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ABSTRACT

This report is a synthesis of selected studies that focused on the efforts of educational reform legislation passed in Washington State in 1993. It set out to answer the following questions about educational reform in Washington: (1) Are certain classroom approaches to teaching and learning related to student success on the new learning outcomes? (2) What schoolwide practices are related to student success on the new learning outcomes? (3) What are the characteristics of the schools where students are most successful? (4) To what degree are district central-office practices related to student success? and (5) What role does the district play in school success and student achievement? The first section presents an overview of educational reform in Washington. The next section focuses on the research findings around classroom instruction. The third section focuses on the research findings about effective schoolwide and district policies and practices. The fourth section reviews what has been learned from research and evaluation efforts in more than 200 schools attempting reform with the assistance of the Bill & Melinda Gates Foundation. The final section synthesizes the findings and discusses the implications for further reform efforts in Washington. (Contains 36 references.) (WFA)

Washington School Research Center

A Decade of Reform

A Summary of Research Findings on Classroom, School, and District Effectiveness in Washington State

Research Report #3
April 2003

Jeffrey T. Fouts

The Washington School Research Center (WSRC) is an independent research and data analysis center within Seattle Pacific University. The Center began in July 2000, funded through a gift from the Bill & Melinda Gates Foundation. Our mission is to conduct sound and objective research on student learning in the public schools, and to make the research findings available for educators, policy makers, and the general public for use in the improvement of schools. We believe that sound data and appropriate data analysis are vital components for the identification of school and classroom practices related to increased student academic achievement.

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A Decade of Reform

A Summary of Research Findings on Classroom, School, and District Effectiveness in Washington State

A Research Report From
The Washington School Research Center

Jeffrey T. Fouts

Washington School Research Center

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FOREWORD

It has been ten years since the passing of the current educational reform legislation in Washington. The process begun in 1993 included, among other things, the identification of new student learning expectations needed for success in the 21st Century, a new measure of those expectations, and an expectation that all students will achieve those standards. More recently, the passing of the federal law commonly known as the "No Child Left Behind Act" has added a new sense of urgency for the reform efforts. At the same time, the expectations for higher academic achievement as measured by the Washington Assessment of Student Learning (WASL) have been difficult for many schools to meet.

As in most states, educational research in Washington is conducted by a variety of organizations and individuals who share a common interest but often lack any coordinating agency. Several years after the passing of the 1993 legislation a variety of researchers began to examine the effects of the law on Washington's schools using diverse strategies and research approaches. Over the past five years studies have been conducted by the RAND Corporation, the School of Education at Seattle Pacific University, the Center for the Reinvention of Public Education at the University of Washington, and the Office of Superintendent of Public Instruction, among others. Each of these groups employed different research methodologies, but they all were concerned with identifying the effects of the legislation on public schools in the state and with identifying those changes in school and classrooms that increase student learning. Their findings are dispersed in a variety of individual reports with varying levels of distribution and awareness.

For the past two years researchers at the Washington School Research Center have been pursuing answers to these and other research questions. Through our work with the *Just for the Kids* data analysis system, the production of technical reports analyzing extant data, and studying successful schools we have attempted to add to the knowledge base of the profession about success in a high standards environment.

The dissemination of our research to educators in a non-technical and useful manner is a significant part of our mission. Toward this end we have presented our findings to a large number of educators in the state. One of the approaches we have taken is to place our research findings in the broader context of other research in the state to show that there is an emerging consistent and coherent picture of successful reform. Educators have responded favorably to this message, and on numerous occasions we have been asked if the *contents* of the presentations are available in written form to share with their colleagues. Until now, the contents only existed in pieces in various presentation materials and reports. In this report I have attempted to summarize and assimilate the various research findings in one document.

Synthesizing research findings from multiple sources requires a number of decisions and judgments. Most important is determining what questions will be the focus of the review. These are listed in the first section of the report and, I believe, are of the

greatest immediate interest to policy-makers and the profession. Research has not and cannot answer all of our questions definitively, but I believe in this instance there is a growing body of evidence that shows that students are capable of higher levels of achievement than many previously thought was possible. In addition, when schools and educators change in certain ways the likelihood of higher achievement is increased dramatically.

Jeffrey T. Fouts
Executive Director
April 15, 2003

A Decade of Reform:
A Summary of Research Findings on Classroom, School, and District Effectiveness in Washington State

INTRODUCTION: EDUCATIONAL REFORM IN WASHINGTON STATE

The current efforts at educational reform[1] in the state of Washington began formally in 1993 with the passing of Engrossed Substitute House Bill 1209 (HB 1209), also known as the Washington State Education Reform Act. This effort to improve Washington public schools is a response to national and local concerns raised in the preceding decade about the overall quality of American schools and their graduates. In an effort to improve the schools and to increase overall student learning, HB 1209, among other things, established a performance-based educational system with specific learning standards, encouraged decentralized decision-making and teacher empowerment, and attempted deregulation to allow individual school flexibility. Specific components of HB 1209 established the Commission on Student Learning charged with the development of learning requirements and assessment and school accountability procedures, while other components encouraged school-to-work transition, business partnerships, parental involvement, and teacher training.

The reform efforts within Washington State generally reflect the school restructuring efforts that are currently progressing at various speeds throughout the nation. Van Slyke (1998) identified the "common threads" of contemporary school restructuring in the national literature, which included: the collaboration of teachers, administrators, parents and others in the purposes, goals and process of restructuring; clear student learning outcomes tied to revisions in assessment practices; curriculum and pedagogical revisions providing for basic skills and higher level thinking in "real-life" situations; systems of accountability; and a recognition of the importance of systemic changes for restructuring success. Each of these elements is visible in the current efforts within the state of Washington.

Currently, there is a body of research and consistent findings that are enlightening and instructive.

Since the reform efforts began researchers have conducted a number of studies in Washington to, among other things, describe the nature of the changes that are being made in the schools and to identify the impact of those changes on student learning. As

[1] The term "reform" is the word most often used among the public and policymakers when talking about the state law and the subsequent on-going efforts to improve the state's schools. However, among the profession other terms, such as "restructuring" and more recently "reinvention," are also commonly used. Generally, school reinvention is seen as a way to accomplish educational reform.

with research in most fields, in education it is important to have numerous studies on similar topics over time to increase confidence that the findings are valid. In fact, it is the *compilation* of research findings on a particular topic, and not the results of a single study, that are most useful for giving direction to policymakers and practitioners. While there is much more research to do in this state on topics related to educational reform and school and classroom effectiveness, currently there is a body of research and consistent findings that are enlightening and instructive. A synthesis of these research findings is provided on the following pages.

THE RESEARCH IN CONTEXT

To help understand the research conducted in the past several years, I have developed a contextual framework from which to organize and explain the findings. I assume that the large majority of people who will read this report already have some, if not considerable, knowledge about reform efforts in this state. Therefore, I will limit the contextual explanation to some very basic elements. First, I discuss the new expectations for each individual student. Second, I explain the new "high standards environment" and corresponding expectations for school-level success. Third, I present a theoretical model explaining types of changes within an educational organization. This section concludes with specific research questions we want to address and a brief overview of the succeeding sections.

New Student Outcomes

The contextual framework begins, as does the reform act itself, with a brief explanation and demonstration of the change in student outcomes now expected in this state. In a sense, this starting point is a reflection of the very nature of these reform efforts. Whether it is called "targeted teaching," the "design-down principle," or "performance-based education," a driving force of the reform effort is the need to redefine the end product; in this case, improvements in the *quantity* and *quality* of student learning. The following selection has been taken from the Office of Superintendent of Public Instruction's website.[2] It describes the unique nature of this attempt at educational reform and gives a general description of these outcomes.

> Oddly enough, Washington has never had common goals for which students and educators were accountable. Earlier attempts to set standards left districts to develop their own lists, and there was no coherent attempt to measure achievement.
>
> After much study, intense discussion and thoughtful public debate, statewide academic standards have been developed for the "basics"--reading, writing, communication, and mathematics, and for science, social studies, the arts, and health & fitness.

[2] http://www.k12.wa.us/curriculuminstruct/ealrs.asp

> We call these standards Essential Academic Learning Requirements. They represent the specific academic skills and knowledge students will be required to meet in the classroom.
>
> Integrated into the design of the Essential Academic Learning Requirements are the state's learning Goals 3 and 4 as outlined in the Education Reform Act. Under the law, Goal 3 asked us to link thinking skills to the basics; Goal 4 asked us to link the Essential Academic Learning Requirements to the world of work.
>
> Ultimately, learners must understand the link between their personal efforts and performance in school and their decisions about future career and educational opportunities.
>
> The Essential Academic Learning Requirements are clear targets for students and teachers across the state. Setting higher standards calls for better methods of measuring student and teacher performance.

These are important statements, first of all, because they define the reform efforts for the state, but just as important for our efforts here, they limit the type of research questions in which we are interested and the types of research studies I examine for this synthesis.

What's "New" About the Washington Assessment of Student Learning (WASL)?

The Essential Learnings represent significant changes in what we expect from students and present real challenges to the educational system as it now exists.

An important part of the reform context is the "new student outcomes," at least as measured by the WASL. These outcomes represent significant changes in what we expect from students and present real challenges to the educational system as it now exists. A contrast between more traditional basic skills test items and WASL items demonstrate this challenge.

Sample reading assessment items from a commonly used basic skills test from the 1980s and 1990s and from the WASL are shown in Table 1. Answering two questions about each type of item shows the difference between the previous educational outcomes and those outcomes of this reform movement:

1. What *intellectual activity* or *level* is required of the student by the item?
2. What *performance* or *behavior* is required of the student by the item?

The items in Table 1 demonstrate a different emphasis between a test of basic skills and the WASL, that is, what must go on in the mind of the student to successfully complete the item. The basic skills test asks the student to read a section, and then the test items are designed to determine if the student is able to understand and recall elements of what he/she just read. The intellectual activity required of the student in these items does

not appear to exceed the comprehension and recall level, and does not require the student to use substantial higher-order thinking skills associated with application, analysis, synthesis, or evaluation. To be fair, I acknowledge that many of the basic skills tests do employ items that require higher-order or critical thinking skills, and that the items for a reading section such as described in Table 1 do get progressively more difficult and require progressively more intellectual sophistication on the part of the student. However, the basic skills tests' response format greatly limits the type of learning that can be demonstrated, and, relatively speaking, there appear to be fewer of those types of questions than are found on the WASL.

Table 1. Typical Assessment Items for Elementary Level Reading.[3]

A Test of Basic Skills 1980s and 1990s	*Washington Assessment of Student Learning (WASL) 2002*
Reading Comprehension-Grade 3	**Reading-Grade 4**
The following questions are based on a brief paragraph about a baby seal and its mother. 1. Where is a baby seal born? a) Land b) Shore c) Water d) Nest Fill in the correct response: a. b. c. d. O O O O ***(Intellectual skill/level— Recall and comprehend important details.)*** 2. Where does a baby seal get its food? a) From a bottle. b) From its mother. c) From the sea water. d) It eats small fish. ***(Intellectual skill/level— Recall and comprehend important details.)*** 3. How does a baby seal know its mother? a) By smell. b) By sight. c) By sound. d) By touch. ***(Intellectual skill/level— Recall and comprehend important details.)***	*The following questions are based on a poem about a girl named Nan.* 1. Which sentence best summarizes what this poem is about? a) Nan is using her imagination b) Nan is reading her favorite book c) Nan is practicing for a school play Fill in the correct response: a. b. c. O O O ***(Learning Target: Summarize with evidence from the reading)*** 2. How is the way Nan acts at the beginning of the poem different from the way she acts at the end? _____ _____ _____ Why does she act different? Support your answers with information from the poem. _____ _____ ***(Learning Target: Compare and contrast elements of text)*** 3. Is Nan a person you would like to meet? Use two details from the poem to explain your answer. _____ _____ ***(Learning Target: Extend information beyond text—apply information, give a response to reading, express insight gained from reading)***

[3] The basic skills test items shown in Tables 1 through 6 have been modified from the actual published form, but generally reflect the types of items that were found on such tests in the last two decades. The WASL items are released items from the Office of Superintendent of Public Instruction website in 2002.

In contrast, the WASL items shown in Table 1 are keyed to Essential Academic Learning Requirements (EALRs) deemed important by educators and others in the state of Washington. In addition, these EALRs and the corresponding WASL items place a much higher emphasis on higher-order or critical thinking, such as the ability to apply information, to infer, to synthesize, to compare and contrast and other such intellectually demanding tasks. The WASL does not necessarily downplay the importance of "traditional" basic skills, but the underlying assumption appears to be that these skills are inherent or incorporated into the assessment of the more intellectually demanding WASL items. While neither test excludes either the traditional basic skills or higher-order thinking skills, the difference is one of emphasis and focus.

The items in Table 1 also clearly demonstrate a second difference between the traditional basic skills test and the WASL: the performance or behavior required of the student to demonstrate the required intellectual activity. It is important to note that these are not mutually exclusive activities, and there is not a clear demarcation between the intellectual activity required and performance, particularly in the case of the WASL. However, for discussion purposes and clarity, it is useful to differentiate between the two.

Traditionally, basic skills tests have relied on the multiple choice format. The student has been required to identify the correct or best answer from a list of potential answers. In one sense, this activity requires the ability to *recognize* the correct or best response, rather than for the student to actually *produce* it on his or her own, much less to express the ideas in their own words or to demonstrate a specific skill or ability. Anyone who has taken a multiple choice test knows that this can be a difficult task and requires considerable higher order thinking skills, but it is not the same thing as intellectually creating the answer and then explaining or demonstrating that thinking in written or other form. In this sense, the more traditional basic skills tests have been limited by the multiple choice format.

The point is not how to get students ready to pass the WASL specifically, or any other test, but how to get students ready for performance assessments that require considerable higher order thinking skills and demonstrations.

Once again, in contrast, the WASL was designed as more of a *performance assessment*, intended to require students to *demonstrate* their ability to not only comprehend and recall information, but also to apply it in a variety of settings and to exhibit other forms of higher-order or critical thinking processes. For example, the performance or behavior required by the first WASL item in Table 1 requires the student to identify the correct or best answer from a list of potential answers, identical to the traditional basic skills test item. However, items 2 and 3 not only focus on higher-order thinking skills, but also require a much different behavior than found in the basic skills test. For these items students are required to *produce* in written form the results of their higher order thinking. This production requires a substantially

different, and probably more complex, set of skills than does selecting a response in multiple choice format.

