). A recent review by the consortium for Policy Research in Education, found that when decisions about professional development were

primarily school-based, staff members paid only lip service to research and were more interested in programs similar to what they were already doing than in those producing results (Corcoran, Fuhrman, and Belcher, 2001). This review disagrees with other reviews which stress that professional development should be school-or-site based. The nuances of context are difficult to recognize, but context may be the reason why programs that appear quite similar may produce different results. What is clear is that nearly all professional development takes place in real-world contexts and the complexities of these varied contexts introduce a web of factors that influence whether or not a particular characteristic or practice will produce the desired results (Guskey, 2003).

For change to occur teacher ownership is essential. When it comes to changing teachers' practices, school wide involvement is essential. Recognition of the teacher's reality means identifying the obstacles a teacher faces when trying to change practice. Two factors that must be acknowledged are inadequate preparation time and that a teacher's worth is measured by his or her control of students (Leiberman, 1995). Strong support must be in place if the teacher is to step into the unfamiliar territory of new and innovative teaching strategies (Swanson, 1996). Analyses of student learning data typically show that greater variation exists between classrooms within a school than between schools or between districts (Kifer, 2001). Some teachers in every school have found ways to help students learn well and by identifying the context, practices, and strategies of these teachers a highly effective staff development program could be formulated (Guskey, 2003).

The key finding from an extensive study of eight schools by Western Regional Educational Laboratory was that teacher learning made a difference because the very nature of staff development shifted from isolated learning and the occasional workshop to focused, ongoing, collaborative reflection and joint action ((2000). Research may never agree on a single list of characteristics leading to broad-brush policies and guidelines for effective professional development, but by agreeing on criteria for “effectiveness” and providing clear descriptions of important contextual elements, improvement can be made (Guskey, 2003). Instead of searching for the perfect prescription for implementing a standards-based curriculum, individual schools and districts may be more successful with reform if they were to use an analysis of their own strengths and weaknesses to formulate a comprehensive, tailor-made, continuous improvement plan which recognizes that individual teachers have different professional development needs.

Implementation Literature

In order to implement a policy it is necessary to understand what actions an educational organization needs to take to ensure the implementation of a change initiative. A review of implementation literature will provide an understanding of the factors that have affected the implementation of change initiatives, and reinforce the need for an assessment of educational personnel’s readiness to change and their history of past implementations.

Relationship Between Policy, Implementation and Evaluation

An understanding of implementation must be derived from the nature of the implementation process and the nature of the conceptual framework from which new curricula and programs are developed. What actually happens after a program is enacted or formulated is the subject of policy implementation. Implementation is concerned with events and activities that occur after policy is set. It includes both the effort to administer and the impact on people and events. Implementation of new curricula, or programs differs from the adoption of a new product by a potential user. It involves changes in both responsibilities and activities.

Policy implies theory, promises, and performance. A policy value, therefore, must be measured not only in terms of appeal, but also in light of its implementability. The role of the evaluator and implementor are often blurred. In practice often they are the same people, public officials. Although an evaluator and implementer are interrelated they must be separated to some extent (Pressman and Wildavsky, 1984). The evaluator collects and analyzes data to provide information about program results. The implementor uses this information to check on past decisions and to guide future actions. Implementation involves learning from evaluation. Implementation should be used as a buffer to keep analysis separated from action. Evaluation is about learning and understanding what has happened or might happen while implementation is program action. Policy can be a statement of intent such as a policy is to hire minorities. Policy is a broad statement of goals and objectives; it does not state what has been done or should be done or how we will accomplish the goal. The policy is to

hire more minorities, it does not typically tell us how to do it. For many years it has been policy to train and hire more Alaskan Natives for urban and rural schools. The size of the Native student population in the state is about 20%, however, only about 2.5% of the total teaching force statewide is Native Alaskan (McBeath and Reyes, 2003).

In order to clarify and analyze the reason why promises (policies) are not kept one needs to have a workable definition of implementation. Pressman and Wildavsky (1984) clarify the nature of implementation in this formal definition:

Implementation is the carrying out of a basic policy decision, usually incorporated in a statute, but which can also take the form of important executive orders or court decisions. Ideally, that decision identifies the problem(s) to be addressed, stipulates the objective(s) to be pursued, and in a variety of ways, “structures” the implementation process. The process normally runs through a number of stages beginning with passage of the basic statute, followed by the policy outputs (decisions) of the implementing agencies, the compliance of target groups with those decisions, the actual impacts, both intended and unintended, of those outputs, the perceived impacts of agency decisions, and finally, important revisions (or attempted revisions) in the basic statute (p. 18).

The Rand change agent study demonstrated that the extent and direction of change at a local level was the result of local factors that were not under the control of the higher level of policymakers (McLaughlin, 1990). The study found that local

reactions to a new policy or program have a greater significance for outcomes than do characteristics such as technology program design, funding levels, or government directives. McLaughlin identified three of these reactions: co-adaptation, mutual adaptation and non-implementation. Gredler added two more, treatment diffusion, or project seepage, and reactivity of study participants.

In a co-adaptation situation, project strategies are modified to conform in a per forma fashion to the traditional practices the innovation was expected to replace. This can occur because of resistance to change or not enough assistance from the implementors. Mutual adaptation of the project design means that a local institution will modify the original design to suit the needs of its local setting. Local beliefs and practices change or influence the ways that the innovation will be interpreted and implemented. Non-implementation or no treatment refers to projects that are never installed by the system or break down during implementation. This can happen in a number of ways but the end result is the same, it just doesn't happen. In a non-implementation situation teachers may not receive all the materials or the materials do not go to the targeted group or, perhaps, the materials are never unpacked or are lost in the mailroom at central office.

Treatment Diffusion, or project seepage, occurs when implementors separate the control and treatment groups. Teachers may loan new material to the control group or principals may find ways to get the new materials for their students. The concern is that the variation among classes using an innovation may be equal to or greater than the variation between the innovative and conventional classroom. Three reactive responses

have been identified by Thompson (1967) as: 1) John Henry effect, effort is exerted by teachers in the control group to outperform the innovation group, 2) Control group teachers may become demoralized and behave in the classroom in ways that are less effective than their typical teaching, and 3) Innovators are perceived as the recipients of goods and services that the control group does not have. In an attempt at equity, principals will compensate and give other teacher's related goods and services. The local beliefs and conditions must be addressed if the implementation process is to be clearly understood.

Factors That Influence The Implementation Process

The development of exciting new curricula or appealing policies does not necessarily lead to successful change processes. One must address the requirements for implementation (Hall, 1992). The discrepancy that exists between what people perceive to be the actual state of affairs and what they consider to be the ideal state of affairs arouses a need to change. In order to strengthen the need to change the system, it is the job of the school change agent to encourage individuals in the system either to see things as they actually are, or to see things as they could be. Failure to implement may result either from overestimation of what can be accomplished or from the underestimation of ability of the schools to implement. In a 1995 study it was determined that: "the institution with all its historical baggage tended to shape what teachers believe in, what they want, and what they know, and bring to bear on decisions" (Weiss p.593). Specifically, the study found that the interests, ideology, information, and institution rules and cultures all had an impact on the development and

introduction of new materials into the classroom. The interaction of these four factors is illustrated in Figure 3, Factors Shaping Implementation. These four factors, and their interaction, profoundly affect the implementation process. By examining research in these four areas it will be possible to form a picture of why it is necessary to assess educational personnel's attitudes and beliefs, and what attitudes and beliefs should be, in order to accelerate the change to standards-based education.

Interests. The interests of educational personnel refer to the disposition of the educational personnel to a particular proposed innovation. Interests are the topics and activities in which people willingly invest their time and efforts (Thomas, 2002, p. 23).

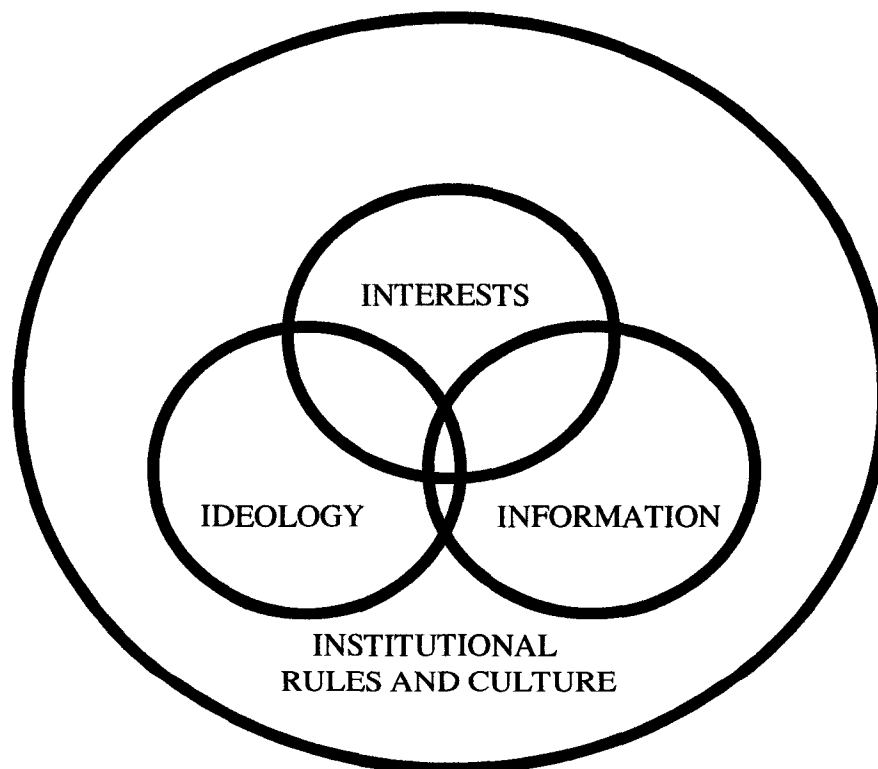


Figure 3. Factors Shaping Implementation

Legal and procedural differences may appear in the implementation process if people feel their interests are being impinged on (Pressman and Wildavsky, 1984, p. 100).

Substantive goals may not be reached if teachers' interests and needs are not recognized and addressed.

When it comes to changing teachers' practices, school wide involvement is essential. Recognition of the teacher's reality means recognition of the obstacles a teacher faces when trying to change her or his practice. These realities include a lack of time for preparation and reflection and the measure of a teacher's worth by his/her control of his students (Leiberman and Miller, 1990). Even if educational personnel were in agreement that a change in practice should happen, if they believe they don't possess the power to make it happen, it wouldn't happen. Teachers may agree with proposal, but they may lack the resources to do much to help it succeed (Pressman and Wildavsky, 1984, p. 100).

Teachers' fear of failure is an obstacle for experimentation with innovative instruction. Strong support must be in place if the teacher is to step into the unfamiliar territory of new and innovative teaching strategies (Swanson, 1996). The perceived risk of an innovation for the welfare of participants, determines the strength of the participant's opposition to the innovation. Individuals' sense of risk may not be constant throughout the conduct of a reform effort but may change from time to time, thereby, resulting in their resisting the project more at one time than at another (Thomas, 2002).

Their interest in an innovation may be affected by the compatibility of this project with other interests. Pressman and Wildavsky (1984), suggest that an innovation may be directly incompatible with other commitments, or there may not be any direct incompatibility, but they may have a preference for other commitments. It is also possible that an individual may have simultaneous commitments to other projects and thus not have time or the attention to direct to this project. For this reason it is necessary for a change agent to be aware of the interests and attitudes of the group in order to implement an innovation or change of practice successfully.

Ideology. The individual's philosophy, values, and political orientation comprise the ideology area. Individuals base their judgments of innovation on their personal values and their expectations of how a reform would likely evolve (Thomas, 2002). Gordon Cawilti (1995) observed that while one can point to a few isolated changes the more traditional ways of educating students still dominate the scene. Implementation of a new program or innovation ultimately depends upon the teacher who is the direct agent of change. The extent to which the teacher can deliver the change depends on the degree of role change and the teacher's belief system.

The more extensive the role change, the more resources and time will be needed to make the required change. A faculty needs opportunities for role-playing, applied practice, and feedback. In the absence of resources targeted to assist teachers to construct alternative conceptions of teaching, new practices are likely to be adapted to fit the teachers' belief systems (Gredler, 1996). As teachers attempt to progress from familiar practices to new ones, they often force new ideas into familiar practices and the

end result is a no-treatment project. For example, teachers may use new textbooks but supplement with worksheets they have always used in the past. Hence, the new approach is lost.

Information. The range of knowledge and ideas that educational personnel possess have an effect on the implementation of the innovation. Without sufficient or correct knowledge and information about an innovation it is difficult to make sense of the current state of affairs or what the future state of affairs should be. Information about an innovation or new program is essential if the change agents and school personnel are to implement the change successfully. Implementation is also not an all-or-nothing activity. Studies of implementation experiences indicate eight stages in a non-use/use continuum: 1) non-use, 2) orientation, 3) preparation, 4) mechanical, 5) routine, 6) refinement, 7) integration, and 8) renewal. Implementation is a developmental phenomenon during which teacher concerns and practices evolve and change (Gredler, 1996, p. 277). Knowing the educational personnel's level of non-use/use on this continuum could provide assistance to the implementation process.

Change only comes with experimentation and adaptation, both of which require access to plentiful resources, often in the form of people whose experience, expertise and empathy can be drawn upon as needed. Approaches to change are based on two critical assumptions: (1) that the new knowledge will be perceived by potential adopters as desirable, and (2) that adopters, being rational and reasonable, will do what is desirable because it is in their own self-interest (Owens, 1991).

Institutional rules and culture. The modus operandi of an educational organization involves the structure culture, standard operating procedures, decisions, and rules of the organization. Guskeys' research indicates that, " Schools that have the greatest success in reform efforts display a sense of collective commitment and responsibility for students, combined with a set of cultural norms that stress ongoing reflection and improvement" (2000, p. 174). Factors of an institutions' culture which directly affect successful implementation include; the degree to which experimentation and alleviation of fears is addressed, the amount of collegial support, and the degree to which success is recognized.

The culture of a school is created in part by the type of leadership that is available in the school setting. If school personnel struggling to implement a new innovation are dependent on others who lack a sense of urgency for the project, the implementation may be slowed or fail completely. Another leadership issue which could delay or stop implementation is, a difference of opinion on leadership and the nature of the organizational goals that exist in an organization (Pressman and Wildavsky, 1984).

In a study conducted by Leithwood and Montgomery (1982) high school principals, were rarely perceived as exerting strong leadership in instructional improvement, in leading staff development, or involving the teaching staff in planning activities, but they scored higher in governance related issues such as exercising authority in decision making and developing school-community relations. These findings support research studies (e.g. Leithwood and Montgomery, 1982) that

concluded that principals in high-achieving schools involve teachers to a much greater extent in instructional decision making. It is not likely that much progress will be made improving schools unless there is acceptance that leadership within the school should be different. Teachers need to begin to invent their own practices. How the principal and teachers are able to organize and coordinate the work life of the school, shapes not only the learning experiences and achievement of students, but also the environment in which this work is carried out (Heck, 1992).

Sergeovanni (1996) asserts that borrowed practices are not creating proven miracles because of the law of proximity. This law goes with the law of conservation of information. This means that no matter how refined a model becomes or how effective a model is translated into practice, it cannot enlarge the premise upon which it rests. This premise for schools is formulated by institutional rules and culture. Participants in implementation need to be involved and need to see an innovation as part of their schools' overall direction.

External support for an innovation. Schools are bureaucratic institutions within communities and have additional constraints imposed by that factor. Schools always require support from the outside world and teachers and administrators must be sensitive to the goals of those who pay for their operation. Particular goals will vary across communities and cultures. Despite or perhaps because of local control, schools in the United States are subjected to many powerful pressures from agencies such as organizations of teachers and administrators; unions, school boards, state legislatures, and the voting public. It should be noted that those in position of most power often

know little or nothing about the daily practices of education. These combined pressures make it very difficult for individual teachers to operate with much sense of autonomy. External agencies often attempt to institute far-reaching reforms from the top. Schools, like other bureaucratic institutions, have developed strong protective mechanisms that often preclude any meaningful kind of reform or sabotage a new innovation before it has a chance to take hold.

Implementing Appropriate Educational Policy

In the last decade, the needs of society have changed at a rate that has caught schools unprepared. The demands for a higher level of education for all students, created by the workplace requirements of the Information Age, combined with the most striking changes in the demographics of the American student body since 1910, have challenged educators' ability to meet the needs of all students and have led observers to conclude that the American public schools are failing. This crisis has been described over fifty times in major reports from A Nation at Risk (1983), to Toch's In the Name of Excellence, (1991) to Cultural Literacy (1988). These reports differ in many respects but all share a common belief that something has to be done (Saphier, 1993),

Historically, change in American education was viewed largely as a natural diffusion. New ideas arose from somewhere and spread in some unplanned way from school to school and from district to district. Robert Owens (1991), quoting Paul Mort, stated:

There was a pattern to this unplanned process of diffusion. Educational change proceeds very slowly. After an intervention which is destined to spread

throughout the school appears, fifteen years typically elapse before it is found in three percent of the school systems After practices reach the three- percent point of diffusion their rate of spread accelerates. An additional 20 years usually suffices for an almost complete diffusion in an area the size of an average state. There are indicators that the rate of spread throughout the nation is not much slower (p. 211).

The majority of teachers and administrators are trying to make school a better place for learning. Yet progress, is frustratingly slow. As Pasco County, Florida Principal, Robert Down (1995) explained:

Our district has tried numerous strategies... but these measures alter the nature of the system without addressing the root causes of the problem. We have audited our rules for compliance purposes. What needs to be examined now is the unhappy consequence of these efforts; there have been no significant improvements in student achievement patterns. These innovations have failed to eliminate poor instruction and ineffective and redundant curricula. This raises the question of exactly what our professional roles are going to be to help more students become prepared for a new century (Down, cited in Sergiovanni, 1996, p. 1).

The great problem here is to make the difficulties of implementation a part of the initial formulation of policy. Implementation must not be conceived of as a process that takes place after policy development, nor is it independent of the design of policy. Means and ends can be brought into closer correspondence only by making each

partially dependent on the other and by gearing programs more directly to the demands of those executing them. To implement, attention must be paid not only to the creation of policy, but also to how it will be executed. It is not enough to simply have a great idea; one must carefully monitor and adjust as implementation is pursued.

Increasing productivity is not a problem that can be solved by installing new accountability systems, teaching administrators improved purchasing techniques, or using superior technology. It is a challenge to make needed improvements to the organizational culture, problem-solving and decision making structures, incentives to change, skills in managing collaborative planning and implementation, mutual support and communication, opportunities for relevant training etc. in which people work. In order to do a better job of implementation it is necessary to assess the beliefs and attitudes of the educational personnel who will be implementing the innovation.

CHAPTER THREE

Research Methodology

The research design for this study includes both qualitative and quantitative analyses that employ the survey cross-sectional approach. The purpose of this study was to provide a descriptive study of all aspects of the change to standards-based education. The study compiled information about staff members' perceptions, attitudes, and skills in dealing with standards and assessments. In this chapter the research design used to carry out the study will be explained, research methodology for each research question, the research timeline, instrumentation reliability and methods used to obtain data, sampling procedure, data collection and an initial and in-depth analysis will be described. This methodology evolved, to some extent, and took definite shape as the study progressed.

Research Design

The instrument, used with permission, to collect data about the change to standards-based education included two surveys developed by Implementation Management Associates, Inc (IMA). The reliability of the Implementation History survey used to ascertain previous implementation barriers and successes and the Individual Readiness Survey administered to determine current readiness to change to standards-based education is quite high. Detailed information on the reliability of the instrument will be provided in the instrumentations section of this chapter. The complete questionnaire included: Implementation History Survey, Individual Readiness Survey, ten background information questions (demographics), and two optional open-

ended questions (Appendix B. Questionnaire: Evaluating the Acceptance of Change to Standards-Based Education).

Implementation History

To determine what factors influence a secondary teacher's willingness to instigate change to standards-based education, a survey, entitled Implementation History, was used. The ten subscales each consisting of four to five questions includes: structure, organizational stress, implementation history, sponsorship, target readiness, cultural fit, agent capacity, motivation, communication, and integration. A final factor belief consisted of just one question, which simply asked if the participant believes that today there is a high probability of successfully implementing standards-based education. These factors were identified by IMA and educational research literature as having direct impact on innovation and change. The complex factors, while not definitive of all possible factors affecting change, were used to determine the implementation history of individuals, schools, districts, and the state of Alaska.

All ten subscales and the eleventh section belief were totaled to arrive at a total Implementation History score. This overall score would indicate probability of how successful change initiatives may have been in the past according to the perceptions of teachers, administrators, and staff members in each school.

Individual Readiness

Individual Readiness survey measures the current prospects, for secondary schools in Alaska, for making the change to standards-based curricula and instruction. This survey was administered to determine individual and organizational readiness to

change. This survey provides change agents with a profile of how ready an individual and/or an organization is to make the proposed change. The survey consisted of twenty-five questions. Key words or phrases for the twenty-five questions were: purpose, need, solve problems, imply past performance, personal cost, organizational compatibility, personal compatibility, reward, social relations, job characteristics, habits, confidence, old ways, shift power, reversibility, loss of control, clear expectations, disruption, involvement, resources, time, past implementation, work stress, success, and credibility. All questions were totaled to arrive at a total Individual Readiness score. This overall score indicated probability of how successful change initiatives might be at this time according to the perceptions of teachers, administrators, and staff members in each school.

Demographic Factors

To determine which demographic factors are significantly related to survey factors a section was added to the questionnaire that requested demographic information from the respondents. The demographic information consisted of: 1) gender, 2) race, 3) level of experience- nine years and less or at least ten years, 4) experience in school – six years and less or seven or more at the same site, 5) grade – 9-12, 7-12 or other, 6) education years – bachelors, masters or more, 7) job– teacher or other, 8) what subject they teach, 9) Number of subjects taught, 10) strategies used, from one to four or more. Additional coding of each survey provided the following demographic information to be described: 11) size by district – 1-1000, 1001-15,000 or 15,000 and above, 12) Size by school – 1-140, 151-1000, 1001 and above, 13) urban or rural, 14) road or non-road

– able or unable to travel to the school on Alaska highway system. After the surveys were tabulated the demographic factors were compared to each history implementation factor and the total readiness score using a one-way analysis of variance test to determine if any of these demographic factors are related to survey factors.

Open Ended Questions

At the end of the questionnaire, participants were asked, "What are your greatest needs and concerns about standards-based education?" and "Do you have other ideas or thoughts about standards-based education?" Please explain" These questions were optional and used to determine participants' beliefs, attitudes, concerns, and needs about standards-based education. The optional questions also gave participants an opportunity to express other ideas or thoughts about standards-based education.

By using the data gathered from the History Implementation Profile, the Individual Readiness Profile, and other sections of the questionnaire, it was possible to analyze the strengths and weaknesses of each school and district, with regard to change to standards-based education. Other statistical tests were conducted in order to answer each specific research question. By examining the history of implementation of change initiatives, and present readiness to change perceptions, it was possible to suggest procedures, training, and policy, which will facilitate adoption of change to, standards-based in each school surveyed.

For more than 20 years Implementation Management Associates, Inc has provided consulting and training about various issues of change management. IMA representative Alaina Hale graciously allowed this researcher to use their surveys and

provided background information about their company. She also sent profiles of companies who had completed the surveys. That information allowed a comparison of business organizations' responses with Alaska's educational organizations.

Data from each questionnaire were tabulated individually using IMA's scoring procedure. A list of past change initiatives and demographic information also was tabulated. Then, all individual responses were added together and averaged to form a school profile, a district profile, and a state profile. Comparing these profiles, it will be possible to provide schools, districts, and the state with information regarding the resources and procedures that can be used to implement a standards-based program.

Research Methodology for Each Question

Research Question One

To what extent and in what manner do teachers' responses to individual items on a readiness for change survey vary when compared to average item responses of all teachers? Which items are significantly higher or lower than the overall item average?

To determine teachers' perception of their readiness to implement standards-based education, and the likelihood that teachers in Alaska can or will make the change to standards-based curriculum and instruction, an Individual Readiness Assessment survey was administered to educators across Alaska. The Individual Readiness Assessment provided an analysis of readiness for the change to standards-based education and also potential sources of resistance to a standards-based initiative. A thorough analysis of the specific reasons why and how an individual resists the change project is critical to increasing the probability of implementation success. Strategies

and tactics can be developed to anticipate likely barriers and successfully manage the implementation project toward the accomplishment of the objective. Valuable information was obtained with this resistance assessment tool. The responses to the individual Readiness Assessment were tabulated using IMA scoring guides and graphs were developed for each school to describe a school's individual profile. The scores for the Individual Readiness Survey was aggregated by district and a state profile that includes all schools surveyed also were developed.

The Individual Readiness Assessment was tabulated using an IMA scoring guide with a range of 1-100. Schools with a total score in the high range (80-90) have a strong likelihood that the school will be successful in the change to standards-based education if they continue to manage important sources of resistance. Total Individual Readiness scores in the low range indicate that significant sources of resistance must be overcome before a school can implement standards-based education. Each of the 25 Individual Readiness questions was scored individually and ranked as high (3.5-4), moderate (2.5-3.4), or low (1.5- 2.4). The 25 attribute scores and the total Individual Readiness score were examined to determine attributes that affect an educational organization's probability of implementation success.

A paired t-test was conducted to determine which of the twenty-five items differed significantly from the total mean of the Individual Readiness test completed by teachers. Only participants who identified themselves as teachers were used in this analysis. The t-test is a test of significance that attempts to establish differences between sets of interval-ratio scores. This statistical test will establish what items influenced,

either positively, no effect, or negatively, the total score on the Individual Readiness Survey. The results of the paired t-test are displayed in chart and graph form.

Research Question Two

To what extent and in what manner do individual's responses within schools on individual items on a readiness for change survey vary when compared to the average item responses across the school sites?

To determine schools' perceptions of readiness to implement standards-based education, and current prospects for secondary schools in Alaska making the change to standard-based curriculum and instruction, an Individual Readiness Assessment survey was administered to school sites across Alaska. A paired t-test was conducted to determine which of the twenty-five items differed significantly from the total mean of the Individual Readiness tests completed by 50 schools. In this analysis, the mean score will be tabulated by schools. The total sample will be used for this analysis. The t-test is a test of significance that attempts to establish differences between sets of interval-ratio scores. This statistical test will establish what items influenced, either positively, no effect, or negatively, the total score on the Individual Readiness Survey. The results of the paired t-test will be displayed in chart and graph form.

A comparison of teachers' and schools' paired t-test results on the readiness survey will be included in this section. The similarities and differences between teacher responses and individuals within schools' response will be completed. The frames of reference, either individual or individuals within schools, can supply additional insight into strategies that may accelerate the implementation of standards-based education.

Major Changes in the Last Five Years

Participants in the study were asked to list three major changes that occurred in their school to establish a framework for the study and to determine the type of changes, which have been implemented in Alaska schools. Participants who completed the questionnaire were asked to base their answers on their personal implementation experience in their area of the educational organization. They were asked to list three major strategic changes which should then be used as a reference point for the completion of the Implementation History Assessment. They were to consider standards-based education to be the change that is to be implemented. A content analysis of the changes listed in this section was used to frame research questions three and four. Results of the content analysis are displayed in graph form.

Research Question Three

To what extent and in what manner do teachers' perceptions of their experience with implementation vary across the eleven factors measured in the Implementation History survey?

To determine teachers' perceptions of their implementation history, participants in the study were asked to complete the Implementation History Survey. By examining the history of past implementations a picture can be developed of the factors that have influenced, positive or negatively, past implementation efforts. A paired t-test was conducted to determine which subscales were significantly lower or higher than the mean and which items were not statistically different than the total mean. Only teachers were used for this paired t-test. The teachers' mean score for each of the eleven

subscales will be compared to the mean score for the total Implementation History score. This statistical test will establish what items influenced, either positively, no effect, or negatively, the total score on the Implementation History Survey. The results of the paired t-test are displayed in chart and graph form.

Research Question Four

To what extent and in what manner do educational personnel's average perceptions of their experience with implementation history vary across school sites?

To answer this research question a paired t-test was used to evaluate scores of 50 schools across all eleven subscales of the Implementation History Survey. The school's average score on this survey provides an indication of the likelihood of success of the current implementation of standards-based education based on the school's history of prior implementation. All individuals' responses were averaged and the mean score for each of the eleven subscales was compared to the mean score for the total Implementation History score in order to determine which of the eleven subscales had the tendency to affect the total Implementation History scores, either positively or negatively. This statistical test identifies which items influenced, either positively, no effect, or negatively, the total score of schools on the Implementation History Survey. The results of the paired t-test are displayed in chart and graph form.

The Implementation History Assessment survey was administered to staff members in sites across Alaska. The profile of past successes and the barriers to implementing a change initiative were tabulated using the IMA scoring guide and graphs were developed for each school to create a school profile. The scores for the

History Implementation Survey were also aggregated by district and a state profile including all schools surveyed was developed.

The two sets of t-tests, teachers $n=226$ and schools $N=51$, were compared to determine differences and similarities between the two. A table was developed to illustrate the similarities and differences between teacher responses and individuals within schools responses to the Implementation Survey.

Research Question Five

To what extent and in what manner does the average response of individuals in different schools with regard to factors associated with a readiness for change and implementation history vary, when compared to the state average for schools?

Data from the History Implementation Survey and the Individual Readiness Assessment were used to identify the current successful implementation structures that could be used to implement standards-based education. This analysis also describes specific barriers that should be addressed in order to implement standards-based education. The responses to Implementation History Assessment were tabulated using an IMA scoring guide. Scores in the high range, 80-90, indicate implementation structures that had been successful in implementing other changes in the schools. Scores in the lower range, 40-50, indicate implementation structures that had not been successful in implementing change in the school.

To determine to what extent and in what manner the average responses of schools vary with regard to factors associated with a readiness for change and implementation history, when compared to the state average for schools, a measure of

dispersion will be calculated. By determining the confidence interval, that portion of the normal curve in which we think our sample falls; it will be possible to compare an individual school's performance to all the other schools being surveyed.

Research Question Six

To what extent and in what manner can demographic variables predict schools' scores on a readiness for change and an Implementation History questionnaire?

Background information was tabulated to determine which demographic factors are significantly related to survey factors. The scores were then aggregated by demographic factor to determine if there was a significant level of difference in responses by these factors (i.e. Does gender makes a difference in how respondents view the change to standards-based education?). All fourteen demographic factors were analyzed and compared to categories of the questionnaire. Demographic factors examined included: gender, race, level of experience, experience in schools, grade, years of education, job held, strategies used, district size, school size, urban or rural and road school or non-road school. The categories were assessed individually and included: History Implementation Assessment (ten categories plus overall implementation), structure, organizational stress, implementation history, sponsorship, target, culture, target agent, motivation, communication, integration, belief, and total history implementation score. The second survey's, (Individual Readiness Assessment) total score comprised the final category.

Data obtained from a content analysis of the two optional open-ended questions were used specifically to answer research question six and to add to the substance of all of the other research questions.

Research Timeline

In the winter of 1999 a questionnaire was developed as a data collection device to elicit data with regard to the implementation of standards-based education in Alaska. A request to conduct research was submitted and approved by the Fairbanks North Star Borough School District and the Anchorage School District. The State Department of Education was also informed of the study. In the spring of 1999 the questionnaire was sent to select schools throughout Alaska. Each school administrator received a packet of questionnaires (enough copies for each staff member to complete), a letter of introduction to the study, and instructions for administering the survey (see Appendix A and B). Also included was a postage paid return envelope. It was requested that questionnaires be returned to the researcher and it was promised that the results of the questionnaire would be distributed to schools during the fall of 2000.

The questionnaires were mailed, with postage paid return envelope to most sites that were a part of the sample in Alaska. The researcher delivered the packets to schools in Fairbanks, Anchorage, and Wasilla; as well as other smaller school districts on the road system to Anchorage. This procedure gave the researcher the opportunity to explain the purpose of the research and convince the administrator to ask for the staff member's time to complete the questionnaire. Due to the geographic size of Alaska and the remoteness of some districts and schools, it was impossible to deliver all

questionnaires. After the initial mailing of questionnaires in April, a follow-up phone call was made to all schools with 20 or more staff members to ascertain if they had received the questionnaires and to ask if they would complete the questionnaires with their staff members.

Throughout the summer questionnaires were returned and data was entered into an Excel spreadsheet. Schools returning questionnaires after September 1999 were not included in the data spreadsheet. In the fall of 1999 and spring of 2000, the data were analyzed and school profiles and a state profile was developed. In the spring of 2000 an Interpretation of Evaluating the Acceptance of Change to Standards-Based Education was mailed to all schools and state agencies requesting results. A copy was also mailed to select Alaskan educators. This interpretation gave the participating school a state profile of schools' capacity to implement programs and identify potential sources of resistance to standards-based education. A school profile was also compiled and included in this packet. The final section of the interpretation was a series of graphs that gave a quick overview of a school's results in comparison to state results and results of other schools. The following graphs were included in the interpretation: graph 1 – Implementation History scores of a school and the state average, graph 2 – Implementation History scores of each school surveyed in the state and a school's rank, graph 3 – Individual Readiness scores of a school and the state average and graph 4 – Individual Readiness scores of each school surveyed in the state and a school's rank (see Appendix C: Interpretation of Evaluating The Acceptance Of Change to Standards-Based Education District 16 School 130). Further analysis of the data will be completed

and the conclusion of the study will be written 2002-2003. The conclusion of the study will include results of the research and a discussion of the implications and findings. Schools and other interested parties will be mailed the final report at their request.