The examples in Table 1 are from the elementary grades and limited to reading. However, the model holds for mathematics and for the middle and high school level tests. Item comparisons for the different test levels are shown in Tables 2 and 3. Some "basic skills tests" have and are becoming more performance oriented. For example, some tests now require a writing sample from students or provide an "extended response" format. The point is not that the WASL is currently different from other tests, but rather that the *type* of outcomes being assessed are now different in the state of Washington than they were previously. The point is not how to get students ready to pass the WASL specifically, or any other test, but how to get students ready for performance assessments that require considerable higher order thinking skills and demonstrations.

The differences between the traditional basic skills and the WASL items are summarized in Table 4. I am not making a value judgment here as to which is "better." I am simply pointing out that the emphasis on the type of learning expected of students and the demonstration of that learning differ between the two. The traditional tests of basic skills were just that; measures of basic skills that could and did often include some measure of higher-order thinking skills, but not as the primary focus. In addition, the assessments of these types of outcomes were limited by the behavior required on the part of the student, thus limiting what *could* be assessed. In contrast, the focus or intent of the WASL is to assess the EALRs, which focus on higher-order thinking skills to a greater degree. Thus, the student behaviors or performance needed to more adequately assess this type of learning have been expanded to provide the opportunity for students to demonstrate their ability to construct and use knowledge in a variety of forms.

The New High Standards Environment

The reform efforts within Washington State generally reflect the new high standards environment that is part of the national education landscape. Because there has been so much written on this elsewhere, I will only summarize the salient points here. At its most basic level, the proposed high standards environment has four essential components:

- new expectations for the type of learning students demonstrate;
- new assessments of the learning;
- *all* students achieving at high levels; and
- accountability for schools and learners.

In the previous section I demonstrated how Washington's Essential Academic Learning Requirements and the assessment of those learnings by the WASL differ significantly from previous expectations for students, which correspond to the first two bulleted items. In this section I want to present a framework for interpreting the research related to achievement at high levels and school accountability.

Table 2. Typical Reading Assessment Items for Middle and Upper Grades

A Test of Basic Skills 1980s and 1990s	*Washington Assessment of Student Learning (WASL) 2002*
Reading Comprehension-Grade 6	**Reading-Grade 7**
The following questions are based on a poem about dreams. 1. How does the poet feel about the horses in the dream? a) He thinks about them even when he is awake. b) He does not understand them. c) He is afraid of them. d) He wants to own a horse just like one in the dream. ***Performance: Recall and comprehend important details.*** 2. In the dream, what kind of day is it? a) Windy and summery. b) Calm and summery. c) Crisp and wintry. d) Dreary and wintry. ***Performance: Recall and comprehend important details.***	*The following questions are based on a poem about a grandfather helping toads cross the street.* 1. Which of these sentences best summarizes the poem? a) A man is teaching his grandson to drive. b) A man stops the family car to collect toads to take home. c) A man keeps interrupting a trip to rescue small animals. d) A family loses its way on a car ride in the country. ***Learning Target: Summarizes text.*** 2. Compare the Old Man's attitude toward the toads and the speaker's attitude toward the toads. Include information from the poem in your answer. _____ _____ _____ ***Learning Target: Compare/contrast elements of the text or make connections within the reading.***
Reading Comprehension-Grade 8	**Reading-Grade 10**
The following questions are based on a sample newspaper classified ad for a used car. 1. From what was the selection above taken? a) A show window at a car lot. b) A sign on the highway. c) The telephone book yellow pages. d) The want ad pages of a newspaper. ***Performance: Recall and comprehend important details*** 2. What type of payment arrangements for the car does the car lot allow? a) 50% down payment. b) Payment over 36 months. c) Cash only for the full price. d) $200 a month. ***Performance: Recall and comprehend important details.***	*The following questions are based on a lengthy reading on African-American dance.* 1. Which statement indicates the author's purpose for the first paragraph of the selection? a) To show how Katherine Dunham got the idea for creating a new type of dance. b) To show how nervous Katherine Dunham's dance troupe was before its first performance. c) To show that American audiences responded enthusiastically to Katherine Dunham's type of dance. d) To show that exotic costumes and unusual Caribbean and African rhythms were difficult for American audiences to understand. ***Learning Target: Analyze author's purpose and evaluate effectiveness for different audiences.*** 2. In your own words, write a summary of the selection. Be sure to include three main points in your summary. _____ _____ _____ ***Learning Target: Summarize text.***

Table 3. Typical Math Assessment Items for Elementary and Middle Grades

A Test of Basic Skills 1980s and 1990s	*Washington Assessment of Student Learning (WASL) 2002*
Math-Grade 3	**Math-Grade 4**
1. 6 + 9 = a) 3 b) 15 c) 69 d) Not given ***Performance: Demonstrate math computation skills.***	1. Ming's soccer team needs to buy a new uniform. His team has $100 but must raise the rest of the money. What other information does Ming need? How would he use that information to figure out how much money his team must raise? Use words, numbers, or pictures in your answer. _____ _____ _____ ***Learning Target: Define problems by identifying the question(s) to be answered and by identifying the known information, missing information, and/or extraneous information.***
Math-Grade 6	**Math-Grade 7**
1. 16 ÷ 2 = a) 18 b) 14 c) 8 d) Not given ***Performance: Demonstrate math computation skills.***	1. Look for patterns in the number sentences below. **11 X 12 = 132** **11 X 13 = 143** **11 X 14 = 154** **11 X 15 = 165** Describe a pattern that will help you multiply numbers by 11. Clearly explain how you could use your pattern to find the answer to 11 X 16. _____ _____ _____ ***Learning Target: Recognize, extend, and create patterns and sequences; represent number patterns with tables, graphs, and rules.***
2. 8307 + 7063 a) 15,060 b) 15,370 c) 16,370 d) Not given ***Performance: Demonstrate math computation skills.***	2. At a construction site, 3 workers need to take the elevator to the top floor to do repairs. The elevator can carry only 300 pounds at most. Mr. Andrews weighs 150 pounds, Mr. Baker weighs 145 pounds, and Mr. Cass weighs 235 pounds. One person must always be in the elevator to operate it. Tell how these 3 people can use the elevator to get to the top floor so that they can work on the job together. Clearly explain the steps needed to solve the problem using words, numbers, and/or pictures. _____ _____ _____ ***Learning Target: Organize and synthesize information from multiple sources; use viable strategies and appropriate concepts, procedures, and tools to construct solutions.***

Table 4.

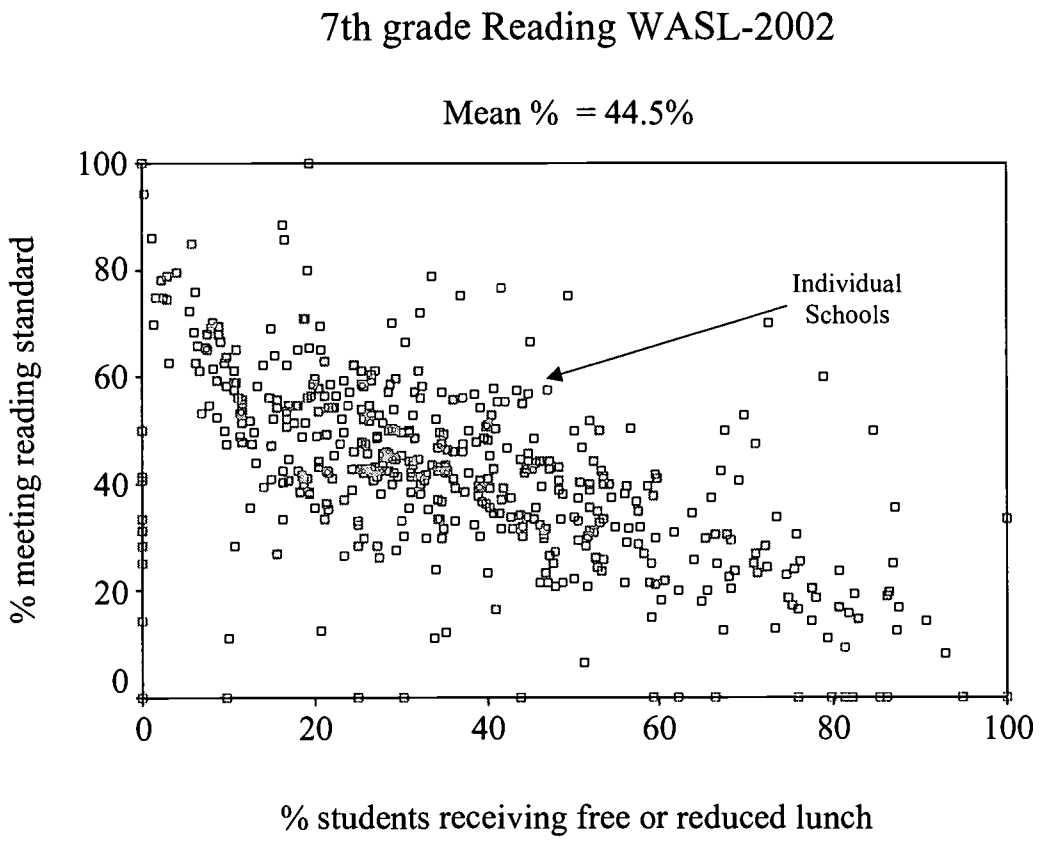
A Test of Basic Skills	*Washington Assessment of Student Learning (WASL)*
Intellectual activity or *level (emphasis)*	*Intellectual activity* or *level (emphasis)*
Traditional basic skills.	Higher-order or critical thinking skills (EALRs).
Higher-order or critical thinking skills.	Traditional basic skills.
Performance or *behavior*	*Performance* or *behavior*
Identification of correct or best answer from a list of potential answers.	The creation (construction) and expression of knowledge.
	Identification of correct or best answer from a list of potential answers.

All Students Achieving At High Levels

"Accountability" can have many manifestations at various levels throughout the educational system. However, for our purposes here I am limiting the discussion to "school-level" performance; that is, student achievement when it is aggregated at the school level. There is an underlying assumption that needs to be stated: With important variables held constant, there are varying degrees of effectiveness of Washington schools. Put in other words, some schools (i.e., collection of adults/teachers) are more effective in educating students than are other schools. Certainly there are many factors that determine whether or not a student learns, such as student willingness and readiness, amount of family support of education, and so on. One of those factors is the educational environment in which the student is placed, along with the nature of the curriculum and instruction the student receives.

Research in the state of Washington and elsewhere has shown that the single best predictor of *school* level achievement is the percentage of students at the school qualifying for free/reduced lunch (Abbott & Joireman, 2001). The relationship between family income and student academic achievement has been long established. Historically, this has meant that some, but certainly not all, students, and some, but certainly not all, schools have demonstrated high levels of achievement. This fact is shown graphically in Figure 1. This plot shows the distribution of Washington schools' passing rates on the 7th Grade Reading WASL by the schools' percentage of students qualifying for free/reduced lunch. The clear relationship between these two variables can be seen in this graph. Generally speaking, if a school has fewer students on free/reduced lunch status, it is more likely to have a higher percentage of students meeting the standard, and vice versa. This pattern holds true for elementary and high schools WASL results as well. The pattern is also the same for tests other than the WASL, and the pattern has been the same for decades. In production terms, this has and continues to be the *output* provided by the current educational paradigm.

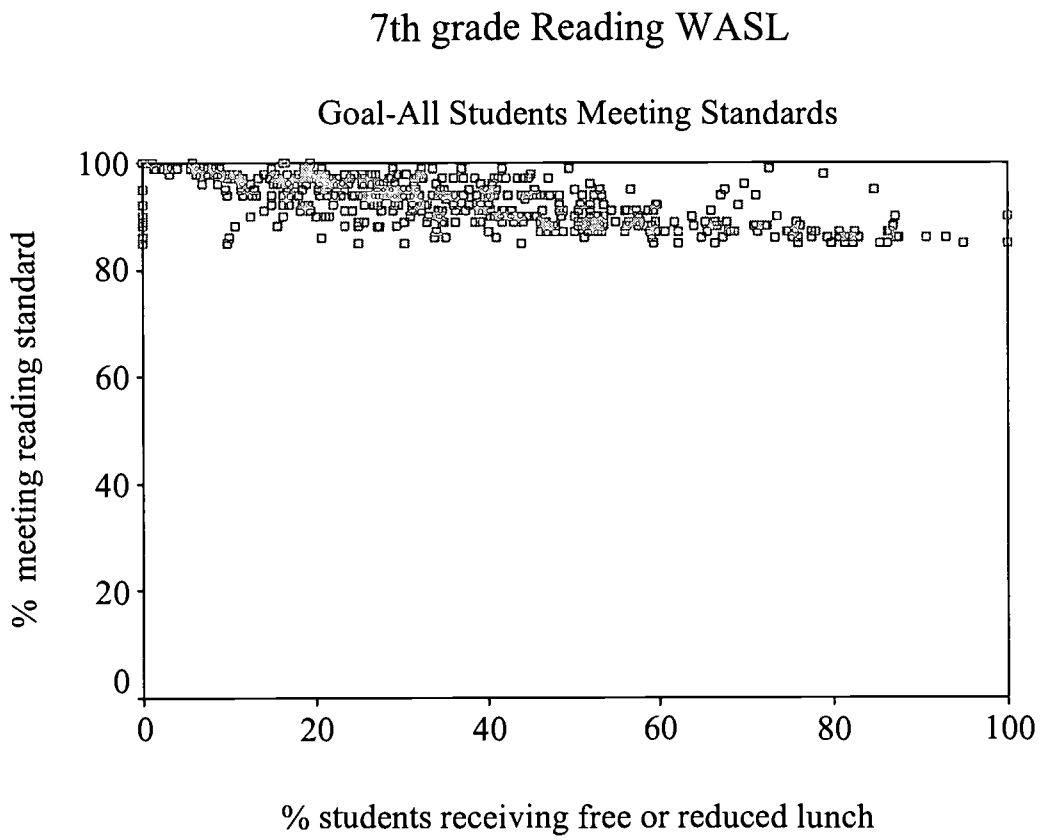
Figure 1. School-level Output of the Current Educational System.



However, this output has been deemed unacceptable by many people, and the demand now is that *all* students achieve at high levels. At the individual student level this means that *all* students, regardless of ethnicity, family situation, poverty or any other variable be able to reach the EALRs and to demonstrate that learning on the WASL. It also means that the current school level distribution shown in Figure 1, whether based on poverty, ethnicity, or any other factor, must change. The output for an educational system moving toward *all* students learning at high levels is shown in Figure 2. This is the goal of the educational reform efforts.

Is this possible? There are some who believe that the barriers to learning that many children face are so difficult to overcome, are so intractable, that it is unrealistic to ask the schools to get *all* students to high levels of achievement. There is no question that this is a challenging task. But, nonetheless, that is the task before educators and for which they are being held accountable.

Figure 2. School-level Output Approaching a High Standards Environment.



Assume momentarily that *all* students (or at least the vast majority of them not suffering from some severe handicapping condition) have the innate intellectual capability that can enable them to function at relatively high intellectual levels. Are there things individual teachers, teachers collectively, and administrators can do to overcome those factors that are barriers to learning? Are there ways that educators can change their practices to produce an output that comes closer to the one shown in Figure 2 rather than the one shown in Figure 1? There is a growing body of research in this state that suggests that the answer to both of these questions is "yes." This research is presented in the following sections.

Thinking Deeply About Educational Changes

Educational researchers face the challenge of identifying clear *constructs*, *variables,* or *factors* for their studies. This means that before researchers go into a school to collect data they must have a clear idea of what exactly it is they want to measure and what types of information they want to collect. Similarly, people who read and synthesize research effectively must have some type of overarching or organizing principles on which to base their work, and therefore it is important to explicate certain

concepts before proceeding. While there are any number of theoretical models available that could be used for this purpose, I will limit our discussion to a set of concepts that have resonated with educators in the state during our presentations.

First and Second Order Changes

Those of us who have been around for a number of years have experienced numerous "reform" efforts in education. In fact, it is difficult to think of a time when there were not new things being tried in education to make the system better for children. Educational fads have come and gone at an incredible rate, often leaving teachers with the "we tried that" syndrome. There are countless books documenting these movements over the last several decades, but yet in many places schools remain remarkably unchanged.

There is evidence that one of the reasons schools remain unchanged is that the reforms or changes have been superficial in nature and/or arbitrary in their adoption.

There is evidence that one of the reasons schools remain unchanged is that the reforms or changes have been superficial in nature and/or arbitrary in their adoption. Teachers and schools often went through the motions of adopting the new practices, but the changes were neither deep nor long-lasting. In other words, the outward manifestations of the changes were present, but the ideas or philosophy behind the changes were either not understood, misunderstood, or rejected. Consequently, any substantive change in the classroom experience or school culture failed to take root.

In their book on school restructuring, Ellis and Fouts (1994) compared bureaucratic/centralized reform with authentic/fundamental reform. They defined bureaucratic/centralized reform as changes in the bureaucratic structure of the schools and district, changes to the time schedule, decision-making procedures, administrative structures, and the like. This type of reform effort, they maintained, is often top-down in nature, atheoretical, and seldom penetrates to the classroom level. These efforts may be accompanied by a new curriculum or a flurry of staff development activities for teachers, but the ownership, understanding, or agreement with the efforts on the part of the teachers is often missing. In other words, the *illusion* of change is created through a variety of activities, but the qualitative experience in the classroom for students remains unchanged. What students are taught, how students are taught, and the deep culture of the classroom and school are unaffected. At the most basic level, the *ideas* or *philosophy* driving daily practice remain the same.

In contrast, Ellis and Fouts described what they call authentic/fundamental reform that is driven by a clear and accepted set of ideas that differ in meaningful ways from the ideas serving as the basis for the status quo. The focus of the efforts are on the beliefs and philosophies driving practice, with the recognition that while changes in the structure and organization of the school are perhaps necessary, those changes alone are insufficient to bring meaningful and lasting change to the school and classroom. The focus of these

efforts is to bring a qualitatively different educational experience to students by changing the ideas behind school organization and classroom practices.

These ideas did not originate with Ellis and Fouts. Goodman (1995) wrote about "change without difference." He identified ameliorative or first order change that results in greater efficiency, but does not change the essence of the educational experience. In contrast, radical reform or second order change alters the underlying philosophical beliefs driving practice. Throughout this paper I will use Goodman's terminology of first and second order change as a context for understanding the research findings.

Several contrasting examples of first and second order changes are shown in Figure 3. The approaches or techniques shown on the left hand side of the figure have become common efforts to improve schools. In fact, it would probably be difficult to find a school that had not at least discussed these changes, if not actually implemented one or more of them. However, these changes, in and of themselves, may accomplish little because they do not *necessarily* result in a qualitatively different experience on the part of the student.

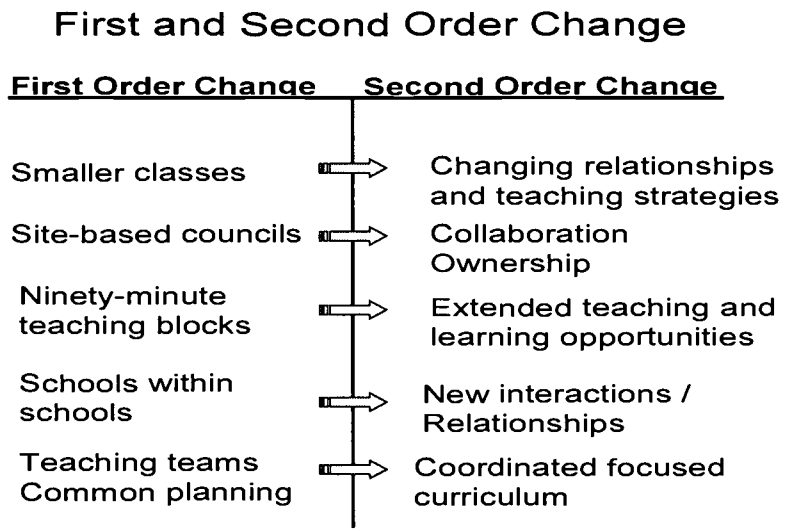
Second order change brings a qualitatively different educational experience to students by changing the ideas behind school organization and classroom practices.

Class size reduction is a frequently mentioned approach for educational improvement. However, it is a case in point about the limitations of first order changes alone to improve student learning. For example, consider a high school teacher lecturing to a group of 25 high school students for 50 minutes. The students may sit passively listening or not listening, or perhaps taking notes, and even perhaps interacting with the teacher with questions and discussion. Suppose to everyone's pleasure new resources are provided to the school that allows the administration to reduce class sizes by 20 percent, creating class sizes of 20 students. However, let us suppose that in spite of this reduction, the teacher continues to use the very same teaching techniques used in the class when there were 25 students. Now the teacher is lecturing to 20 students rather than 25 students. Consider the experience the student is receiving. Whether they are listening to a lecture as a member of a group of 25 students or 20 students, the qualitative learning experience remains much the same, if not identical. When this type of change alone is implemented, there is no reason to think that learning will or should improve.

What seems to happen in many schools is that so much attention and focus is placed on the outward structural, physical, or administrative changes being implemented that the underlying reasons *why* the changes are being made are ignored. Again, reducing class size is a good example. The research shows that students benefit in an educational environment in which they receive personal attention from the teacher, develop closer relationships with an adult and their peers, and where teaching and learning are individualized to the specific needs of the student. These things, however, are much more difficult to do when a teacher is dealing with a large number of students compared

to a smaller number of students. Hence, reducing class size is not the end, it is simply a possible means to create a qualitatively different educational environment for the student.

Figure 3. First Order Changes and Corresponding Second Order Changes.



As desirable as reducing class size may be, the reduction of class size does not ensure that the relationship between the teacher and students in the classroom will change, nor does it ensure that diverse or more appropriate teaching strategies will be used. A teacher can be just as impersonal and uncaring toward 20 students as toward 25 students, and unless the teacher actually believes that there may be more effective ways to teach than lecturing, simply reducing the class size will not change that teacher's behavior. What must happen is the philosophy and ideas driving teacher actions in the classroom must also be replaced before the first order change can be effective. A change that provides a qualitatively different educational experience for students and that is based on a different idea or philosophy driving practice is called a second order change.

All of the first order changes shown in Figure 3 are really intended to be means to accomplish deeper changes based on ideas about the school and classroom cultures and teaching and learning that are different than what are now found in many schools. Research has shown that teacher and parent collaboration and ownership of the change process is an important factor for success of the efforts. However, this requires a change in the mind-set of both administrators and teachers about the role of teachers and parents in decision-making. Requiring schools to have a site-based council at a school does not mean they will collaborate or take ownership of the process, nor does it mean that the principal will relinquish any real decision-making power. Similarly, providing high school teachers with 90 minute teaching blocks does not mean they will employ different teaching strategies. For this to happen, a mind-set change on the part of the teacher must occur. Converting large schools into smaller learning communities does not necessarily mean that teachers will develop closer relationships with their students. For this to happen teachers must believe that this is important and appropriate for them to do. And, finally, restructuring the entire school day to provide common planning time for teachers

does not mean they will use the time to collaborate and share effective teaching strategies or to develop a more focused curriculum. Again, this will require a change in thinking about teacher independence and the professional culture.

Research on school reform over the last decade has suggested that certain practices that provide a qualitatively different experience for students are important for higher achievement. Additionally, these practices are usually based on changes in the ideas and philosophy driving educator practice and the school culture, rather than those practices identified as first order changes. Unfortunately, researchers have seen many schools focusing their efforts and energies on a long list of changes that, in all probability, will not change to any degree the qualitative experience of most students. These efforts are sometimes accompanied by teacher skepticism, subversion, and questions such as: "Why are we doing this?"—a fairly strong indication that second order change is not happening.

Unfortunately, we have seen many schools focusing their efforts and energies on a long list of changes that, in all probability, will not change to any degree the qualitative experience of most students.

Because so many schools have implemented changes that are common to many schools, such as site-based councils, common planning times, and the like, the task of differentiating the practices of successful schools from less successful schools is sometimes difficult. Nonetheless, the task is an important one and requires us to look more deeply at school change than just the readily observable alterations in school practice that typify many reform efforts. As researchers have designed studies on school change they have sometimes focused their efforts on measuring those constructs that are first order changes; others have used more qualitative approaches to measure "deep" or second order changes; and still others have attempted to assess both types of changes. In the following sections I will refer to these concepts of fundamental change and first and second order changes in interpreting and synthesizing the research.

SUMMARY

The reform efforts within Washington State generally reflect the school restructuring efforts that are currently progressing at various speeds throughout the United States. Researchers have conducted a number of studies in the state to, among other things, describe the nature of the changes that are being made in the schools and to identify the impact of those changes on student learning. To best understand the research it is important to consider the context of reform in Washington State, beginning with the changes expected in student learning, the expectations of a high standards environment, and the nature of many of the changes being attempted in schools.

The nature of student learning is at the heart of the current reform efforts. These outcomes represent significant changes in what we expect from students and present real

challenges to the educational system as it now exists. The WASL, as a *performance assessment*, requires students to *demonstrate* their ability to not only comprehend and recall information, but also to apply it in a variety of settings, and to exhibit other forms of higher-order or critical thinking processes. This expectation is substantially different than the performance and type of learning required on traditional basic skills tests. The nature of this "end product" of the system provides strong direction for the types of changes that are needed to produce that product and provides directions for the types of questions posed by researchers.

Educators in Washington have identified new types of student outcomes believed to be necessary for future success, created new assessments of those outcomes, and are now expected to create high standards environments in which all students achieve at high levels. In addition, there will be accountability for schools and learners. It is helpful to think of the goals of a high standards environment or its "output" at two levels: (1) individual student performance where all students are demonstrating the new learning requirements; and (2) school-wide performance where all schools, regardless of the characteristics of the student body, are high achieving schools. Both of these levels of system output are the focus of educational researchers, with a growing body of research in this state and elsewhere that suggests that some schools are approaching these outcomes.

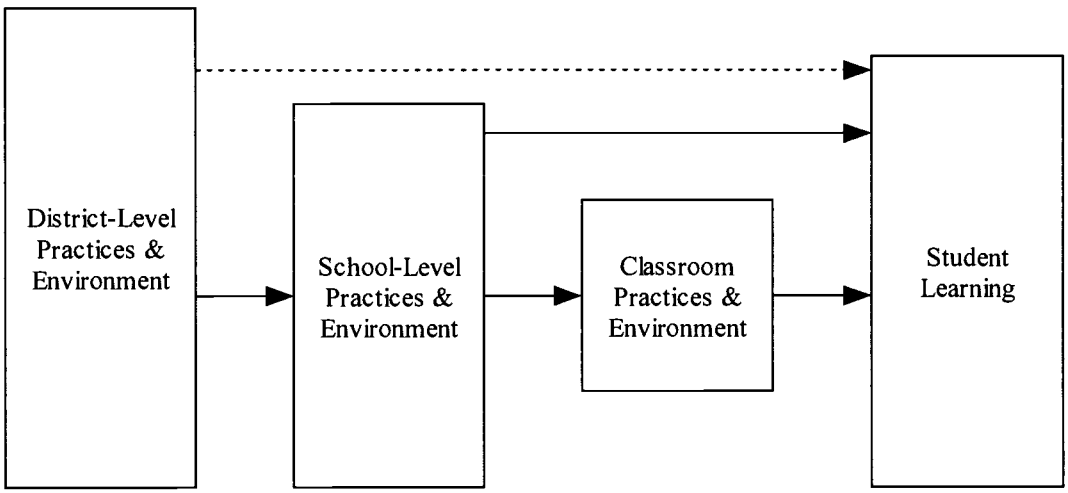
The task of differentiating the practices of successful schools from less successful schools is difficult, and therefore it is important to look more deeply at school change than just the readily observable alterations in school practice that typify the reform efforts of many schools. To aid in this I have adopted concepts and language that have become somewhat familiar in the state—first order and second order change. These concepts require that we differentiate between the outward manifestations of the changes that are organizational, bureaucratic, or superficial in nature (first order changes), and changes that are the result of a new and accepted set of ideas or philosophy of teaching, learning, and professional culture that leads to a qualitatively different educational experience for the student (second order change). At times I will use this terminology to help interpret or explain the research findings.

THE FOLLOWING SECTIONS

The following sections are organized on a multi-level view of the educational process and educational system that has an ultimate product of student learning. The most direct impact on student learning is the nature and quality of the classroom instruction and classroom environment to which students are exposed. However, the classroom is part of a larger organizational structure, the school, that is also believed to impact student learning directly through the nature of the broader school environment, but also indirectly through its policies and practices that, in part, determine the nature of the classroom experience. Similarly, the school is also part of a larger structure that directly impacts the school environment through its policies and practices, and therefore

may indirectly affect the classroom and ultimately student learning. These levels of the system are shown in Figure 4.