Instrumentation

In order to collect data for this study a questionnaire was developed that consisted of several components and tools. These are: 1) Implementation History Assessment, 2) Individual Readiness Assessment 3) Demographic Data collection instrument, and 4) three short response open ended questions. The components represent a structured approach for assessing the human elements critical to achieving strategic education objectives.

Internal Consistency Reliability and Construct Validity of History Implementation

The History Implementation Assessment instrument developed by IMA (Implementation Management Associates, Inc.) consists of 50 items. The first 49 items form 10 subscales and the 50th item is a global measure of the strength of the subject's belief that there is a high probability of implementing strategic change.

A psychometric analysis of the Implementation History Assessment was used to aid in the construction of questions as well as to clarify the reliability of the tool. Results indicated that the tool has a strong reliability and is an excellent measure for assessing the key characteristics of implementation success and an overall score predicting the probability of implementation success. Each item, each subscale, and the entire scale demonstrated high levels of internal consistency, reliability, and construct validity. Data from 1,658 completed Implementation History Assessment questionnaires

from 29 companies collected between January 1993 and October 1994 were evaluated by IMA. The psychometric characteristics of the scale were evaluated and norms were computed for each section (i.e. subscale) and for the scale as a whole (i.e. the Implementation History Factor score). Factor analysis and item analyses were used to evaluate each item, each subscale, and the entire scale as a whole in terms of internal consistency, reliability, and construct validity. Internal consistency reliability of the test as a whole (omitting the last item, which is a global measure) was a 0.96. The reliabilities of the subscales ranged from 0.63 to 0.91 (Waugh, 1994). Only the motivation and structure subscales with reliability values below .70 were considered to have inadequate reliability. The total score demonstrated high reliability. The Implementation History Factor score is very reliable. The items in the scale, with the exception of Item 39, appear to be doing an excellent job of measuring the same multidimensional construct. Item 39 is only marginally related to the other items (as a group in the subscale). All of the values for the item means and standard deviations are typical for the scale and are acceptable (Waugh, 1994).

Internal Consistency Reliability of the Individual Readiness Assessment

The Individual Readiness Assessment instrument developed by IMA (Implementation Management Associates, Inc.) consists of 25 items. This resistance assessment tool yields an analysis of specific reasons why and how individuals and organizations will resist the change project.

To determine the internal consistency reliability of the Individual Readiness Assessment, IMA conducted an evaluation. To determine if the instrument consistently

measured the same topic throughout the tool, IMA used the most common index for measuring internal reliability, Cronbach's Alpha. Results of internal consistency test aided IMA in the construction of questions and layouts as well as clarifying the reliability of the tool. Results indicate that this tool has strong reliability and is an excellent measure of Individual Readiness for change. Specifically, the internal consistency tests indicated excellent reliability for the scale as a whole. Alpha for the entire 25-item scale for the primary sample was 0.93 and 0.98 for the secondary sample (Waugh, 1994).

Language Modification of Instruments

The Implementation History Assessment and the Individual Readiness Assessment surveys used for this research study have primarily been used to assess organizational changes in private corporations. The surveys in this study used the exact questions and sections used by IMA, but the layout was altered slightly for this research. Some modification of language was necessary in order to make the surveys understandable to educators. Language modifications were approved by IMA. Examples of the change in language are provided in Figure 4.

Background Information

Background information consisted of 10 items that dealt with demographics. The items include: 1) gender, 2) ethnicity, 3) years of teaching experience, 4) how many years they have been at present job site, 5) what grade level they teach, 6) highest level of education, 7) present job, 8) subjects they teach, and 9) how many subjects they teach and the last question 10) deals with teaching strategies participants have used this year.

EXAMPLE OF LANGUAGE CHANGES

IMA's survey, Question # 6, on Individual Readiness Assessment:

6. This change has HIGH compatibility with the values and "unwritten rules" of the **organization**.

6. This change has HIGH compatibility with the values and "unwritten rules" of the **educational organization**.

EXAMPLE OF LANGUAGE CHANGES

IMA's survey, Question 1 History Implementation Assessment

1. The formal **organizational structure** is conducive to the successful implementation of change

1. The formal **educational structure** is conducive to the successful implementation of change.

Figure 4. Example of language changes

In order to aggregate the data under different cross tabs, the survey was coded so a respondent's school and district could be determined. The surveys have a code number on the background information section. The code number was used for demographic analysis and to track the returned surveys. All information given on the survey was anonymous. Individual responses were confidential. By coding respondents by number the researcher has attempted to ensure rights of privacy. All data reported will be by number not individual or school or district.

Open Ended Questions

Open-ended responses were included in the questionnaire to provide the respondent with an opportunity to openly express what he or she believes, feels, or recommends. The questions were purposefully broad to allow respondents to give

authentic information to the question. The opened-ended portion of the questionnaire consisted of three questions:

- List up to three major changes that occurred in your school organization in the past five years. Space for three changes was provided. List was completed prior to completion of the questionnaire.

The following two questions were located at the end of the questionnaire.

- What are your greatest needs and concerns about standards-based education?
- Do you have other ideas or thoughts about standards-based education?

The questions were optional but they were included to give the researcher the opportunity to know the respondent's frame of reference or the level of information he or she possessed or his or her attitudes about standards-based education. A content analysis was completed on the open-ended questions but the categories for response were not developed until all data from the open-ended questions had been read so responses are not forced into a pre-arranged response or one in which you check some degree of reaction to questions.

Sampling Procedures

Alaska Demographics

Alaska is the largest state in the union with 592,004 square miles. However its population density, the number of people per square mile, is by far the lowest (0.4 people per square kilometer.). In contrast to Alaska, the average population density of the whole United States is 30 people per square kilometer. (Pearson and Hermans, 1998, p. 43). The Anchorage Borough and Matanuska-Susitna Borough and Kenai Borough

to the south of Anchorage account for 58% of Alaska's population. Alaska's second largest population concentration is the Fairbanks North Star Borough. A region known as the rail belt extends from the southern terminus of the Alaska Railroad at Seward to the northern terminus in the Fairbanks North Star Borough and accounts for 72% of the population. Outside of the rail belt district only one other large concentration of people exists in the state in the Juneau Borough. To select the sampling procedure for this research, it was necessary to consider the total school population of Alaska, the configuration of grade levels throughout the state, and the spatial dimensions of Alaska (physical and human geography). There are 493 schools, scattered throughout the state, and varying in size from schools with less than 25 students to large urban schools of 20,000 students (Alaska Department of Education and Early Development, 1999).

Since the focus of the study was implementation of standards, the descriptive study sought to determine primarily secondary response since they would be the first to take the High School Qualifying Exam and thus have a short time line for implementation. All elementary schools pre-K to 6th grade were excluded from the sample. Elementary schools, which were in the rural areas and a part of secondary schools (K-12 schools), were included so a comparison could be drawn between urban and rural response to standards. The purpose of the study was to evaluate a school's readiness to change to standards-based education and to identify strengths and weaknesses in past implementation efforts in order to accelerate the implementation of standards. In a cross-sectional descriptive study the focus is on the make-up of the sample at one point in time. A cross-sectional approach also indicated that the research

attempted to present a broad picture with analysis on a large group in regard to such variables, as age sex, race, and education.

Sampling Frame

The sampling frame for this study included 46 schools grades nine to twelve; 28 schools 11-12, 8-12, 6-12 and 7-12; and all 233 K-12 schools in rural Alaska. Middle Schools and Junior High Schools were not included in the sample unless they were part of a high school or a K-12 school. Questionnaires were sent to the following grade levels: 9-12, 11-12, 8-12, 6-12, 7-12 and all rural K-12 schools. Based on statistics obtained from the State Department of Education and Early Development, packets consisting of a letter explaining the research, instructions for administering the questionnaire and copies of questionnaires (enough for all staff members in each particular school) were distributed to all districts in the state.

Data Collection Procedures

All schools included in the sample were given questionnaires to be completed and the school administrator or designee was asked to return all completed questionnaires in the postage paid envelope. As the questionnaires were returned to the researcher, the site name and number of questionnaires was logged. Data from the questionnaires was keyed into an Excel spreadsheet. The spreadsheet had the following sections: (1) district number and school identification number, (2) questionnaire number, (3) 10 sections of demographic information from the background information section with different structured responses assigned a number, (4) History Implementation Assessment survey keyed in by Likert scale of one - five with

individual item number and section scores tabulated and a total implementation score also listed, (5) Individual Readiness Assessment keyed in with Likert score numbers from one - five with a total Individual Readiness score listed and (6) the three open-ended questions, entered verbatim onto the spread sheet in three sections.

Data Analysis Procedures

Initial Analysis

Implementation history procedures. The researcher requested that school administrators administer the questionnaire to all staff members in their building. The Implementation History Assessment was scored by item based upon how an individual assessed how well her school or district has implemented change in the past using the scale of one - five (1) strongly disagree, (2) disagree, (3) neither agree or disagree, (4) agree, (5) strongly agree. The Assessment is divided into ten sections plus a personal belief score. Each item in a section was added together and multiplied by a given number:

Section 1: Structure - total of items in section x5 yields a section score, which can be rated on a probability of implementation success.

Section 2: Organizational stress - total x4 yields a section score, which can be rated on a probability of implementation success.

Section 3: Implementation history - total x4 yields a section score, which can be rated on a probability of implementation success.

Section 4: Sponsorship - total x4 yields a section score, which can be rated on a probability of implementation success.

Section 5: Target Readiness - total x4 yields a section score, which can be rated on a probability of implementation success.

Section 6: Cultural Fit- total x4 yields a section score, which can be rated on a probability of implementation success.

Section 7: Agent Capacity - total x4 yields a section score, which can be rated on a probability of implementation success.

Section 8: Motivation - total x4 yields a section score, which can be rated on a probability of implementation success.

Section 9: Communication - total x4 yields a section score, which can be rated on a probability of implementation success.

Section 10: Integration - total x4 yields a section score, which can be rated on a probability of implementation success.

Personal Belief Score–One item total x20 yields a section score, which can be rated on a probability of implementation success.

Individual readiness procedures. The Individual Readiness Assessment (IRA)

Tool developed by Implementation Management Associates (IMA) provides a thorough analysis of the specific reasons why and how an individual may resist the change project and is critical to increasing the probability of implementation success. The IRA is a tool that analyzes the readiness for change for any impacted group or individual, thereby generating specific strategies to manage that resistance. To determine the current prospects for secondary schools in Alaska making the change to standards-based curriculum and instruction, all questionnaires of the sample have been tabulated using IMA's scoring guide. Individual Readiness Assessment has been rated by item based on how an individual agrees or disagrees with a statement: (1) meaning that he strongly disagrees, (2) disagrees, (3) neither agrees nor disagrees, (4) agrees, and (5) strongly agrees. Adding answers to all items together and then dividing by 25, the number of items in the assessment obtained total score of the Individual Readiness Assessment.

After the average item score is figured, the Individual Readiness Score is calculated by multiplying the average item score times by 20.

Interpretation of questionnaires formulated for participating schools An

interpretation of the questionnaire results was formulated for each of the 51 schools that returned surveys. The interpretation contained four sections: The first section of the interpretation discussed the school's scores on the implementation history section of the survey. The scores give an indication of the school's history of prior implementation. Low scores on a specific history implementation factor would indicate an area that may need to be addressed in order to minimize the effect of barriers to changing to standards-based education. High scores on a specific factor would indicate areas of strength, which have worked in the past to accelerate change. The second section of the interpretation discusses a school's willingness or readiness to implement change to a standards-based program. Each school has a list of factors, which may limit a school's willingness to change, and a list of factors, which may provide the basis for a successful implementation of standards. Following the general comments, a chart, has been created to profile a school's readiness to change. The third section of the interpretation discusses the state profile and provides general areas, which may need to be addressed statewide in order to provide Alaskan students with a comprehensive program to move or change to a standards-based system of instruction. Included in this section are an interpretation of the state's implementation history and the state's readiness to change scores, which are the average of all schools that participated in the study. The final section of the interpretation is a series of graphs, which will allow a school to get a

quick overview of a school's results in comparison to state results and results of other schools.

Data Analysis by Research Question

After the initial analysis of data further analysis was conducted to answer the research questions posed at the beginning of the research. Schools and other interested parties, who requested initial analysis, were mailed the preliminary report in fall of 2000. Questionnaires will be tabulated using an Excel spreadsheet and then the data will be transferred to SPS statistical package for further data analysis. Additional statistical instruments and procedures will be used to answer the specific research questions.

Data Analysis for Question Number One

To determine teacher's perception of readiness to implement standards-based education each teacher's readiness survey score was calculated. The mean score of each of the 25 items on the readiness survey was compared to the mean score of the total readiness survey to find to what extent and in what manner that teacher responses varied. A paired t-test was used to determine what items were significantly lower than the mean and which items were significantly higher than the mean. Data from each teacher who completed the survey was used (n= 226 teachers) for this analysis. The t-test is a ratio between the differences between the two samples means in this case the mean for one of the items minus the mean for the total sample, divided by the standard error of difference. This test of significance will show which of the 25 items had the

tendency to affect the total readiness scores either positively or negatively. A t chart and a graph will be used to illustrate the results.

Data Analysis for Question Number Two

To determine schools perceptions of readiness to implement standards-based education each individual's score within the school was calculated and then the score was averaged for each school. Questionnaires were returned from 51 schools, but one site had incomplete data so that school was not included in this data analysis. The schools mean score for each of the 25 items was compared to the mean score for the total readiness to change score to find to what extent and in what manner do individual's responses within schools vary when compared to the average item responses across school sites. This test of significance will show which of the 25 items had the tendency to affect the total readiness scores either positively or negatively. A t chart and a graph will be used to illustrate the results.

Data Analysis of Major Changes

To establish a framework for analyzing data about individuals and schools implementation history participants were asked to list three major changes that occurred in their school in the last five years. Their responses will be recorded on an excel spreadsheet and then a content analysis will be completed. The content analysis will be categorized using themes or similar types of changes. The type of changes that have been implemented in Alaskan schools will provide a frame of reference for analysis of history of implementation.

Data Analysis for Question Number Three

To determine teacher's perception of history implementation each teacher's implementation survey score was calculated. To establish what subscales on the implementation history are high and could be used to accelerate the change, and which subscales are low and could be barriers to standards-based education a paired t-test will be conducted. Paired t-test will be used to establish which subscales were responsible for high total in the history of implementation, which subscales were significantly lower or higher than the mean and which items were not statistically different than the total mean.

Data Analysis for Question Number Four

To determine schools perceptions of their implementation history each individual's score within the school was calculated and then the score was averaged for each school. In order to determine what subscales influenced, either positively, no effect, or negatively, the total score on the Implementation History survey a paired t-test was conducted. The mean score for each of the eleven subscales was compared to the mean score for the total Implementation History score (paired T-test).

Data Analysis for Question Number Five

To determine to what extent and in what manner the average responses of schools with regard to factors associated with a readiness for change and implementation history vary when compared to the state average for schools a measure of dispersion will be conducted. To obtain a schools grand total Implementation History score the Implementation subscale score of each individual within a school was averaged. To

obtain a schools grand total Individual Readiness score, each individual score within a school was averaged. The total score on the Implementation History survey and Individual Readiness survey by school will be used to provide an index of a schools past reform efforts and a prediction of how ready each of the 50 schools are to implement standards-based education. The range of scores for the fifty schools will be determined and compared to the total states implementation history and readiness to change profile. To determine to what extent and in what manner the average responses of schools with regard to factors associated with a readiness for change and implementation history vary when compared to the state average for schools a measure of dispersion will be conducted. To determine the confidence interval, that portion of the normal curve in which we think our sample falls, the Z score will be multiplied by the standard error. By performing these calculations an identification of an individual schools performance can be compared with a reference to all schools being surveyed. In this way an understanding of an individuals school's relative performance compared with the performance of the entire group can be made.

Data Analysis for Question Number Six

Demographic data were analyzed using one-way analysis of variance (ANOVA). A comparison chart was created to show which factors were statistically significant. The analysis of variance was used to test statistical hypothesis about the significance of the differences between means. If a factor is statistically significant, there is a high probability of it occurring again in subsequent studies. This data analysis enabled the researcher to study how well various subgroups did in each of the areas

surveyed, and also enabled studying the patterns of responses. A matrix of differences was created using the data from each of the disaggregated groups. The focus of this analysis was to look for patterns and to identify needs.

Content analysis was used to determine the relative emphasis or frequency of comments that were made in response to the two open ended questions. The content analysis was categorized using themes or types of responses. Categorization is perhaps the most important part of content analysis because it is a direct reflection of the theory and the problems of the study. As the items were categorized, the analyst looked for themes or propositions about standards-based education.

All responses were transcribed verbatim into an excel spreadsheet. After reading all the responses, a series of categories was established. The responses were then tabulated under the specific category, which had the key word, attitude, or perception that matched the category. The responses were categorized. The categories were mutually exclusively and exhaustive. If the comment contained information that reflected two categories or more or had two or more statements that fit in different categories, they were tabulated in both categories. The purpose of the content analysis was to assess the importance of different factors by discovering how many individuals mention a particular idea in their open-ended responses. Using content analysis along with other data obtained gave a clear picture of staff members' perceptions and attitudes about standards-based implementation.

Chapter 4

Results and Findings

Data has been collected about school's implementation history, and individual readiness to change to a standards-based system. In this chapter, a description of the sample will be provided to give the reader an impression of the schools involved in this study. Then the results will be presented in the following order: 1) Teacher's perception of their readiness to implement standards-based education, 2) School personnel's perceptions of readiness to implement standards-based education and comparison of teachers and school personnel results of individual readiness profile, 3) Content analysis of changes made in Alaskan schools in the last five years, 4) Teachers perception of their implementation history, 5) School personnel's perception of their implementation history and comparison of teachers and school results of implementation survey, 6) Distribution of school scores on implementation and individual readiness survey, 7) Demographic factors associated with survey responses, and finally 8) Content analysis regarding greatest needs and concerns and ideas and thoughts about standards-based education.

Description of the Sample

District Response Rate

Of the fifty-four districts asked to participate 28 districts returned one or more questionnaires for a return rate of 52% by district. (Table 1 Response Rate by District Size). The first column of the table lists the enrollment range for the districts. The second column is the number of districts that have this enrollment size. The third

column shows the number of districts of this size that responded. The fourth column shows the percentage of districts, in this size range that responded to the survey.

Table 1

Response Rate by District Size

<u># Of Students Enrolled in a district</u>	<u># of Districts of this size</u>	<u># of Districts Responded</u>	<u>Percentage Returned</u>
0-300	18	7	38%
301- 500	14	8	57%
501-700	5	2	40%
701- 1,000	6	5	83%
1,001 – 5,000	9	3	33%
5,001 – 10,000	1	0	0%
10,001 – 15,000	2	2	100%
15,000 – 20,000	1	1	100%
20,000 or above	1	1	100%

Survey Data Response Rate by School

The sample included 307 schools. Seventeen percent of the schools completed at least one or more questionnaires and returned the data prior to September 1. The data from the questionnaire was compiled for 51 schools and 355 educational personnel. Of the three grade level categories 9-12 configuration had the highest level of return at 32%. Of the 49 schools that have grade levels nine through twelve, a response was received from 13 of the schools for a 28% return rate. There are 28 schools which have

one of the following grade levels: 11 and 12 grade, 8th grade through 12th grade, 6th grade through 12th grade, and 7th grade through 12th.

The questionnaire return can also be summarized by the number of questionnaires sent and returned from each of the three categories of schools, 1) 9-12 grade levels, 2) 11-12, 8-12, 6-12 and 7-12 grade levels, and 3) K-12 grade levels. The first category, 9-12 schools, was sent 457 questionnaires, 238 were returned for a response rate of 52%. In category two, which included 11-12, 8-12, 6-12 and 7-12, 171 questionnaires were sent and 49 were returned for a 28.5% return rate. The rural K-12 schools were sent 192 surveys and returned 89 for a return rate of 46%.

A survey data return chart has been developed to describe the sample, which was used to evaluate the probability of acceptance of change to standards-based education. (Appendix D Survey Data Return Charts) The chart lists the districts responding, the size of district and the specific school in the district that sent in data, and the percentage of schools in the district that responded. The chart also tabulated the number of surveys sent to a specific school and the percentage of questionnaires which were returned. The chart includes a summary box of the percentage of surveys sent and returned in the three grade configurations.

Demographics of the Sample

The demographics of the sample reflect the general demographics of educational personnel in Alaska. The demographics of Alaska provide certain “givens” with which all educational leaders work when attempting to implement new programs. The

demographics of school personnel surveyed in this study of Alaskan schools include information about race, gender, job, experience in education, and description of school.

Female personnel are 59% of the sample. The sample was predominantly Caucasian, (85%) all other races were 15% of the sample. The majority of personnel surveyed were teachers 83%, the other category (17%) included: counselors, teacher aides, principals, and other administrative or management positions.

This study was focused primarily on secondary schools response to standards-based education and the high percentage of personnel from 9-12 grade levels (53%) reflect this emphasis. Middle grades were not asked to respond unless they were part of a secondary school. Twenty one percent worked in grades 7-12 and 25% worked in K-12 schools or other combination of grade levels. Respondents were fairly experienced in education with 64% of the sample having ten years or more experience in schools and 43% of the sample had been at their present school site for seven or more years. Fifty one percent of the sample had a bachelor's degree and 48% had a master's degree. Sixty four percent of the sample taught two to four subjects.

Seventy percent of the sample works in urban schools and 30% are in rural settings. Twenty two percent of the sample works in schools that do not have a road system and can only be accessed by small planes. Forty eight percent of the sample works in large districts (15,001 students or above) 33% works in medium sized districts (1000- 1500 students) and 29% of the sample works in small schools (12-1000).

Teachers Perception of Readiness to Implement Standards-Based Education

In order to determine what items influenced, either positively, no effect, or negatively, the total score on the individual readiness survey, a paired t-test was conducted. Only teachers (n=226) were used for this paired t-test. The teachers' mean score for each of the 25 items was compared to the mean score for the total readiness –to- change score, to determine which of the 25 items had the tendency to affect the total readiness scores either positively or negatively. In other words, what items were responsible for high total readiness to change, which items were significantly lower than the mean and which items were not statistically different than the total mean? Table 2 shows the results of this analysis.

Column one lists the pair to be tested with the key word of the question from the survey. For example, pair one is IRP Purpose and key word purpose refers to question #1 that asks respondents to what degree they agree or disagree with this statement: I am very clear about why the change is being implemented. Column 2 gives the mean score of the item and the grand total IRP. Items which showed significance difference have a plus or minus, to indicate positive or negative difference. The third column gives the t- score. Finally the fourth column gives the p score the probability that the difference is likely to occur by chance. The t-test is a test of significance that attempts to establish differences between sets of interval-ratio scores.

Of the 25 items that comprise the Readiness to Change survey, ten were found to be significantly related to high scores on the total survey. Six items were found to not

Table 2

Teacher Paired t-test Individual Readiness. Comparison between the overall teacher level Individual Readiness mean score (3.08) and the individual readiness item means using a Paired t-test with teacher level data n=226

PAIR	MEAN SCORE	t-score	Significance Level
1. IR Purpose Grand Total IR	3.61+ 3.08	t= 9.589	p = .001
2. IR Need Grand Total IR	3.75+ 3.08	t= 13.455	p = .001
3. IR Solve Problems Grand Total IR	3.13 3.08	t= .855	p = .393
4. IR Imply Past Performance Grand Total IR	3.97+ 3.08	t= 18.210	p = .001
5. IR Personnel Cost Grand Total IR	3.14 3.08	t= 1.010	p = .313
6. IR Organization Compatibility. Grand Total IR	3.34 3.08	t= 5.638	p = .001
7. IR Personal Compatibility Grand Total IR	3.59+ 3.08	t= 10.461	p = .001
8. IR Reward Grand Total IR	3.30+ 3.08	t= 4.517	p = .001

+ Indicates significant positive difference, - indicates significant negative difference

Table 2 (Cont.)

PAIR	MEAN SCORE	t-score	Significance Level
9. IR Social Relations Grand Total IR	3.14 3.08	t= 1.085	p = .279
10. IR Job Characteristic Grand Total IR	2.42 - 3.08	t= -12.628	p = .001
11. IR Habits Grand Total IR	2.86 3.08	t= -4.375	p = .001
12. IR Confidence+ Grand Total IR	3.71+ 3.08	t= 13.441	p = .001
13. IR Old Ways+ Grand Total IR	3.61+ 3.08	t= 10.275	p = .001
14. IR Shift Power Grand Total IR	3.13 3.08	t= 1.027	p = .305
15. IR Reversibility Grand Total IR	3.19 3.08	t= 1.739	p = .083
16. IR Loss of Control Grand Total IR	3.27+ 3.08	t= 4.180	p = .001
17. IR Clear Expectation Grand Total IR	2.88- 3.08	t= -4.243	p = .001
18. IR Disruption Grand Total IR	3.05 3.08	t= .729	p = .467

Table 2 (Cont.)

PAIR	MEAN SCORE	t-score	Significance Level
19. IR Involvement- Grand Total IR	3.73+ 3.08	t= -7.110	p = .001
20. IR Resources Grand Total IR	2.37- 3.08	t= -13.332	p = .001
21. IR Time Grand Total IR	2.18 - 3.08	t= -17.154	p = .001
22. IR Past Implementation Grand Total IR	2.44 - 3.08	t= -11.805	p = .001
23. IR Work Stress Grand Total IR	2.49 - 3.08	t= -9.208	p = .001
24 .IR Success Grand Total IR	3.00- 3.08	t= -2.225	p = .027
25. IR Credibility Grand Total IR	2.85 - 3.08	t= -4.045	p = .001

+ Indicates significant positive difference, - indicates significant negative difference.

influence the total readiness score either positively or negatively. Nine items were found to have a negative effect on the total readiness score

The specific item, which is significant, would indicate that teachers sampled in this study are positive about the following perspectives of this change imitative. Teachers are very clear about why the change to standards-based education is being done and they also believe that there is a strong need for the change. They do not

believe that the change to standards-based education is because or implies that they have performed poorly in the past. Teachers perceive standards-based education to be compatible with their personal values and with the values and unwritten rules of the educational organization. Teachers believe that there is a high reward for accomplishing this change to standards-based education and feel confident that they can accomplish the change. They don't feel they focus on the old way of doing things and that this innovation won't lead to less control over key aspects of their job. Teachers that were sampled feel involved with the change to standards-based education.

Nine items were inversely related to total overall mean for the readiness to change. These perspectives about change are related to a lower score on the overall readiness score. Teachers do not perceive that the change to standards-based education will have a positive impact on their job characteristics; implementing a standards-based system will not change their status or salary. They believe that habits and routine and procedures will be disrupted by a change to standards-based education. Teachers do not perceive themselves as knowing or being clear about what is specifically expected from them as a result of the change to standards-based education. Teachers perceive that there is not enough or adequate support or resources provided for this change. They also feel that adequate time has not been provided to accomplish a change to standards-based education. They do not believe that their educational organization has been successful in past implementation efforts. At this time they were experiencing a significant amount of work pressure and stress, and they don't perceive that this change

project will be implemented successfully. Teachers do not have a high level of credibility for administrators and professional developers.

The following perceptions about the change to standards-based education did not have an effect either positively or negatively. The scores on these items were not significantly different from the total mean score. They neither agree nor disagree with the notions that change to standard-based education can solve a problem for them. Neither do they see that standards will have a low or a high personal cost. They are unsure of what this change will cost them personally. They also are unclear about whether or not there will be a disruption of stable personal relationships after the change is implemented. They neither agree nor disagree that this change will have a positive impact on their power or the power of people important to them in the educational organization. They are unclear, neither agreeing nor disagreeing that the change to standards-based education can be reversed if it doesn't prove to be effective. The amount of disruption to their work life is not clear. Figure five illustrates the results of the paired t-test.

Teachers Total Individual Readiness Score

Total Readiness score for the teachers is 61.6 and falls in the moderate range and represents the probability of implementation success for the current change project of standards-based education. Scores in the high range (80 – 90) indicate a strong likelihood that the change will be successful as long as important sources of resistance are managed. Scores in the moderate range (60-79) mean that strategies must be

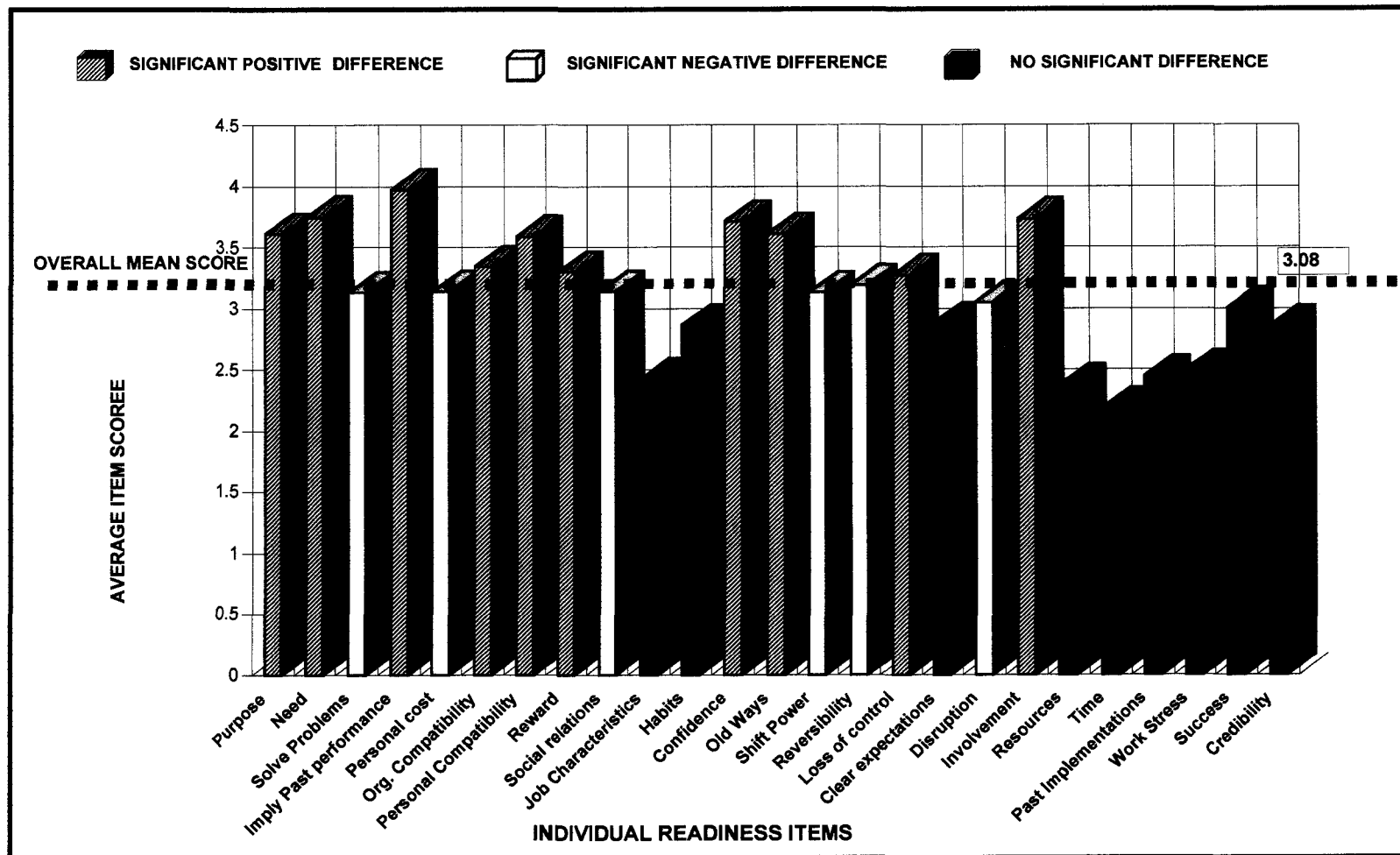


Figure 5 Teachers' Perceptions Individual Readiness. Comparisons between the overall teacher level individual readiness mean score (3.08) and the individual readiness item means using a paired t-test with teacher level data (n=226)

developed to eliminate or minimize significant sources of target resistance to avoid the high costs of implementation failure and achieve the objective of standards-based education. Scores in the low range (40-59) indicate that significant sources of resistance must be overcome before implementation of standards-based education can proceed.

Total Mean 3.08 Individual Readiness for teachers

Low 1.5 → 2.4	Moderate 2.5 → 3.4	High 3.5 → 4
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Total 61.6 Individual Readiness Score

Low 40 → 59	Moderate 60 → 79	High 80 → 90
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Factors Which May Limit the Ability to Implement

From the teachers' frame of reference, factors or items found to limit or impede the change to standards-based education include:

- Job characteristics- do not believe that this change will have a positive effect on job characteristics, like status or salary
- Habits- will be disruption to important habits and routine procedures
- Clear expectations -- do not know exactly what is expected from teachers
- Resources -- not enough organizational support and resources
- Time -- more time needed to accomplish the goal
- Past implementation -- the teachers on the average, do not believe that past implementations have been successful
- Work Stress -- anticipating/experiencing significant work pressure and stress
- Success -- do not think change will be successful
- Credibility- limited credibility of administrators and professional developer

Factors Which Could Assist Implementation

From the teachers' frame of reference, factors or items found to assist or foster change to standards-based education include

- Clear understanding of the purpose of standards-based education
- Knowledge of why the change is being implemented
- Belief that there is a strong need for this change to take place
- Belief that change to standards-based instruction does not imply poor past performance
- High compatibility between change and organizations values and unwritten rules
- High compatibility between change and most individuals' personal values
- Confidence in ability to accomplish the change
- Focus on new approaches rather than the old ways of doing things
- Believe that a loss of control of key aspects of their job will not change
- Belief that they feel very Involved in the change

Factors Which May Assist or Limit Implementation

Teachers neither agree nor disagree that the following items or factors will have a positive or negative effect on the change to standards-based education

- Will directly solve a problem for them
- Will have a low personal cost
- Will not disrupt stable personal relationships
- Will have a positive impact on their power or the power of people important to them in the organization
- Will not cause disruption to work, and is reversible if it does not prove effective.

Schools Perceptions of Readiness to Implement Standards-Based Education

In order to determine schools perceptions to readiness to change to standards - based education a paired t-test was conducted. This analysis will use individual's responses within schools (n = 50). The schools mean score for each of the 25 items was compared to the mean score for the total readiness to change score. Table 3 shows the results of this analysis.

Of the 25 items that comprise the Readiness to Change survey seven were found to be significantly related to high scores on the total survey. Thirteen items were found to not influence the total readiness score either positively or negatively. Five items were found to have a negative effect on the total readiness score.

Paired T-test on Individual Readiness items Table 3 shows the results of this test of significance. Column one lists the pair to be tested and column 2 gives the mean score of the item and the grand total IRP. The third column gives the t score and the fourth column gives the p score the probability that the difference is likely to occur by chance.

Figure six illustrates the school's perception to changing to standards - based education. Those items above the dotted line, which is the total, mean score for individual Readiness Profile, are those questions that schools perceive to alter their readiness to change in a positive way. Those items below the dotted line, which is the mean for the individual readiness survey, are those items that all personnel perceive to be barriers to change to standards-based education

Table 3

School Level Paired t-test Individual Readiness. Comparison between the overall school level Individual Readiness mean score (3.28) and the individual readiness item means using a Paired T-test school level data n=50

PAIR	MEAN SCORE	t	Significance Level
1. IR Purpose Grand Total IR	3.90+ 3.28	t= 6.870	p = .001
2. IR Need Grand Total IR	3.88+ 3.28	t= 6.596	p = .001
3. IR Solve Problems Grand Total IR	3.31 3.28	t= .323	p = .748
4. IR Imply Past Performance Grand Total IR	4.16+ 3.28	t= 10.155	p = .001
5. IR Personnel Cost Grand Total IR	3.25 3.28	t= -.336	p = .739
6. IR Organization Compatibility Grand Total IR	3.49+ 3.28	t= 2.287	p = .026
7. IR Person Compatibility Grand Total IR	3.75+ 3.28	t= 6.267	p = .001
8. IR Reward Grand Total IR	3.41 3.28	t= 1.406	p = .166

Table 3 (cont.)

PAIR	MEAN SCORE	t	Significance Level
9. IR Social Relations	3.22		
Grand Total IR	3.28	t= -826	p = .413
10. IR Job Characteristic	2.60 -		
Grand Total IR	3.28	t= -8.001	p = .001
11. IR Habits	3.09		
Grand Total IR	3.28	t= -1.877	p = .066
12. IR Confidence	3.96+		
Grand Total IR	3.28	t= 9.186	p = .001
13. IR Old Ways	3.78+		
Grand Total IR	3.28	t= 6.323	p = .001
14. IR Shift Power	3.29		
Grand Total IR	3.28	t= -.803	p = .426
15. IR Reversibility	3.27		
Grand Total IR	3.28	t= -191	p = .849
16. IR Loss of Control	3.45		
Grand Total IR	3.28	t= 1.861	p = .069
17. IR Clear Expectation	3.13		
Grand Total IR	3.28	t= -1545	p = .129
18. IR Disruption	3.33		
Grand Total IR	3.28	t= .571	p = .570

Table 3 (Cont)

PAIR	MEAN SCORE	t-score	Significance Level
19. IR Involvement Grand Total IR	3.02 - 3.28	t= -3.026	p = .004
20. IR Resources Grand Total IR	2.54- 3.28	t= -9.699	p = .001
21. IR Time Grand Total IR	2.34 - 3.28	t= -11.225	p = .001
22. IR Past Implementation Grand Total IR	2.71 - 3.28	t= -6.523	p = .001
23. IR Work Stress Grand Total IR	2.75 - 3.28	t= -4.631	p = .001
24. IR Success Grand Total IR	3.18 3.28	t= -1.660	p = .103
25. IR Credibility Grand Total IR	3.31 3.28	t= .280	p = .781

+ Indicates significant positive difference, - indicates significant negative difference,

The Total Individual Readiness Score

The schools score is 65.6 and falls in the moderate range.

Total Mean 3.28 Individual Readiness for schools

Low 1.5 → 2.4	Moderate 2.5 → 3.4	High 3.5 → 4
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Total 65.6 Individual Readiness Score

Low 40 → 59	Moderate 60 → 79	High 80 → 90
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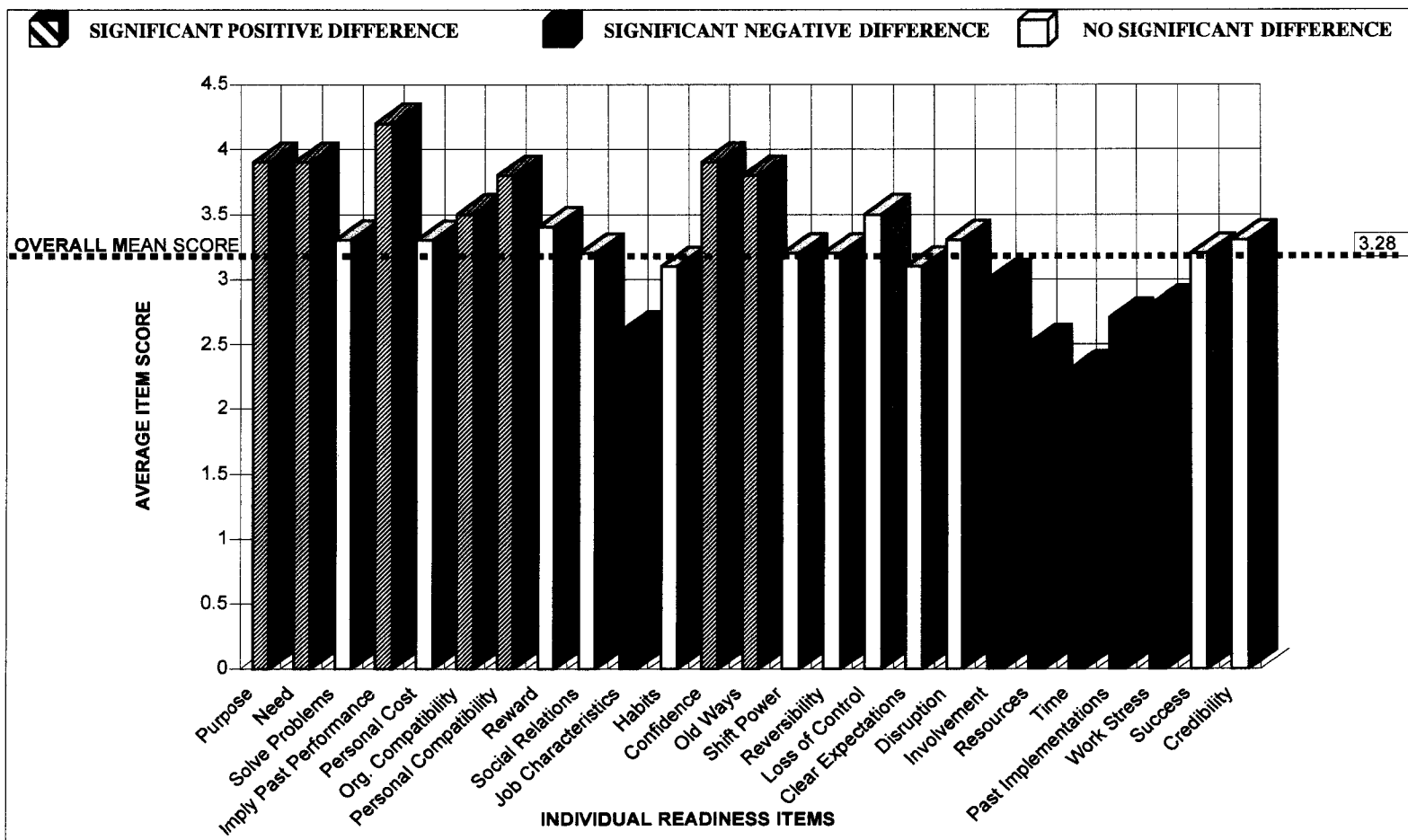


Figure 6 Schools' Perceptions Individual Readiness. Comparison between overall school level individual readiness mean score (3.28) and the individual readiness item means using a paired t-test with school level data (N=50).

Teacher t-tests Compared to School Personnel t-tests

The two sets of t-test, teachers $n=226$ and all school personnel within a school $N = 50$, were similar in many respects. But some significant differences can be noted. Table 4 illustrates the similarities and differences between teacher responses and individuals within schools response.

Seven items were above the mean in the teacher sample and school sample. Five items were significantly below the mean and six items were not statistically different from the mean. Seven items were perceived differently.

Both groups were very clear about why there is a change to standards-based education and believe there is a strong need for this change. Both groups do not think that the change to standards-based education implies poor performance in the past. Both groups were very clear about why there is a change to standards-based education and believe there is a strong need for this change. Both groups do not think that the change to standards-based education implies poor performance in the past. The change to standards-based education is highly compatible with individual's personal values and both groups also believe that this change is compatible with the values and unwritten rules of the organization. The average individual in both groups feel he or she has the necessary confidence to accomplish the change to standards-based education and are not focused on the old way of doing things.

Items on which both groups scored below the mean were: job characteristics resources, time, past implementations, and work stress. They do not think that the change to standards-based education will have a positive impact on their jobs, status

and/or salary. Both groups are experiencing or anticipating work stress and do not feel that the educational organization has been successful with past implementations. Both agree that resources, time to implement, and adequate support have not been provided

Table 4

Comparison of Teachers Only Response to Total School Response to Items on the Individual Readiness Survey

Readiness to Change Item	Teachers	Schools	Teacher/school
1. Purpose	X	X	XX
2. Need	X	X	XX
3. Solve problems	NS	NS	NS
4. Imply past performance	X	X	XX
5. Personal cost	NS	NS	NS
6. Organizational compatibility	X	X	XX
7. Personal compatibility	X	X	X
8. Reward	X	NS	X/NS
9. Social relations	NS	NS	NS
10. Job characteristics	O	O	OO
11. Habits	O	NS	O/NS
12. Confidence	X	X	XX
13. Old ways	X	X	XX
14. Shift of power	NS	NS	NS
15. Reversibility	NS	NS	NS
16. Loss of control	X	NS	X/NS
17. Clear expectations	O	NS	O/NS
18. Disruption	NS	NS	NS
19. Involvement	X	NS	X/NS
20. Resources	O	O	OO
21. Time	O	O	OO
22. Past implementations	O	O	OO
23. Work stress	O	O	OO
24. Success	O	NS	O/NS
25. Credibility	O	NS	O/NS

X Item is significantly higher than the total IR mean. O Item is significantly lower than the total IRP mean. NS not significantly above or below the total IR mean

Teacher group perceives that there will be high reward for successfully accomplishing the change to standards-based education. Individuals within the school group is unsure if there will be a high reward or not. Teachers think there is high reward if they successfully accomplish this change.

Teachers perceive a lot of disruption to their habits and routine procedures. If standards are implemented practices will have to change. The significance of whether or not there will be disruption to habits and routines when looking at the average school score is not as clear. Schools don't necessarily perceive that disruption will occur. A similar pattern is seen when the groups were asked about control over key aspects of their jobs. The teacher sample felt that they would loose control over aspects of their job and all individuals within the schools on the average were unclear about whether a change to standards-based education would cause them to lose control over key aspects of their jobs.

Individuals within schools indicated that the average respondent was neither clear nor unclear about what was expected from them. Teachers, however, were very unclear about what would be expected of them as a result of the change to standards-based education. Teachers also do not feel involved with this new innovation. School average indicates that there is neither agreement nor disagreement with how involved they are in the change.

Teacher average indicates that they do not believe this change project will be implemented successfully. They do not have a high level of confidence in their administrators or professional developers who are guiding this innovation. Individuals

within schools on the average neither agree nor disagree with whether the change will be implemented successfully and whether or not the administrators and professional developers are credible to them. Schools have a slightly higher mean for the total survey and indicate that schools as a whole are more ready for change to standards-based education than teachers.

Content Analysis Major Changes Last Five Years

Participants in the study were asked to list three major changes that occurred in their school to establish a framework for the study and to determine the type of changes, which have been implemented in Alaska schools. Categories are defined by the following key words. 1) administrative change 2) superintendent change, 3) scheduling change, 4) technology, 5) standards-based, 6) high school qualifying exam, 7) changes in staff, 8) changes in program, 9) changes in teaching strategy, 10) changes in money and resources, 11) special education changes, 12) new programs, 13) new models, 14) renovations, and 15) other.

Administrative changes (23.3%), and staffing changes (20.6%) were most frequently mentioned as a major change. One respondent indicated that 90% of the faculty has changed in the last five years. Another reported that they had four different principals in the last five years. New superintendents were also noted as being a major change.

The second most frequently mentioned major change was new school wide models. Program changes were listed as major changes by 16.6% of the respondents.

Changes to program included national recognized programs such as Linda Mood Bell and International Baccalaureate, site specific programs and school wide model changes.

Standards-based education was noted as major changes by only 10.7% of the respondents and the High School Qualifying Exam was recognized as a major change by 10.4% of the participants. Other changes that were considered to be major changes included a variety of topics: scheduling changes (9.6%), technology changes (8.7%), teaching strategies (8.1%), money and resources (4.8%), special education (4.8%), renovations (9.6%). Although it takes money and resources to make major changes, less than 5% considered this to be a major change.

Major changes that were sorted into the other category were mentioned only once or mentioned by few of the participants. Some specific changes noted were: growth of correspondence school, report cards to public, climate of intimidation, raising GPA for honor roll, no time to work with students, student input ignore, loss of security, fallen completely to pieces – there is not organization or forethought, enrollment doubled, fear of litigation, recreation./leisure focus, no follow through, first year teacher difficult to answer, gender equity, lack of trust in bureaucracy, right wing political structure and community antagonist to school. Table 5 Content Analysis of all Respondents (N= 333) Regarding Changes in School Organization in the last Five Years, lists the major changes in descending order.

Teachers Perception of their Implementation History

In order to determine what subscales influenced, either positively, no effect, or negatively, the total score on the implementation history survey; a paired t-test was

Table 5

Content Analysis of all Respondents (N= 333) Regarding Changes in SchoolOrganization in the last Five Years

CATEGORY	%	MAJOR CHANGES LAST 5 YEARS
Category 1	23.3%	Administrative change, change in principal, s-based management
Category 7	20.6%	Change in staff, change of title, new assignments, class size, department instigated change, any event that caused staffing to change
Category 13	18.8%	New models – School wide programs: Accreditation, Aligning curriculum to standards, Outcome based education, Curriculum revision, Change to middle school, Restructuring, No homeroom, CSDRP based CES, Attendance policy, Aides cut, Grade level groupings, Strategic plan, Algebra required
Category12	16.1%	New programs: Safe schools, Vocational Ed. Programs, Pathfinders, Think Tech, Guidance and Counseling Program, School to Work, Lindamood Bell, International Baccalaureate, Early literacy
Category 5	10.7%	Change to standards-based education
Category 6	10.4%	High school qualifying exam, exit exam
Category 2	10.1%	Superintendent changes, district change, state changes in
Category 14	9.6%	Renovations change to the physical structure of schools
Category 3	9.6%	Scheduling change, block scheduling
Category 4	8.7%	Technology changes, internet connection, computer and other technological resources
Category 15	8.7%	Other: Growth correspondence school, Report cards to public, Climate of intimidation, Raising GPA for honor roll, No time to work with students, Student input ignored, Loss of security, Fallen completely to pieces – there is not organization or forethought, Enrollment doubled, Fear of litigation, Rec./leisure focus, No follow through, First year teacher difficult to answer, Gender equity, Lack of trust bureaucracy, Right wing political structure, Community antagonist to school
Category 8	8.4%	Programs in math/science/English, writing assessment, Partners in Science

Category 9	8.1%	Teaching strategies, professional development: Rubrics, Team teaching, Evaluation process, Cooperative Ed, Case management model Interdisciplinary, Multi-age Portfolio assessment
Category 10	4.8%	Change in money, resources, less budget
Category 11	4.8%	Special Ed changes, integrated classrooms

conducted. Only teachers (n=226) were used for this paired t-test. The teacher's mean score for each of the eleven subscales was compared to the mean score for the total implementation history score to determine which of the eleven subscales had the tendency to affect the total implementation history scores either positively or negatively. In other words, what subscales were responsible for high total in the history of implementation, which subscales were significantly lower or higher than the mean and which items were not statistically different than the total mean.

Paired t-test on implementation history subscales Table 6 shows the results of this test of significance. Column one lists the pair to be tested with subscale title from the survey. Column 2 gives the mean score of the subscale and the grand total implementation history. Subscales that showed significance difference have a plus or minus, to indicate positive or negative difference. The third column gives the t-scores. Finally the fourth column gives the p score the probability that the difference is likely to occur by chance.

Implementation History Factors

The teacher's average score provides an indication of the likelihood of success of the current implementation of standards-based education based on teacher's history of prior implementation. High scores (80-90) represent heightened prospects that

Table 6

Teacher Paired t-test Implementation History Subscales. Comparison between the overall teacher level Implementation History Total Score with Implementation History subscale scores. Using a paired t-test with teacher level data (n=226).

PAIR	MEAN SCORE	t-score	Significance Level
1. Structure Grand Total IH	63.35+ 55.96	t= 9.914	p = .001
2. Org. Stress Grand Total IH	52.38 - 55.96	t= -5.759	p = .001
3. Implementation Grand Total IH	56.05 55.96	t= .880	p = .880
4. Sponsorship Grand Total IH	60.98+ 55.96	t= 7.645	p = .001
5. Target Grand Total IH	54.47 - 55.96	t= -2.273	p = .024
6. Culture Grand Total IH	53.05 - 55.96	t= -4.572	p = .001
7. Agent Capacity Grand Total IH	57.20 55.96	t= 1.704	p = .090
8. Motivation Grand Total IH	52.92 - 55.96	t= -5.244	p = .001
9. Communication Grand Total IH	53.58 - 55.96	t= -3.627	p = .001

+ Indicates significant positive difference, - indicates significant negative difference,
P < .05 significant difference

Table 6 (Cont.)

PAIR	MEAN SCORE	t-score	Significance Level
10. Integration Grand Total IH	56.19 55.96	t= .246	p = .806
11. Belief Grand Total IH	60.38 + 55.96	t= 3.910	p = .001

+ Indicates significant positive difference, - indicates significant negative difference, P < .05 significant difference

the high costs of implementation.failure will be avoided. Strategic objectives will be achieved on time and within budget. Scores in other ranges (moderate 60-70 and low 40-59) mean strategies must be considered that will minimize or eliminate past barriers that may jeopardize the current movement to standard-based education.

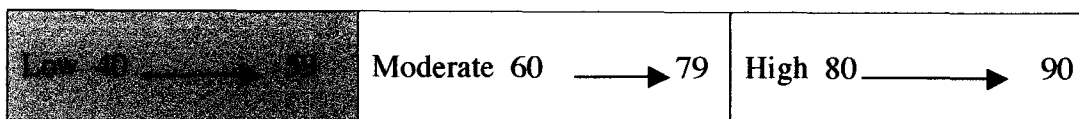
The Total Mean Score on Total Implementation History

Teacher's mean was 55.96, which indicates low-to-low moderate score.

Overall, according to perceptions of teachers' surveyed, Alaska's educational organization has not been highly successful in orchestrating educational change.

Further study of data provided from evaluating the acceptance of change survey will help to understand how to implement the change to standards-based education

Implementation History Total Score 55.96



Implementation History Characteristics

Each of the following section scores represents an important characteristic of the teacher's pattern of change implementation. High scores (80-90) point to areas of potential success that can be utilized in current implementation. Moderate scores (60-79) indicate areas that have potential for accelerating change, but may also prove to be roadblocks to implementation. Low scores (40-59) indicate areas that require administrative attention to minimize expected implementation barriers. Specific tactics to accelerate the change to standards-based education can be developed by reviewing the items that constitute each section and then developing tactics, skills and strategies to overcome these barriers.

Three subscales, structure, sponsorship, and belief, were found to be significantly different than the total implementation history score. These factors could be viewed as strengths of past implementations. The subscales need to be reviewed and systematically applied to the current change to increase the likelihood of successful implementation.

Total Structure Score. The teachers' structure score was 63.35, which is significantly above the total mean for the history implementation survey. Educational structure refers to how a school is organized, for example, grade levels, classes, school levels and departments. Structure is reflected in a school's organizational hierarchy: who directs whom. Teachers' mean score is significantly above the mean and would indicate that teachers perceive the structure of the organization to be conducive to implementations.

Total Sponsorship Score. The state total sponsorship score was 60.98 and is significantly above the total mean. The commitment of all administrators at all levels of the organization is critical for success. Communication of clear strategies and goals must be reinforced by specific behaviors to demonstrate real-change leadership and a sustained commitment to the new or modified system. Teachers have indicated that administrators have been committed and supported change in the past.

Total Belief Score for the state was 60.38, significantly above the mean total score for implementation history. This subscale consists of only one question and asks if teachers agree or disagree with this statement. "I personally believe that today there is a high probability of successfully implementing strategic change." This subscale measures the degree to which teachers believe that standards-based education can be implemented. A significant number of teachers in the state do feel a change to standards-based education is actually going to take place. This is a strength that can be used for accelerating change, but scores in the moderate range mean a significant number of teachers must become convinced that change should occur. Figure 7 illustrates the results of the t-test.

Four subscales, organizational stress, target readiness, cultural fit, and motivation, were significantly different from the total mean for the history implementation survey. These subscales were significantly lower than the mean and could be considered barriers to successful implementation of standards-based education. The key factors that these subscales described must be eliminated or reduced to increase the probability of implementation success.

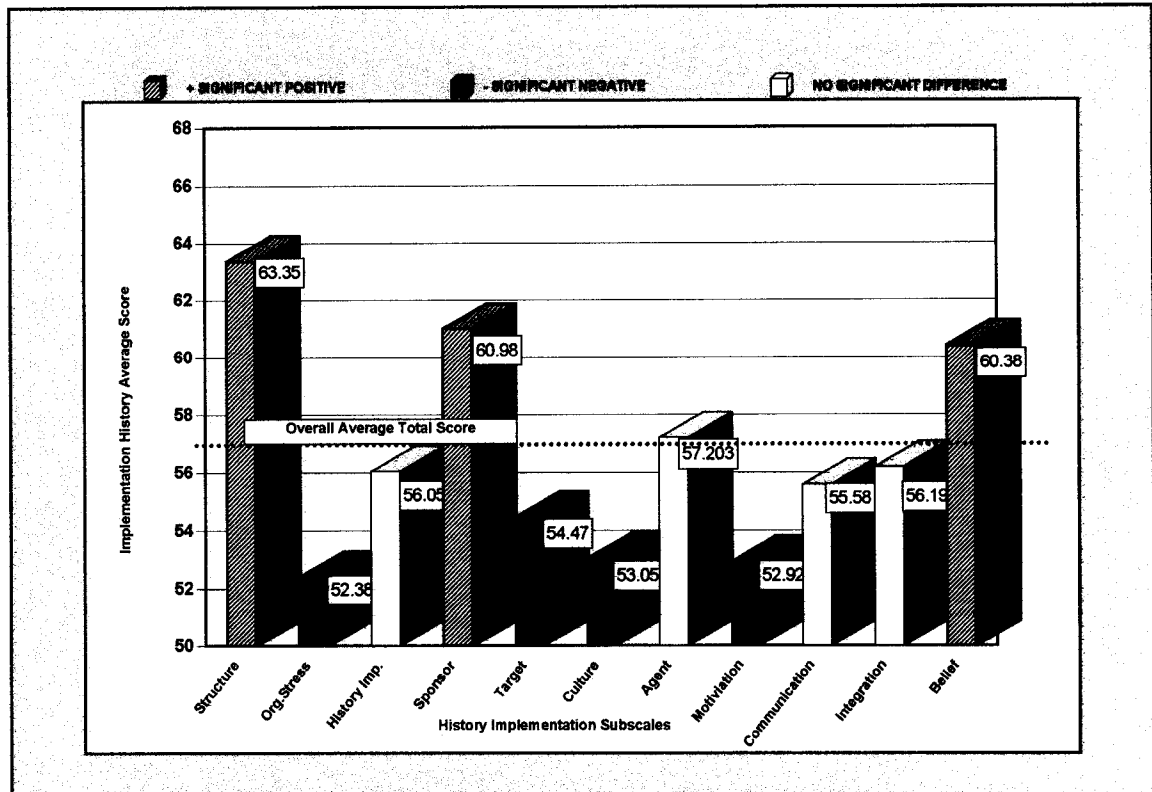


Figure 7 Teachers' Perceptions Implementation History. Comparison of overall teacher-level Implementation History total score with Implementation History subscale scores using a varied t-test with teacher level data.

Total Organizational Stress Score. The teachers' score for organization stress was 52.38, which was significantly lower than the mean for the total implementation survey. This low score in organizational stress could imply that teachers are overwhelmed by change demands. When a teacher is over extended or feels inadequate to carry out assigned tasks, the result can be stress or burn out. Teachers clearly indicate that they perceive the organization to be organizationally stressed.

Total Target Readiness Score. The teachers' score for target readiness was 54.47, which is significantly below the average score for Implementation subscales.

This score refers to how the organization has handled resistance to changes in the past.

Total Cultural Fit Score. The teachers' score for cultural fit was 53.05, significantly below the mean score for implementation history. The cultural fit looks at how well a teacher's culture in a school today fits with the culture needed for a new initiative. Culture is the teacher's pattern of values, behaviors and unwritten rules that influence daily behavior.

The low score would indicate that there is not a good cultural fit between teacher's culture and change initiatives.

Total Motivation Score. The teachers' score for motivation was 52.92, which indicates a low-to-low moderate score. The motivation subscale refers to how well the present reward system is aligned with the performance characteristics required to achieve the change. The low score on motivation would indicate that compensation rule, promotion criteria, and all operations that influence behavior should be assessed and modified to reinforce the change to standards-based education.

Four subscales were found to be relatively close to the mean for the total implementation history. These subscales, history of implementation, agent capacity, communication, and integration, were not recognized or no agreement was indicated that they were significant barriers or strengths. These factors need to be analyzed to determine positive aspects of prior implementation strategies and use these strengths to support the current change effort.

Total Implementation History Score. The teachers' score for implementation history was 56.05, not significantly different than the total mean. Implementation

history refers to how successful an organization has been in implementing changes, Have they managed resources, time and money, effectively? Teachers' scores would indicate that the educational organization has been relatively successful with implementations, but not to the degree that teachers would expect them to be successful in the future. Past implementations have taught schools what to expect during the change to standards-based education.

Total Agent Capacity Score. The teachers' score for agent capacity was 57.20, not significantly different than the mean for the total implementation history survey. Agent capacity refers to how well the person responsible for implementation has handled past change initiatives. Teachers perceive these change agents as being moderately successful. They had some appropriate skills, motivation, and organizational skills to be partially successful in past change initiatives.

Total Communication Score. The teachers' score for communication was 53.58 not significantly different from the total mean. Successful implementation is based on effective communication. Clear goals and rationale are necessary at each level, and must be communicated in the frames of reference of each teacher.

Total Integration Score. The teachers' integration score was 56.19, which indicates a low-to-low moderate score. People are more likely to commit to changes when they are involved in the planning and implementation. Integration subscale asks how involved have teachers been in past implementation efforts. This score would indicate that teachers felt fairly involved in past change initiatives.

Schools Perception of their Implementation History

In order to determine what subscales influenced, either positively, no effect, or negatively, the total score on the implementation history survey a paired t-test was conducted. The same type of analysis that was used for the third research question will be used to answer this question. This analysis will use individuals' responses within schools (n = 50), to determine which of the eleven subscales had the tendency to affect the total implementation history scores either positively or negatively.

Paired t-test on implementation history subscales Table 7 shows the results of this test of significance. Column one lists the pair to be tested with subscale title from the survey. Column 2 gives the mean score of the subscale and the grand total implementation history. Subscales which showed significance difference have a plus or minus, to indicate positive or negative difference. The third column gives the t score. Finally the fourth column gives the p score, the probability that the difference is likely to occur by chance.

Implementation History Factors

The schools' average score on this survey provides an indication of the likelihood of success of the current implementation of standards-based education based on the individual school's history of prior implementation. High scores (80-90) represent heightened prospects that the high costs of implementation failure will be avoided. Scores in other ranges (moderate 60-70 and low 40-59) mean strategies must be considered that will minimize or eliminate past barriers that may jeopardize the current movement to standards-based education.

Table 7

Schools Paired t-test on Implementation History Subscales. Comparison between the overall school level Implementation History total score (60.86) and the Implementation History subscale scores using a varied Paired t-test with school level data N=50

PAIR	MEAN SCORE	t-scores	Significance Level
1. Structure Grand Total IH	67.48+ 60.86	t= 4.449	p = .001
2. Org. Stress Grand Total IH	56.27 - 60.86	t= -4.652	p = .001
3. Implementation Grand Total IH	61.40 60.86	t= .420	p = .677
4. Sponsorship Grand Total IH	64.09 + 60.86	t= 2.961	p = .005
5. Target Grand Total IH	59.53 60.86	t= -1.295	p = .201
6. Culture Grand Total IH	58.02 - 60.86	t= -2.615	p = .012
7. Agent Capacity Grand Total IH	60.73 60.86	t= -.172	p = .865
8. Motivation Grand Total IH	56.35 - 60.86	t= -3.755	p = .001
9. Communication Grand Total IH	59.03 60.86	t= -1.878	p = .066

Table 7 (Cont.)

10. Integration	62.15		
Grand Total IH	60.86		
		t= 1.004	p = .320
11. Belief	65.98+		
Grand Total IH	60.86		
		t= 3.156	p = .003

+ Indicates significant positive difference, - indicates significant negative difference

The Total Mean Score on Total Implementation History.

The total average score on the Implementation History survey for all personnel within schools was 60.86, which indicates moderate to low moderate score. Overall, according to perceptions of schools surveyed, Alaska's educational organization has not been highly successful in orchestrating educational change. If standards based education is to be implemented, there is a need to recognize the lack of congruence between the changes envisioned by standards-based educational programs and the existing profession and school cultures.

Schools' Total Mean Score on Total Implementation History 60.86



Implementation History Characteristics:

Each of the following section scores represents an important characteristic of the schools' pattern of change in past implementations. Specific tactics to accelerate the change to standards-based education can be developed by reviewing the items that constitute each section and then developing tactics, skills and strategies to overcome

these barriers. Figure 8 illustrates the schools response to implementation history survey.

Three subscales, structure, sponsorship, and belief, were found to be significantly different than the total implementation history score. These factors could be viewed as strengths of past implementations. These three factors need to be reviewed and systematically applied to the current change to increase the likelihood of successful implementation.

Total Structure Score. Educational Structure refers to how a school is organized. Schools' score for structure subscale was 67.48, which was found to be significantly above the total mean for the history implementation survey. Educational structure refers to how a school is organized.

Total Sponsorship Score. The schools' total sponsorship score was 64.08 and is significantly above the total mean, Schools have indicated that administrators have been committed and supported change in the past, If standards based education is to be implemented administration must be committed to the reform effort and understand the impact it may have on teachers.

Total Belief Score. The schools' belief score was 65.98, significantly above the mean total score for implementation history. A significant number of schools in the state do feel a change to standards-based education is actually going to take place. This is a strength that can be used for accelerating change, but scores in the moderate range mean a significant number of schools must become convinced that change should occur. Figure 11 illustrates the results of the t-test.

Three subscales, organizational stress, cultural fit, and motivation, were significantly different from the total mean for the history implementation survey. These subscales were significantly lower than the mean and could be considered barriers to successful implementation of standards-based education.