Figure 4. Levels of the Educational System.



I have selected research studies for this synthesis that focus on the actions of the various levels of the organization that have led to increased system output, in this case mastery of the Essential Academic Learning Requirements as measured by the WASL. I wanted to answer as far as possible the following questions pertinent to educational reform in the state of Washington.

- Are certain classroom approaches to teaching and learning related to student success on the new learning outcomes?
- What school-wide practices are related to student success on the new learning outcomes?
- What are the characteristics of the schools whose students are most successful on the WASL?
- To what degree are district central office practices related to student success on the WASL?
- What role does the district play in school success and student achievement?

Note that the questions are not asking if school reform is a good thing, should it be done, or if success on the WASL is a valid measure of school and student success. Rather, the questions focus on what classroom, school, and district practices increase the likelihood of student mastery of the Essential Learnings.

In reporting this research I have relied most heavily on studies conducted in Washington since the reform efforts began. When appropriate and informative I have also included references to related or similar studies done elsewhere in the country. In some cases, there are several studies that are pertinent, and in other cases there are only a few. The next section focuses on the research findings around classroom instruction. The third section focuses on the research findings about effective school-wide and district

policies and practices. In the fourth section I review what has been learned from research and evaluation efforts in over 200 schools attempting reform with the assistance of the Bill & Melinda Gates Foundation. In the last section I synthesize the findings and discuss the implications for further reform efforts in Washington.

CLASSROOM INSTRUCTION IN A HIGH STANDARDS ENVIRONMENT: RESEARCH FINDINGS

Asking the Right Question

There are probably few people who would not agree that "good" or "high quality" classroom instruction is the most important factor for student learning. We have all experienced the power of a great teacher either first-hand or second-hand through the experiences of our children or others. There are scores of philosophies and perspectives on teaching and learning, and each advocate of a philosophy proposes a model of what good instruction looks like. Because of this, a clear and agreed upon definition of teaching excellence is elusive and often relies on personal preference. For others, it almost seems that the adage, "I can't define it, but I know it when I see it," applies here. Few teachers will admit to being mediocre or average in their teaching skills, and fewer still will admit that their teaching approach might actually limit student achievement. But when we are honest, we must admit that some teachers produce more learning in their students than do other teachers.

If we are striving for an educational system where *all* students achieve at high levels, the task of defining high quality teaching becomes very important for our success. To this end it becomes important as researchers to avoid the philosophical arguments about teaching and learning and to ask the "right" question, that is, one that research can address. In this instance, that question is:

Are certain classroom approaches to teaching and learning related to student success on the new learning outcomes?

This is not to say that educational theories and philosophies are not important, because, as we will see, they are very important. It is these ideas that have driven many of the changes in classroom practices that teachers are trying. The goal is to determine if those changes are related to increases in student achievement.

Before we examine the existing research, it is beneficial to consider, once again, the nature of these reforms and the nature of the student learning outcomes that are now expected of students. Consider the assessment items shown in Table 5. These examples are similar to the assessment items shown in the previous section and demonstrate the new learning expectations for students. An appropriate question is, "What instructional strategies or activities seem most appropriate for preparing a student to perform the appropriate *intellectual activity* and *performance* necessary to accomplish the task and demonstrate the learning?" Given the nature of the assessment item on the left of the table, we might theorize that to best accomplish this task students should be given an algorithm, that is, the step-by-step process necessary to compute the answer to the

question. This might be demonstrated by the teacher on the board, followed with drill and practice by the student, perhaps using worksheets of similar type problems. Additionally, immediate feedback and reinforcement might be an important part of the process. In contrast, the assessment on the right side of the table requires far different intellectual activities and performance. Learning to solve arithmetic problems on a worksheet, in all probability, will not be adequate preparation for this type of assessment item. Given the nature of the assessment item we might theorize that to best accomplish this task students will need to have considerable practice in problem-solving situations where they are required to think through the process, deal with multiple sources of information, and explain their reasoning orally or in writing. This might best be done in a group setting, dealing with real-life situations such as this one.

Table 5. Student Assessment Items and Instructional Approaches.

A Test of Basic Skills 1980s and 1990s	*Washington Assessment of Student Learning (WASL)2002*
Math-Grade 6	**Math-Grade 7**
3. 8307 + 7063 a) 15,060 b) 15,370 c) 16,370 d) Not given Fill in the correct response: a. b. c. d. O O O O ***Performance: Demonstrate math computation skills.***	3. At a construction site, 3 workers need to take the elevator to the top floor to do repairs. The elevator can carry only 300 pounds at most. Mr. Andrews weighs 150 pounds, Mr. Baker weighs 145 pounds, and Mr. Cass weighs 235 pounds. One person must always be in the elevator to operate it. Tell how these 3 people can use the elevator to get to the top floor so that they can work on the job together. Clearly explain the steps needed to solve the problem using words, numbers, and/or pictures. _____ _____ _____ ***Learning Target: Organize and synthesize information from multiple sources; use viable strategies and appropriate concepts, procedures, and tools to construct solutions.***
Theorized Instructional Approach Learning a step-by-step process necessary to compute the answer, first demonstrated by the teacher on the board, followed with drill and practice by the student, perhaps using worksheets of similar type problems. Additionally, immediate feedback and reinforcement might be an important part of the process.	**Theorized Instructional Approach** Practice in multiple problem-solving situations, how to approach a problem, think through the process, deal with multiple sources of information, and explain reasoning orally or in writing. This might best be done in a group setting, where students can share their thinking and learn problem-solving skills from others dealing with real-life situations such as this one.

It is important to point out that I am not saying that either one of these instructional approaches is innately superior to their other. Rather, it just stands to reason that they each have their place, depending on what is to be accomplished. Therefore, as we look at the research on "instructional effectiveness," it is important to consider the context of the research and the nature of the assessments students are facing. "What instructional strategies or activities seem most appropriate for preparing a student to

perform the appropriate *intellectual activity* and *performance* necessary to accomplish the task and demonstrate the learning?" In this state, the intellectual activities are defined by the Essential Learnings, and the nature of the performance is defined by the WASL. This suggests that the changing nature of the learning and assessment will require different teaching approaches than those currently found in many traditional classrooms.

The nature of the Essential Learnings and WASL will require different teaching approaches than those currently found in many traditional classrooms.

Limitations of the Research

It is important to acknowledge that the research on classroom instruction in relation to the Essential Learnings and success on the WASL is both limited and indirect at this point in time. By limited I mean that there is not a large quantity of research on classroom instruction as the treatment with the WASL as the outcome variable. By indirect I mean that often times the classroom instruction or practices component of the research is not the main focus, but is rather intertwined with other aspects of school functioning, such as building climate and teacher professional culture. In fact, as we shall see, the research shows that the separation between effective classroom instructional practices and overall school reform is in many instances an artificial one. The research shows that often changes in instructional practices are part of a larger change in educational philosophy that adults in the school follow. This means that the changes in school-wide practices and in the individual classrooms go hand-in-hand, and that it is very difficult to isolate the classroom teaching variable in a cause and effect manner. In addition, the research is non-experimental and often correlation research that, once again, limits the cause and effect conclusions that can be drawn. By indirect I also mean that the measures of the instructional practices are not by direct observation, but rather by self-reporting by the teacher, usually through surveys. Finally, some of the research is qualitative research, which also has its limitations.

The research shows that often times changes in instructional practices are part of a larger change in educational philosophy that adults in the school follow.

Still, I believe that the research we do have is instructive and does provide some evidence of what seems to work best in the classroom. In the following sections I will review the research conducted in this state. Much of what we have learned has come from studying the practices of two different sets of schools—those whose students have had extraordinary success on the WASL, and those whose students have performed poorly. These studies have generally controlled for variables associated with student success, such as family income. The research often focuses on both classroom practices and school-wide practices, but in this section I will generally limit our discussion to the classroom findings and deal with the school findings in the next section. When relevant, I will also refer to related research findings from other parts of the country.

What the Research Does Not Show

To begin with, it is important to point out what is missing in the research findings because of the types of questions teachers and principals many times ask first—such as, "What specific curriculum, classroom practices or teaching techniques increase student learning?" Teachers want to know about the effectiveness of various grouping practices, cooperative learning approaches, questioning strategies, interdisciplinary curricula, group projects and the like. In fact, much of the research done in recent decades did examine these topics, sometimes with positive results and sometimes not. All or many of these approaches are being used in classrooms around the state, but the research is showing that implementing these types of changes *alone* does not appear to increase student learning in a high standards environment.

Following the passage of HB 1209 in 1993 a variety of studies were conducted in Washington designed to examine how schools were responding to the reform mandates and new expectations and the relationship of these responses to student achievement. One of the first studies was conducted by researchers at Seattle Pacific University (Fouts, 1999). Their research was designed to distinguish between simply changing school or classroom practices and the broader concept of *restructuring* a school based on a different set of ideas driving practice. The research showed that, indeed, teachers and principals were implementing a wide variety of classroom and school-wide practices in response to the reform mandates. Some of the most common reported school-wide changes included an increase in staff development activities, site-based councils, and parental involvement in the schools. At the classroom level the most common changes included an increase of technology usage, a focus on higher order thinking skills, curriculum alignment with instruction, and the use of group projects, cooperative learning, and alternative assessment procedures. The researchers concluded, however, that these types of changes were not related to achievement gains at the school. "Many of the classroom practices that have increased the most in use since 1993, such as the use of educational technology and group projects, have no relationship with achievement gains" (p. iii). What they did find was that "achievement gains have been greater in elementary and middle/junior high schools where *restructuring* has taken place than in those schools where it has not. . . . In the restructured school a new ethos has emerged, and specific school-wide or classroom practices take a back seat to this important component of changing education."

"In the restructured school a new ethos has emerged, and specific school-wide or classroom practices take a back seat to this important component of changing education."

The RAND Corporation has conducted two studies on Washington school reform in recent years (Stecher & Chun, 2001; Stecher, Chun, Barron, & Ross, 2000). While these researchers did not use the same theoretical model or definitions of change for their research, the findings are instructive. The researchers found that schools were making a number of changes in response to the reform mandates, such as creating homework clubs,

changing report card formats, altering schedules, implementing test preparation activities and retention and promotion strategies. However, they concluded that "Most variables we investigated had no significant relationship with WASL scores. This included the principals' reports of school-level actions taken to support the education reform. It also included teacher reports concerning test preparation and professional development related to the WASL" (Stecher & Chun, 2001, p. 65). In the first year of the study they did find that "WASL scores were higher in schools where teachers reported alignment between their curriculum and the EALRs and (to a lesser extent) where teachers reported they understood the EALRs and WASL" (Stecher et al., 2000, p. 2).

Other studies have failed to identify a strong relationship between many popular classroom practices and student achievement. Although these studies were not focused only on classroom practices, the researchers often noted that they were unable to relate specific practices to student achievement. For example, researchers in two studies conducted by the Office of Superintendent of Public Instruction concluded that attitude, commitment, and focus of teachers and administrators were key to success in student learning, and that no single curriculum, text or strategy helped the schools make significant increases in student success on the WASL (Bergeson, Fitton, Bylsma, & Neitzel, 2000; Bergeson, Mayo, Kennedy, Johnson, & Neitzel, 1999). The point is not that instructional strategies or specific curricula are not important, but rather by themselves they appear to be insufficient to increase student learning to the level required by the Essential Academic Learning Requirements and the current Washington assessment. What the research does strongly suggest is that such strategies must be accompanied by a new philosophy of schooling.

The point is not that instructional strategies or specific curricula are not important, but rather by themselves they appear to be insufficient to increase student learning. What the research does strongly suggest is that such strategies must be accompanied by a new philosophy of schooling.

The Findings: Focused Instruction

A clear classroom focus on Essential Learnings and the elimination of non-essential activities is a significant part of this "new philosophy of schooling." The RAND studies mentioned earlier found a relationship between curriculum alignment with the EALRs and WASL success, and this has been a consistent finding in much of the research on high achieving schools (Bergeson, Fitton, Bylsma, & Neitzel; 2000; Bergeson, Mayo, Fitton, & Bylsma, 2000; Lake, McCarthy, Taggart, & Celio, 2001; Washington School Research Center, 2002). In addition, research from schools on the other end of the spectrum, that is, those schools whose students are struggling to meet the new standards, shows the opposite results. Studies have shown that classrooms in these schools lack curriculum alignment with the EALRs, with teachers often free to teach what they deem appropriate (Baker, Gratama, & Bachtler, 2002; Fouts & Brown, 2002; McCarthy & Celio, 2001). Two of these studies that followed struggling schools over

time found that when the curriculum in the classrooms became more aligned with the EALRs, student success on the WASL improved, sometimes dramatically.

These findings should not be surprising because it simply makes sense that when teachers teach what is to be assessed, students will perform at a higher level. However, the research has also shown that such an expectation is contrary to the professional culture of many schools and classrooms. One of the major findings of the 2002 study of the Washington School Research Center was that teachers in successful schools had increased the amount of time they spend teaching reading and writing in an effort to help students reach their academic potential. For example, in one building, teachers spent 60-90 minutes every day on both reading and writing, and another 75 minutes on math and problem solving. In many cases this has meant taking a "minimalist" approach to other subjects. For some teachers this "focus on the essentials" has meant giving up their favorite activities. As one teacher put it, "We made a professional decision to put away our pet projects." Another stated that "We have to give up the whale unit and spend more time with reading and writing," while yet another commented, "We can't teach these things just because the adults like them and think they're fun." Admittedly this is not easily done. "Some of the fun has gone out of school. Everything (now) is intentional. Nothing is frivolous," remarked one teacher, while another said, "You feel guilty if you're doing something just for fun." For all of these schools, these were dramatic and difficult changes to make.

It simply makes sense that when teachers teach what is to be assessed, students will perform at a higher level. However, the research has also shown that such an expectation is contrary to the professional culture of many schools and classrooms.

Underlying these findings the researchers identified what they termed a "fundamental characteristic" of these successful schools. They found that educators had all agreed, either because of philosophical belief, acceptance, or acquiescence, to move the school in a certain direction. A logical necessity of this agreement was the personal willingness of each teacher to give up long-held beliefs and practices in the classroom. This included the willingness to give up many of the lessons and subjects they had taught previously and to focus primarily, if not exclusively, on the Essential Learnings.