Total Organizational Stress Score. The schools organizational stress score was 58.27, which was significantly lower than the mean for the total implementation survey. This low score in organizational stress could imply that teachers and administrators are overwhelmed by change demands. Schools clearly indicate that they perceive schools to be organizationally stressed.

Total Cultural Fit Score. The schools' cultural fit score was 58.02, significantly below the mean score for implementation history. Culture is a school's pattern of values, behaviors and unwritten rules that influence daily behavior. The low score would indicate that there is not a good cultural fit between schools' culture and change initiative.

Total Motivation Score. The schools' motivation score was 56.3, which indicates a low to low moderate score. The motivation subscale refers to how well the present reward system is aligned with the performance characteristics required to achieve the change.

Five subscales were found to be relatively close to the mean for the total implementation history. These subscales, history of implementation, target readiness, agent capacity, communication, and integration, were not recognized or no agreement was indicated that they were significant barriers or strengths. These factors need to be

analyzed, positive aspects of prior implementation strategies need to be determined, and the strengths to support the current change effort need to be used.

Schools' Perceptions Implementation History

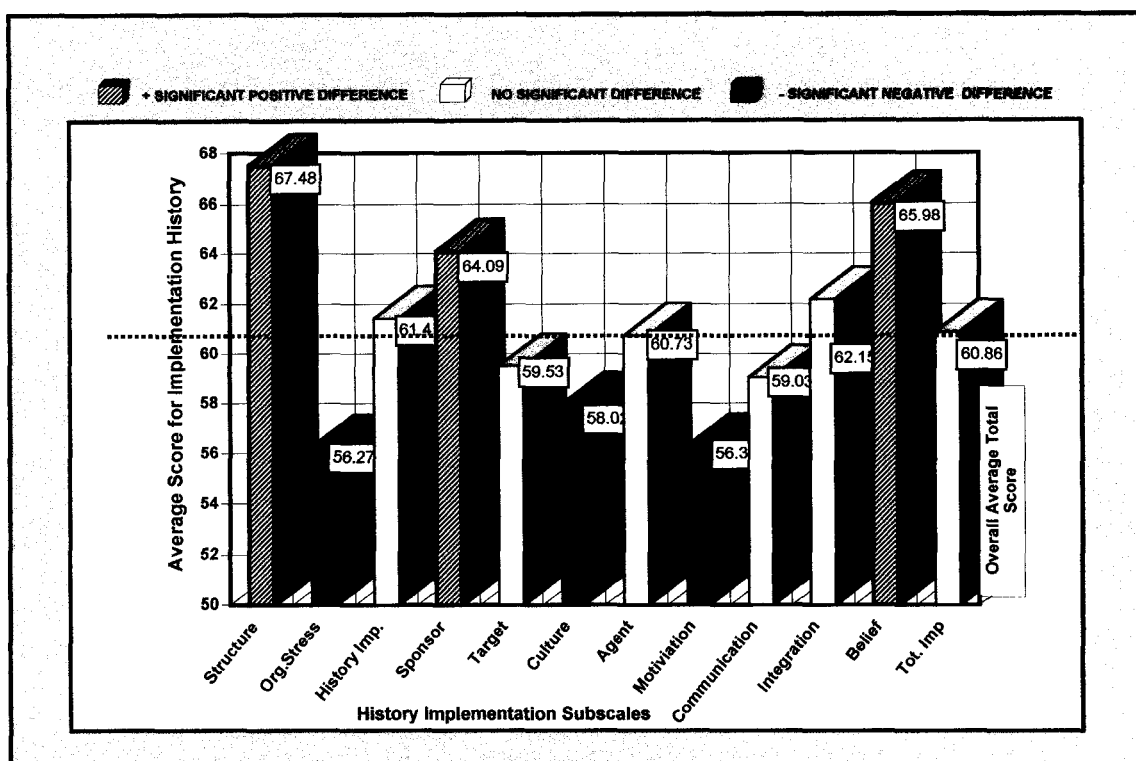


Figure 8 Schools' Perceptions Implementation History. Comparison between the overall school level Implementation History total score (60.86) with the Implementation History subscale scores using a varied paired t-test with school level data N=50.

Total Implementation History Score. The schools' score for implementation History was 61.4, not significantly different than the total mean. Past implementations have taught schools what to expect during the change to standards-based education. Educational organizations should draw on their successful implementation history to create an atmosphere of implementation inevitability.

Total Target Readiness Score. The schools' score for target readiness was 59.53, not significantly below or above the total mean score for total implementation history.

An organization can increase readiness to change and reduce resistance to change by managing the sources of resistance and by understanding staff members' point of view.

Total Agent Capacity Score. The schools agent capacity score throughout was 60.73, not significantly different than the mean for the total implementation history survey. Schools perceive these change agents as being moderately successful. They had some appropriate skills, motivation, and organizational skills to be partially successful in past change initiatives.

Total Communication Score for the schools was 59.03, not significantly different from the total mean. A moderate score on communication would indicate that lines of communication and statements of clear goals and rational must be given in future change initiatives.

Total Integration Score for the schools was 62.15, not significantly different than the total mean for the history implementation survey. Integration subscale asks how involved have schools been in past implementation efforts. This score would indicate that schools felt fairly involved in past change initiatives.

Historically schools have found the structure of the organization to be effective in dealing with past implementation. Schools generally perceive that sponsors or administration have been effective in leading change efforts. Additionally schools believe that there is a high probability of a successful implementation of change to standards-based education. Schools indicated that several subscales were not effective strategies in past implementations.

Teacher t-tests Compared to School t-tests

The two sets of t test, Teachers n=226 and Schools N=50, were similar in many respects. But some significant differences can be noted. Table 8 illustrates the similarities and differences between teacher responses and individuals within schools.

Three of the eleven subscales were above the mean in the teacher sample and the school sample. Three items were significantly below the mean and four subscales were not statistically different from the mean. One subscale, target readiness, was below the mean by the teachers and as not significantly different by the schools.

Table 8

Comparison of Teachers Only Response to Total School Response to Subscales on the Implementation History Survey

Implementation History subscale	Teachers	Schools	Teacher/school
1. Structure	X	X	XX
2. Organizational stress	O	O	OO
3. History Implementation	NS	NS	NS/NS
4. Sponsorship	X	X	XX
5. Target readiness	O	NS	O/NS
6. Cultural fit	O	O	OO
7. Agent Capacity	NS	NS	NS/NS
8. Motivation	O	O	OO
9. Communication	NS	NS	NS/NS
10. Integration	NS	NS	NS/NS
11. Belief	X	X	XX

X Item is significantly higher than the total IH mean. O Item is significantly lower than the total IH mean. NS not significantly above or below the total IH mean

Three of the eleven subscales were above the mean in the teacher sample and the school sample. Three items were significantly below the mean and four subscales were

not statistically different from the mean. One subscale, target readiness, was below the mean by the teachers and not significantly different by the schools.

Both groups believed that the structure of the educational organization was effective in past implementations. Administrators /sponsors of past change initiatives have owned the changes and demonstrated commitment to the implementation of past changes. The positive profile of sponsorship category also indicates that administrators are perceived to understand the impact that changes have on teachers. The average individual in both groups believe that today there is a high probability of successfully implementing change to standards based education

Three subscales, organizational stress, cultural fit, and motivation, fell below the mean for both teachers and schools. Both groups are experiencing or anticipating work stress. The subscale motivation asks individuals if they perceive that rewards both tangible and intangible are aligned with change to standards-based education. Both teachers and all individuals within schools indicated that they don't feel rewards such as compensation, promotions, and other factors that influence behavior are present in the present educational climate

Subscales that teachers and individuals within schools did not agree or disagree with in regard to standards included: history of implementation agent capacity, communication, and integration. Both groups indicated that implementation history, their prior experiences with other initiatives, is neither a plus nor a minus. Both groups are neither positive nor negative about their leaders. Clear goals and rationale are necessary at all levels of the organization if successful implementation is going to

occur. Communication needs to be strengthened. Both groups did not indicate that integration, involvement in the planning and implementation, was a strength of their past efforts.

Teacher group perceives that there will be significant resistance to the change to standards-based education. The target readiness was perceived by teachers to be quite low which indicates that in the past resistance to change has not been managed very effectively. The total school sample neither agreed nor disagreed that there would be a significant amount of resistance to this change.

Teachers and the school average have a very similar pattern. The teachers mean score is in the low range at 5.6. Schools average indicates a moderate mean of 60.86 for the implementation history survey. Teacher average indicates that they do not believe that this change project will be implemented successfully. They do not have a high level of confidence in their administrators or professional developers who are guiding this innovation. Individuals within schools on the average neither agree nor disagree with whether the change will be implemented successfully and whether or not the administrators and professional developers are credible to them.

Distribution of Schools Scores on Implementation and Individual Readiness Survey

One of the purposes of this study is to determine organizations past history of implementation and to assess individuals disaggregates groups, schools, districts, and the states readiness to change to standards based education. The total score of these two instruments Implementation History Survey and Readiness to Change Survey by school can provide an index of their past reform and predict how ready the schools are to

implement standards-based education. To determine to what extent and in what manner the average responses of schools with regard to factors associated with a readiness for change and implementation history vary when compared to the state average for schools, a measure of dispersion was conducted.

Confidence Interval Implementation History Scores by Schools

The scores, for each individual within a school, were tabulated using Implementation Management Associate's (IMA) scoring key. Each subscale score was totaled and multiplied to determine the section score. The Implementation History Factor score is total of all scores – 10 multiplied by four. To obtain a school's grand total implementation history score, the implementation factor score of each individual within a school was averaged. To determine the confidence interval, that portion of the normal curve in which we think our sample falls, the z score is multiplied by the standard error. The z score for a 95% confidence level is 1.96 and 99.5% confidence level is 2.33. A 95% confidence level is 2.67 and a 99.5% confidence level is 3.17. By adding this number to the mean, and subtracting this number from the mean we can establish ranges for the sample of schools of 63.53 for the upper and 58.19 for the lower at a 95% confidence level. Using 99.5-confidence level the range is 64.03 upper to 57.69 lower. These distributions can be viewed on figure 9. IMA used a score of 60 or lower to designate a low total, a score of 60-80 was considered a moderate score, and a high score was scores between 80-100. The range of scores using IMA suggested scores are displayed on figure 10.

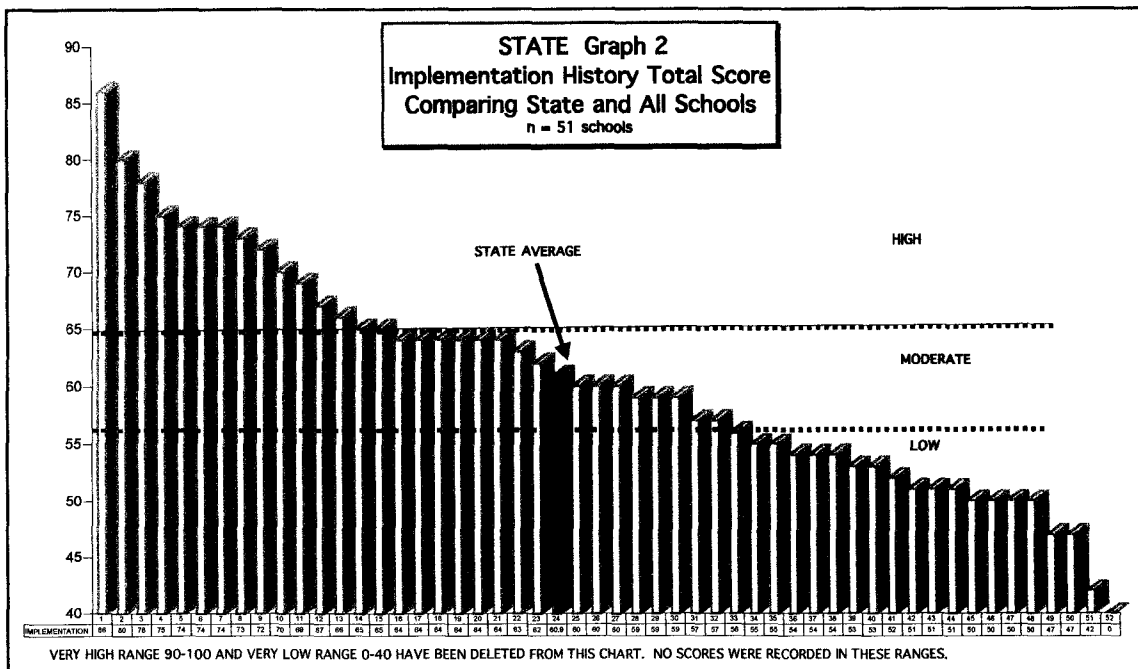


Figure 9 Confidence Intervals Implementation History Total Score for All Schools. High level at confidence level of 99.5% is 64.03 and low level is 57.69.

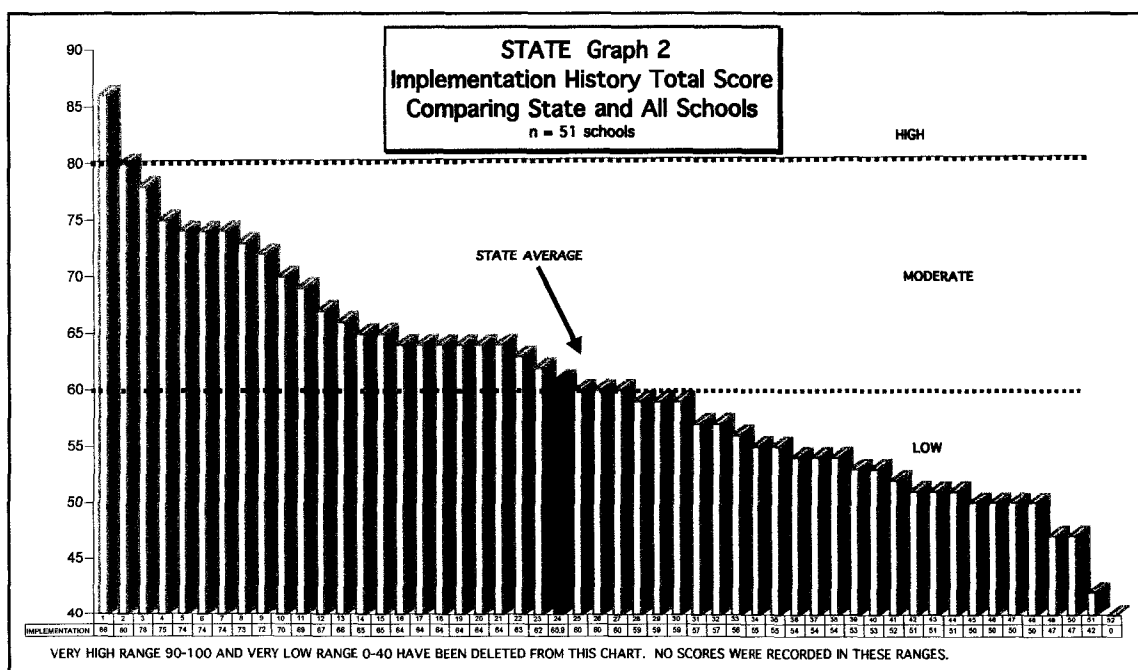


Figure 10 Implementation History Total score for all schools using IMA ranges High is 80 and low is 60

By performing these calculations an identification of an individual schools' performance can be compared with a reference to all schools being surveyed. Fifteen schools were found to be in the high range and their implementation history would suggest that their prospects for the current implementation of standards-based education to be favorable. A schools pattern of implementation results achieved during previous project can be a key factor in predicting the likelihood future projects.

Comparison of Total Implementation History Scores IMA and State

Figure 9 and 10 show the comparison of ranges schools fall in if one uses the IMA scores for predicting the range or using the confidence intervals developed for the state sample. The low range score for IMA is 60, the low range for the state sample of 50 schools is 57.69 if using a confidence level of 99.5% and 58.19 if using a confidence level of 95%. Approximately two points separate the two, and would seem to indicate that this instrument and the resulting samples are identifying the low range very accurately. The high range differs by 15 points and would seem to indicate that this instrument and the resulting samples are very disparate. Using the two different ranges give us two very different conclusions. Using IMA scoring, 2 schools are in the high range, 24 in the moderate range, and 24 in the low range. Using confidence intervals developed for the 50 school state sample 15 schools are in the high range, 17 in the moderate and 18 in the low range.

Confidence Interval Individual Readiness Scores by Schools

The individual readiness score represents the probability of implementation success for the current change project implementing the standards-based on the

assessment of the level of individual readiness. To obtain a schools grand total individual readiness score, each individual score within a school was averaged. The range of scores for the fifty schools is illustrated in figure 11 and 12. The confidence interval for Individual readiness survey was computed using the z score of 99.55% and 95%. Confidence interval for 95% was 2.78 and 3.31 for 99.5%, which gave a high range of 68.07-100, a moderate range of 68.07-62.51, and a low range of 62.51 and below. The confidence interval at 99.5 was 3.31, which gave a high range of 68.6 – 100, a moderate range of 1.98 – 68.6, and a low range of 61.98 and below. These ranges are displayed on figure 11. The scores for each individual within a school were tabulated using IMA's scoring key. These ranges are displayed on figure 12.

Confidence interval scores show fifteen schools were to be in the high range and their individual readiness scores would suggest that their prospects for the current implementation, standards-based education to be favorable.

Eighteen schools scored in the lower range and would indicate that resistance to the change to standards-based education is very high in these schools. Seventeen schools were found in the moderate range, which would indicate a moderate resistance to the change to standards-based education. An item analysis of the twenty-five items would provide these schools with an understanding of their pattern of possible resistance to the change.

Comparison of Total Individual Readiness Scores IMA and State

Figure 11 and 12 show the comparison of ranges schools fall in if one uses the

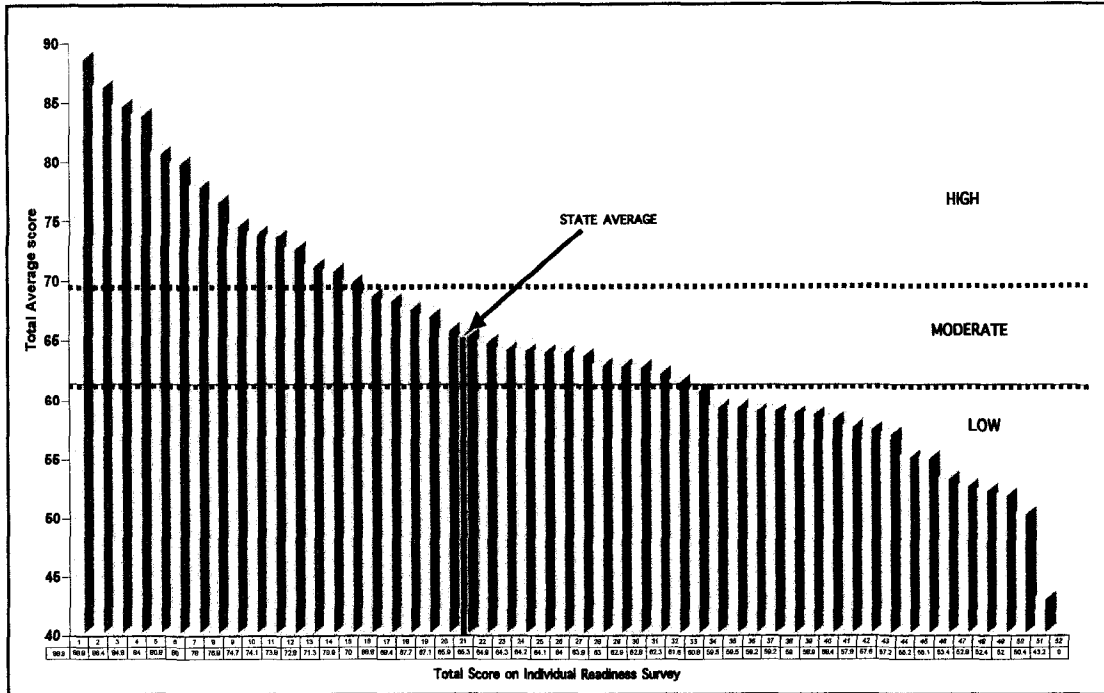


Figure 11 Confidence Intervals Individual Readiness Total Score for All Schools High level at confidence level of 99.5% is 68.6, and low is 62.51.

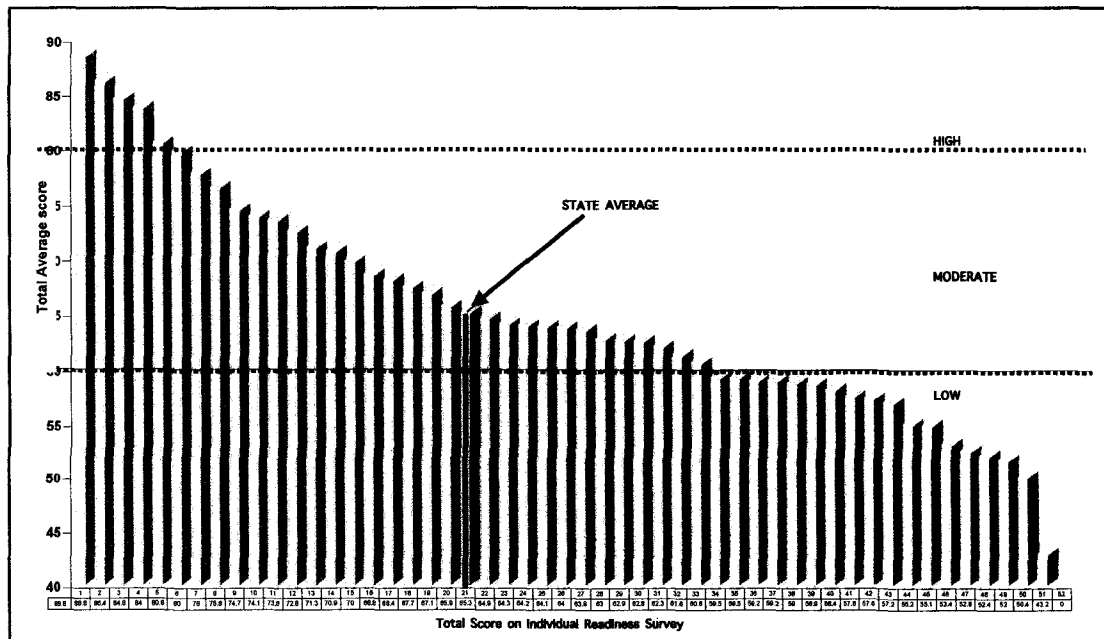


Figure 12 Individual Readiness total score for all schools using IMA high range 80 and low 60.

IMA scores for predicting the range or using the confidence intervals developed for the state sample. The low range score for IMA is 60; the low range for the state sample of 50 schools is 57.69 if using a confidence level of 99.5%, and 58.19 if using a confidence level of 95%. Approximately two points separate the two, and would seem to indicate that this instrument and the resulting samples are identifying the low range very accurately. The high range differs by 15 points and would seem to indicate that this instrument and the resulting samples are very disparate. Using the two different ranges give us two very different conclusions. Using IMA scoring, six schools are in the high range, 26 in the moderate range, and 18 in the low range. Using confidence intervals developed for the 50 school state sample 15 schools are in the high range, 17 in the moderate, and 18 in the low range.

Demographic Factors Associated With Survey Responses

Demographics can be very helpful in defining the path each state and each school must take on its own to achieve commonly accepted goals (Owings, Kaplan 2003). Data analysis of various subgroups provides information as to what subgroups are inclined to have a more favorable view of the probability of implementing change in the past and be more favorable or ready to change in the present. A summary Chart (see Figure 13 Summary Implementation Categories by Demographic Factors) was formulated from the results of the ANOVA analysis, which was reported in a series of 13 tables, which can be found in Appendix E, ANOVA Tables of Demographic Differences E1-E13. This summary chart gives a broad overview and shows emerging patterns in the data.

Table 9

Summary Implementation Categories By Demographic Factors. X indicates a statistically significant difference with a probability of less than .05. The letter or number in front of an x indicates which group had the highest score in each category.

See Appendix H Demographic Tables for detailed statistics.

Category	Gender M=Male F=female	Race W=White N= Other	Level of Experienc 9=9yrs- 10=10yrs+	Exp in School 6=6yrs 7=7yrs	Grade 9=9-12 1=7-12 0=other	Educ years B=B+ m=M+	#Subj 1= 1-2 Subject 2= 3-4 Subject	Job T=Teac h O=Other	# Of Strategies 1=1strat 2=2strat 3=3strat 4=4strat	District Size 1=small 2=med 3=large	School Size 1=small 2=med 3=large	Urban/ Rural U=urban R=rural	Road / R=roa d NR=n o road
Structure					1 X			O X	1 X	1 X		R X	NR X
Org. Stress				6- X	1 X			O X	1 X	1 X	1 X	R X	NR X
Implementation					1 X		1 X	O X		1 X	1 X	R X	NR X
Sponsorships				6- X				O X		1 X	1 X	R X	NR X
Target			9- X	6- X	1 X			O X		1 X	1 X	R X	NR X
Culture					1 X			O X	2 X	1 X		R X	NR X
Target Agent				6- X				O X		1 X		R X	NR X
Motivation				6- X	1 X			O X	1 X	1 X	1 X	R X	NR X
Communication				6- X	1 X			O X		1 X		R X	NR X
Integration				6- X						2 X	1 X	R X	NR X
Belief			9- X	6- X	1 X		1 X	O X		1 X	1 X	R X	NR X
Total Implementation				6- X	1 X			O X		1 X	1 X	R X	NR X
Total IRS								O X		1 X	1 X	R X	NR X

The demographic factors that have impact on all thirteen categories were whether the school was located in a rural or urban setting and whether or not the school had access to the Alaskan road system. Individuals who work in a rural district without access to the Alaskan road system had higher scores on all 11 categories of the Implementation History Survey, on the Total Implementation Score, and on the total Individual Readiness to Change survey.

Surprisingly, school personnel who work in rural settings scored higher in all sections of the implementation history. Personnel who work in a rural school had a higher grand total score for all factors that comprise the Implementation History Survey. Rural personnel also had higher scores in the grand total readiness survey. Figure 13 implementation categories by urban rural graphically portrays these results. Figure 14 Individual Readiness Total score by urban/ rural scores compares rural personnel willingness to urban personnel willingness to change to standards based education by category. The pattern of the two groups is similar, but in all but six of the 25 statements the rural educators are more positive about this change.

The size of the district also had a significant affect on all eleven categories of the Implementation History Survey. With the exception of one medium sized district all other districts were small that had higher scores on the 11 implementation categories and the Total Implementation Score and the Total Individual Readiness score. The type of job an individual had in the school made a difference in how he/she responded to the questionnaire. The “other” group, which consisted of teacher aides, counselors, and administrative jobs, were statistically significant with a probability of

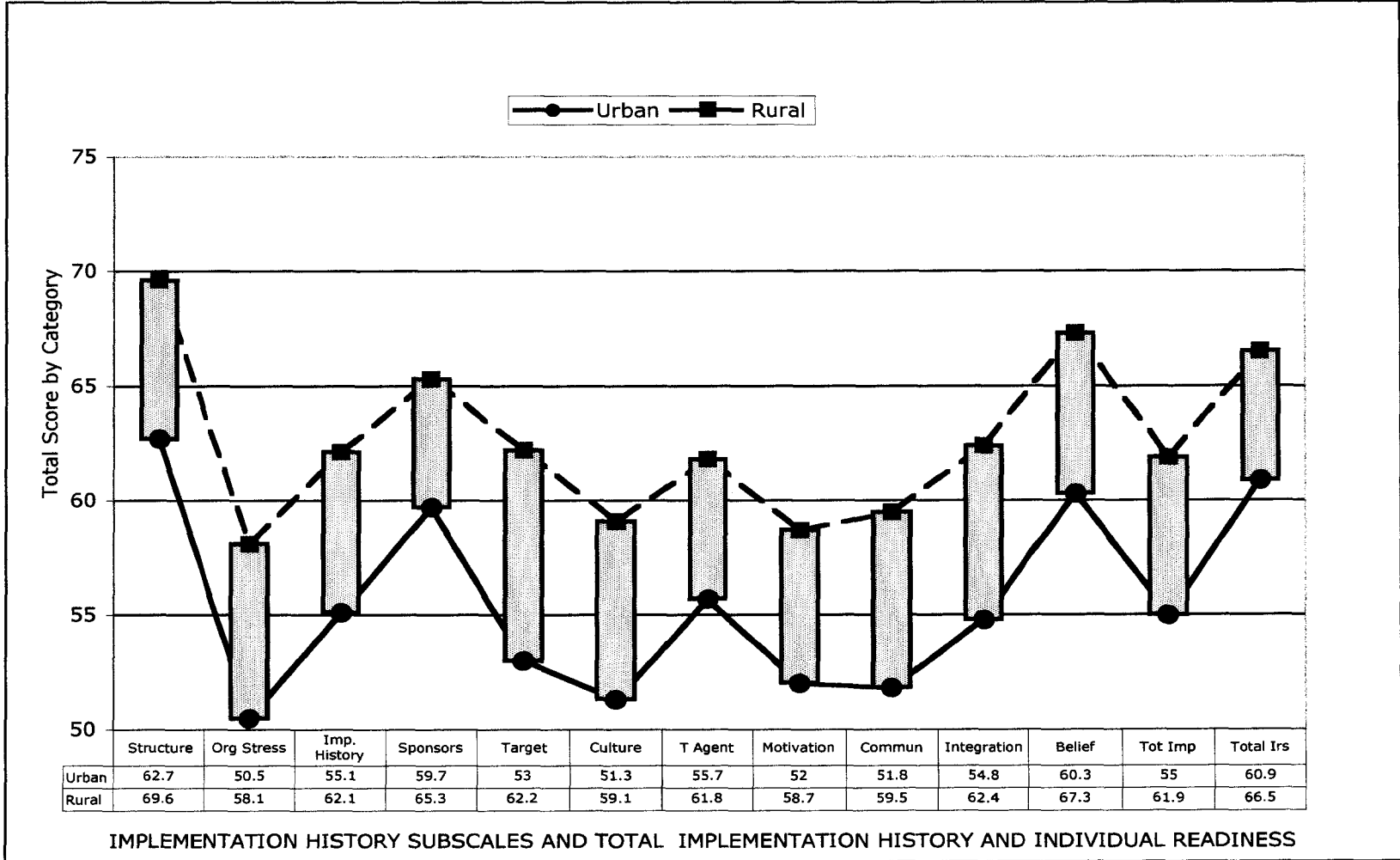


Figure 13 Comparisons of Rural and Urban Implementation History Subscales, Total Implementation History Score, and Total Individual Readiness Score

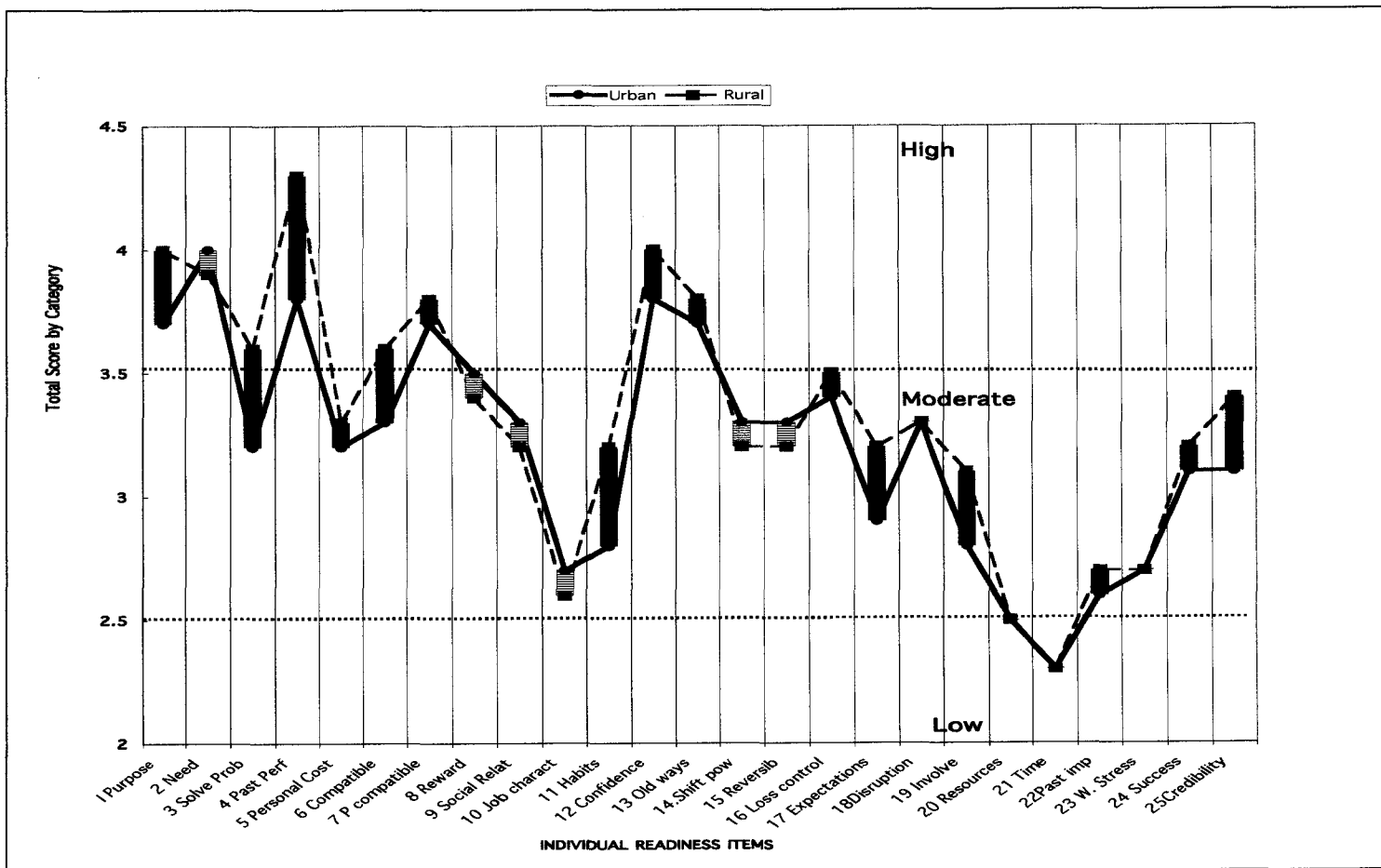


Figure 14 Comparisons of Rural/Urban Individual Readiness Items

less than .05 in the total implementation and Total Readiness Scores. The “other” group was more positive about their implementation history in all but one category, integration

The amount of experience an individual had in a particular school, the school size and the grade level of the school had a significant effect on nine of the 13 categories. The individual who had six years or less experience, in a school had higher scores than individuals who had seven or more years at their present site. Three categories, structure, implementation history, and culture of the implementation survey and the total readiness to change factor were not affected by the level of experience an individual had in a particular school. The individuals who worked in a small school had higher scores in all but three categories in the implementation history. Those categories were structure, culture, target agent, and communication. The individuals who worked with grade levels 7-12 scored higher on structure, organizational stress, implementation history, culture, motivation, communication, and belief categories of the Implementation History Survey. The total implementation survey score showed that individuals who worked in the 7-12 grade level were more inclined to have a positive view of past implementation efforts than the other two groups, 9-12 grade level and other grade level which included a plethora of different grade combination.