These findings correspond closely to the findings of the effective schools and classroom research of the past several decades. In many ways, that research was similar to the research conducted in this state since reform began. The effective schools research used achievement as measured by standardized tests as the criterion for determining successful schools. Clear and focused instruction and curriculum alignment were consistent findings of that research (Cotton, 1999). Now, as the WASL is a major standard by which school success is to be gauged, research is once again showing the importance of focused instruction in the classroom. The evidence is strong that it is essential for successful classroom instruction.

The Findings: High Expectations

Results from research on both ends of the achievement spectrum, high achievement and low achievement schools, reveal a marked difference in teacher beliefs and attitudes about student capabilities and achievement expectations.

A second important element of classroom instruction identified by the researchers is high expectations. Results from research on both ends of the achievement spectrum, high achievement and low achievement schools, revealed a marked difference in teacher beliefs and attitudes about student capabilities and achievement expectations. For example, Bergeson, Fitton, Bylsma, and Neitzel (2000) and the Washington School Research Center (WSRC) (2002) studied schools whose students had been unusually successful on the WASL and found that teachers in those schools held very high expectations for their students and espoused a belief in their abilities to achieve at high levels. Teachers in the WSRC study in relatively high poverty schools but with high achievement levels stated that even though many of their students came from low-income homes, they refused to use this as an excuse for poor performance. "Poverty is not a reason for students not to learn," said one teacher. High expectations and commitment to students' needs are a priority according to a majority of these teachers, and there is an assumption that "all children can succeed." As one teacher observed, "We believe that every kid can learn and it's our job to figure out how we can get them there." Another stated that "We don't give up, we're pretty tenacious that way," while yet another said, "We don't use SES [socio-economic status] as an excuse for how we educate students" (WSRC, 2002, p. 17).

In contrast, researchers found very different attitudes among the teachers in low achieving schools. In these schools, the classrooms were often characterized as environments where expectations were low and the standards not appropriate for "their type of kids." McCarthy and Celio (2001) noted: "many teachers considered meeting the WASL standard an unrealistic goal for the majority of students at their schools, due to poverty, language barriers, and lack of parental support (p. 24)." The following two sets of teacher quotes from two separate studies typify the adult beliefs about students in these schools.

> The test might be realistic for an upper-middle class suburban kid with two well-educated parents at home, but it doesn't reflect what our kids can do. (p. 24)
>
> The problem at this point is the kids. They don't know how to work cooperatively together, take initiative. (Baker, Gratama, & Bachtler, 2002, p. 14)

Once again, these findings are consistent with prior research from earlier years on effective schools (Cotton, 1999). These beliefs and attitudes are known to impact classroom instruction in a variety of ways. If teachers do not believe that students are

capable of achieving specific learning goals, they will be less likely to truly focus on those goals. If teachers do not believe students are capable of achieving specific learning goals, the students will probably not be pushed for higher levels of achievement. These two aspects of successful classroom instruction are both vital.

The Findings: Powerful Teaching and Learning

Research in Washington (and elsewhere) suggests that successful classroom instruction in a high standards environment is focused almost exclusively on the Essential Learnings. In the most successful classrooms teachers have given up many of their traditional goals, objectives, and even activities to ensure adequate time and attention are given to the required learnings. In addition, they have a real belief in their students' innate abilities to learn at high levels, regardless of the students' backgrounds. And, as we shall see in the next section, this type of high expectation, focused classroom instruction is most effective when it is a school-wide coordinated effort. But what does "effective" focused instruction look like?

Given the nature of the state Essential Learnings and the corresponding WASL assessments, it is certainly possible to theorize what is the most appropriate instruction and classroom opportunities for students to develop the requisite abilities and skills for success on the WASL. This was shown early in this section in the discussion related to Table 5. Research in this area appears to support this type of instruction.

Several related research projects have examined the role of the relationship between "powerful teaching and learning," also called "constructivist" or "authentic" teaching and learning, and student academic success in Washington. The studies are part of the on-going program evaluation of the Bill & Melinda Gates Foundation's Model Schools Initiative and Model Districts Initiative in the state of Washington. The researchers described the ideas behind the instructional model this way.

> The "essential components" of powerful teaching adapted from *How People Learn: Brain, Mind, Experience, and School* (National Research Council, 1999a) and *How People Learn: Bridging Research and Practice* (National Research Council, 1999b) reflect an approach to learning that has grown over recent years. There is a considerable amount of basic research that supports these ideas, and the research has direct implications for how children should best be taught. Collectively, the research has been called the new "science of learning," and the research is truly basic research in nature. The new science of learning is derived from the findings of researchers in developmental psychology, cognitive psychology, linguistics, and neuroscience, and coupled with the philosophical ideas of constructivism (Duffy & Cunningham, 1996). Taken together they serve as the basis for many of the current beliefs about what and how children should learn in school. "Our understanding of human learning has . . . evolved (based on a wealth of evidence collected over a wide range of different domains and media) from a

process based on the passive assimilation of isolated facts to one in which the learner actively formulates and tests hypotheses about the world, adapting, elaborating and refining internal models that are often highly procedural in nature" (Shaw & President's Committee of Advisors on Science and Technology, 1998). (Fouts, Brown, & Thieman, 2002, p. 3-4)

There is an extensive literature base to constructivist teaching, far more than can be reviewed here. However, these ideas about teaching and learning have direct implications for how classrooms ought to function, and these implications sound very much like the theorized instructional approach mentioned in the right side of Table 5.

In two studies conducted in Washington in 2000 (Fouts, Baker, Riley, Abbott, & Robinson, 2001a; Fouts, Baker, Riley, Abbott, & Robinson, 2001b) teachers in over 200 Washington schools were surveyed about the classroom instructional practices in their schools. The results from these studies showed variation among schools in the degree to which constructivist practices were being used. In a separate analysis (Wilson, Abbott, Joireman, & Stroh, 2002) concluded that constructivist teaching "appears to have a meaningful influence on student achievement" as measured by the WASL. They also noted that this constructivist teaching appeared to work with other variables that represented environmental changes in the school.

The following year a classroom observation study was conducted in 669 classrooms in 34 elementary, middle/junior high and high schools around the state of Washington (Fouts, Brown, & Thieman, 2002). The purpose of the study was to provide baseline data on classroom instructional practices in Gates grantee schools and to provide validation of the teacher survey results the previous year. The researchers assessed classroom instruction in the following seven areas:

1. Student work shows evidence of understanding, not just recall.
2. Students are engaged in activities to develop understanding and create personal meaning through reflection.
3. Students apply knowledge in real world contexts.
4. Students are engaged in active participation, exploration, and research.
5. Teachers utilize the diverse experiences of students to build effective learning experiences.
6. Students are presented with a challenging curriculum designed to develop depth of understanding.
7. Assessment tasks allow students to exhibit higher-order thinking.

The researchers concluded that constructivist teaching "appears to have a meaningful influence on student achievement." They also noted that this constructivist teaching appeared to work with other variables that represented broader environmental changes in the school.

School profiles were then created for each school showing the degree of constructivist teaching practices present. There was a significant correlation between these observation

scores and the teacher survey results, thus partially validating those earlier self-reported findings. In a separate analysis (Abbott & Fouts, 2003) the degree of constructivist teaching *observed* at the school also correlated significantly with student success on the WASL. The analysis also showed that students in high poverty schools received significantly less of this type of instruction.

The degree of constructivist teaching *observed* at the school also correlated significantly with student success on the WASL. The analysis also showed that students in high poverty schools received significantly less of this type of instruction.

A characteristic of the observation instrument used in this study is that scoring high as a constructivist lesson was less dependent on specific teaching strategies and more dependent on certain types of intellectual demands placed on the student. This finding was similar to the findings of other researchers elsewhere. For example, research conducted by the Consortium on Chicago School Research (Bryk, Nagaoka, & Newmann, 2000; Newmann, Bryk, & Nagaoka, 2001; Newmann, Lopez, & Bryk, 1998) demonstrated that it is the quality of the intellectual work that students undertake that makes the difference and not the particular teaching strategy employed in the classroom. They use the terms "authentic intellectual work," but this phrase incorporates many of the ideas that are the basis of "constructivist teaching" used in the Washington studies. They found that no teaching strategy ensured that the student would face "high quality intellectual demands." Both the research in Washington and this research elsewhere found many examples of "hands-on" or "active-learning" classroom projects that provided little, if any, opportunity for intellectual growth. On the other hand, the research did show that "demanding 'teacher-centered' lecture and question-and-answer instruction" can be used effectively to require students to think deeply about issues important in their lives. They go on to say:

> Our key point is that it is the intellectual demands embedded in classroom tasks, not the mere occurrence of a particular teaching strategy or technique, that influence the degree of student engagement and learning. Having said this, we do also need to recognize that some teaching practices are more likely to promote complex intellectual work than others. (Newmann, Bryk, & Nagaoka, 2001, p. 31)

Summary

The research on classroom instruction related to student success on the WASL is limited at this point in time. Most of the research uses correlational, qualitative, or descriptive methods, meaning that establishing clear cause and effect relationships is problematic. In some studies the classroom instructional variables are intertwined with other aspects of school functioning, such as building climate and teacher professional culture, suggesting that the separation between effective classroom instructional practices and overall school reform is, in many instances, an artificial one.

At the same time, the research does provide some evidence of what is important in the classroom in a high standards environment and, when coupled with a theoretical model of instruction that appears to fit with the nature of the student outcomes identified by the EALRs, the findings are instructive. Much of what we have learned has come from studying the practices of two different sets of schools—those whose students have had extraordinary success on the WASL, and those whose students have performed poorly. These studies have generally controlled for variables associated with student success, such as family income. The following four points summarize the research findings in Washington to date.

1. Conspicuously absent from the findings are indications that many of the specific classroom practices and instructional techniques—such as various grouping practices, cooperative learning approaches, questioning strategies, interdisciplinary curricula, and group projects—make a difference in student learning. There is no evidence that these popular approaches to school improvement (first order changes) *alone* increase student learning in a high standards environment. What the research does strongly suggest is that such strategies must be accompanied by a new philosophy of schooling (a second order change), including a different approach to classroom instruction.

2. A significant part of this "new philosophy of schooling" is a clear classroom focus on Essential Learnings and the elimination of non-essential activities. High achieving schools are characterized by clear and focused classroom instruction guided by the EALRs. In schools whose students are struggling to meet the new standards, instruction is guided only minimally, if at all, by the EALRs, with teachers often free to teach what they deem appropriate. Schools that have worked hard to align the classroom curriculum and focus their instruction have seen achievement gains.

3. Results from research on both ends of the achievement spectrum, high achievement and low achievement schools, reveal a marked difference in teacher beliefs and attitudes about student capabilities and achievement expectations. Teachers in relatively high poverty schools with high levels of student success on the WASL held very high expectations for their students and espoused a belief in their abilities to achieve at high levels. In other words, they refused to use poverty, ethnicity or any other student factor as an excuse for not learning. In contrast, teachers in low achievement schools had much lower beliefs about the capabilities of their students and the appropriateness of the high expectations.

4. Several related research projects have found a positive relationship between the amount of "powerful teaching and learning" at a school and student academic success on the WASL. Also called "constructivist" or "authentic" instruction, the important aspect of this type of instruction appears not to be the specific teaching technique, but rather the intellectual demands placed on the student during instruction.

For many years schools have engaged in professional development activities designed to train teachers in the latest teaching techniques, such as cooperative learning, group projects, alternative assessment strategies, and so on. It is not too much of a stretch to say, "Everyone is doing these things." But each of these techniques can be used while focusing on educational goals incompatible with the EALRs, with minimal expectations that students can accomplish much, and with subject matter that is trivial in nature and places few intellectual demands on the students. Therefore, simply imparting these instructional skills to teachers while they are being guided by the same mindset and beliefs about education and their students that preceded the high standards environment expectations will probably prove inadequate.

Instead, what the research suggests is that in a high standards environment in which *all* students are expected to achieve at high levels, where teachers have accepted new ideas and beliefs about the curriculum, their students' abilities, and the importance of intellectually demanding work, students of all backgrounds are achieving at levels that many previously thought were not possible. They may use the same classroom techniques, but with a different purpose and with different guiding beliefs.

For many years schools have engaged in professional development activities designed to train teachers in cooperative learning, group projects, alternative assessment strategies, and so on. But each of these techniques can be used while focusing on educational goals incompatible with the EALRs, with minimal expectations that students can accomplish much, and with subject matter that is trivial in nature and places few intellectual demands on the students.

SCHOOL-WIDE AND DISTRICT PRACTICES IN A HIGH STANDARDS ENVIRONMENT: RESEARCH FINDINGS

In a high standards environment focused and intellectually demanding classroom instruction is essential for all students. However, research has shown that the larger environment of the school also plays an important role, both directly and indirectly, in student success. Teachers and students are part of the larger organization called the school. How adults organize themselves to conduct business, interact with each other on a daily basis, and coordinate their efforts appears to affect student academic achievement and other educational outcomes. In some districts schools are aided by district-level practices; in some districts district-level practices appear to have minimal influence; and in other districts schools may actually be handicapped by district-level practices.

How adults organize themselves to conduct business, interact with each other on a daily basis, and coordinate their efforts affects student academic achievement and other educational outcomes.

Several researchers have noted the interaction or relationship between classroom factors and school-wide characteristics in high achievement schools. In the schools with the highest level of student academic success, certain organizational principles guiding the entire school are also present along with the effective classroom instructional practices described in the last section. The school-wide environment and professional culture of the school appear to create synergy with the classroom practices to accomplish more than any of the factors could alone. For example, research by Wilson, Abbott, Joireman, and Stroh (2002) examined how constructivist teaching and certain school-wide practices or characteristics related to student achievement. They concluded that there was a "structural relationship" among many school and classroom factors and student achievement. In other words, these attributes appear to work together to explain student achievement. The different factors they examined appeared to be part of a larger environmental shift in the school that required changes at both the classroom and school-wide level of the organization. They concluded that classroom instruction is important, but evidently, it becomes even more effective when it is part of a larger school environment organized in a specific fashion or following certain organizational principles.