Individuals who completed the questionnaire were asked if they had used team teaching, authentic assessment, scoring guides or rubrics, interdisciplinary units or portfolio assessment. The number of strategies used in the past year only affected four

of the categories. Structure, organizational stress, and motivation categories on the implementation survey indicated that those who had used one of these strategies scored higher than those who used 2,3, or 4 strategies. Those who had used 2 of these strategies in the last year affected the culture category.

The level of experience an individual has obtained, had a limited effect on the 13 categories. Individuals with less than nine years experience had higher scores than individuals with ten years or more experience on three categories: target, motivation, and belief.

The number of subjects an individual is responsible for has an effect on only two categories: implementation history, and belief that this change will take place. The race of the individual only affected one category in the implementation survey. That category was cultural fit. It should be noted that Caucasians comprised 85% of the sample. All other ethnic groups or races were grouped together for this analysis.

The gender of respondents and their level of education did not show a statistical difference in any of the 13 categories. Whether one is male or female, no matter how much education he/she has earned, his/her readiness perceptions toward change were not influenced by these two demographic factors.

Content Analysis Regarding Greatest Needs and Concerns About Standards-Based Education

Participants in the study were asked about their greatest needs and concerns in regard to the change to standards-based education. The greatest need or concern expressed in response to this open-ended question all centered on time. Category 7, time issues, was most frequently expressed as a significant need or concern. Seventeen point

seven percent of staff and administrators who responded to the survey had a variety of needs that all centered around time. They needed time to understand standards-based education and they were concerned about too much instructional time being used for diagnostic and standardized testing. There were also concerns that they didn't have enough time for professional development, for working with colleagues and actually implementing standards. They also expressed concern about students' time, that if standards were implemented some students, particularly the competent ones would not have appropriate instruction. Another need for time had to do with whether standards-based education was a good use of time and further suggested that district and state leaders should have a vision and stay with it to provide the time and commitment to standards-based education. A few selected comments made in regard to concerns and needs express the variety of time needs:

Time Issues

- *Using precious class time to do standardized testing used for no purpose other than to record a year's improvement or lack of it. Diagnostic testing, outside of school hours is needed to provide information to help the teacher formulate lessons of value.*
- *Not enough time, resources support personnel- little guidance – conflicts between standards based and multiple-choice CAT teaching/learning methods –expectations of his/her achievement upon implementation.*
- *People need time to become convinced this is a good direction and work together to figure out ways to work toward accomplishing this goal.*

- *Getting enough time to implement/understand changes*
- *Time – we need to plan time within the school day and in-service to accomplish this change. Direction – best utilize our time – specific tasks and expectations for accomplishment.*
- *Time, time, time we need time to collaborate.*
- *Time and flexibility to do what is needed to be done. Shifting to standards etc. requires a great deal of time and effort. Time is still allocated by being able to do period such and such on day 1 rather than by standards. Something has to give and time is one of the major elements.*
- *My greatest concern is that there will be a long-term commitment to this change.*
- *My greatest concern and need is the time it will take to plan implement and continue these changes.*

Another significant need or concern expressed by 14.4% of the educators in Alaska was about the impact that standards-based education might have on the rural population, special education students and other groups of students. Expressed concerns included many different types of exceptionalities from the severely intellectually challenged to the gifted students. Respondents seemed to be concerned about whether or not standards-based education was going to serve these special populations effectively. A concern expressed was that schools were going to leave these students out or that the students would elect to drop out because they could not pass the standards. Subsequently, these students would not receive a high school diploma. Implicit in this

concern is that parents and communities were going to blame or hold teachers/schools responsible for students' success.

Impact on special Populations: rural, special education, and at-risk

- *My biggest concern is some parent shooting the faculty because Johnny or Susie won't be able to pass the competency.*
- *Impact on rural communities.*
- *At risk students dropping out – what will be the education's response*
- *Social passing of students cannot happen if we are going to be held responsible for their knowledge level when they leave our school.*
- *Difficulty with implementation for at risk or special needs students*
- *Equal opportunity for students in village settings for quality programs, labs, counseling and the opportunities available in urban settings.*
- *The students with special needs. How will their needs be met. Students in rural Alaska getting exposure and opportunities especially where career education is concerned.*
- *What plans do you have for at- risk students who take the benchmark tests as 10th graders and don't pass*
- *The impact upon "at- risk students" particularly those in the first three years will be tossed aside and the schools blamed, rather than a short sighted and ignorant legislative process.*
- *Native teaching*

- *Dummying down of the curriculum in a mainstreamed class that has gifted students.*

The third most noted concerns had to do with teaching strategies, money and resources and implementation and assessment issues. Twelve point nine percent of the participants taking the survey were concerned about how standards-based teaching would affect their instructional methodology and practices. Eleven point seven percent were concerned with whether or not they would have the money or resources necessary for implementing standards-based education. Eleven point seven expressed concerns about how standards-based education is to be implemented and assessed. Following selected comments clearly articulate a need to know how standards-based education is going to affect how they do their jobs.

Teaching Strategies

- *Time and equipment to reorganize lessons to match required standards for curriculum*
- *Getting all staff to use alternate teaching styles and techniques with at risk students*
- *Clarification of how (standards) affects daily routines of various teachers' classroom*

Money and Resources

- *I hope adequate money (in the form of qualified staff) will be allotted*
- *Having the time and resources for all involved to make the program successful.*

- *That the district including the school board puts the resources behind it.*

Implementation and Assessment

- *The district curriculum is not published with recent changes and it will take a great deal of work to bring it in line with the standards.*
- *There needs to be well defined steps or procedures of who, what, when etc...*
- *Teachers need more time to plan and write good task descriptions and task activities which meet the standards*
- *Getting enough time to implement/understand changes*

Areas that were considered to be needs or concern included four related topics administrative issues (8.7%), testing issues (5.7%), paperwork issues (3.9%), and planning issues (4.5%). Participants indicated uncertainty about who was in charge of the change to standards-based education and questioned whether support for standards was strong enough at the school, district and state level. Testing issues were a concern. Participants questioned whether the standards were the right standards and if the tests designed to measure achievement of the standards was appropriate. How good is good enough has really not been clearly articulated. Paperwork and planning issues highlighted the uncertainty of what standards will mean in regard to how much additional work will be required, and many questioned if we had a clearly articulated and systematic plan for implementation of standards at all levels: classroom, school, district and state. The following comments illustrate these four areas of need.

Administrative issues

- *Our administration needs to be stronger*
- *Support of district in upholding high standards for students*
- *Who is in charge?*
- *How will implementation strategies be decoded? Top down as usual?*

Testing Issues

- *Not all children can take standardized tests. Unless there is money this is all a waste of my time*
- *The type of assessment is important and really knowing what is expected of the graduates – I don't think there is real agreement outside educators about what graduates need and in this state it will not happen.*
- *Teachers are not currently aware of what is being asked on this exit exam.*

Paperwork Issues

- *Will teachers be reduced to teaching to the test? Will there be so much paperwork related to standards that teaching will suffer?*
- *Concerned about loads of paperwork taking away from students taking time away from students and planning for students*

Planning Issues

- *We need a systematic approach and an overall plan*
- *A plan is needed! Help for students who need extra help or we will “dumb down”*

Other categories that were mentioned in regard to needs and concerns included: morale issues (3.3%), Passing Fad (2.7%) Should Work (2.4%) and Other (6%). Morale issues were those comments that mentioned the ability or attitude that might keep standards-based education from being implemented. Morale issues deal with concerns that will make it difficult to implement standards-based education. Individuals are concerned about the way standards are being introduced, concerned that paperwork for standards will drive job satisfaction into the ground, and they worry about all staff members being involved in the change to standards based education. Two point seven percent of the respondents indicated that they were concerned that standards-based education is just a fad, it will go away like many programs and models that were touted as “the answer.” Two point four percent of the participants indicated that they believe standards-based education should be implemented and could be beneficial to their students. The other category includes a wide variety of issues that one or more respondents stated as a concern. Most of these comments in the other category reflect a belief that standards are not “the answer” and illustrate vehement concerns about schools changing to standards-based education. The following selected comments provide a view of concerns and needs about standards-based education.

Morale issues in regard to standards

- *More paperwork just drives morale and job satisfaction into the ground*
- *Any individual who does not carry a torch for change and is supportive of it will lead to staff divisiveness and /or stagnation.*
- *We have known it was coming (standards) but it has been shoved off on us*

Standards is a passing fad

- *I am concerned that it is really just the latest “flavor of the month.” Remember Whole Language? We were forced into that and now it is whipsawing a way back to phonics. As soon as we learn to jump through your hoops shouting the new jargon correctly, we will be told there is some new way we are to do it.*
- *I expect to see standards-based education to phase out in another two to three years just like competency-based education and the others before that.*

Standards should work

- *I think standards-based education is essential for long-term growth viability and flexibility in our schools.*
- *The process is exciting – collaboration is increasing. The movement of teachers with a goal in common will make a difference in education.*

Other Needs and concerns

- *Who implements the standard and are they relevant?*
- *Concern: Talk but little action, lots of time spent on non-essential issues...*
- *The lawsuits that will change procedures and expectations.*
- *Districts are not doing the changes for the correct reasons.*

The following Table 10, Summary Table of Content Analysis of Question one lists the major needs and concerns in descending order. Issues dealing with time were the greatest need and concern mentioned. Time was the issue most frequently commented upon as the greatest concern and need. Other issues which were highly significant to the respondents included issues dealing with: 1) the impact on special

populations, 2) teaching strategies, 3) money and resources, and 4. implementation and assessment.

Table 10

Summary Table of Content Analysis of Question One

Category	%	Greatest needs / concerns about standards based ed.
Category 7	17.7%	Time issues, time to work with colleagues, too much time spent on standard assessment
Category 4	14.4%	Impact rural community, parents blame teachers, Special Ed issues, at – risk, concern certain groups of kids (G/T and other end of spectrum)
Category 5	12.9%	Teacher strategies, problems with professional development
Category 6	11.7%	Adequate money and resources
Category 8	11.7%	Curriculum not aligned to standards, implementation and assessment issues
Category 1	8.7%	Administrative issues
Category 12	6%	Other: Are standards relevant, Too few reading specialists in school, Talk but little action, Attendance problem, Won't make a difference, Lawsuits change procedures and expectations, Students will rebel, Teacher turnover, Districts are not doing changes for right reasons, Standards should be lowered grades 3,5,8, Always taught to standards, Teacher resistance to SBE, That we go beyond the major strength of Am. Ed in which each gets a chance beyond reason to relearn, to lean to achieve, to give success
Category 2	5.7%	Teaching to the test, test may not accurately reflect knowledge, assessment issues, problems with the test
Category 13	4.5%	Procedure and plan issues, focus misplaced, standards need to be clearly written, standards are not preparing kids for real life
Category 3	3.9%	Paperwork issues, great deal of work, too much teacher responsibility
Category 9	3.3%	Morale issues; loss of creativity, individuality; academic freedom, all on same page
Category 10	2.7%	Flavor of month, standards are just a passing fad
Category 11	2.4%	Should work, should be put in action

Content Analysis Regarding Ideas and Thoughts
About Standards-Based Education

Participants in the study were asked: *Do you have other ideas or thoughts about standards-based education? Please explain.* To find out what educators in Alaska were thinking and believing about movement toward standards-based education. The most frequently expressed idea was that standards should work and should be implemented.

The most prevalent comment given in response to this very open-ended question was that standards are a good idea and standards should work. Seven point five percent of the respondents thought that standards is a good idea and that standards-based education will assist educators in raising student achievement. The change to standards-based education although there are many questions, and concerns in regard to the feasibility of implementation, has some backing throughout Alaska. The following comments reflect this positive attitude toward standards based education.

Standards should work:

- *It should work and it should be put in action.*
- *I think its great. I feel my standards are already high so this will keep me in check as well as raise the bar for those who need it.*
- *Standards based education will give us better focus and let us know where we are going. Will bring about more successful students*
- *The idea of standards based education is valuable. I am supportive of the idea and will work to do my part in making the implementation successful.*

- *Generally speaking – I feel that it is good. Having clear standards makes a lot of sense.*
- *I think its great and I already see a positive change and increased accountability.*

The second most prevalent comment concerned administrative issues; respondents were concerned about leadership at the local and the state level. Some comments reflected a perceived lack of leadership in the state education organization and those respondents seemed to have very little trust in state and local administration. Others reflected on the importance of having visionary leaders who have the skills and desire to make standards based leadership work. Some comments indicated that the state needs to develop a plan for implementation; other comments seemed to feel that the plan should be handled at the local site. Individuals were very adamant about site-based management and local control.

Concerns about administrative support and expertise seem to be very important to educators who would like to see standards-based education implemented. The following comments reflect the diverse comments made in regard to administrative issues.

Administrative Issues

- *Teachers will need support of the administration and administration must be held accountable,*
- *Have deep reservations about standard- based instruction in Alaska, due to poor presentation of the idea by administrators who are not respected and have poor “people skills”.*
- *I believe if the administrators would have a definite plan or end product described to the teachers we would be more successful.*

- *We need the support of administration, teachers, and counselors in order to be able to develop good standards-based education.*
- *We need true leadership that will walk us through this slowly.*
- *Each district should have a leader to help organize and delegate the work load regarding this change*
- *Standard-based education is an opportunity for our state to recover from some of our corrupt administrators.*

Three categories: 1) special education issues, 2) teacher strategies/professional development, and 3) morale issues all had the same (4.8) percentage. Special education comments dealt with a variety of issues. Some were very concerned that certain groups of students would lose by the implementation of a standards-based educational system. A few were concerned that resources would be moved away from high effort and high ability students. Others questioned whether at risk students, and learning disabilities students would have the opportunity to be successful in a standards-based system. Concerns about whether or not rural sites could provide students the opportunity and resources to be successful were also mentioned. Morale issues involved both staff and student reaction to standards-based education. Fear of teaching to the test and questions about whether or not the tests were measuring the standards appropriately had the same number of comments as comments concerned with procedures and policies (4.2%).

The other category was a compilation of very diverse comments mentioned by only one or two participants in the questionnaire. One individual reflected that standards was a double-edged sword. There were concerns about standards being over

complicated and that standards-based education wasn't for everyone. Other comments reflected questions and concerns about how standards would effect their position. Implementation and assessment issues (3.3%), the need for a plan for implementation (3%) and adequate money and resources (2.1%) were noted as issues that needed to be addressed. Table 11 summarizes the results of the content analysis.

Table 11

Summary Table of Content Analysis of Question Two

Category	%	Other ideas and thoughts about standards based education? Please explain.
Category 11	7.5%	Should work, should be put in action
Category 1	5.7%	Administrative issues State and local: True leadership walk us through slowly
Category 4	4.8%	Special Ed. Issues: at – risk, concern certain groups of kids (G/T and other end of spectrum), Resources moved away from high effort/ability students, Rural Ed, Opportunity to learn standards, Seems highly elitist
Category 5	4.8%	Teacher strategies, problems with professional development: Interdisciplinary approach, Teachers take course in reading, Need reinforcement, Start at classroom, Class size
Category 9	4.8%	Morale issues; loss of creativity, individuality; academic freedom, all on same page, Won't work, Not buy in until concerns addressed, Already do, Should have been left alone to teach – get rid of mushy self-esteem stuff, Teachers not bought in, Shame to focus on Ed task oriented, Leave us alone
Category 2	4.2%	Teaching to the test, measuring the wrong stuff
Category 13	4.2%	Procedure and policies: Alternative programs, Set the standard, don't lower the standard, Local control, Need buy-in ownership, Parent support needed, Attendance
Category 7	3.6%	Time issues: Time to work with colleagues,

Table 11 (Cont.)

Category 14	3.6%	Other; Fear over complicated, Doses SBE give us picture of child – SBE not for everyone, Are there standards for elective courses, Are computer based programs like Plato viable alternatives, Concern value base standards, Survey poorly written presented, Need more than just SBE, Double edged sword
Category 8	3.3%	Curriculum not aligned to standards, implementation and assessment issues: More rigor – more relevance, Implementation across cultures difficult, Involve science teachers, SBE will encounter teacher resistance, Diluted curriculum
Category 12	3%	Need a solid plan: Enforcement grades 4-8, Social promotion, Hard to understand – everything we're doing is wrong, Need vision
Category 6	2.1%	Adequate money and resources
Category 15	1.8%	Community, culture concerns: Native ways and languages, Community expectations much more important, Lose diversity – shape students all the same mind, Community culture key to sound education, how Alaska culture and language fit with standards, All people are different – shouldn't be held accountable to same test
Category 10	1.2%	Flavor of month. Standards are just a passing fad, Change for change sake, Renamed what we currently do
Category 3	.6%	Paperwork issues: Great deal of work, Too much teacher responsibility

A number of respondents 1.8% had cultural and community concerns about how standards-based education would work in Alaska. Some indicated that native ways and languages would not be valued in a standards-based system and that the community held the key to sound education. Many question how Alaskan culture and languages would fit with a standards-based system. A few questioned the whole idea of

standards-based education and felt that people are different and they shouldn't be held accountable to the same test. Some saw the standards-based movement to be the cause of lack of diversity, that standards would shape students all to the same mind. Several questioned the possibility of rural Alaska being able to ever be successful in a standards based system.

CHAPTER FIVE

Discussion of Results and Conclusion

This study developed a general profile for the state and for a variety of educational settings in Alaska. In this chapter, the general premise of the research is discussed, and results of the research conducted in 51 Alaskan schools of perceived strengths and weaknesses in factors associated with organizational change are synthesized. The implications of the findings related to the research study are discussed and future research, related to the questions that guided this study, are also addressed.

A profile of the state of Alaska's past implementation efforts and current readiness to support a change to standards-based education was analyzed by surveying teachers and school personnel. Two instruments were used. The Implementation History Assessment provided an overall indication of past implementation success and identified the specific barriers to be eliminated or reduced to increase the probability of success. The Individual Readiness Assessment provided an analysis of the specific reasons why and how individuals, schools, and districts resist the change to standards-based education.

The questionnaire also included: 1) one question to frame the completion of the surveys, asking participants what changes in educational organizations they have completed, 2) ten demographic multi-choice questions which requested information about the person completing the survey, and 3) two open-ended optional questions about standards-based education.

The findings clearly show that school personnel sampled have the interest, the willingness to invest their time and effort, and the motivation, which give energy and direction to their interest in standards-based education. Staff members see the purpose and need for standards-based education and feel there will be a high reward for successfully accomplishing this change. However the findings also indicate that individuals in schools do not believe that change to standards-based instruction will have a positive effect on their job characteristics. Habits and routines will be disrupted and work stress will increase. Expectations are not clear to them, adequate time, resources and credible administrators and professional developers have not been provided.

The importance of knowing the teachers' dispositions with regard to the current implementation is highlighted by recent research that recognizes the difference an effective teacher can make in the achievement of students. One review during the past three decades found that teachers could account for two-thirds of the total effect of schooling. A 34-point percentile gain was found if a student attended an effective school and 27 points of this gain are dependent on whether the student had an effective teacher (Marzano, 2003). If a student attends an effective school with an ineffective teacher the student will only increase achievement by about seven percentile points. Sanders & Horn (1994), and Wright, Horn & Sanders (1997), found in 30 separate studies across three grade levels that the most important factor affecting student learning is the teacher (Marzano, 2003 p. 68). In addition their results show a wide variation in effectiveness among teachers. They concluded that more could be done to improve education by improving the effectiveness of teachers than by any other single factor. But even more

importantly, they noted that effective teachers appear to be effective with students of all achievement levels regardless of the levels of heterogeneity in their classes. If teachers are not using effective instructional practices, their students fall further and further behind.

Changing a school, district, or state to a standards-based system is a very complex proposition. Gene Carter, Executive Director of the Association for Supervision and Curriculum Development believes the following changes need to be made to become a standards-based educational organization:

The standards movement requires increased focus on learning and professional development, including realizing technology's potential to further learning, promoting teacher leadership, creating a stronger knowledge base for all learners, and involving the broader community. These needs must be considered in conjunction with the shifting paradigm from knowledge dissemination to the fostering of understanding. Increased knowledge about childhood development and how children learn will impact both curriculum development and teaching methods (Carter, 2003, p. 252).

The purpose of this research was to assess the current state of the state in regard to the beliefs and perceptions of educational personnel regarding the implementation of the new innovation – standards-based education. This study is based on a one-time assessment of past implementation history and present readiness to change.

Research Results, Implications, and Related Research

For a change facilitator to be an effective leader of implementation he or she must be adaptive. Diagnosis of the state of the organization and type of interventions needed should be an ongoing process. Effective change agents should adapt in response to what they learn about the current change of affairs. The organization should be periodically assessed both formally and informally to adapt interventions to the current needs of the schools and the individuals who work inside the schools. It must be remembered that individuals change their perceptions over time and what was once strength could become a barrier. Given the variance of schools in regard to pace and content of implementation, different interventions may be necessary. As McBeath and Reyes (2003) found in their study of high stakes testing, rural schools in Alaska are at a different level of implementation. They noted that more rural educators had increased contact with parents and community members to explain the new testing regime than urban educators who thought such communication was unnecessary (McBeath and Reyes, 2003). Just as teachers are beginning to realize that we must pre-assess students to determine what they know and can do, so too should an assessment of what teachers believe, know and can do be a continuous process.

Past research from educational organizations and business organizations has documented that implementation of new practices occurs in a series of stages. The Apple Classrooms of Tomorrow (ACOT) research and development program which started in 1985 involved public schools, universities, research agencies and Apple computers. When respondents to this questionnaire were asked to list three major changes in their

schools in the last five years most staff members (90%) did not recognize that standards-based education is a major change in the educational system. Although scores for individuals varied, the overall results of this research would indicate that Alaskan educators are at an entry or adoption level. ACOT found that bringing technology into schools is a human and technology issue. ACOT had to focus their efforts on two related problems in the human domain: how to support teachers through significant instructional shifts, and how to create a program of staff development (ACOT 11/6/02). They found a teacher's use of technology tended to evolve through orderly changes: entry, adoption, adaptation, appropriation, and invention. Professional development is needed to raise awareness of personnel about how standards-based education would change the way schools do business. McBeath and Reyes found that overall significant numbers of educators saw increased professional development and in-service activities after the establishment of the high stakes assessment system (2003). If the level of an individual can be identified, then it is possible to provide the appropriate intervention to move the individual or school to the next level. The pattern that has characterized past efforts can be broken, and educational effectiveness can be increased. The following statement by Hall and Hord illustrates what this pattern is:

Over the years their pattern has developed, introduce a new program, give it a year to take hold, immediately assess its effectiveness, and reject it when no increased outcomes are found. They conclude that over time an unlimited array of suggested changes for what should be done to increase educational effectiveness has contributed to the litany of school change failure. US schools' programs and

processes are a mile wide and an inch deep, resulting in a dearth of very promising innovations that have been fully implemented (Hall & Hord, 2001. p. 31).

Educators and governments keep looking for the magic bullet – the right program – and many could be the right program if we would sustain the program or innovation through the implementation process. This research found that education personnel know why the state is implementing standards-based education and have a clear understanding of the purpose and need of standards-based education. Alaskan educators have confidence in their ability to implement standards-based education and feel this initiative has high compatibility with their belief system. Standards-based education could be the “right” program to improve the effectiveness of schools, if the state and local districts are mindful of the needs and resources that are necessary to sustain this program through the implementation process.

Factors, which may limit the state’s ability to implement change to standards-based education, include organizational support resources and more time to accomplish the goal. Teachers and administrators throughout the state, on the average, do not believe that past implementations have been successful; individuals are anticipating/experiencing significant work pressure and stress, and believe that this change will not have a positive effect on job characteristics, like status or salary.

Some attributes which could assist the change to standards-based education include: clear understanding of the purpose of standards-based education, knowledge of why the change is being implemented, belief that there is a strong need for this change to

take place, belief that change to standards-based instruction does not imply poor past performance, high compatibility between change and most individuals' personal values, confidence in ability to accomplish the change and focus on new approaches rather than the old ways of doing things.

Critical Issues for Implementation of Standards-Based Education

The data collected about the needs and concerns about implementing standards-based education suggest some critical issues that need to be addressed if the implementation of standards-based education is to be successful. The following sections will explore those issues found to be significant to the implementation of standards-based education: administrative issues, school climate issues, effect of this innovation on job characteristics of staff members, time and school personnel's perception of time, professional development of staff members, educational policy, and differentiated needs of rural and urban educators will be addressed in the following sections.

Administrative Issues

The most prevalent changes mentioned when educational personnel were asked to list three major changes that have occurred in the school in the last five years was administrative change and staff members change. Whenever an administrator is replaced, it is not uncommon for the replacement to eliminate policies and practices identified with the former regime and then institute new policies and practices intended to represent the new regime (Thomas, 2002 p. 123). According to Thomas leadership consistency increases the inertia faced by an innovation, which is in the process of implementation. The remedy to the prevalent change in administration in rural Alaskan schools is a

complex issue. Two major issues that need to be addressed are, the retention of school principals and the professional development of administrators.

Retention of school principals. Leadership and faculty need to be encouraged to stay at a site for at least five years. In a school with a high transient rate, it is difficult for leaders to advocate, nurture, and sustain a school culture and instructional program conducive to all students' learning and staff members' professional growth. "Results from Alaska's high school graduation qualifying examination confirm that many of the remote rural districts where students have fared poorly on the test are precisely those that have experienced the highest rates of teacher turnover" (McDianmid, 2000). Harold Hodgkinson (2003, p. 11), a well-known analyst of demographic and educational issues, makes the point that educational leaders must understand how states differ from each other. If one looks at the percentage of 19-year olds by state who have both graduated from high school and been admitted to college, the range, according to the Mortenson Institute (1996), is from 55-60% in North Dakota, Massachusetts, New Jersey, Iowa, Nebraska, and South Dakota to only 25-30% in Texas, Georgia, Florida, Arizona, and Alaska. Those states whose population is stable do well; the transient states do not.

Turnover of administrators and superintendents is higher in Alaska than in other states. It may be necessary for the state of Alaska to provide incentives for staying at the same site for three years. Accurate descriptions of the site at initial hire would also encourage lower turnover rate. If administrators were aware of the challenges and opportunities in rural Alaska and given bonuses or longer contracts to work at rural sites it might do much to lower the high cost of frequent turnovers. The Alaskan legislature

has recently initiated legislation to provide appropriate housing for rural sites. This type of legislation improves the chance of obtaining and retaining highly qualified professionals for the rural sites.

Professional development for administrators. Alaska needs to provide incentives and nurture administration by providing relevant professional development for administrators. Schools should be encouraged to create school improvement plans and document progress with data. Administrators or other school leaders should be accountable for keeping records of past implementation efforts and current improvement efforts. Assessment of strategies, programs, and plans for improvement should be part of this record. A record of past and present accomplishments will not negate the detrimental effects of constant change in administration and staff members, but it would enable new staff members and administrators to be aware of past improvement efforts and to continue those programs, policies and practices that have been effective at the site.

Credibility of administrators and professional developers. The results of this study show that administrators and professional developers are not perceived to be credible and even though teachers see a need for standards, they don't believe that standards implementation will be successful. Individuals will not follow or change their modus operandi if they feel the change agent is not credible. Credibility is increased by being mindful of the needs of adult learners and by using authentic examples and research data to drive change efforts. The need for credibility underscores the importance of using data instead of beliefs to drive change efforts. Professional development should always

provide learners the reason for necessary change. The reason why should always be grounded in good research.

The teachers who participated in this study supported the idea that principals understand the impact of changes on teachers. Principals were seen to walk their talk, actions match words and principals were seen to own the changes. They also indicated that the organization established commitment and support rather than simple compliance. Although the teachers were positive about the principals' leadership, they did not perceive change agents in the same positive light. In fact, they did not respect or think change agents had successful track records.

Principals are often given the job as instructional leaders, but it is apparent from these results that principals are not seen as change agents. Principals who serve as instructional leaders are comparatively rare (Cotton, 2001, p. 18). Researchers have found that student achievement is strongly impacted by the leadership of the school principal. Walberg and Lane (1985), Steller (1988), Heck (1992) all conclude that there is a current shortage of instructional leaders in the principalship (Cotton, 2001, p.17). Change agents need to garner the trust of teachers. Staff members trust their principals and believe principals understand the effect that educational change has on the personnel. Change agents may find it necessary to work with principals and have principals deliver or facilitate changes necessary to implement standards-based education.

School Climate the Environment

Many respondents expressed concerns about the climate of their school. Climate of the school may be characterized by perceptions held by participants as to the nature of

the organization and how those perceptions are developed communicated and transmitted (Owens, 1991 p. 174). For example, in this study, many of the respondents expressed that they felt a fear of litigation, climate of intimidation, and lack of follow-through by the Alaskan educational organization. Both their implementation history and readiness to change assessments reflected a climate that was not conducive to school improvements. In a less successful organization, people's perceptions are focused on the narrow action in which they are directly involved. Rosa Beth Moss Kantar, author of the Changemasters, speaks of high-performance cultures, as having a culture of pride and there is emotional value and commitment between person and organization (1983, p. 143). People in these organizations feel that they belong to a meaningful entity and can realize cherished values by their contributions. By policy and actions Alaska's educational leaders must establish a feeling of pride in belonging to the educational organization and develop the confidence of the individuals in the organization. Individuals must have confidence that the organization will be supportive of creative new practices and that the organization will continue to perform well (Owens, 1991, p. 176).

Effect of Standards on Job Characteristics

This study found that teachers' attitudes toward the change to standards-based education reflects a great concern about the complexity of the change and the negative effect this change will have on their job. If the state is to successfully implement standards-based education it will be necessary to address how standards-based education will affect their jobs and how the new system will improve teachers' and students' welfare. This research shows that teachers feel that their jobs their habits and routines

will be disrupted by standards-based education. Staff members do not know what will be expected of them. Clearly delineating what is expected of teachers and commitment of time and resources for implementation, will lower the work stress teachers are presently experiencing or anticipating. Research shows that student achievement is increased if students know what they are expected to achieve. Teachers must be given clear objectives of what is expected of them and knowledge of how a proficient standards-based classroom would operate.

Incentives to Change

The subscale motivation asks individuals if they perceive that rewards both tangible and intangible are aligned with change to standards-based education. Both teachers and all individuals within schools indicated that on the average they don't feel rewards such as compensation, promotions, and other factors that influence behavior are present in the present educational climate. Future research needs to be conducted to determine what type of compensation; promotion, and other reward strategies need to be present to encourage a school's implementation of new strategies. At this time educators are overwhelmed with the changes brought about by standards-based education. In the McBeath and Reyes study high stakes testing it was found that:

Most educators reported an increase in their workload due to Alaska's implementation of high stakes testing. Of teacher respondents, 71.3% of rural and 59.7 %of urban teachers saw themselves spending more time, without additional compensation, at school and with students. About 84% percent of both rural and urban principals believed they were working more hours to respond to assessment

requirements. Nearly a third of the teachers 30% rural and 32% urban believed they had no input in the changes – a cost to their feelings of efficacy – as compared to only 11 % of the site administrators who lacked input (2003).