In the previous section I examined research on classroom instruction, and in this section I will present the research on school-wide practices that are found in high achievement schools. However, it is important to note that the division between classroom research and school-wide research is sometimes an artificial one, and many of the studies referenced previously will also be used here. Some degree of overlap between the findings of the classroom research and school research will be evident. This is

because the changes at both levels of the organization, the classroom and the school, are the result of a change in the over-arching philosophical beliefs driving educational practice. In addition, I will also review those research findings that pertain to district practices related to student and school-wide academic success.

Nature and Limitations of the Research

Many of the research studies that identified classroom instructional practices also addressed school-wide practices. These and a few other studies form the research base for what we know about school-wide changes related to successes in a high standards environment. Again, much of what we have learned has come from studying the practices of two different sets of schools—those whose students have had extraordinary success on the WASL, and those whose students have performed poorly. These studies have generally considered variables associated with student success, such as family income. In fact, in these studies there has been a greater focus on school-wide characteristics and changes than on classroom instructional practices. Consequently, we have a somewhat clearer picture of school-wide changes related to student success than we do specific classroom instructional practices. Still, it is important to remember that a number of the researchers suggested that the changes in school-wide and classroom practices go hand-in-hand to produce the strongest results. In this sense, the separation of the research findings is an artificial one and done only for the sake of clarity of discussion.

The research uses a variety of methods to assess school changes or practices, including interviews, focus groups, surveys, and observations. In addition to the research reports focusing on school reform, I also have included program evaluation results from independent evaluators. The non-experimental nature of the research is a limitation, but this is almost always the case in education. However, the consistency of the findings among the various researchers increases the confidence that their conclusions are valid. One other point should be noted—a majority of the studies have been conducted at the elementary level, with fewer studies conducted at the middle/junior high level, and fewer studies yet at the high school level. In addition, elementary schools have been attempting reform for a longer period of time, and there is more variability among schools on academic achievement. This final point is important because it also provides for greater contrasts in schools for research purposes. Nonetheless, what research we do have at the secondary level is consistent with the findings at the elementary level. Because the message is consistent I will synthesize the findings across grade levels and address the implications for the secondary schools throughout. When relevant, I will also refer to related research findings from outside Washington.

The research and evaluation studies from the state of Washington reviewed here include Baker, Gratama, and Bachtler (2002); Bergeson, Fitton, Bylsma, and Neitzel (2000); Bergeson, Mayo, Kennedy, Johnson, and Neitzel (1999); Bergeson, Mayo, Fitton, and Bylsma (2000); Fouts (1999); Fouts, and Brown (2002); Lake, Hill, O'Toole, and Celio (1999); Lake, McCarthy, Taggart, and Celio (2000); McCarthy and Celio (2001); Stecher and Chun (2001); Stecher, Chun, Barron and Ross (2000); Taggart and Celio

(2001); Washington School Research Center (2002); and Wilson, Abbott, Joireman, and Stroh (2002). These studies use differing terms and concepts throughout their writings, but there are several school-wide practices that are common to all of the research findings regardless of the terminology used in the research reports. However, there is one finding that appears to be the basis for many of the changes in school-wide practices, and that is where we begin.

The Findings: Teacher Attitude and A Change in Educational Philosophy

Successful schools have made *second order* changes, adopted a new set of ideas about school functioning and found new ways of organizing and running the school *collaboratively.* These new ideas have then directed how adults in the school function, how the curriculum is to be organized and implemented, and what is to go on in the classrooms.

Research evidence strongly suggests that schools whose students are being successful on the WASL are doing so because the educators at the school have adopted a different set of beliefs driving school-wide educational practices. In language used previously, these schools have made *second order* changes and have recognized that simply working harder, adding on test preparation activities, or increasing the use of one or more different teaching strategies is not adequate to prepare students for a high standards environment. Teachers in these schools have adopted a new set of ideas about school functioning and found new ways of organizing and running the school *collaboratively.* These new ideas have then directed how adults in the school function, how the curriculum is to be organized and implemented, and what is to go on in the classrooms.

Researchers have used different terminology to describe this change and have assigned it different levels of importance. Nonetheless, it is present in many of the studies. For example, one of the earliest studies (Fouts, 1999) concluded that while many schools had implemented a wide range of first order changes, such as increased educational technology, group projects, and alternative assessment strategies, the most successful schools had been restructured, which was defined this way:

> Restructuring schools implies a new vision, a rethinking and changing of the very philosophy about education, student learning and how schools should operate on a day to day basis. . . . In short, in the restructured schools a new ethos has emerged, and specific school-wide or classroom practices take a back seat to this important component of changing education. (p. 16)

A similar statement is found in another study of elementary schools.

> All but one improving school had made a major change in its instructional program in the last few years. These changes were more than just a new

> textbook or a new module for a few days' instruction in one grade. They represented a philosophical shift in how teaching and learning take place at the school. (Lake, Hill, O'Toole, & Celio, 1999, p. 7)

Additional research in high schools shows that improving schools differ from the comparison schools in that the teachers "embrace the new state expectations and WASL as positive tools for bring about changes in their curricula, instruction, and programs" (Taggart & Celio, 2001, p. 18).

Still other studies refer to the importance of positive teacher "attitude" toward the direction of reform, the Essential Learnings, and the WASL (Bergeson, Fitton, Bylsma, & Neitzel, 2000; Bergeson, Mayo, Fitton, & Bylsma, 2000; Bergeson, Mayo, Kennedy, Johnson, & Neitzel, 1999; Lake, McCarthy, Taggart, & Celio, 2000). A lack of positive attitude toward the reform would certainly work to inhibit any necessary philosophical shift in the school, and a positive attitude toward the reform would increase the likelihood of accepting a new philosophy. In a related study Fouts, Stuen, Anderson, and Parnell (2000) found that principals said a significant barrier to reform was teacher attitude.

> Forty percent of the principals discussed the challenge of trying to make fundamental changes at the building level when one or more teachers express fear or an unwillingness to acknowledge the reform efforts. . . . Whether teachers are fearful of change, overwhelmed by the task or just downright stubborn about not wanting to participate, principals believe that trying to lead a team where this attitude exists can seriously limit the extent to which reforms can be accomplished. (p. 19)

The most direct reference to the importance of teacher attitude leading to this philosophical shift is reported by the Washington School Research Center (2002). These researchers concluded that "these [highly successful] schools all shared one general trait that was the foundation of their success."

> A fundamental characteristic of these schools is that the majority of the educators are "on board" with the state reform efforts. . . . the educators have all agreed, either because of philosophical belief, acceptance, or acquiescence, to move the school in a certain direction. A logical necessity of this agreement is the personal willingness of each teacher to give up long-held beliefs and practices at the school and classroom level. (p. 22)

If this characteristic was found in the successful schools, research has shown that it was conspicuously absent in schools whose students struggle academically in the new high standards environment. McCarthy and Celio (2001) found that in these schools efforts at reform lagged seriously behind other schools for a variety of reasons, including teacher resistance to change and the nature of the reforms.

> By some principal accounts and in focus groups, teachers voiced unreserved resentment and lack of respect for the WASL assessment as a tool for measuring student performance and as a fundamental element of the State's reform initiative. (p. 24)

Similarly, evaluators of the Mathematics Helping Corp in low achieving schools noted that a significant number of the teachers "believed that the current reform effort was a 'fad' that would go away in a few years" (Baker, Gratama, & Bachtler, 2002, p. 19). Coupled with a general resistance to change of any type, adaptation to a high standards environment was very problematic.

In summary, in successful schools teachers have recognized and accepted the direction of the state's reform efforts. This, apparently, is the "fundamental characteristic," perhaps a prerequisite, of school and student success. To be successful educators are adopting a new set of guiding principles for their schools, and this is leading to changes in school-wide functioning. These practices are summarized below, but successful implementation of the practices appears to be heavily dependent on this type of second order change found in successful schools. Many lower achieving schools are attempting to implement these same practices, but without a mind-set change on the part of the teachers, they appear to have little effect on student achievement.

In successful schools teachers have recognized and accepted the direction of the state's reform efforts. This, apparently, is a prerequisite to successful reform and student success.

The Findings: Focused Intentional Instruction in a Collaborative Environment

Previously I identified the importance of focused intentional instruction at the classroom level, but in the most successful schools this is a coordinated effort involving all the teachers. The research identifies several salient characteristics of this effort.

- Curriculum and instruction focused on the EALRs
- Curriculum coordination within grade levels
- Curriculum coordination between grade levels
- Teacher accountability for teaching the curriculum
- The use of assessment data to inform instruction
- High expectations for student success

Much of this is a reiteration of the classroom findings, but it extends throughout the entire school and is closely tied to the important "teacher collaboration" characteristic mentioned below. The results are consistent across a variety of types of reports including the more quantitative approaches (Bergeson, Fitton, Bylsma, & Neitzel, 2000; Bergeson, Mayo, Fitton, & Bylsma, 2000; Fouts, 1999) and qualitative studies. The following are representative teacher quotes from the research reports:

> We made a decision to put away our pet projects. (WSRC, 2002, p. 16)
>
> We truly believe it helps. We meet together, we plan intentionally, and we work across grade levels. (p. 17)
>
> We had definite conversations as a school on what reading's all about and how we want to teach it. . . . We spend an incredible amount of our morning in the language arts area. . . . So we built some philosophical criteria for how we want to approach reading and how that should reflect in our lessons plans. (Lake, Hill, O'Toole, & Celio, 1999, p. 7)
>
> We sat down with every teacher at every grade level and we decided which things we were going to teach at every grade level. We created a checklist coordinated exactly to the Essential Learnings and the teachers check off when they accomplish the essential learning component. (p. 8)
>
> Our structure is a real piece of our success. . . . All the teachers know what the English teachers are doing. In a school that is not teamed not only kids, but teachers can be self-employed. They can just walk into their classroom and close the door and do whatever they want. You can't do that in our structure. (Lake, McCarthy, Taggart, & Celio, 2000, p. 10)

In these successful schools the efforts were *collective* efforts on the part of the teachers, as indicated by the use of the words "we" and "our" in these statements. In these schools it is indeed a school-wide focus, and all of the teachers are expected to do their share. What emerges from the research is a picture of adults working together collaboratively to change and focus their curriculum. For many schools, this represents a major environmental shift and a move away from teacher independence that has characterized the professional culture of schools for many years. A component of this environmental shift is a growth in accountability among educators in the building to stay the course and teach the curriculum. Although informal in nature in many instances, it is an outgrowth of working closely together on a regular basis.

A component of this environmental shift is a growth in accountability among educators in the building to stay the course and teach the curriculum. Although informal in nature in many instances, it is an outgrowth of working closely together on a regular basis.

A major finding of the WSRC (2002) study was the importance of using assessment data to inform instruction, and this is an important element of focused intentional instruction. Other studies did not necessarily list this characteristic as a separate finding, but in several of the studies it was certainly implied through the process of identifying specific school-wide and student instructional needs that were mentioned. In high achieving schools the researchers found that "assessment literacy is high among

teachers and administrators," and as one principal noted: "Benchmarks and assessments guide what we teach instead of textbooks" (p. 18). Focused intentional instruction is guided by ongoing formative assessments and standardized test results. The following section describes the finding in a number of successful schools.

> Assessment data are also used to individualize and extend instruction. For example, one school assesses students, places them in groups and/or programs designed to meet their educational needs, and then reassesses them on a regular basis. Groups are flexible, and students are moved whenever it is determined they will benefit from a new placement. Teachers themselves use the assessments to make changes in their teaching. At another school extended day programs were created to help prepare students for the WASL, and classroom volunteers provide one-on-one help in the classroom setting. One teacher's comment was typical: "Those who need help get help . . . when we find a child [in need of support] we intervene as quickly and thoroughly as possible." (p. 19)

In contrast, research and evaluation findings in lower achievement schools present a very different picture of instruction and the professional culture. In these schools the adult culture is sometimes dysfunctional to the point that such collaboration is not possible, and therefore, school-wide curriculum alignment and a concerted focused effort on student learning is not possible. In some of these schools the professional culture was described as "wrought with distrust, frustration, and division or focused on negative values and resistance" (McCarthy & Celio, 2001, p. 21). In another such school teachers described a "crisis mentality at the school" among the adults (Fouts & Brown, 2002, p. 24). Where there is little agreement about reform and where adult relationships are negative, teacher collaboration is difficult if not impossible. Therefore, teachers teach whatever they believe is appropriate with little guidance or coordination, and teacher expectations about what should and can be expected of their students are low. Additionally, researchers have often found that teacher knowledge about the EALRs and other assessments is minimal. Evidence suggests that in a high standards environment, it is the students who pay a price in the form of lower achievement.

Where there is little agreement about reform and where adult relationships are negative, teacher collaboration is difficult if not impossible.

The Findings: Leadership

Researchers have found that the vast majority of successful schools in the state have strong principals who understand the importance and nature of the reform and have channeled the energies of the teachers into focusing on student achievement. In essence, principals in these schools have moved from building managers to instructional leaders (Bergeson, Fitton, Bylsma, & Neitzel, 2000; Fouts, Stuen, Anderson, & Parnell, 2000; Washington School Research Center, 2002). This finding will be explained in more detail in the "Lessons Learned from the Gates Foundation Education Initiatives" section of this report. In contrast, research in lower achieving schools has shown that there is generally weak or ineffectual leadership (Fouts & Brown, 2002; McCarthy & Celio, 2001).

The Findings: Other Factors

Several other school-wide factors were noted in one or more of the research studies. Although these characteristics were not findings in a majority of the studies, they are worth noting because they complement the other findings and because they are similar to findings in other parts of the country. The first, *high expectations*, was presented earlier. But it is important to point out that the researchers from the Washington School Research Center (2002) noted that this was a *school-wide* characteristic. In other words, it was a shared belief by all of the teachers in the school. Second, a number of studies have noted that parental and/or community involvement in the restructuring and/or school improvement efforts has been important (Bergeson, Fitton, Bylsma, & Neitzel, 2000; Fouts, 1999; Lake, Hill, O'Toole, & Celio, 1999; WSRC, 2002; Wilson, Abbott, Joireman, & Stroh, 2002).

"Staff expectations regarding responsible behavior and mutual respect (among other things) are related to higher achievement scores. Thus, these elements of the learning environment directly influence student outcomes as well as the nature of the teaching."

Third, professional development in the high achievement schools was a collaborative, shared experience and focused on the collective needs of the school, rather than being designed on an individual teacher basis (Bergeson, Fitton, Bylsma & Neitzel, 2000; Lake, Hill, O'Toole, & Celio, 1999). In one sense, this characteristic is simply an extension of the collaborative adult environment mentioned above. In a number of the other studies, focused professional development, in general, was seen as an important part of a school's success. Finally, the larger school environment also plays an important role (Wilson, Abbott, Joireman, & Stroh, 2002). These researchers found that "staff expectations regarding responsible behavior and mutual respect (among other things) are related to higher achievement scores. Thus, these elements of the learning environment directly influence student outcomes as well as the nature of the teaching" (p. 18). They described the interrelationships among many of the variables identified above this way:

> Taken together, the findings from this study strongly support previous research on effective schools and student achievement. Furthermore, the analytic techniques used in this study helped to illuminate the structural relationships among school characteristics at multiple levels (i.e., the teaching methods, the school environment, and partnerships in the community) and student learning. The results of these analyses suggest that it is important for student achievement that learning is a parent/community matter, that staff model and expect appropriate behavior, and that the teaching actively engages students in curricula oriented to in-depth understanding. (p. 13)

The Findings: District Practices

There is limited research from the state of Washington that focuses specifically on district-wide practices related to successful school reform and increased student achievement. However, in a few studies mentioned earlier in this section the researchers did identify certain actions on the part of the district that appear to aid school reform and other practices that appear to limit the ability of the schools to accomplish meaningful changes. Researchers reported that educators at most of the highly successful schools they studied believed that their success was due, at least in part, to the level of district support they received. "On the other hand, educators in a few schools believe they are effective *despite* their relationship with the district" (WSRC, 2002, p. 20). Generally, the district practices that promote school reform and increases in student learning center on effective reform vision and leadership, decentralizing decision-making when appropriate, ensuring effective and stable leadership for the school, and accountability. Districts that lack the positive aspects of these characteristics appear to hamper the reform efforts.

Generally, the district practices that promote school reform and increases in student learning center on effective reform vision and leadership, decentralizing decision-making when appropriate, ensuring effective and stable leadership for the school, and accountability.

School educators who attribute part of their success to the district describe the district personnel as providing vision and direction to the reform efforts. In the most common terms, these district people are credited with setting the expectations, and then with providing the resources, mentoring, and expertise necessary for the schools to achieve the learning goals. In one high achievement school a teacher made the comment, "We get incredible district support." In another school a teacher reported that the district "is willing to support us in whatever we need." Focused, meaningful professional development is the most mentioned district activity that has made a difference at the high achievement schools. In contrast, some districts are much less effective in this area as shown by the comments of another principal: "[District run staff development] is all

targeted into a dizzying array of expectations and divergent responsibilities" (WSRC, 2002, p. 33).

Decentralized decision-making also appears to be important. In the research studies the presence of decentralized decision-making was not mentioned as often as the lack of it as a factor that hampered the schools' efforts. Centralized decision-making was also related to inconsistencies and changes in the decisions that were made. Lake, McCarthy, Taggart, and Celio (2000) found that an individual school's efforts at reform were sometimes impeded or redirected by a changing district policy or mandate, which then diverted attention from key school priorities or interfered with previous efforts. District-wide curriculum adoptions were a case in point. The timing of the adoption often did not "suit the school well because it compromised or forced premature abandonment of their efforts to improve instruction in particular areas" (p. 32). They quoted one school principal as an example.

> We thought that what we'd been doing in reading and writing was appropriate and on target. But then, the district implemented new math curriculum. . . . The shift to focus on math was based on the district's decision to do so, not based on any decision we made in our building. Our scores showed us we were going in right direction—we wouldn't have changed focus if not for the new curriculum. (p. 33)

The research focused on schools trying to sustain improvements they had made over recent years. They concluded that successful schools needed to pursue coherent strategies for improvement and that district policies "must provide appropriate levels of flexibility, support for improvement, and incentives to stay the course with a promising plan, rather than relying on one-size-fits-all approaches." District leadership and "activism is necessary for schools that are stuck, but it is not always a good general policy." In other words, districts must differentiate between those schools that are succeeding and those that are not and then structure policies appropriately for those schools.

One active role that appears to be important for successful reform is for the district to remove barriers to change that afflict some schools, and the most notable is the removal of resistant teachers from a school. McCarthy and Celio (2001) found that the failure of the district to remove or transfer teachers who stymied the reform efforts characterized a number of those schools. Fouts, Stuen, Anderson, and Parnell (2000) found that principals of highly successful schools identified the importance of staffing policies and the failure to deal with the teachers as a limiting factor for school reform success. Successful districts have found ways to deal with these personnel issues to some degree, while schools in other districts are limited by lack of district action and support.

Strong, stable school leadership has already been mentioned as an important factor for school success, and districts play an important role, one way or the other, in determining the degree to which leadership is effective and stable. McCarthy and Celio (2001) noted that some rural districts in particular have been negligent in dealing with

weak school leadership. They found, "In responding to crises in leadership and culture, urban schools encountered some district intervention and incentives to improve, while most rural districts left their schools alone and did little to facilitate their improvement" (p. 28). The revolving door principalship in some schools is at least tolerated by districts, resulting in a school's failure to move forward in the reform process. The district's role in hampering leadership can also be found in key instructional positions, as pointed out by this principal.

> We had a different Title I person in our building last year from the year before. First we had a math person and then last year we got a language arts person. This changed the emphasis of service availability. Our school had no control over this. (p. 33)

Finally, district accountability for success, or lack thereof, appears to play an important role in school reform and increases in student achievement. McCarthy and Celio found that the districts represented in their study of low achievement schools exercised "fairly weak oversight of school performance and plans for improvement." Principals in these schools "felt little performance pressure directly from their superintendent or school board." There was evidently a fairly hands-off approach toward monitoring school improvement, and when compared to high achievement schools, the districts invested minimal time resources to implement reform strategies or in removing barriers to change. As one principal noted:

> The district doesn't really hold us accountable for anything. It's only really the State, we know the State means business and you better move on that or the State will come in and tell us what to do. If it weren't for the threat of the State, nothing would be happening at this school. (p. 28)

The research findings mentioned above are limited in scope and from research not focusing specifically on successful districts as a whole. However, research from elsewhere in the country indicates that what the researchers in Washington are suggesting about effective district practices is not uncommon. In a study of six high achievement school districts around the country Cawelti and Protheroe (2001) concluded that all six of the districts had the following characteristics.

- They had a superintendent and other leaders who developed and nurtured widely shared beliefs about learning, including high expectations, and who provided a strong focus on results.
- They restructured their systems in order to decentralize management and budgeting to the building level. This change increased accountability by linking people to results, with school staff working in teams using feedback data about performance to plan for improvement.
- They worked extensively on curriculum alignment, ensuring that the local curriculum matched the state framework and doing item-by-item and student-by-student analyses of student responses to test items. (p. 98)

In addition, they had many of the instructional characteristics found in both this section and the previous section.

In another study Snipes, Doolittle and Herlihy (2002) reached many of the same conclusions about successful urban school systems. Their findings indicated that in urban school districts "political and organizational stability and consensus on educational reform strategy is a necessary prerequisite to meaningful change" (p. 67). They identified the necessary foundation for success.

- A consensus among the political leadership regarding the direction and goals for reform.
- A shared vision between the chief executive of the school district and political leaders regarding the strategy and goals for reform.
- Support for this vision throughout all levels of the system.
- A system of accountability that holds district leadership and building-level staff personally responsible for producing results.
- Stability and longevity of the leadership team that can create this foundation. (p. 67)

The research in Washington, although not systematic research on district practices, does suggest that these findings from national studies in high standards environment apply equally to districts in this state.

Research from elsewhere in the country indicates that what the researchers in Washington are suggesting about effective district practices is not uncommon.

Summary

Much of what we have learned has come from studying the practices of two different sets of schools—those whose students have had extraordinary success on the WASL, and those whose students have performed poorly. The research uses a variety of methods to assess school changes or practices, including interviews, focus groups, surveys, and observations. The non-experimental nature of the research is a limitation, but the findings among the researchers are consistent.

A major finding suggested throughout the studies is that schools whose students are being successful on the WASL are doing so because the educators at the school have adopted a different set of beliefs driving school-wide educational practices. In other words, these schools collectively have made *second order* changes appropriate for a high standards environment. These factors appear to create synergy with the classroom practices to accomplish more than any of the factors could alone. Teachers in these schools have adopted a new set of ideas about school functioning and new ways of organizing and running the school *collaboratively*. These new ideas have directed how

adults in the school function, how the curriculum is to be organized and implemented, and what is to go on in the classrooms. An important component of these beliefs is the acceptance of the direction of state reform.

The second order changes in these schools have led to high student achievement by creating professional environments characterized by the following traits:

- Curriculum and instruction focused on the EALRs
- Curriculum coordination within grade levels
- Curriculum coordination between grade levels
- Teacher accountability for teaching the curriculum
- The use of assessment data to inform instruction
- High expectations for student success

Strong instructional leadership from the principal, a safe and ethical environment, and focused collaborative professional development are other important components of a high standards environment. Research and evaluation findings in lower achievement schools present a very different picture of instruction and the professional culture. In these schools there is often weak leadership, or the adult culture is often dysfunctional to the point that such collaboration is not possible. Therefore, school-wide curriculum alignment and a concerted focus on student learning are not possible.

While there are certainly differences between the elementary and secondary schools, the expectations of a high standards environment are much the same—clear learning objectives in the form of the Essential Learnings, a high stakes state assessment, and the expectation that all students will achieve at a high level.

Some of the research studies also identify district characteristics or practices that appear to enhance the reform process. These include providing strong district vision and leadership for the reform effort, decentralizing decision-making when appropriate, ensuring effective and stable leadership for the school, and holding the adults in the school accountable. These findings correspond with other research findings from studies elsewhere on district effectiveness.

Finally, although a number of the studies were conducted at the elementary level, those studies that did focus on middle and high schools had very similar findings. The evidence suggests that the composite of the findings across grade levels apply equally to elementary, middle/junior high, and high schools. While there are certainly differences between the elementary and secondary schools, the expectations of a high standards environment are much the same—clear learning objectives in the form of the Essential Learnings, a high stakes state assessment, and the expectation that all students will achieve at a high level.

LESSONS LEARNED FROM THE GATES FOUNDATION EDUCATION INITIATIVES IN WASHINGTON

In the year 2000 the Bill & Melinda Gates Foundation announced a $350,000,000 funding commitment to education. A component of this commitment was devoted to school improvement and reform in Washington State. Since that time 10 school districts and over 60 individual schools have received grants to further their reform efforts. The school and district grants are to be used "to create high-achievement, technology-enriched learning models." Schools are also expected to "reflect seven key attributes: a common focus, high expectations, personalized learning environments, respect and responsibility, time to collaborate, performance-based systems, and employing technology as a tool." In addition, the schools are expected to increase the amount of "powerful teaching and learning" described earlier. There is considerable flexibility on how the grant funds can be used, and schools and districts are using the money in a variety of ways. In addition to the funds, schools and districts are being provided with various forms of "technical assistance," including a formal network of grantees with regular meetings and project "coaches" who serve in advisory capacities.

In addition to the district and school grants, over 3,000 individual teachers have participated in the Teacher Leadership Project, providing extensive professional development on technology integration into the classroom. It is designed to improve classroom instruction through the use of technology and to train the teachers for instructional leadership roles within their schools and districts. The program has now become a national model on successful professional development. In all, the reform or "reinvention" expectation from the foundation has generally aligned well with the direction of educational reform in the state.

The foundation has funded ongoing evaluations of all of these programs that serve both a monitoring function and a process for formative feedback to the schools and districts. Successes and struggles in the process have been documented in a series of individual grantee reports provided to the grantee and to the foundation, as well as periodic summary reports that have been made public. After three years in this process of reinvention and professional development to improve classroom instruction, the lessons that have been learned are important for other educators in the state. In this section I provide an overview of the findings of the program evaluators who have closely monitored the activities of these schools, districts, and teachers over the last three years. The findings presented here are synthesized from the public evaluation reports for these projects and interviews with the evaluators, and also include examples from the individual grantee reports that are not public information. In the use of these latter reports I have been careful to protect the identity of the schools, districts, and educators involved. The public evaluation reports include: Beck, Elfers, Plecki, and Portin (2002); Brown, Fouts, and Rojan (2001); Brown and Rojan (2002); Fouts, Baker, Gratama,

Bachtler, and Stroh (2003); Fouts, Baker, Riley, Abbott, and Robinson (2001a); Fouts, Baker, Riley, Abbott, and Robinson (2001b); and Stuen and Fouts (2000).

Overall, the Gates education initiatives are still in the early years, and there is much remaining to be learned about successful school reinvention. The findings presented below are some of the early lessons drawn from the work of the schools and districts in the state. The lessons learned are more about the "how" of change, rather than the end product of change presented in Sections 1 and 2. They are not necessarily new or unique revelations, but ones that are worth reiterating in the context of reform in Washington.

1. Successful school reform requires a clear and accepted vision of the end product of reform. Before a high standards environment can be created a cohesive picture of that environment must be present.

This lesson appears to be self-evident, yet educators throughout the state have had a very difficult time grasping the concept of school reinvention as defined by the Gates grants or school reform as required by the state reform mandates. In other words, the reform efforts throughout the state have been delayed, limited, or thwarted by the inability of educators to understand that the current model of how schools and classrooms are organized and function are inadequate to create a high standards environment. Reform efforts in many locations have been handicapped because of an inability or resistance to conceptualize schooling in a different way than they have experienced. What is lacking in many places is a cohesive picture of what the end product of reform looks like.

The educators were trying all of the things they had always done previously without really changing the essence of the school experience. In many places school reform could not move forward because educators did not know what successful school reform looked like.

In terminology used in the first section, many schools have simply attempted a variety of first order changes, such as curriculum adoptions and schedule changes that have been the standard fare of school reform efforts for many years. What these educators have not understood is that these types of changes are inadequate for the expectation of all students achieving at high levels. The educators were trying all of the things they had always done previously without really changing the essence of the school experience. In many places school reform could not move forward because educators did not know what successful school reform looked like.

The evaluators found that among some of the Gates grantee schools and districts in the first year, and in some places well into the second year, there was little understanding of what school or district reinvention really meant. In these places the grant was often viewed as a means to further some of the first order changes they thought they wanted to make. They were not thinking in terms of changing the very nature of their schools because "reinvention" was just a rhetorical slogan or catch-phrase used by

the profession. The evaluators found among many grantees there was "little understanding of the all-encompassing nature of the grant," which was often seen as a technology grant. Only after considerable amounts of time did some come to the realization that, in the words of one principal, "this is a way different grant" than a technology grant.