Chugach School Districts, which has successfully implemented standards-based education, was very effective in improving the schools, this model has a significant focus on human resources. They invested heavily in professional development and in providing incentives and compensation for faculty and staff members' growth. Some of the incentives included: professional development funding, 30 days of in-service, performance- based pay not tied to student performance, flexible working schedule, job sharing and rotation, rewarding individual and district-wide accomplishments, opportunities for professional growth such as presenting and consulting (Schreiber R. (editor), Draft 7/30, 2002, p. 25). They managed to create an atmosphere that encouraged staff members to be a part of a continuous learning organization.

Time and Staff Members Perception of Time

Need for time was the greatest concern expressed in the comments section of the questionnaire. Staff members wanted time for: professional development, time to understand changes, time to get all the staff members on board, long term commitment, time to reorganize lessons, writing standards-based lessons takes too much time, time to work with colleagues, time for diagnostic and standardized testing, time to accomplish goals, too many duties, timeline developing curriculum, time to implement changes, time to get students ready, time for those who can already or easily reach standards, and time to prepare. A key factor in implementing standards-based education is the availability of

resources: money, time, people. Alaska must demonstrate commitment to standards-based education by providing sufficient resources and time for staff members to develop the skills and practices needed.

Staff members need time to understand the whole picture, to know that standards-based education is not just a fad that will go away. They need to know the state is committed to staying the course and actually implementing standards-based education in all schools and classrooms. The implementation process must be organized and specific assignments and a time line for implementing standards must be provided. Time for staff members' professional development, that is pertinent for each teacher's professional growth, must be provided. Rural educators as a group thought they had had more in-service opportunities than did urban educators (McBeath and Reyes, 2003). This could be one reason why rural educators are more ready to change to standards-based education than urban educators. The state, district, and local school sites must establish a long-term commitment to continuous improvement.

Research has also spoken to the need for providing time for teachers to come together and study the new initiative; to develop lesson and unit plans, to reflect, and to discuss implementation issues with their peers (National Commission on Time and Learning, 1994). Adelman, Walking Eagle, and Hargraves (1997 p.80) cite time as a serious problem for teachers and that lack of time warps the course of innovation. Research by Apple (1989); Densmore, (1987); Hargreaves, (1994), and Robertson, (1983), all suggest that the role of the teacher is expanding and becoming more complex, while the time to accomplish teachers' work generally remains fixed (Adelman, et al,

1997). Teachers' time need to be restructured if schools are to accomplish school reform. Time and school personnel's perceptions of time need to be addressed and all staff members must be part of the discussion if an organization is to undertake the change to standards-based education.

Inclusion and Professional Development

State and district leaders must clearly articulate how standards-based education can and will include all exceptionalities. There is a need to provide districts and school sites with parameters for a plan to encourage students not to drop out, and provide staff members with methods and strategies that will enable special education students to meet standards. The state, with involvement of the local site, must provide programs to go beyond standards for those who have the skills to meet the standards. Effort should also be expended to provide gifted and high-end learners with appropriate education and challenges that won't leave any child behind nor allow children to stagnate as they wait for their peers to catch up. All must have programs that allow for continuous improvement.

Individuals throughout the state expressed the need to know how to do standards-based education. Significant concerns exist about how standards-based education should be implemented. The need to have appropriate professional development to learn new methods and instructional strategies is important. Resources and the money to make changes necessary to implement standards must be provided if individuals and schools are to perform well and have the confidence to be effective and successful in their own realm of work in the organization. The state, districts, and local sites need to provide

specifics or “nuts and bolts” coaching, training, and dissemination of information to all segments of the educational organization.

Involvement of Staff and Community

It is interesting to note that teachers feel very involved in the change, but when analyzing scores using all personnel in schools as the aggregate that involvement is a negative. If standards-based education is to be implemented, all of the staff members need to be involved in the change. Research conducted in Alaska shows that personnel in the schools who are not teachers perceive that standards do not involve them. For an innovation to be successful, research indicates that 80% of the staff members need to be in favor of the innovation. A clearer picture of what standards-based system entails and expectation of role of all staff members in the system needs to be provided. Schools' response to the readiness to change study indicated that innovators have done an excellent job of communicating the purpose and the need for standards, but have not clearly communicated the effect standards will have on their work and the school culture. The complex force that resists change is increased in proportion to the difficulties proponents of a change experience in communicating clearly to the program's participants (Hardy, 2002, p.15).

Education Policy

At this time Alaskan schools are experiencing significant work stress, putting all reform efforts in jeopardy. When advocating for coherent policy Michael Fullan gave the following illustration.

Policies are introduced without attention paid to the timelines and strategies of implementation that would be needed for success. The impatient search to address urgent problems makes the system susceptible to “magical” superficial solutions. At the same time, there are many urgent problems and frequent changes in government. So solutions get piled upon solutions, creating overload and clutter. Even within the same government, new policies are introduced on top of yet-to-be-implemented previous policies (1999, pp. 54-55).

Providing good policy that is coherent and coordinated should be a priority for Alaska. The state should, using the best available research, write coherent policy and coordinate efforts to implement the policy. Readiness to change is affected by the perception that change efforts have not been given enough time and resources. Research, by Huberman & Miles, (1984); & Miles, (1990), has shown that adopted changes go nowhere unless central office staff members and building principals provide specific implementation pressure and support (Moffett, 2000).

At this time there are at least six different organizations facilitating change initiatives in Alaska: Northwest Regional Educational Laboratory, (NWREL), Alaska Quality Schools Coalition, (AQS) and Alaska Staff Development Network (ASDN), High Performing Learning Community, (HPLC), Alaska Partnership for Teacher Enhancement, (APTE), Quality Schools Quality Students, (QS2) Rural Educator Partnership Program, (REPP). Most of these groups are partnered with Alaska Department of Education and Early Development. They have several similarities of approach and are using the same educational research to advocate for their approach.

These organizations are focused on assisting low achieving schools. No collaboration or coordination exists between these groups. Further research is needed to assess the effectiveness of the efforts at reform. There is a need to have coordination and collaboration of efforts, and all sites in Alaska should be given resources and time to facilitate the implementation of standards-based education

Needs of Rural and Urban Educators

Thirty-nine of Alaska's 53 districts enroll only one percent of the state's student body. This research found that many educators (14.4%) are concerned about the impact that standards-based education may have on the rural population and all types of exceptionalities from the gifted to the severely learning disabled. Due to Alaska's demographics the state board recently (March 28,2003) asked the federal government for flexibility in implementing NCLB legislation. This research indicates that rural educators and schools possess many factors that will expedite a change to standards-based education.

This research study found rural schools to be less resistant to change to standards-based education than urban schools. The respondents most ready for change had the following demographic characteristics: they were from small districts and schools, they work in rural areas with no roads to their site, and they are administrators or teacher aides. This would suggest that a different implementation strategy should be employed in rural schools which cannot be reached by roads than should be used with urban road schools.

The common perception that rural schools are unwilling or incapable of systematic reform was not found to be true in this assessment of school personnels' beliefs. Although the pattern of responses were similar to urban sites the data shows that in every category the rural schools' organizations are more positive about the change to standards. In 20 of the 25 factors that assessed readiness to change, rural schools indicated a stronger readiness to change than urban schools. McBeath and Reyes in a 2003 study of Alaskan schools found that there were significant differences between the urban and rural educators response to the high stakes testing routine. In fact they concluded that, "the differences between rural and urban schools are significant enough to be characterized as two separate systems. Rural schools today remain distinctive from urban schools in governance, finance, curriculum, staff members, and outcomes" (2003). Urban and rural Alaska schools do have significant differences but an interesting finding from the McBeath and Reyes study was that very few urban and rural challenged the validity of the assessments as measures of students' knowledge of standards and their proficiency in essential skills. Alaskan educators believe that standards-based education should work, but they question the state's willingness to commit the resources and time to make standards a reality.

Even though many sites in Alaska have been labeled in need of school improvement, some districts and schools have made phenomenal progress. Southeast Island School district has nine schools with a student population from 12-75 from 1-7 teachers work at each site. Southeast Island Schools are small and the communities have an 83% poverty level (Southeast Island School District, 2002). Yet this district has made

impressive gains, eight of the nine schools in this district made adequate yearly progress (State of Alaska Department of Education and Early Development, 2002). Chugach School District is another district that had severe obstacles to overcome yet their gains have been impressive. The percentage of Chugach students who take college entrance exams has increased from zero to 70 percent and achievement tests show gains in all subjects (Chugach, 2001 p.1). These results show hope for all Alaskan schools. The models used to garner these impressive gains had a significant focus on human resources. Alaska's unique demographics need to be recognized, but must not be an excuse for not providing a quality standards-based education for all ethnic groups regardless of their geographic location or unique learning needs.

Limits and Delimitations of the Study

Generalizations from this study are limited by the sample size and data collection over a period of time. Schools in Alaska were the focus of the study. The uniqueness of geography and demographics of the state, and Alaska's standards movement in general, would limit the ability to generalize these findings to other states or the nation. Alaska is comprised of 53 school districts, but five districts enroll 70% (134,358) of the Alaska's students. Thirty-nine school districts enroll less than one percent of the states' student body. Alaska has a large number of small schools, each with a very small number of students. Twenty percent of Alaska's total schools employ three or fewer teachers. Of Alaska's 506 schools, 135 have fewer than 50 students and 82 enroll 25 or fewer students. In these small schools a teacher has considerable influence. The attitudes, beliefs and perceptions of just one teacher can accelerate or limit the schools

implementation effort. One new staff member or one new principal can drastically alter the school improvement efforts. However, the purpose was to determine factors limiting change to standards-based education in each school or district. The nature of change would indicate that data generated pertains to a particular school community and is based on a particular community's response; the implementation process should be adopted to reflect their data and not generalized data.

Suggestions for Future Research

Further exploration should investigate factors that are barriers to implementation of new innovations. As a result of the No Child Left Behind legislation, schools must implement programs that are based on scientific research. Those responsible for professional development should use strategies that have been proven to be effective by educational research. In this research many of the barriers to standards-based education implementation have been identified. If this innovation is to succeed, then the existing pattern must be changed. More research is needed in how, why, when, what, and where, have there been successful strategies that effectively implemented systemic change. Further exploration should investigate failed and successful school reform to identify the factors in a school, district, or state culture that need to be changed in order for a reform effort to be successful.

To formulate a plan for establishing a new program in its complete operating state, it is necessary to determine what components need to be altered in order to bring about the desired reform. Schools must have assessment tools that determine the present status of the current school component and also must have a clear picture of what it

should be. Then, operating on this data, changing the pattern of a school is possible. Assessment of a school's readiness to change and past implementation history should be used to chart future reform efforts. Further research must be done to clearly identify factors that affect an institution's ability to change its practices. Envisioning the difference between the model's existing pattern and the newly intended pattern, according to Thomas Hardy, enables an institution to identify what changes will be needed in order to implement the proposed initiative (Hardy 2002). By studying failed and successful school reform one can identify what factors and components accelerate a school to the status that is optimum for implementing the new program. Specifically the following areas should be further researched:

- Research needs to be conducted to determine the predictive value of the instrument in this study. Are those schools that scored in the high range showing higher scores on the benchmark tests and the high school qualifying exam? Are schools that used their strengths and addressed their weaknesses, that were identified with this instrument doing a better job of implementing standards-based education in their schools? Are these schools considered to be high performing schools?
- Those respondents who share a high score in total implementation history are from small schools in small districts that are rural and not on the road system. Further research is needed to determine why rural Alaskan schools have a more favorable perception of change to standards-based education.

- **Future research needs to be conducted to determine what type of compensation; promotion, and other reward strategies need to be present to encourage a school's implementation of new strategies. Generalized knowledge of schools can be the basis for general plan of reform, but specific characteristics of a school site are needed to accelerate any reform at a specific school site.**
- **Research is needed on what skills, characteristics, and attitudes a change agent needs to be an effective facilitator of new initiatives. Clear goals and rationale based on research are necessary at all levels of the organization if successful implementation is to take place. Research is needed to determine what qualities and strategies used by change agents increase their credibility and effectiveness**
- **Research about key players, students, families, communities and legislators, is needed to determine characteristics and effects these key players have on school reform. Valuable information could also be obtained by comparing subgroups (administrators, principals, teachers, and professional developers) results throughout the state. In this way different frames of reference about the change can be surfaced and effectively managed.**
- **Further research is needed to determine how staff members sustain a change initiative until it becomes institutionalized. Leadership/change facilitators need to be knowledgeable about organizational strengths and weaknesses and base interventions on contemporary data about the state of the system How does an educational organization become a highly effective operation? More research is needed on characteristics of effective organizations and ethnographic studies of**

organization culture. Schools need to be proactive vs. reactive to change initiatives.

- Research is needed to determine how business can be a contributor to educational change. Business is a major stakeholder in any community and to ignore its input and treat it as a threat to good schooling is a mistake. Business should not be just as a funding source but a contributor to the whole organization and its components if the education organization is to achieve success.

The challenge for schools and districts is to develop processes that provide educational excellence for all students. A process is a specific ordering of work activities across time and place with a beginning, an end, and clearly defined inputs and outputs a structure for action. The data generated in this study can provide an understanding of how an organization does things: i.e. how administrators and teachers relate to each other, how goals are set, and communication used among staff members. There is much to be learned among staff members. There is much to be learned about educational change among teachers in the organizational context of schools. An understanding of what factors affects change and an understanding of the relationships between these factors, can lead to strategies, and interventions that can sustain continuous educational improvement.

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APPENDICES

Appendix A

Letter to Participating Schools and Instructions for Questionnaire



UNIVERSITY OF ALASKA FAIRBANKS

School of Education
 PO Box 756480
 Fairbanks, AK 99708-6480
 907-474-7341

To: Alaskan Educators

From: Betty J. McKinny
 Professional Development Coordinator
 North Pole High School/University of Alaska
 3138 Treaty Street
 North Pole, Alaska 99705

You have been selected to participate in a study that will suggest how Alaskan secondary schools may implement the Alaskan Content Standards. Schools throughout the state are now struggling with the implementation of standards in our classrooms. How is this standards approach to curriculum, instruction and assessment to be accomplished? The University of Alaska School of Educational Leadership are supporting research to aid districts in the state of Alaska to implement standards. We seek your participation in this study.

This research will give the participating districts a state profile of secondary school's capacity to implement programs and will identify potential sources of resistance to standard based education. Individual districts or schools, may request an analysis / evaluation of the resources, reinforcements and communication required from change

sponsors to successfully implement the change to standards based education. The conclusion of the study will be in the form of a comprehensive planning document that integrates the results of the research with a possible practical course of action for the Alaskan educator's professional development.

We hope to provide a blueprint or a model for implementation of standards based education. We will provide a profile of a district's strengths and weaknesses, which could be used to formulate a comprehensive plan for continuous improvement that works for their particular district.

Instructions for completing the survey and how to obtain a profile of your district readiness for change are enclosed.

This is your chance! It will take less than 20 minutes at your next staff meeting or in-service to share your ideas about readiness to change and implementing standard based education.

Instructions For Survey

Distribute the survey to all teachers in your school. To obtain a complete profile of your school it is important to have representation of as many teachers as possible. To facilitate the completion of the survey some schools have found it beneficial to complete the survey during a staff meeting or in-service.

Answer any questions in regard to the research. Information about the study can be found in the cover letter. If you have questions or concerns about the research call Betty McKinny – 907-488-9815.

The surveys have a code number on the background information section. The code number will be used for demographic analysis and to track the returned surveys. All information given on the survey is anonymous. Individual responses will be confidential.

Return all surveys completed by staff in the enclosed postage paid envelope.

We appreciate your contribution to this effort. If you wish to receive the results of the survey with a practical course of action for professional development please complete the request for results. Return the request for results with your schools completed surveys. Results will be mailed to your school in August 1999

Request for results

Yes please send me the results.

School _____

District _____

Name _____

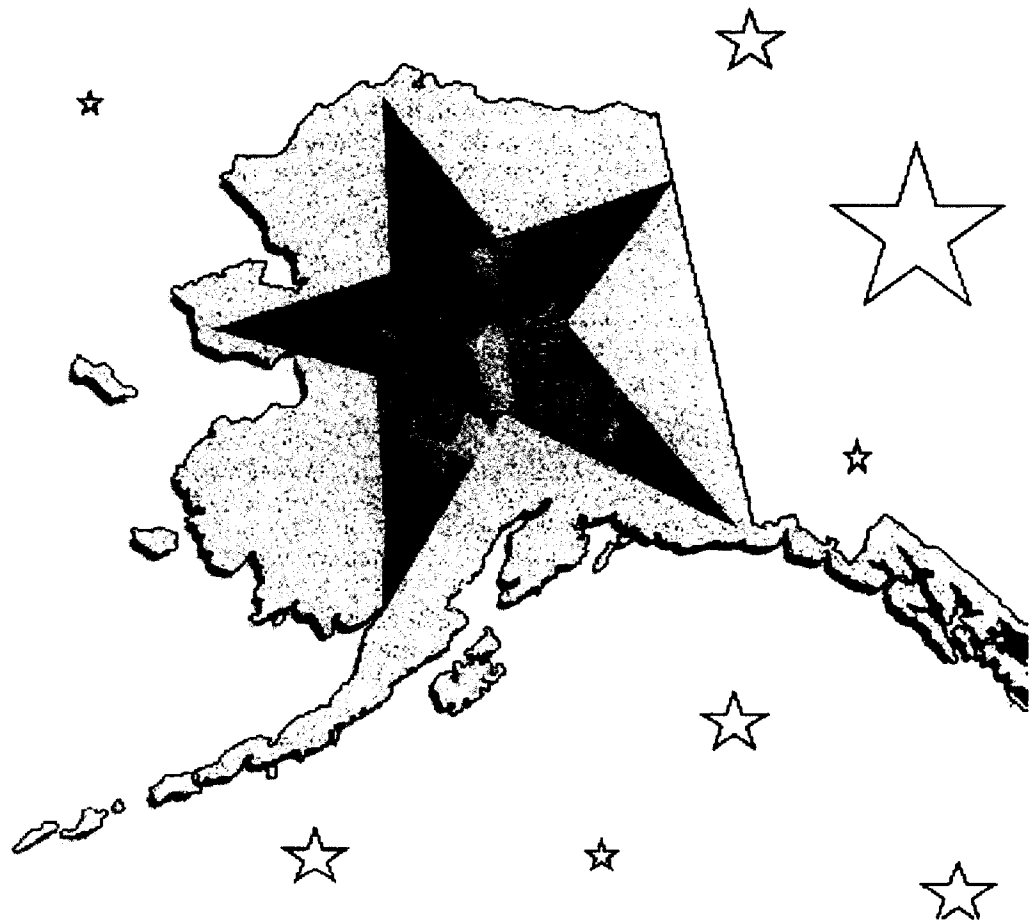
Position _____

Appendix B

Questionnaire: Evaluating the Acceptance of Change to Standards-Based Education

☆ ☆

**Evaluating the Acceptance
of Change to
Standards-Based Education**



IMPLEMENTATION HISTORY ASSESSMENT

No change occurs in isolation. Implementation occurs in a context of all the lessons learned from previous occasions. A key factor predicting the likelihood of future implementation success is the pattern of implementation results achieved during previous projects. Staff developers and administrators will use the same strategies in the future that they have used in the past, unless a conscious effort is made to understand the pattern and impact of past implementation practices.

☆ PAST PROBLEMS ARE LIKELY TO BE REPEATED ☆

The school environment of the last decade has had an unprecedented degree of rapid change and organizational turbulence. In an effort to manage this unpredictability, educational organizations have initiated a record amount of changes. Unfortunately, many of these changes were begun, but not successfully implemented. As a result, many employees have been taught to expect the "program du jour" "change flavor of the month" and are skeptical of the educational organizations' commitment to real change. A history of poorly executed changes can result in your employees' belief that the current changes may also be ineffectively implemented.

At the same time, previously effective strategies need to be thoroughly reviewed and systematically applied to the current change to increase the likelihood of successful implementation.

The **Implementation History Assessment** provides an overall indication of the prospects for current implementation success and identifies the specific barriers, which must be eliminated or reduced to increase the probability of success.

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INSTRUCTIONS

In this assessment, your ratings should be based on your personal implementation experience in your area of the educational organization. To assist you, list up to 3 major changes that occurred in your school organization in the past 5 years.

CHANGE #1 _____

CHANGE #2 _____

CHANGE #3 _____

Use these past change efforts as a reference point as you complete your **Implementation History Assessment**.

The following are statements that describe implementation characteristics of organizations as they have attempted to implement major strategic changes. These statements cover ten sections that have been found to be important keys to successful implementation. *As a focus of this assessment consider standards based education to be the change which is to be implemented.*



Rate the statements on the following pages on the basis of your assessment of how your school or district has implemented change in the past using the scale of 1 to 5 given at the top of the page. Circle the corresponding number to the right of the page. Be sure to circle only one number per item.

1) Strongly Disagree 2) Disagree 3) Neither Agree Nor Disagree 4) Agree 5) Strongly Agree

Section 1

1. The formal educational structure is conducive to the successful implementation of change. 1 2 3 4 5
2. We have the right amount of organizational layers to get things done. 1 2 3 4 5
3. Our lines of authority are clearly defined (i.e. in my everyday work) I know what I am supposed to do. 1 2 3 4 5
4. Our lines of authority are clearly defined (i.e. I know what I can do. 1 2 3 4 5

Section 2

5. Changes are clearly prioritized so we know what is most important to accomplish. 1 2 3 4 5
6. We focus on a small number of key changes at one time to avoid diluting our resources. 1 2 3 4 5
7. Our resources and rewards are aligned with our priorities. 1 2 3 4 5
8. We persevere and maintain our focus and are not distracted by other changes. 1 2 3 4 5
9. All changes are clearly related to our key educational vision and strategies. 1 2 3 4 5

Section 3

10. When changes are announced, people expect them to be successful in their implementation. 1 2 3 4 5
11. We have a history of successfully implementing strategic changes on time. 1 2 3 4 5
12. We have a history of successfully implementing strategic changes within budget. 1 2 3 4 5
13. We have a history of successfully implementing the technical objectives of strategic changes. 1 2 3 4 5
14. We have a successful history of achieving the human objectives of strategic change. 1 2 3 4 5

Section 4

15. We establish genuine commitment and support for change rather than simple compliance. 1 2 3 4 5
16. Principals usually demonstrate commitment and "own" changes. 1 2 3 4 5
17. During significant change, principals usually "walk their talk" (their actions match their words). 1 2 3 4 5
18. We typically have the organizational discipline and follow-up to successfully implement decisions. 1 2 3 4 5
19. Principals understand the impact of changes on teachers. 1 2 3 4 5

Section 4

20. Our school/district effectively anticipates the inevitable resistance to major change. 1 2 3 4 5
21. We intentionally create an open environment so resistance can be surfaced. 1 2 3 4 5
22. We effectively manage the inevitable resistance to major change. 1 2 3 4 5
23. People who express concerns about changes are valued and taken seriously. 1 2 3 4 5
24. In any change we try to understand the Frame of Reference (mind-set or point of view) of each employee to increase his/her readiness for change. 1 2 3 4 5



1 Strongly Disagree 2 Disagree 3 Neither Agree Nor Disagree 4 Agree 5 Strongly Agree

Section 5

25. The vision and strategies in this educational organization are modeled by the actions of our administrators. 1 2 3 4 5
26. The vision and strategies in this organization are reinforced by how administrators reward, recognize and promote people. 1 2 3 4 5
27. We have a nonpolitical environment so that satisfying the boss is not more important than getting the job done right. 1 2 3 4 5
28. We focus on successful implementation for the organization, rather than what is best for my department or me. 1 2 3 4 5
29. Turf guarding is rare. 1 2 3 4 5

Section 6

30. Change agents (those employees responsible for the implementation of the change) are usually highly respected with a successful track record. 1 2 3 4 5
31. Change agents manage both the technical and human aspects of change. 1 2 3 4 5
32. Around here, change is driven by our teachers and staff, more than our building level administrators. 1 2 3 4 5
33. Change agents generally have high trust and credibility with teacher and staff that will be most affected by the change. 1 2 3 4 5
34. Change agents typically understand the needs and Frames of Reference of senior administrators. 1 2 3 4 5

Section 7

35. We generate an environment that rewards risk taking. 1 2 3 4 5
36. We provide adequate resources (time, money, and people) for successful implementation. 1 2 3 4 5
37. Errors are seen as learning and are not excessively punished. 1 2 3 4 5
38. There are clear rewards for implementation. 1 2 3 4 5
39. There are clear negative consequences when you don't comply with changes. 1 2 3 4 5

Section 8

40. We communicate changes in a way that the objectives of the change is clear to everyone. 1 2 3 4 5
41. Generally most people have a clear understanding of the purpose and rationale of the change. 1 2 3 4 5
42. We communicate in a way that change are clear and defined at each level in the organization. 1 2 3 4 5
43. We effectively communicate in a way that everyone knows what will be expected of them during implementation. 1 2 3 4 5
44. We have communicated a clear vision and strategy that provides guidance in making decisions. 1 2 3 4 5

Section 9

45. In our school people feel involved in deciding whether major changes should be made which will affect them. 1 2 3 4 5
46. In our school people feel involved in designing the content of the change. 1 2 3 4 5
47. In our school people feel involved in how we will implement major change. 1 2 3 4 5
48. Involvement here is more than "lip service". 1 2 3 4 5
49. Both our values and rewards support the involvement of staff as much as possible. 1 2 3 4 5

Section 10

50. I personally believe that today there is a high probability of successfully implementing standards-based education. 1 2 3 4 5



INDIVIDUAL READINESS ASSESSMENT

Specific resistance to change is natural and inevitable. A thorough analysis of the specific reasons why and how you will resist the change project is critical to increasing the probability of implementation success. Strategies and tactics can be developed to anticipate likely barriers and successfully manage the implementation project towards the accomplishment of important educational objectives. Valuable information can be obtained by having this resistance assessment tool completed by administrators, principals, teachers, and professional developers (change agents) and comparing the results. In this manner, different Frames of Reference about the change can be surfaced and effectively managed.

INSTRUCTIONS

Each of the items on the following pages is to be rated on a scale from 1 to 5 with "1" meaning that you "strongly disagree" with the statement. A "5" indicates that you "strongly agree" with the statement. To the left of each item, place the number that represents your assessment of how you will react to the change to standards based instruction. Your answers will be more accurate to the extent they reflect your perspective about the change.

1 Strongly Disagree 2 Disagree 3 Neither Agree Nor Disagree 4 Agree 5 Strongly Agree

1. I am very clear about WHY the change is being implemented. 1 2 3 4 5
2. I believe that there is a strong need for the change. 1 2 3 4 5
3. I can easily see how this change can directly solve a problem for me. 1 2 3 4 5
4. I do NOT believe this change implies I have performed poorly in the past. 1 2 3 4 5
5. I see this change as having a LOW personal cost to myself. 1 2 3 4 5
6. This change has HIGH compatibility with the values and "unwritten rules" of the educational organization. 1 2 3 4 5
7. I see this change as having HIGH compatibility with my personal values. 1 2 3 4 5
8. I think there is a HIGH reward for successfully accomplishing this change. 1 2 3 4 5
9. I believe there will be no disruption of stable personal relationships after this change is implemented. 1 2 3 4 5
10. This change will have a positive impact on my job characteristics, like status and/or salary. 1 2 3 4 5
11. Important habits and routine procedures are NOT disrupted by this change. 1 2 3 4 5
12. I feel the confidence necessary to accomplish this change. 1 2 3 4 5
13. I do NOT tend to focus on the old way of doing things. 1 2 3 4 5
14. I believe this change will have a positive impact on my power or the power of people important to me in the educational organization. 1 2 3 4 5
15. I see the change as reversible if it does not prove effective once it is implemented. 1 2 3 4 5
16. I do NOT believe this change will lead to less control over key aspect of my job. 1 2 3 4 5
17. I am very clear about what is specifically expected from me as a result of the change. ... 1 2 3 4 5
18. Generally this change will NOT cause a great deal of disruption in my worklife. 1 2 3 4 5
19. I feel very involved in this change. 1 2 3 4 5
20. I believe that adequate organizational support and resources are provided to accomplish this change. 1 2 3 4 5
21. I think that adequate time is provided to accomplish this change. 1 2 3 4 5
22. I believe that the organization has been consistently successful in past implementations. 1 2 3 4 5
23. I am NOT experiencing a significant amount of work pressure and stress. 1 2 3 4 5
24. I believe that this change project will be implemented successfully. 1 2 3 4 5
25. Administrators and professional developers have a HIGH level of credibility with me. .. 1 2 3 4 5



BACKGROUND INFORMATION

Our final set of questions is about your background, experiences, and feelings about standards and changes in schools. We ask these questions to better understand educators' views about changing to standards-based instruction, and to help us interpret the results of the survey.

Your School _____ Your District _____

Please read each statement and check the best response.

1. Gender: Male Female

2. What is your race or ethnic group?

<input type="checkbox"/> Alaskan Native <input type="checkbox"/> African American <input type="checkbox"/> Native American (non-Alaskan) <input type="checkbox"/> Other(specify)_____	<input type="checkbox"/> Asian <input type="checkbox"/> Caucasian <input type="checkbox"/> Hispanic
--	---

3. How many years have you taught school?

<input type="checkbox"/> 0 – 3 years <input type="checkbox"/> 4 – 6 years <input type="checkbox"/> 7 – 10 years	<input type="checkbox"/> 10 –15 years <input type="checkbox"/> 15 – 20 years <input type="checkbox"/> 20+ years
---	---

4. How many years have you taught in your present school?

<input type="checkbox"/> 0 – 3 years <input type="checkbox"/> 4 – 6 years <input type="checkbox"/> 7 – 10 years	<input type="checkbox"/> 10 –15 years <input type="checkbox"/> 15 – 20 years <input type="checkbox"/> 20+ years
---	---

5. What grade level do you teach? (Circle all that apply.)

6 th	7 th	8 th	9 th	10 th	11 th	12 th
-----------------	-----------------	-----------------	-----------------	------------------	------------------	------------------

6. What is the highest level of education you completed?

<input type="checkbox"/> Graduated from high school <input type="checkbox"/> Attended some graduate school <input type="checkbox"/> Received degree higher than Masters	<input type="checkbox"/> Received four –year college degree <input type="checkbox"/> Received graduate degree – Masters
---	--

7. What is your present job?

<input type="checkbox"/> Teacher aide <input type="checkbox"/> Counselor <input type="checkbox"/> Administrator	<input type="checkbox"/> Teacher <input type="checkbox"/> Principal <input type="checkbox"/> Other (specify)_____
---	---

8. What subject do you teach? (check all that apply)

<input type="checkbox"/> English <input type="checkbox"/> Math <input type="checkbox"/> Technology <input type="checkbox"/> Fine Arts	<input type="checkbox"/> Social Science <input type="checkbox"/> Science <input type="checkbox"/> Physical Educational Insights <input type="checkbox"/> Other (specify)_____
--	--

9. How many subjects do you teach?

<input type="checkbox"/> one subject	<input type="checkbox"/> two subjects	<input type="checkbox"/> three subjects	<input type="checkbox"/> more than three subjects
--------------------------------------	---------------------------------------	---	---

10. Which of the following instructional strategies have you used this year?

<input type="checkbox"/> team teaching <input type="checkbox"/> authentic assessment <input type="checkbox"/> scoring guides or rubrics	<input type="checkbox"/> interdisciplinary units <input type="checkbox"/> portfolio assessment
---	---



OPTIONAL

Your opinions and beliefs will contribute greatly to this survey and are very important to us. Please let us know your views.

1. What are your greatest needs and concerns about standards-based education?

2. Do you have other ideas or thoughts about standards-based education? Please explain.

THANK YOU FOR COMPLETING THIS SURVEY!



Appendix C

Interpretation of Evaluating The Acceptance Of Change to Standards-Based EducationDistrict 16 School 130**IMPLEMENTATION HISTORY FACTOR**

Your score on this section provides an indication of the likelihood of success of your current implementation of standards-based education based on your school's history of prior implementation. High scores (80 - 90) represent heightened prospects that the high costs of implementation failure will be avoided. Strategic objectives will be achieved on time and within budget. Scores in other ranges mean that you must build strategies to minimize or eliminate past barriers that may jeopardize the current movement to standard-based education.

Total Implementation History Factor Score of 59 indicates a low to low moderate score. The state score on total implementation history factor was 60.9, which would indicate a moderate to low moderate score. Overall according to perceptions of teachers and administrators in your school implementation of change has not been highly successful. An examination of what has impeded change in the past should help create successful strategies to implement change in the future.

Low 40 → 59	Moderate 60 → 79	High 80 → 90
-------------	------------------	--------------

IMPLEMENTATION HISTORY CHARACTERISTICS:

Each of the following section scores represents important characteristics of your school's pattern of change implementation. High scores (80 - 90) points to areas of

potential success that can be utilized in your current implementation. Moderate scores (60 - 79) indicate areas that have potential for accelerating change, but may also prove to be roadblocks to implementation. Low scores (40 - 59) indicate areas that require administrative attention to minimize expected implementation barriers. Specific tactics to accelerate the change to standards-based education can be developed by reviewing the items that constitute each section and then developing tactics, skills and strategies to overcome these barriers.

Total Structure Score of 69 for your school indicates a moderate score.

Educational Structure refers to how a school is organized, for example, grade levels, classes, school levels and departments. Structure is reflected in a school's organizational hierarchy: who directs whom. Educational structures developed for relatively stable education environments may not be effective during periods where significant change is necessary. Successful change implementation requires structures that promote change rather than constrain it. Your staff members may want to examine the structure of the organization and put in place structures that promote change. **The state score on total structure was 67.3. This score indicates a moderate score on this characteristic.**

Total Organizational Stress Score of 58 indicates a low to low moderate score.

Today's educational environment is driving changes in many areas of the organization. A low score in organizational stress could imply that teachers and administrators are overwhelmed by change demands. When a teacher or administrator is over extended or feels inadequate to carry out assigned tasks, the result can be stress or burn out. Clear priorities demonstrated by administration commitment and aligned reward systems are

necessary to provide focus and minimize the inevitable stress and potential dysfunction generated by multiple changes. You may want to provide professional development, which would clarify the priorities of your school and organize a reward system, to encourage staff members to focus on the change to standards-based education. **The state score on organizational stress was 56.3, which indicates a low to low moderate score on this characteristic.**

Total Implementation History Score of 61 indicates a moderate to low moderate score. This score indicates the degree of success of past implementation in your school. The school needs to determine positive aspects of prior implementation strategies and utilize these strategies to support the current change effort. Past implementations have taught your staff members what to expect during the change to standards-based education. You need to minimize the negative implementation characteristics from the past. Your school should draw on successful implementation history to create an atmosphere of implementation inevitability. **The state score for implementation history was 61.1, which indicates a moderate to low moderate score for this characteristic.**

Total Sponsorship Score of 60 indicates a moderate to low moderate score. The commitment of all administrators at all levels of the organization to change implementation is critical for success. Communication of clear strategies and goals must be reinforced by specific behaviors to demonstrate real change leadership and a sustained commitment to the new or modified system. A low score in sponsorship suggests that administrators may need training on specific behaviors that accelerate the change process.

The training could lead to further commitment to standards-based education and more effective leadership of Alaska's schools. **The state score for total sponsorship was 63.9, which indicates a moderate to low moderate for score for this characteristic.**

Total Target Readiness: Score of 56 indicates a low to low moderate score.

Resistance is an inevitable consequence to the introduction of change as broad as standards-based education. Not surprisingly our study found relatively high levels of resistance to these changes. Anticipation of the types and strength of resistance can increase readiness for change. It will enable you to manage the sources of resistance. The frame of reference or perspective of each group that will be affected by the change defines these sources. **The state score for total target readiness was 59.5, which indicates a moderate to low moderate score.**

Total Cultural Fit Score of 55 indicates a low to low moderate score. The organization's pattern of values, behaviors and unwritten rules are a powerful influence on the daily behavior of each individual. The fit between today's culture and the culture required for the successful implementation of the strategic change is a key factor in accelerating the change. For example, turf guarding that resulted from previously effective functional specialization will undermine today's changes that require collaboration across departments. Statewide scores on this factor suggest that the schools' cultural patterns do not support the implementation of a standards-based program. The research suggests that schools that emphasize supportiveness, open communication, collaboration, intellectuality and that reward achievement and success outperform those schools that emphasize competition, restrictiveness and conformity. **The state score on**

total culture was 58.3, which indicates a low to low moderate score for this characteristic.

Total Agent Capacity Score of 59 indicates a low to low moderate score. Staff members who are responsible for implementation play a key role in the ultimate success of the change. These change agents must have the appropriate skills, motivation, and organizational track record to orchestrate the complex path to success. You may want to train specific staff members in standards-based education practices to serve as change agents in your school. **The state score on agent capacity was 60.6, which indicates a moderate to low moderate score.**

Total Motivation Score of 56 indicates a low to low moderate score. The present reward system must be aligned with the performance characteristics required to achieve the change. Compensation rule, promotion criteria, and all operations that influence behavior can be assessed and modified to reinforce the change to standards-based education. **The state score on total motivation was 56.5, which indicates a low to low moderate score for this characteristic.**

Total Communication Score of 55 indicates a low to low moderate score. Successful implementation is based on effective communication. Clear goals and rationale are necessary at each level of the organization, and must be communicated in the frames of reference of each target group. Communication is a key resource, which can and must be managed to achieve the bottom line which is increased student achievement. **The state score on total communication was 56.7, which indicates a low to low moderate score for this characteristic.**

Total Integration Score of 55 indicates a low to low moderate score. People are more likely to commit to changes when they are involved in planning and implementation. A low score indicates a direct opportunity for professional development. Focused efforts to involve employees at appropriate opportunities will increase the probability of implementation success. **The state score on total integration was 62.1, which indicates a moderate to low moderate score for this characteristic.**

Total Belief Score of 68 indicates a moderate score. Schools that score high on this factor believe that change to standards-based education is probably going to occur. A low score on this factor would mean that the educational organization would not be able to implement standards-based education. **The state score on total belief was 65.9, which indicates a moderate score for this characteristic.**

INDIVIDUAL READINESS TOTAL SCORE BY SCHOOL (16-130)

The Individual Readiness Total Score of 64.1 falls in the moderate range and represents the probability of implementation success for the current change project (standards-based education). Scores in the high range (80 – 90) indicate a strong likelihood that you will be successful in this change as long as you continue to manage important sources of resistance. Scores in the moderate range mean that you must develop strategies to eliminate or minimize significant sources of target resistance to avoid the real costs of implementation failure and achieve the objective of standards-based education. Scores in ranges low to low moderate would indicate that significant

sources of resistance must be overcome before you can proceed with the implementation of standards-based education.

Your school's factors, which may limit successful implementation of change, include:

- resources – not believing that adequate organizational support and resources are provided.
- time – not believing that adequate time is provided to accomplish this change.
- past implementation – not believing that the organization has been consistently successful in the past.
- work stress - experiencing a significant amount of work pressure and stress.

Your school's readiness scores are displayed on the circle graph on the next two pages. Extreme Low category 1 and Extreme High category 5 have been deleted from this interpretation. The state's Individual Readiness Total Score is 65.3 and falls in the moderate range.

INDIVIDUAL READINESS AVERAGE – DISTRICT 16 SCHOOL 130
 Attributes affecting an educational organizations probability of implementation success.

Attributes	Likelihood of Success	→	Low	Mod	High
1. Purpose ----- <i>I am very clear about WHY the change is being implemented.</i>	2		3	4	
2. Need ----- <i>I believe there is a strong need for change.</i>	2		3	4	
3. Solve Problems ----- <i>I can really see how this change can directly solve a problem for me.</i>	2		3	4	
4. Imply Past Performance ----- <i>I do not believe this change implies I have performed poorly in the past.</i>	2		3	4	
5. Personal Cost ----- <i>I see this change as having a personal cost to myself</i>	2		3	4	
6. Organizational Compatibility ----- <i>This change has HIGH compatibility with the values and “unwritten rules” of the educational organization.</i>	2		3	4	
7. Personal Compatibility ----- <i>I see this change as having HIGH compatibility with my personal values.</i>	2		3	4	
8. Reward ----- <i>I think there is a HIGH reward for successfully accomplishing this change.</i>	2		3	4	
9. Social Relations ----- <i>I believe there will be no disruption of stable personal relationships after this change is implemented.</i>	2		3	4	
10. Job Characteristics ----- <i>This change will have a positive impact on my job characteristics, like status and/or salary.</i>	2		3	4	
11. Habits ----- <i>Important habits and routine procedures are NOT disrupted by this change.</i>	2		3	4	
12. Confidence ----- <i>I feel the confidence necessary to accomplish this change.</i>	2		3	4	
13. Old Ways ----- <i>I do NOT tend to focus on the old way of doing things.</i>	2		3	4	
14. Shift Power ----- <i>I believe this change will have a positive impact on my power or the power of people important to me in the educational organization.</i>	2		3	4	

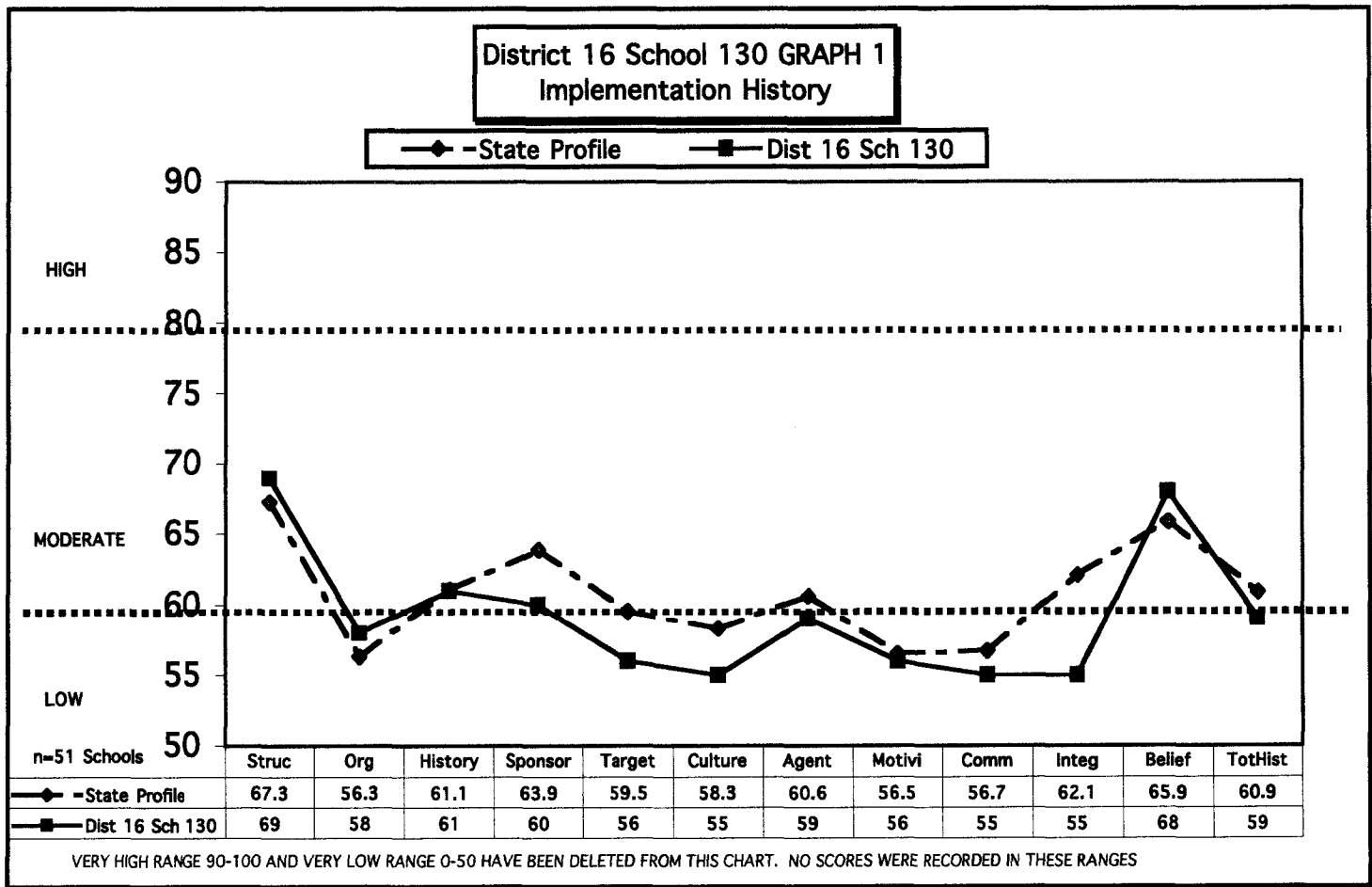
INDIVIDUAL READINESS AVERAGE – DISTRICT 16 SCHOOL 130
 Attributes affecting an educational organizations probability of implementation success.

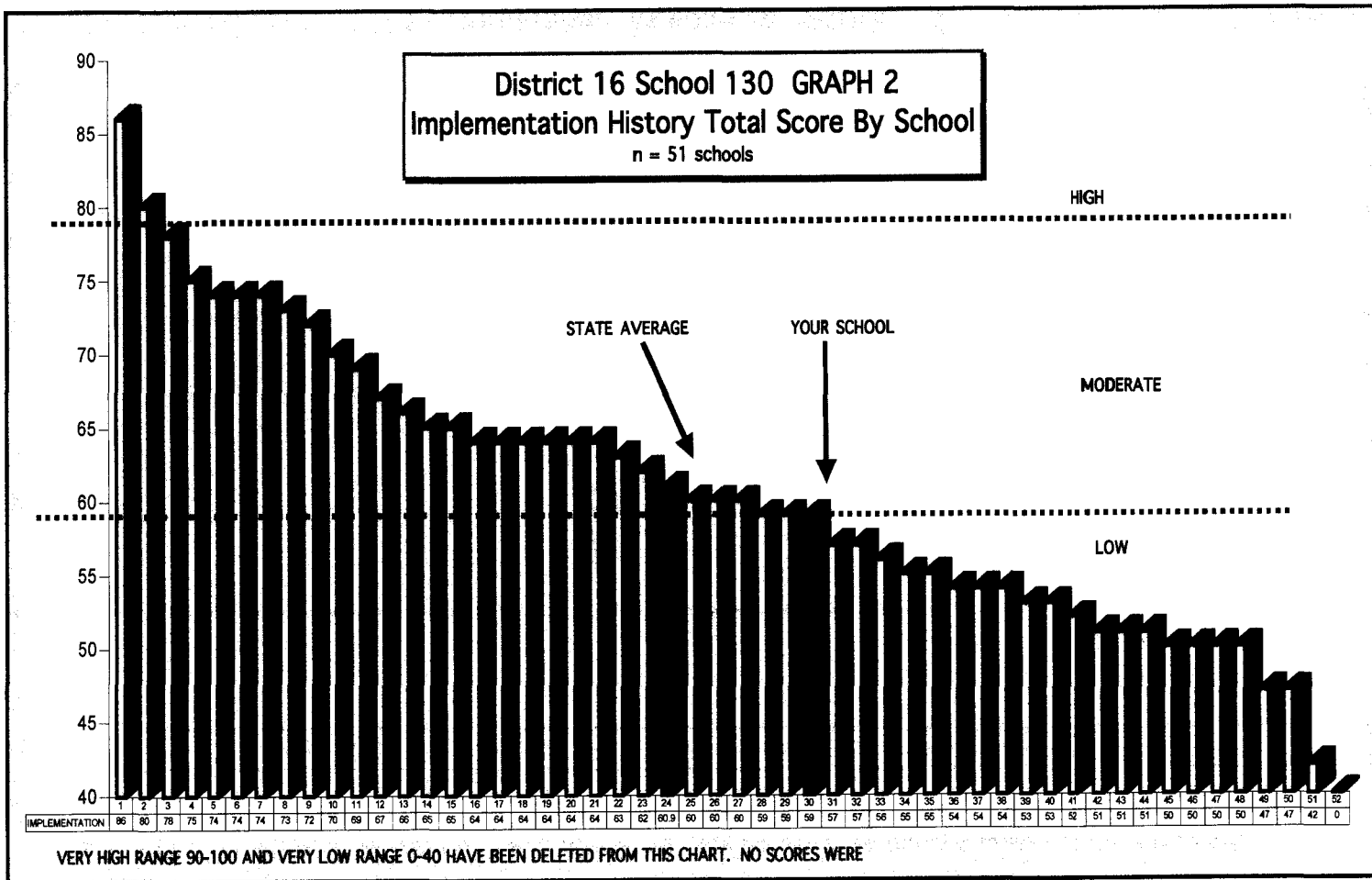
Attributes	Likelihood of Success	→	Low	Mod	High
15. Reversibility ----- 2				3	4
<i>I see the change as reversible if it does not prove effective once it is implemented.</i>					
16. Loss of Control ----- 2				3	4
<i>I do NOT believe this change will lead to less control over key aspect of my job.</i>					
17. Clear Expectation ----- 2				3	4
<i>I am very clear about what is specifically expected from me as a result of the change.</i>					
18. Disruption ----- 2				3	4
<i>Generally this change will NOT cause a great deal of disruption in my worklife.</i>					
19. Involvement ----- 2				3	4
<i>I feel very involved in this change.</i>					
20. Resources ----- 2				3	4
<i>I believe that adequate organizational support and resources are provided to accomplish this change.</i>					
21. Time ----- 2				3	4
<i>I think that adequate time is provided to accomplish this change.</i>					
22. Past Implementation ----- 2				3	4
<i>I believe that the organization has been consistently successful in past implementations.</i>					
23. Work Stress ----- 2				3	4
<i>I am NOT experiencing a significant amount of work pressure and stress.</i>					
24. Success ----- 2				3	4
<i>I believe that this change project will be implemented successfully.</i>					
25. Credibility ----- 2				3	4
<i>Administrators and professional developers have a HIGH level of credibility with me.</i>					

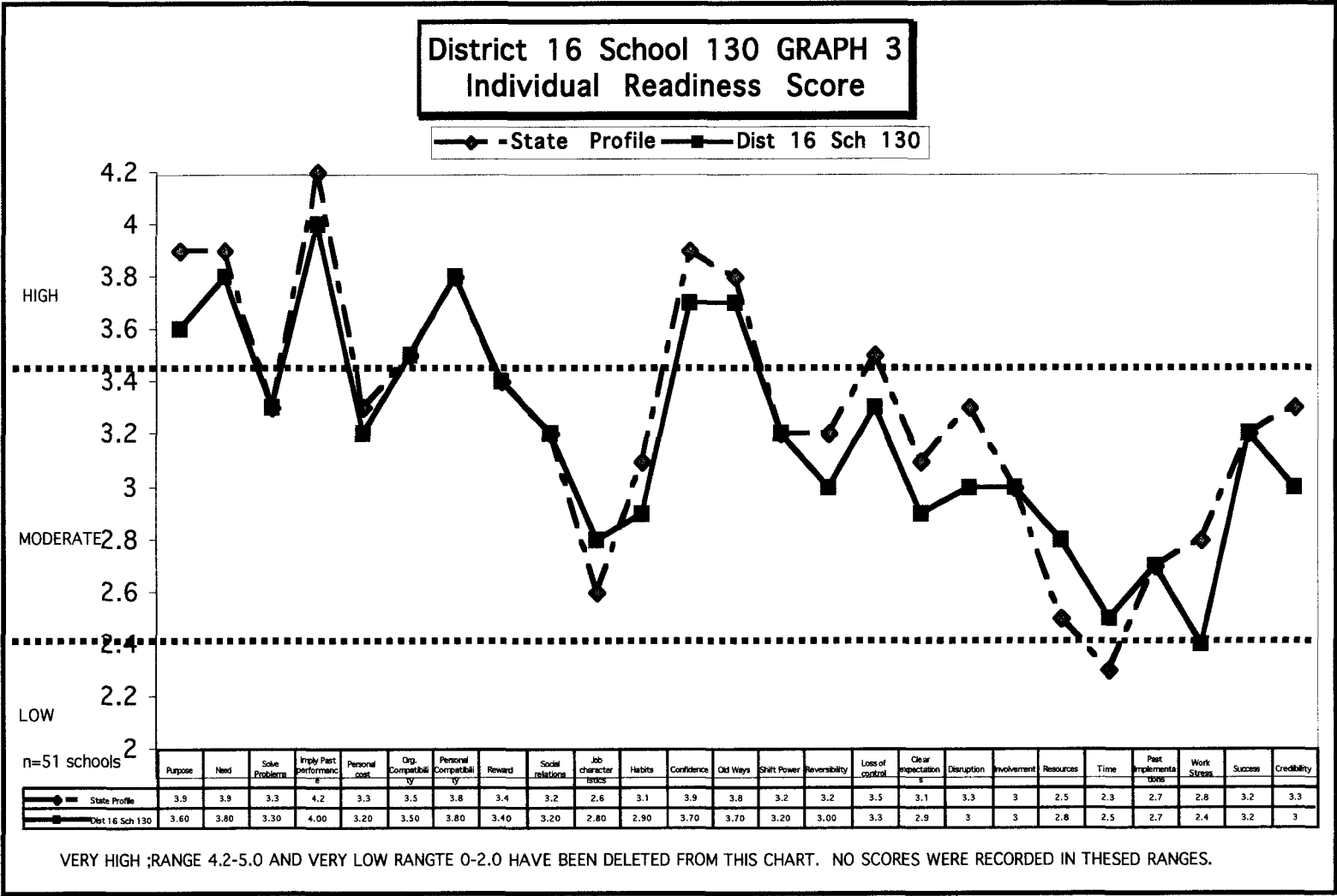
Low 1.0 → 2.4	Moderate 2.5 → 3.4	High 3.5 → 4+
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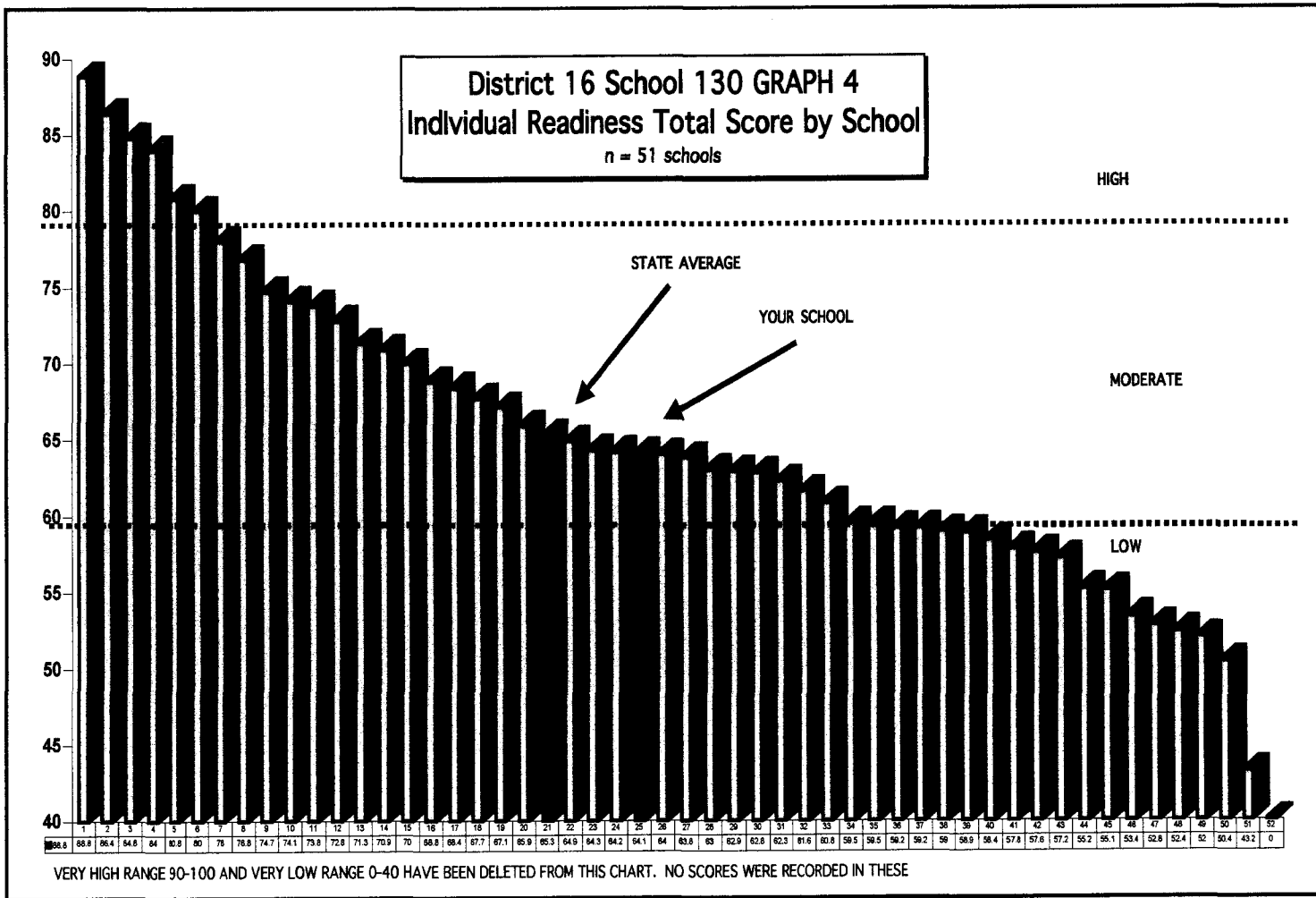
Total Individual Readiness Score → **64.1**

Low 40 → 59	Moderate 60 → 79	High 80 → 90
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District	School	District Size	School Data		School %	Survey Data		Survey %
			#Sent	Responded		Sent	Returned	
• AK Gateway	AK Gateway Corr	517	7/K-12	K-12	14.2%	1	1	100%
• Aleutians	Sand Point School	53	3/K-12	K-12	33.3%	13	9	69%
• Anchorage	Avail Bartlett	49,587	8/9-12,1/K-12, C/5	9-12 9-12	25%	2 101	1 11	50% 11%
• Annette	Metlakatla	375	1/9-12	9-12	100%	20	6	30%
• Chatham	Tenakee	272	4/K/12	1/K-12	25%	2	2	100%
• Copper River	Glenallen HS	705	1/K-12,1/7-12	7-12	50%	16	3	19%
• Cordova	Cordova JR/SR	485	1/7-12	7-12	100%	19	2	11%
• Delta/Greely	Delta Greely Corr. /AH Delta Junction HS	796	2/K12,1/6-12,1/9-12	K-12 9-12	50%	2	2	100% 20%
• Denali	Anderson Tri-Valley	363	3/K-12	K-12 K-12	66%	8 17	2 4	25% 24%
• Fairbanks	Ben Eielson Howard Luke	16,226	1/7-12, 5/9-12	7-12 9-12	100%	35 13	14 4	100% 40%

Survey Data return chart

District	School	District Size	School Data		School %	Survey Data		Survey %
			#Sent	Responded		Sent	Returned	
• Fairbanks (Cont.)		16,226	1/7-12, 5/9-12		100%			
	Hutchinson			9-12		20	13	65%
	Lathrop			9-12		80	56	70%
	North Pole			9-12		60	60	100%
	West Valley			9-12		52	17	33%
• Haines	Haines HS	440	1K-12, 1/9-12		50%			
				9-12		14	4	29%
• Iditarod	Top of the Kuskokwim	385	6/K-12		16%			
				K-12		2	1	50%
• Kenai		10,300	12/K-12,6/9-12, 2/7-12		15%			
	Nanwalek			K-12		5	4	80%
	Nikiski Middle/senior			7-12		32	2	6%
	Seward Middle/High			7-12		27	1	4%
• Klawock	Klawock	196	1/7-12		100%			
				7-12		9	1	11%
• Kodiak		2,804	10/K-12, 1/9-12		18%			
	Old Harbor			K-12		9	3	33%
	Quizinkie			K-12		5	2	40%
• Kashunamiut	Chevak	282	1K-12		100%			
				K-12		20	5	25%
• Lake and Penn		578	16/K-12		31%			
	Chignik Bay School			K-12		3	2	67%
	Chignik lagoon			K-12		4	4	100%
	Egegik School			K-12		3	1	33%
	Levelock			K-12		4	3	75%
	Nondalton			K-12		7	2	29%

District	School	District Size	School Data		School %	Survey Data		Survey %
			#Sent	Responded		Sent	Returned	
• Lower Yukon	Russian Mission	2,172	11/K-112	K-12	9%	10	3	30%
• Mat-Su	Alt.HS/Correspondence Houston Jr. Sr. High Palmer	12,942	4/9-12,2/1-12	9-12,K-12 7-12 9-12	66%	21 30 45	8 17 39	38% 57% 87%
• Nenana	Nenana City Schools	369	2/K-12	K-12	50%	14	9	64%
• Nome	Nome-Beltz	800	2/7-12	7-12	50%	23	4	17%
• Petersburg	Petersburg	758	1/9-12	9-12	50%	14	3	21%
• Pribilof	St. George	156	2/K-12	K-12	50%	2	1	50%
• Skagway	Skagway City Schools	128	1/K-12	K-12	100%	12	6	50%
• SE Island	Craik Logging Edna Bay Hollis Howard Valentine Kassan Polk Inlet SE Is. Correspondence	290	11K-12, 1K-11	K12 K-12 K-12 K-12 K-12 K-12 K-12	66%	2 2 3 4 2 2 1	1 1 1 3 1 1 1	50% 50% 33% 75% 50% 50% 100%
• SW Region	Koliganek	738	5K-12	K-12	20%	7	5	71%

District	School	District Size	School Data		School %	Survey Data		Survey %
			#Sent	Responded		Sent	Returned	
• Valdez	Valdez	852	1/9-12		100%			
				9-12		15	11	73%
• Yakutat	Yakutat Jr/Sr HS	171	1/7-12		100%			
				7-12		7	6	86%

Appendix E ANOVA Tables of Demographic Differences

Table E1

Analysis Of Variance For Demographic Differences In Total Structure

	Average Score	F ratio	Significance Level
By Gender n=282			
Male n=116	64.6		
Female n=166	64.0		
		F=0.1	P=0.7632 No significance
	Average Score	F ratio	Significance Level
By Race n=320			
White n=275	64.5		
Non-White n=45	62.4		
		F=1.3	P=0.2575 No significance
	Average Score	F ratio	Significance Level
Level of Experience n=339			
9 yrs+ below n=122	64.5		
10 yr+ above n=217	64.7		
		F= . 0	P=0.9017 No significance
	Average Score	F ratio	Significance Level
Experience in School n=336			
6 yr + below n=190	66.0		
7 yr+ above n=146	62.9		
		F=2.8	P=0.0936 No significance
	Average Score	F ratio	Significance Level
By Grade n=326			
9-12 n=175	61.9		
7-12 n=68	69.1		
Other n=83	64.7		
		F=4.6	P=0.0105* Significant Diff
	Average Score	F ratio	Significance Level
By Ed Years n=339			
Bachelor's n=176	63.8		
Master's + n=163	65.5		
		F= . 9	P=0.3374 No Significance

* P < .05 significant difference

*N's vary for each analysis due to missing data

Table E1 (Cont.)

Analysis Of Variance For Demographic Differences In Total Structure

	Average Score	F ratio	Significance Level
#Subjects n=314			
1-2subjects n=110	63.6		
2-4 subjects n=204	64.1		P=0.699
		F= .149	No Significance
	Average Score	F ratio	Significance Level
By Job n=337			
Teacher n=281	63.3		
Other n=56	<u>72.2</u>		P=0.0003*
		F=13.5	Significant Diff
	Average Score	F ratio	Significance Level
By Strategy n=315			
1 Strategy n=64	<u>67.3</u>		
2 Strategies n=82	65.9		
3 Strategies n=75	64.3		
4 or more n=94	60.3		P=0.0485*
		F=2.7	Significant Diff
	Average Score	F ratio	Significance Level
Size District n=344			
1-1000 n=101	<u>70.1</u>		
1001-15,000 n=77	58.7		
15,001 and above n=166	64.2		P=0.0001*
		F=10.6	Significant Diff
	Average Score	F ratio	Significance Level
Size by School n=344			
1-150 n=98	66.0		
151-1000 n=112	64.2		
1001+ above n=134	64.2		P=0.6901
		F= .3702	No significance
	Average Score	F ratio	Significance Level
Urban/Rural n=344			
Urban n=241	62.7		
Rural n=103	<u>69.6</u>		P=0.0005*
		F=12.4	Significant Diff
	Average Score	F ratio	Significance Level
Road/Non-Road n=344			
Road n=269	63.1		
Non-Road n=75	<u>70.4</u>		P=0.0009*
		F=11.1	Significant Diff

*N's vary for each analysis due to missing data

Table E2

Analysis Of Variance For Demographic Differences In Organizational Stress

	Average Score	F ratio	Significance Level
By Gender n=285			
Male n=118	54.2		
Female n=167	52.3		P= 0.3814
		F= 0.8	No significance
	Average Score	F ratio	Significance Level
By Race n=319			
White n=273	53.5		
Non-White n=46	52.9		P= 0.8252
		F= 0.0	No significance
	Average Score	F ratio	Significance Level
Level of Experience n=341			
9 yrs+ below n=120	53.2		
10 yr+ above n=221	52.9		P= 0.7633
		F= .01	No significance
	Average Score	F ratio	Significance Level
Experience in School n=338			
6 yr + below n=189	55.0		
7 yr+ above n=149	49.0		P= 0.0067*
		F= 7.4	Significance Diff.
	Average Score	F ratio	Significance Level
By Grade n=328			
9-12 n=176	50.8		
7-12 n=68	56.9		
Other n=84	51.8		P= .0458*
		F= 3.1	Significant Diff
	Average Score	F ratio	Significance Level
By Ed Years n=341			
Bachelor's n=177	53.2		
Master's + n=164	52.4		P= 0.6712
		F= 0.2	No Significance
	Average Score	F ratio	Significance Level
#Subjects n=314			
1-2subjects n=110	51.0		
2-4 subjects n=204	53.1		P=0.303
		F= .11	No Significance

- P < .05 significant difference

*N's vary for each analysis due to missing data

Table E2 (cont.)

Analysis Of Variance For Demographic Differences In Organizational Stress

	Average Score	F ratio	Significance Level
By Job n=339			
Teacher n=284	51.8		
Other n=55	58.8		
		F= 7.6	P=0.0061* Significant Diff
	Average Score	F ratio	Significance Level
By Strategy n=315			
1 Strategy n=62	55.9		
2 Strategies n=82	54.8		
3 Strategies n=76	52.6		
4 or more n=95	47.7		
		F= 3.7	P=0.0120* Significant Diff
	Average Score	F ratio	Significance Level
Size by District n=346			
1-1000 n=97	57.9		
1001-15,000 n=81	49.1		
15,001 + n=168	51.6		
		F= 6.6	P=0.0015* Significant Diff
	Average Score	F ratio	Significance Level
Size by School n=346			
1-150 n=97	56.5		
151-1000 n=113	52.1		
1001+ above=136	50.7		
		F= 3.3	P=0.0365* Significant Dif
	Average Score	F ratio	Significance Level
Urban /Rural n=346			
Urban n=243	50.5		
Rural n=103	58.1		
		F= 14.1	P=0.0002* Significant Diff
	Average Score	F ratio	Significance Level
Road/Non-Road n=346			
Road n=272	51.0		
Non-Road n=74	59.2		
		F=13.3	P=0.0003* Significant Diff

* P < .05 significant difference

*N's vary for each analysis due to missing data

Table E3

Analysis Of Variance For Demographic Differences In Implementation History

	Average Score	F ratio	Significance Level
By Gender n=279			
Male n=113	57.2		
Female n=166	57.2		
		F= 0.0	P= 0.9765 No significance
	Average Score	F ratio	Significance Level
By Race n=317			
White n=273	57.9		
Non-White n=44	54.1		
		F= 2.2	P= 0.1419 No significance
	Average Score	F ratio	Significance Level
Level of Experience n=338			
9 yrs+ below n=121	57.5		
10 yr+ above n=217	57.0		
		F= 0.1	P= 0.7941 No significance
	Average Score	F ratio	Significance Level
Experience in School n=335			
6 yr + below n=184	57.9		
7 yr+ above n=151	56.1		
		F= 1.1	P= 0.3034 No significance
	Average Score	F ratio	Significance Level
By Grade n=324			
9-12 n=173	54.8		
7-12 n=66	60.8		
Other n=85	58.0		
		F= 3.8	P= 0.0236* Significant Diff
	Average Score	F ratio	Significance Level
By Ed Years n=339			
Bachelor's n=179	57.6		
Master's + n=160	56.7		
		F= 0.3	P= 0.6028 No significance
	Average Score	F ratio	Significance Level
#Subjects n=314			
1-2subjects n=110	54.4		
2-4 subjects n=204	58.6		
		F= .51	P=0.303* Significance Diff

* P < .05 significant difference

*N's vary for each analysis due to missing data

Table E3 (Cont.)

Analysis Of Variance For Demographic Differences In Implementation History

	Average Score	F ratio	Significance Level
By Job n=336			
Teacher n=281	56.3		
Other n=55	61.8		
		F= 5.3	P=0.0221* Significant Diff
	Average Score	F ratio	Significance Level
By Strategy n=312			
1 Strategy n=62	58.5		
2 Strategies n=83	58.0		
3 Strategies n=73	57.9		
4 or more n=94	54.9		
		F= 0.9	P= 0.4529 No significance
	Average Score	F ratio	Significance Level
Size by District n=343			
1-1000 n=97	62.3		
1001-15,000 n=80	53.4		
15,001 + n=166	55.9		
		F= 8.2	P= 0.0003* Significant Diff
	Average Score	F ratio	Significance Level
Size School n=343			
1-150 n=94	61.1		
151-1000 n=115	55.0		
1001+ above=134	56.3		
		F= 4.2	P= 0.0158* Significant Dif
	Average Score	F ratio	Significance Level
Urban /Rural n=343			
Urban n=242	55.1		
Rural n=101	62.1		
		F= 13.8	P= 0.0002* Significant Diff
	Average Score	F ratio	Significance Level
Road/Non-Road n=343			
Road n=272	55.3		
Non-Road n=71	64.3		
		F= 18.5	P= 0.0000* Significant Diff

* P < .05 significant difference

*N's vary for each analysis due to missing data

Table E4

Analysis Of Variance For Demographic Differences In Sponsorship

	Average Score	F ratio	Significance Level
By Gender n=284			
Male n=117	60.4		
Female n=167	61.3		
		F= 0.2	P= 0.6883 No significance
	Average Score	F ratio	Significance Level
By Race n=320			
White n=275	61.6		
Non-White n=45	59.5		
		F= 0.6	P= 0.4514 No significance
	Average Score	F ratio	Significance Level
Level of Experience n=341			
9 yrs+ below n=125	62.4		
10 yr+ above n=216	60.5		
		F= 0.8	P= 0.3616 No significance
	Average Score	F ratio	Significance Level
Experience in School n=338			
6 yr + below n=190	64.0		
7 yr+ above n=148	57.8		
		F= 10.2	P= 0.0015* Significant Diff
	Average Score	F ratio	Significance Level
By Grade n=327			
9-12 n=175	60.2		
7-12 n=70	62.7		
Other n=82	60.0		
		F= 0.6	P= 0.5455 No significance
	Average Score	F ratio	Significance Level
By Ed Years n=341			
Bachelor's n=178	60.8		
Master's + n=163	61.6		
		F= 0.1	P= 0.7028 No significance
	Average Score	F ratio	Significance Level
#Subjects n=316			
1-2subjects n=109	59.9		
2-4 subjects n=207	61.0		
		F= .29	P=0.586 No Significance

* P < .05 significant difference

*N's vary for each analysis due to missing data

Table E4 (Cont.)

Analysis Of Variance For Demographic Differences In Sponsorship

	Average Score	F ratio	Significance Level
By Job n=339			
Teacher n=282	60.3		
Other n=57	65.5		P=0.0461*
		F= 4.0	Significant Diff
	Average Score	F ratio	Significance Level
By Strategy n=315			
1 Strategy n=64	63.1		
2 Strategies n=86	62.4		
3 Strategies n=73	60.0		
4 or more n=92	58.7		P= 0.3735
		F= 1.0	No significance
	Average Score	F ratio	Significance Level
Size by District n=345			
1-1000 n=99	65.1		
1001-15,000 n=80	61.8		
15,001 + n=166	59.0		P= 0.0280*
		F= 3.6	Significant Diff
	Average Score	F ratio	Significance Level
Size School n=345			
1-150 n=98	64.1		
151-1000 n=113	63.9		
1001+ above=134	57.3		P= 0.0030*
		F= 5.9	Significant Dif
	Average Score	F ratio	Significance Level
Urban /Rural n=345			
Urban n=242	59.7		
Rural n=103	65.3		P= 0.0080*
		F= 7.1	Significant Diff
	Average Score	F ratio	Significance Level
Road/Non-Road n=345			
Road n=272	60.4		
Non-Road n=73	65.0		P= 0.0522*
		F= 3.8	Significant Diff

* P < .05 significant difference

*N's vary for each analysis due to missing data

Table E5

Analysis Of Variance For Demographic Differences In Target

	Average Score	F ratio	Significance Level
By Gender n=284			
Male n=117	55.7		
Female n=167	56.3		
		F= 0.1	P= 0.7743 No significance
	Average Score	F ratio	Significance Level
By Race n=323			
White n=278	56.3		
Non-White n=45	54.7		
		F= 0.4	P= 0.5441 No significance
	Average Score	F ratio	Significance Level
Level of Experience n=344			
9 yrs+ below n=124	58.7		
10 yr+ above n=220	53.9		
		F= 6.3	P= 0.0123* Significant Diff
	Average Score	F ratio	Significance Level
Experience in School n=341			
6 yr + below n=192	58.6		
7 yr+ above n=149	51.8		
		F= 13.3	P= 0.0003* Significant Diff
	Average Score	F ratio	Significance Level
By Grade n=320			
9-12 n=177	53.5		
7-12 n=69	59.3		
Other n=84	55.7		
		F= 2.9	P= 0.0543* Significant Diff
	Average Score	F ratio	Significance Level
By Ed Years n=345			
Bachelor's n=181	55.8		
Master's + n=164	55.6		
		F= 0.0	P= 0.9262 No significance
	Average Score	F ratio	Significance Level
#Subjects n=319			
1-2subjects n=112	54.6		
2-4 subjects n=207	55.8		
		F= .328	P=0.567 No Significance

* P < .05 significant difference

*N's vary for each analysis due to missing data

Table E5 (Cont.)

Analysis Of Variance For Demographic Differences In Target

	Average Score	F ratio	Significance Level
By Job n=342			
Teacher n=285	54.4		
Other n=57	<u>62.7</u>		P=0.0008*
		F= 11.4	Significant Diff
	Average Score	F ratio	Significance Level
By Strategy n=318			
1 Strategy n=63	55.9		
2 Strategies n=86	57.1		
3 Strategies n=74	55.6		
4 or more n=95	52.7		P= 0.3759
		F= 1.0	No significance
	Average Score	F ratio	Significance Level
Size District n=348			
1-1000 n=101	<u>62.1</u>		
1001-15,000 n=81	50.2		
15,001 + n=166	54.7		P= 0.0000*
		F= 12.2	Significant Diff
	Average Score	F ratio	Significance Level
Size School n=348			
1-150 n=98	<u>59.8</u>		
151-1000 n=116	54.3		
1001+ above=134	54.1		P= 0.0220*
		F= 3.9	Significant Dif
	Average Score	F ratio	Significance Level
Urban /Rural n=348			
Urban n=243	53.0		
Rural n=105	<u>62.2</u>		P= 0.0000*
		F= 22.1	Significant Diff
	Average Score	F ratio	Significance Level
Road/Non-Road n=348			
Road n=273	53.7		
Non-Road n=75	<u>63.4</u>		P= 0.0000*
		F= 19.6	Significant Diff

* P < .05 significant difference

*N's vary for each analysis due to missing data

Table E6

Analysis Of Variance For Demographic Differences In Culture

	Average Score	F ratio	Significance Level
By Gender n=281			
Male n=116	53.7		
Female n=165	53.4		
		F= 0.0	P= 0.9117 No significance
	Average Score	F ratio	Significance Level
By Race n=318			
White n=274	55.0		
Non-White n=44	49.5		
		F= 3.8	P= 0.0530* Significant Diff
	Average Score	F ratio	Significance Level
Level of Experience n=340			
9 yrs+ below n=124	54.6		
10 yr+ above n=216	53.1		
		F= 0.6	P= 0.4562 No significance
	Average Score	F ratio	Significance Level
Experience in School n=337			
6 yr + below n=190	55.2		
7 yr+ above n=147	51.9		
		F= 2.7	P= 0.0991 No significance
	Average Score	F ratio	Significance Level
By Grade n=326			
9-12 n=175	52.4		
7-12 n=68	59.2		
Other n=83	50.8		
		F= 5.0	P= 0.0074* Significant Diff
	Average Score	F ratio	Significance Level
By Ed Years n=340			
Bachelor's n=181	53.6		
Master's + n=159	53.6		
		F= 0.0	P= 0.9691 No significance
	Average Score	F ratio	Significance Level
#Subjects n=315			
1-2subjects n=110	51.9		
2-4 subjects n=205	54.3		
		F= .14	P=0.244 No Significance

* P < .05 significant difference

*N's vary for each analysis due to missing data

Table E6 (Cont.)

Analysis Of Variance For Demographic Differences In Culture

	Average Score	F ratio	Significance Level
By Job n=338			
Teacher n=281	52.8		
<u>Other n=57</u>	<u>58.3</u>	F= 4.5	P=0.0337* Significant Diff
	Average Score	F ratio	Significance Level
By Strategy n=315			
1 Strategy n=62	55.5		
<u>2 Strategies n=87</u>	<u>57.1</u>		
3 Strategies n=73	51.9		
4 or more n=93	49.3	F= 3.5	P= 0.0163* Significant Diff
	Average Score	F ratio	Significance Level
Size District n=344			
<u>1-1000 n=100</u>	<u>59.5</u>		
1001-15,000 n=79	49.2		
15,001 + n=165	52.3	F= 8.7	P= 0.0002* Significant Diff
	Average Score	F ratio	Significance Level
Size School n=344			
1-150 n=97	57.0		
151-1000 n=113	53.0		
1001+ above=134	51.8	F= 2.5	P= 0.0841 No significance
	Average Score	F ratio	Significance Level
Urban /Rural n=344			
Urban n=240	51.3		
<u>Rural n=104</u>	<u>59.1</u>	F= 14.1	P= 0.0002* Significant Diff
	Average Score	F ratio	Significance Level
Road/Non-Road n=344			
Road n=270	52.0		
<u>Non-Road n=74</u>	<u>59.9</u>	F= 11.7	P= 0.0007* Significant Diff

* P < .05 significant difference

*N's vary for each analysis due to missing data

Table E7

Analysis Of Variance For Demographic Differences In Target Agent

	Average Score	F ratio	Significance Level
By Gender n=282			
Male n=117	58.1		
Female n=165	57.1		
		F= 0.3	P= 0.6160 No significance
	Average Score	F ratio	Significance Level
By Race n=319			
White n=275	58.2		
Non-White n=44	55.5		
		F= 0.3	P= 0.6160 No significance
	Average Score	F ratio	Significance Level
Level of Experience n=340			
9 yrs+ below n=125	58.5		
10 yr+ above n=215	56.9		
		F= 0.8	P= 0.3862 No significance
	Average Score	F ratio	Significance Level
Experience in School n=337			
6 yr + below n=191	59.6		
7 yr+ above n=146	55.0		
		F= 7.0	P= 0.0085* Significant Diff
	Average Score	F ratio	Significance Level
By Grade n=326			
9-12 n=177	56.8		
7-12 n=67	60.2		
Other n=82	55.6		
		F= 1.8	P= 0.1733 No significance
	Average Score	F ratio	Significance Level
By Ed Years n=341			
Bachelor's n=178	57.5		
Master's + n=163	57.4		
		F= 0.0	P= 0.9733 No significance
	Average Score	F ratio	Significance Level
#Subjects n=315			
1-2subjects n=111	57.5		
2-4 subjects n=204	57.4		
		F= .006	P= 0.940 No Significance

* P < .05 significant difference

*N's vary for each analysis due to missing data

Table E7 (Cont.)

Analysis Of Variance For Demographic Differences In Target Agent

	Average Score	F ratio	Significance Level
By Job n=338			
Teacher n=282	56.6		
Other n=56	62.6		
		F= 6.8	P=0.0098* Significant Diff
	Average Score	F ratio	Significance Level
By Strategy n=315			
1 Strategy n=63	57.5		
2 Strategies n=86	59.2		
3 Strategies n=73	57.3		
4 or more n=93	55.4		
		F= 0.9	P= 0.4596 No significance
	Average Score	F ratio	Significance Level
Size District n=344			
1-1000 n= 97	60.7		
1001-15,000 n= 81	54.9		
15,001 + n=166	56.9		
		F= 3.3	P= 0.0379* Significant Diff
	Average Score	F ratio	Significance Level
Size School n=344			
1-150 n=96	59.6		
151-1000 n=113	56.4		
1001+ above=135	56.9		
		F= 1.2	P= 0.2944 No significance
	Average Score	F ratio	Significance Level
Urban /Rural n=344			
Urban n=243	55.7		
Rural n=101	61.8		
		F= 10.7	P= 0.0012* Significant Diff
	Average Score	F ratio	Significance Level
Road/Non-Road n=344			
Road n=273	56.2		
Non-Road n=71	62.3		
		F= 8.2	P= 0.0044* Significant Diff

- P < .05 significant difference

*N's vary for each analysis due to missing data

Table E8

Analysis Of Variance For Demographic Differences In Motivation

	Average Score	F ratio	Significance Level
By Gender n=282			
Male n=117	54.7		
Female n=165	53.6		
		F= 0.4	P= 0.5385 No significance
	Average Score	F ratio	Significance Level
By Race n=321			
White n=276	54.0		
Non-White n=45	55.4		
		F= 0.4	P= 0.5628 No significance
	Average Score	F ratio	Significance Level
Level of Experience n=342			
9 yrs+ below n=126	56.0		
10 yr+ above n=216	52.7		
		F= 3.8	P= 0.0520* Significant Diff
	Average Score	F ratio	Significance Level
Experience in School n=339			
6 yr + below n=192	55.5		
7 yr+ above n=147	51.9		
		F= 4.8	P= 0.0287* Significant Diff
	Average Score	F ratio	Significance Level
By Grade n=328			
9-12 n=179	51.8		
7-12 n=67	57.8		
Other n=82	53.5		
		F= 3.9	P= 0.0202* Significant Diff
	Average Score	F ratio	Significance Level
By Ed Years n=342			
Bachelor's n=181	53.0		
Master's + n=161	54.9		
		F= 1.3	P= 0.2540 No significance
	Average Score	F ratio	Significance Level
#Subjects n=315			
1-2subjects n=111	53.7		
2-4 subjects n=204	55.4		
		F= .028	P= 0.866 No significance

* P < .05 significant difference

*N's vary for each analysis due to missing data

Table E8 (Cont.)

Analysis Of Variance For Demographic Differences In Motivation

	Average Score	F ratio	Significance Level
By Job n=340			
Teacher n=284	53.0		
Other n=56	59.4		P=0.0033*
		F= 8.8	Significant Diff
	Average Score	F ratio	Significance Level
By Strategy n=316			
1 Strategy n=62	55.9		
2 Strategies n=86	54.8		
3 Strategies n=73	54.7		
4 or more n=95	50.1		P= 0.0487*
		F= 2.7	Significant Diff
	Average Score	F ratio	Significance Level
Size District n=346			
1-1000 n= 100	59.3		
1001-15,000 n= 78	47.1		
15,001 + n=168	54.0		P= 0.0000*
		F= 15.6	Significant Diff
	Average Score	F ratio	Significance Level
Size School n=346			
1-150 n=96	57.2		
151-1000 n=113	51.8		
1001+ above=137	53.5		P= 0.0315*
		F= 3.5	Significant Diff
	Average Score	F ratio	Significance Level
Urban /Rural n=346			
Urban n=243	52.0		
Rural n=101	58.7		P= 0.0001*
		F= 15.0	Significant Diff
	Average Score	F ratio	Significance Level
Road/Non-Road n=346			
Road n=273	52.4		
Non-Road n=73	59.9		P= 0.0001*
		F= 14.7	Significant Diff

* P < .05 significant difference

*N's vary for each analysis due to missing data

Table E9

Analysis Of Variance For Demographic Differences In Communication

	Average Score	F ratio	Significance Level
By Gender n=281			
Male n=116	53.5		
Female n=165	54.4		
		F= 0.1	P= 0.7003 No significance
	Average Score	F ratio	Significance Level
By Race n=318			
White n=274	54.3		
Non-White n=44	54.4		
		F= 0.1	P= 0.8182 No significance
	Average Score	F ratio	Significance Level
Level of Experience n=340			
9 yrs+ below n=123	55.8		
10 yr+ above n=217	53.3		
		F= 1.5	P= 0.2182 No significance
	Average Score	F ratio	Significance Level
Experience in School n=337			
6 yr + below n=190	57.4		
7 yr+ above n=147	50.3		
		F= 13.5	P= 0.0003* Significant Diff
	Average Score	F ratio	Significance Level
By Grade n=326			
9-12 n=174	52.0		
7-12 n=69	58.6		
Other n=83	52.9		
		F= 3.5	P= 0.0313* Significant Diff
	Average Score	F ratio	Significance Level
By Ed Years n=340			
Bachelor's n=177	54.0		
Master's + n=163	54.3		
		F= 0.0	P= 0.8989 No significance
	Average Score	F ratio	Significance Level
#Subjects n=315			
1-2subjects n=111	53.8		
2-4 subjects n=204	53.7		
		F= .007	P= 0.933 No significance

* P < .05 significant difference

*N's vary for each analysis due to missing data

Table E9 (Cont.)

Analysis Of Variance For Demographic Differences In Communication

	Average Score	F ratio	Significance Level
By Job n=338			
Teacher n=281	53.2		
Other n=57	<u>59.2</u>		P=0.0215*
		F= 5.3	Significant Diff
	Average Score	F ratio	Significance Level
By Strategy n=314			
1 Strategy n=61	55.1		
2 Strategies n=86	55.6		
3 Strategies n=74	54.2		
4 or more n= 93	50.8		P= 0.2743
		F= 1.3	No significance
	Average Score	F ratio	Significance Level
Size District n=344			
1-1000 n= 101	<u>58.8</u>		
1001-15,000 n= 78	50.1		
15,001 + n=165	53.3		P= 0.0038*
		F= 5.7	Significant Diff
	Average Score	F ratio	Significance Level
Size School n=344			
1-150 n=98	57.3		
151-1000 n=112	54.3		
1001+ above=134	51.8		P= 0.0722
		F= 2.6	No significance
	Average Score	F ratio	Significance Level
Urban /Rural n=344			
Urban n=239	51.8		
Rural n=105	<u>59.5</u>		P= 0.0003*
		F= 13.6	Significant Diff
	Average Score	F ratio	Significance Level
Road/Non-Road n=344			
Road n=269	52.9		
Non-Road n=75	<u>58.9</u>		P= 0.0105*
		F= 6.6	Significant Diff

* P < .05 significant difference

*N's vary for each analysis due to missing data

Table E10

Analysis Of Variance For Demographic Differences In Integration

	Average Score	F ratio	Significance Level
By Gender n=285			
Male n=116	56.8		
Female n=169	57.4		
		F= 0.1	P= 0.7999 No significance
	Average Score	F ratio	Significance Level
By Race n=320			
White n=275	57.6		
Non-White n=45	56.1		
		F= 0.2	P= 0.6450 No significance
	Average Score	F ratio	Significance Level
Level of Experience n=342			
9 yrs+ below n=124	56.8		
10 yr+ above n=218	57.3		
		F= 0.0	P= 0.8497 No significance
	Average Score	F ratio	Significance Level
Experience in School n=339			
6 yr + below n=192	59.2		
7 yr+ above n=147	54.7		
		F= 3.8	P= 0.0530* Significant Diff
	Average Score	F ratio	Significance Level
By Grade n=328			
9-12 n=177	55.9		
7-12 n=69	59.2		
Other n=82	56.2		
		F= 0.6	P= 0.5310 No significance
	Average Score	F ratio	Significance Level
By Ed Years n=342			
Bachelor's n=178	57.0		
Master's + n=164	57.0		
		F= 0.0	P= 0.9953 No significance
	Average Score	F ratio	Significance Level
#Subjects n=317			
1-2subjects n=111	55.7		
2-4 subjects n=206	56.7		
		F= .018	P= 0.676 No significance

* P < .05 significant difference

*N's vary for each analysis due to missing data

Table E10 (Cont.)

Analysis Of Variance For Demographic Differences In Integration

	Average Score	F ratio	Significance Level
By Job n=340			
Teacher n=283	56.4		
Other n=57	60.9		
		F= 2.3	P=0.1339 No significance
	Average Score	F ratio	Significance Level
By Strategy n=316			
1 Strategy n=60	55.7		
2 Strategies n=86	57.2		
3 Strategies n=76	56.8		
4 or more n= 94	58.6		
		F= 0.3	P= 0.8558 No significance
	Average Score	F ratio	Significance Level
Size District n=346			
<u>1-1000 n= 100</u>	<u>61.6</u>		
1001-15,000 n= 79	60.3		
15,001 + n=167	52.9		
		F= 7.0	P= 0.0011* Significant Diff
	Average Score	F ratio	Significance Level
Size School n=346			
1-150 n=97	60.6		
<u>151-1000 n=113</u>	<u>61.4</u>		
1001+ above=136	51.0		
		F= 10.1	P= 0.0001* Significant Diff
	Average Score	F ratio	Significance Level
Urban /Rural n=346			
Urban n=242	54.8		
<u>Rural n=104</u>	<u>62.4</u>		
		F= 9.9	P= 0.0018* Significant Diff
	Average Score	F ratio	Significance Level
Road/Non-Road n=346			
Road n=272	55.3		
<u>Non-Road n=74</u>	<u>63.7</u>		
		F= 9.7	P= 0.0020* Significant Diff

* P < .05 significant difference

*N's vary for each analysis due to missing data

Table E11

Analysis Of Variance For Demographic Differences In Belief

	Average Score	F ratio	Significance Level
By Gender n=285			
Male n=118	61.3		
Female n=167	63.4		
		F= 0.7	P= 0.4079 No significance
	Average Score	F ratio	Significance Level
By Race n=322			
White n=277	63.9		
Non-White n=45	60.0		
		F= 1.3	P= 0.2587 No significance
	Average Score	F ratio	Significance Level
Level of Experience n=343			
9 yrs+ below n=123	66.3		
10 yr+ above n=220	60.0		
		F= 6.7	P= 0.0100* Significant Diff
	Average Score	F ratio	Significance Level
Experience in School n=340			
6 yr + below n=191	66.0		
7 yr+ above n=149	57.8		
		F= 12.3	P= 0.0005* Significant Diff
	Average Score	F ratio	Significance Level
By Grade n=329			
9-12 n=176	59.1		
7-12 n=68	66.0		
Other n=85	65.3		
		F= 3.6	P= 0.0280* Significant Diff
	Average Score	F ratio	Significance Level
By Ed Years n=343			
Bachelor's n=179	64.1		
Master's + n=164	60.4		
		F= 2.5	P= 0.1154 No significance
	Average Score	F ratio	Significance Level
#Subjects n=318			
1-2subjects n=113	65.8		
2-4 subjects n=205	56.7		
		F= .528	P= 0.022* Significant Diff

* P < .05 significant difference

*N's vary for each analysis due to missing data

Table E11 (Cont.)

Analysis Of Variance For Demographic Differences In Belief

	Average Score	F ratio	Significance Level
By Job n=341			
Teacher n=284	60.8		
Other n=57	70.2		
		F= 9.0	P=0.0029* Significant Diff
	Average Score	F ratio	Significance Level
By Strategy n=317			
1 Strategy n=62	62.3		
2 Strategies n=85	65.4		
3 Strategies n=76	60.7		
4 or more n= 94	61.7		
		F= 0.7	P= 0.5376 No significance
	Average Score	F ratio	Significance Level
Size District n=347			
1-1000 n= 101	68.4		
1001-15,000 n= 79	53.2		
15,001 + n=167	63.2		
		F= 11.9	P= 0.0000* Significant Diff
	Average Score	F ratio	Significance Level
Size School n=347			
1-150 n=97	66.7		
151-1000 n=114	57.7		
1001+ above=136	63.4		
		F= 4.8	P= 0.0088* Significant Diff
	Average Score	F ratio	Significance Level
Urban /Rural n=347			
Urban n=242	60.3		
Rural n=105	67.3		
		F= 7.8	P= 0.0056* Significant Diff
	Average Score	F ratio	Significance Level
Road/Non-Road n=347			
Road n=272	60.4		
Non-Road n=75	69.7		
		F= 11.1	P= 0.0010* Significant Diff

* P < .05 significant difference

*N's vary for each analysis due to missing data

Table E12

Analysis Of Variance For Demographic Differences In Total Implementation History

	Average Score	F ratio	Significance Level
By Gender n=246			
Male n=101	56.6		
Female n=145	56.9		P= 0.8707
		F= 0.0	No significance
	Average Score	F ratio	Significance Level
By Race n=274			
White n=236	57.5		
Non-White n=38	55.1		P= 0.3139
		F= 1.0	No significance
	Average Score	F ratio	Significance Level
Level of Experience n=289			
9 yrs+ below n=104	57.9		
10 yr+ above n=185	56.5		P= 0.3858
		F= 0.8	No significance
	Average Score	F ratio	Significance Level
Experience in School n=286			
6 yr + below n=166	58.9		
7 yr+ above n=120	54.6		P= 0.0066*
		F= 7.5	Significant Diff
	Average Score	F ratio	Significance Level
By Grade n=276			
9-12 n=148	55.0		
7-12 n=58	61.1		
Other n=70	56.3		P= 0.0123*
		F= 4.5	Significant Diff
	Average Score	F ratio	Significance Level
By Ed Years n=290			
Bachelor's n=148	56.6		
Master's + n=142	57.4		P= 0.6183
		F= 0.2	No significance
	Average Score	F ratio	Significance Level
#Subjects n=318			
1-2subjects n=113	55.9		
2-4 subjects n=205	57.2		P= 0.469
		F= .527	No significance

* P < .05 significant difference

*N's vary for each analysis due to missing data

Table E12 (Cont.)

Analysis Of Variance For Demographic Differences In Total Implementation History

	Average Score	F ratio	Significance Level
By Job n=287			
Teacher n=236	56.0		
Other n=51	62.4		P=0.0018*
		F= 9.9	Significant Diff
	Average Score	F ratio	Significance Level
By Strategy n=267			
1 Strategy n=54	57.9		
2 Strategies n=70	57.8		
3 Strategies n=60	56.8		
4 or more n= 83	54.1		P= 0.2810
		F= 1.3	No significance
	Average Score	F ratio	Significance Level
Size District n=347			
1-1000 n= 101	61.5		
1001-15,000 n= 79	54.2		
15,001 + n=167	55.8		P= 0.0012*
		F= 6.9	Significant Diff
	Average Score	F ratio	Significance Level
Size School n=347			
1-150 n=97	59.8		
151-1000 n=114	57.1		
1001+ above=136	55.1		P= 0.0512*
		F= 3.0	Significant Diff
	Average Score	F ratio	Significance Level
Urban /Rural n=347			
Urban n=242	55.0		
Rural n=105	61.9		P= 0.0001*
		F= 16.8	Significant Diff
	Average Score	F ratio	Significance Level
Road/Non-Road n=347			
Road n=272	55.6		
Non-Road n=75	62.8		P= 0.0002*
		F= 11.1	Significant Diff

* P < .05 significant difference

*N's vary for each analysis due to missing data

Table E13

Analysis Of Variance For Demographic Differences In Total Individual Readiness Score

	Average Score	F ratio	Significance Level
By Gender n=265			
Male n=108	61.6		
Female n=157	63.1		
		F= 0.9	P= 0.3307 No significance
	Average Score	F ratio	Significance Level
By Race n=294			
White n=253	62.7		
Non-White n=41	65.1		
		F= 1.4	P= 0.2302 No significance
	Average Score	F ratio	Significance Level
Level of Experience n=315			
9 yrs+ below n=117	63.1		
10 yr+ above n=198	62.4		
		F= 0.3	P= 0.5909 No significance
	Average Score	F ratio	Significance Level
Experience in School n=312			
6 yr + below n=179	63.9		
7 yr+ above n=133	61.4		
		F= 3.2	P= 0.0751 No significance
	Average Score	F ratio	Significance Level
By Grade n=302			
9-12 n=165	61.1		
7-12 n=65	64.7		
Other n=72	63.6		
		F= 2.4	P= 0.0921 No significance
	Average Score	F ratio	Significance Level
By Ed Years n=315			
Bachelor's n=166	62.0		
Master's + n=149	63.4		
		F= 1.0	P= 0.3075 No significance
	Average Score	F ratio	Significance Level
#Subjects n=314			
1-2subjects n=110	63.9		
2-4 subjects n=204	61.3		
		F= 2.9	P=0.085 No significance

* P < .05 significant difference

*N's vary for each analysis due to missing data

Table E13 (Cont.)

Analysis Of Variance For Demographic Differences In Total Individual Readiness Score

	Average Score	F ratio	Significance Level
By Job n=313			
Teacher n=260	61.7		
Other n=53	66.9		
		F= 7.6	P=0.0061* Significant Diff
	Average Score	F ratio	Significance Level
By Strategy n=291			
1 Strategy n=58	61.6		
2 Strategies n=80	62.8		
3 Strategies n=69	62.9		
4 or more n= 84	62.9		
		F= 0.2	P= 0.9236 No significance
	Average Score	F ratio	Significance Level
Size by District n=318			
1-1000 n=92	66.7		
1001-15,000 n=75	56.5		
15,001 + n=151	63.1		
		F= 15.5	P= 0.0000* Significant Diff
	Average Score	F ratio	Significance Level
Size School n=318			
1-150 n=92	64.4		
151-1000 n=103	60.2		
1001+ above=123	63.3		
		F= 3.0	P= 0.0512* Significant Diff
	Average Score	F ratio	Significance Level
Urban /Rural n=318			
Urban n=221	60.9		
Rural n=97	66.5		
		F= 14.1	P= 0.0002* Significant Diff
	Average Score	F ratio	Significance Level
Road/Non-Road n=318			
Road n=247	61.3		
Non-Road n=71	67.3		
		F= 13.2	P= 0.0003* Significant Diff

* P < .05 significant difference

*N's vary for each analysis due to missing data