One summary evaluation report contains interesting sections about the educators' growing realization of what a high standards environment requires.

> One teacher explained that part of the way through the year, "We were focusing on technology and a couple of teams having laptops, and then all of a sudden we switched! We realized this is not about technology. It is about creating a new interface to change the way we teach. The technology just facilitates what we want to happen." In a second school a teacher explained: "Midway through the year we were awakened, or should I say shaken, to attention. We had a visit [from the foundation program officer], and that is where we began our journey as a staff." At a third school teachers commented that the comprehensive nature of the grant expectations "took us by surprise." At a fourth school the end-of-the-year evaluation notes that through April there was "a lack of demonstrated commitment to overall school improvement expectations," and that only in the last two months of school were grant planning and activities "expanded from an all-encompassing focus on technology to an articulated focus on school improvement." Consequently, this school is now in the early stages of the process of school improvement, where a number of the school grantees were last fall. (Fouts et al., 2001b, p. 20)

Developing a cohesive picture of schools in a high standards environment can be difficult and time consuming. The evaluators have learned that many teachers must *see* something different before they can *work* for something different. This is true is at the school level: Some teachers who were resistant and unconvinced about the need to change school functioning changed their personal and professional positions on school reinvention after having visited other schools. This is also true at the classroom level: Teachers are unaware of how to teach differently until they are able to see another teacher teaching effectively.

The evaluators have learned that many teachers must *see* something different before they can *work* for something different.

The evaluators have concluded that developing this vision is necessary for successful school reinvention. However, once educators understand the vision it does not necessarily mean that it will be accepted. In fact, in several schools there were discussions about returning the grant because the educators in the building did not agree with the picture of the school they were beginning to envision. While this has not happened in any of the grantee schools, if the vision is at odds with one or more of the

educators in the building, the reinvention efforts can be challenging. In these instances, strong leadership and appropriate decision-making processes must be present.

2. Successful school reform leaders have found ways to leverage change, even in difficult circumstances.

The importance of school leadership was mentioned in the last section. How that leadership works to accomplish school reform, however, appears to differ from place to place. In a specially commissioned study of leadership among school grantees (Beck et al., 2002) the researchers concluded:

> No one single set of strategies or circumstances is uniformly associated with substantive school improvement. Each of our 14 schools [in the study] varied in their specific approaches to their core challenges and each configured decision-making, leadership roles, and resources in different ways. Perhaps the most compelling finding is that the work of school improvement is fundamentally contextual, and that the challenge for leadership and resource allocation is to continually engage in a renewal process that approaches teaching and learning in a manner that is appropriate to the context of the school. (p. 44)

At the same time, the evaluators have found some common broad strategies that are worth noting. First, the most successful district leaders and building principals have understood the vision of school reinvention, provided opportunities for others within the organization to "catch the vision," while at the same time avoiding the "top-down" charge often associated with school change efforts. They have also avoided waiting for "bottom-up" reform to take place, which seldom happens. It is a shared vision that has led to the school changes, but a vision that also employs some forms of accountability.

One district leader referred to the foundation as "providing air cover" to the troops on the ground.

Second, and closely related to the first, the most successful leaders have used and benefited from external pressure to do what they know needs to be done to improve education. In some locales potentially good and even strong leaders have been battered for years by political and union issues so that it makes maintaining the status quo much easier than pushing for reform on their own. New state expectations and the Gates initiatives seem to be used by many as a good *excuse* to do what they know they should be doing in the first place but did not have the political influence to pursue. For example, leaders are able to leverage ongoing efforts by saying the initiative is part of the Gates grant and that they have to fulfill the grant requirements (contract). One district leader referred to the foundation as "providing air cover" to the troops on the ground. This was especially true with the Achievers reinvention grants being tied to the Achievers student scholarships. Some teachers contemplated "giving the grant back" but continued to work because they could not bring themselves to give up the associated scholarships. Similarly, effective leaders use state and/or district accountability for student learning to

force teachers to examine school and classroom practices. The effective use of this external pressure has generally moved schools forward in the reform process.

Third, the most successful leaders have also used the formative evaluation results in a strategic fashion to address district or school issues. In many instances, the external evaluators, as neutral parties, were able to identify and point out areas of school weaknesses that educators within the system were unable to discuss. District leaders, principals, and teacher leaders were able to use these findings to address on-going school problems. In other words, they were able to use these results to leverage change that they may not have been able to make otherwise. As one principal stated, "We wouldn't be where we were without the evaluation results."

In many instances, the external evaluators, as neutral parties, were able to identify and point out areas of school weaknesses that educators within the system were unable to discuss.

Finally, the successful leaders, whether at the district, building, or teacher level, are willing to take risks by making changes in policy and/or personnel. Many of these changes were under the "air cover" of grant requirements for reinvention or in light of the evaluation results. In any event, the leaders used the reform process in an effective way to affect change that could not have been accomplished earlier.

3. An effective and established governance structure is an important first step in planning school reinvention and for insuring decisions *stay* made.

The leadership of the principal is important, but equally important is the role that the teachers play in the decision-making process. Most schools in the state of Washington have site-based councils in one form or another, but some of those councils deal with trivial matters and are not designed to address substantive issues related to school reinvention. The evaluation results of the Gates grantee schools have shown that a large number of the schools lacked a decision-making mechanism or procedures accepted by teachers when the decisions impacted their own professional activities or direction of the school. Evaluators found that without some type of formal decision-making body accepted by the teachers, little progress in reform occurred. One evaluator commented: "Without this in place we have seen staffs spend literally years making and unmaking decisions about school reinvention."

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Teacher ownership and acceptance of the reform efforts are important, but a pure consensus decision-making matrix appears to be a sure way to thwart change. A reliance on total consensus to move forward was noted in the previous section as a characteristic of schools struggling in their reform efforts. The evaluators of the Gates grantees have observed the same thing—consensus is desirable, but that cannot be the standard for making decisions that affect the entire school. Leadership, in the form of the principal or

teacher leaders, at times must take the risk of moving forward without complete agreement. Schools must have a decision-making structure that allows them to move forward enough and long enough to gain momentum and for skeptical and fearful participants to see the possible impacts of an innovation. One successful model is to move forward with 51% approval and confirm after a period of time (6 weeks) with 80% approval to solidify an organizational decision.

4. Some of the most significant obstacles to school reinvention are adult issues in the schools, not student demographics or finances.

The Bill & Melinda Gates Foundation grants have provided additional resources to schools and districts to reinvent themselves for meeting the expectations of a high standards environment. Unquestionably, in a number of instances the additional resources have made a positive difference in their efforts. However, finances alone are the not the determining factor if schools are moving forward in their reform efforts. For example, in the last section I reported that research in a variety of schools has shown that many schools who have made dramatic changes and whose students are experiencing considerable success on the WASL received no additional resources. In contrast, evaluation of the Gates grantee schools has shown that some schools that have received the additional resources have made little progress. Similarly, some schools with high levels of student poverty have made real progress, while others with more affluent student populations have progressed little.

The Gates grantee evaluations have revealed that in many schools adult issues are preventing meaningful reform from taking place. These adult issues become manifest in two often related ways: resistance to change and inability to work with others. Both of these adult issues are mentioned throughout the individual school and summary evaluation reports, and the evaluators rely extensively on the words of the educators in the buildings as they talked about the reasons for lack of progress in improving the school.

For a variety of reasons, both institutional and personal, many educators are resistant to changes of any type. In one of the districts the superintendent estimated that about one-third of the teachers "do not want to change." The report for another district states: "The tendency of the 'old guard' to slow down school improvement efforts is an existing problem and most evident on the secondary level." Other reports mention "pockets of cynicism about high expectations," and describe how in one grantee school some teachers have decided to "refrain" from participation. In one place, "There's talk about giving Gates money back—getting on with business as usual." This reluctance, or in some cases even refusal to change, is present to a certain degree in some teachers in many schools. Where the leadership is strong these issues are being overcome and reform is progressing. One principal

"The tendency of the 'old guard' to slow down school improvement efforts is an existing problem and most evident on the secondary level."

stated that in his district the Gates initiatives are considered "the catalyst to move against complacency and tradition."

Often in the same schools where there is resistance the adults are unable to work together in a positive way to affect change. In a number of the schools that have made limited progress in reform it is because the adults cannot get along together. In one such school over half the teachers identified a core group as particularly hindering the process. They lamented that because of these people "things spiral quickly into the negative." In another school educators used the terms "toxicity" and "volatility" to describe the adult relationships in the school. In yet another school the educators used the terms "rudeness" and "disrespect." The following excerpts from evaluation reports are revealing.

> The staff has a core group of "strong personalities" that are "opinionated," "difficult," and "volatile" teachers. Dealing with the personality issues appears to drain staff energy, because they consider everything they do in the context of how to deal with this group. These personality issues need to be addressed, as they form a serious barrier to collaboration and to progress toward the grant's objectives.
>
> The most widely expressed view was that differences in personality hinder collaboration efforts.
>
> The majority of staff interviewed said that "volatile," "highly opinionated" or unique individuals who "do not march to the same drummer" create "awkward moments" and impede collaborative efforts.
>
> Most teachers clearly acknowledged two staff "factions."

Other reports use the words, "tense," "divided," "polarized," "fragmented" and "divisive" to describe the adult relationships in the buildings. An additional comment found in one report reveals something about teachers and their professional culture: "Teachers like our power in our classroom. Teachers are not group people. We are individuals unless we are forced in a group."

A comment found in one report reveals something about teachers and their professional culture: "Teachers like our power in our classroom. Teachers are not group people. We are individuals unless we are forced in a group."

The importance of adult collaboration and focus on student achievement was shown previously, and recent research from the University of Chicago (Bryk & Schneider, 2002) has shown that trust among adults in the schools is equally important. Their research has shown that respect, competence, integrity, and personal regard for others are necessary components of school reform and directly related to academic achievement. At the present time, in some Washington schools there appear to be serious limitations on dealing with personnel issues that are hampering reform. For example, in what other business or profession could an employee

simply decide to "refrain" from participating in a major undertaking of the organization? Yet, that is what is happening in some schools. Without meaningful ways to deal with these adult issues in Washington schools, it is doubtful that reform in a number of places will take place.

5. Transformation efforts and professional development must focus on educators at all levels of the organizations: the district, the school, and the classroom.

The evaluation results have shown that all levels of the local educational organization will need to change, at least to some degree, before high standards environments can be created. Because of this, professional development activities should include district office personnel as well as those people in the schools.

Evaluators have found that in some locales school personnel have surpassed the district personnel in their vision and understanding of the changes needed for all students to achieve at high levels. This is particularly true in some of the schools that have received individual school grants and where the district personnel have had minimal involvement in the professional development activities associated with the reinvention efforts. Districts have existing policies, practices, and procedures that support and reinforce the traditional educational bureaucracy and learning environments. Some schools find their reinvention efforts to be at odds with district policies. For example, district personnel transfer policies may prevent schools from dealing effectively with existing teachers who are not in agreement with the direction of reform. One principal stated, "I have several teachers who have transferred into my building that I would not have chosen." One of the evaluation summaries notes:

> Other district policies or practices involving student transportation schedules, release time, professional development, technology support, or curriculum materials may limit school reinvention efforts unless the districts understand and are supportive of the reinvention efforts. . . . One school report noted the teachers, "feel constrained by school calendars and schedules." In a second school there were "concerns/resistance from junior high faculty members in other schools" about proposed curriculum changes in the grantee school. A third school report describes, "a frustrating and ineffectual system of district technology support" affecting the plans to improve in technology. (Fouts et al., 2001b, p. 24)

Other comments from educators in the schools reveal the uncertainty they have about the amount of understanding and support they have from the district.

> We were moving ahead to change our schedule and set up to group and regroup students, but were not allowed to carry the plan out because it interfered with music, library and PE people shared with other schools.

> We just don't want to be disappointed and told we can't do something after we make all our plans. (p. 24)

On the other hand, among the district grantees the district leaders often understand the reinvention goal, but the people in the schools do not. In those districts, for example, central office people are asking, "How can we get our high schools to catch the vision?" (Fouts et al., 2001a, p. 24). All of this points out that reinvention must be systemic, and that without extensive professional development for the purpose of developing a common vision of school reform, reinvention efforts will be handicapped.

It will take considerable focused professional development for teachers to change dramatically the nature of instruction students are receiving, and this will prove to be a very difficult task.

At this point in the grants professional development has focused primarily on adult learning opportunities to affect district-level and school-level functioning. However, changes in district-level and school-level practices will not necessarily translate into improved classroom instruction. As important as professional development at the district and school level may be, more important is the professional development ahead to improve classroom instruction. The classroom observation research (Fouts, Brown, & Thieman, 2002) mentioned in Section 2 showed that powerful teaching and learning is present in only about 17% of the classrooms around the state. It will take considerable focused professional development for teachers to change dramatically the nature of instruction students are receiving, and this will prove to be a very difficult task.

The Teacher Leadership Project has proven to be a very effective model of professional development to change classroom instruction. Evaluation results have shown that many participants have changed their classroom instruction, sometimes substantially. Much of the success of the project is attributable to its design, which follows research proven elements for successful professional development for teachers, including:

- sustained opportunities to learn, explore, and collaborate
- opportunities for long-term feedback and follow-up activities
- team efforts with professional peers within and outside the school

Without a major professional development focus that includes these elements, improving classroom instruction will be very difficult.

Summary

Over 60 individual schools and 10 school districts have received grants from the Bill & Melinda Gates Foundation to further their reform efforts. The school and district grants are to be used "to create high-achievement, technology-enriched learning models." In addition, over 3,000 individual teachers have participated in the Teacher Leadership Project, providing extensive professional development on technology integration into the classroom. Ongoing evaluations of these programs have provided the opportunity to study the reform process, including the successes and struggles that schools have encountered. While the research earlier identified the district, school, and classroom practices necessary for student success in a high standards environment, the evaluation findings presented here describe some of the things that have been learned thus far about making the necessary changes.

First, successful school reform requires a clear and accepted vision of the end product of reform, something that has proven very difficult to accomplish in some schools. In other words, what is lacking in many places is a cohesive picture of what the end product of reform looks like. Where this cohesive picture does not exist, the reform has met with limited success. Many of these schools have focused their discussions on first order changes that are inadequate for the expectation of all students achieving at high levels. Developing a cohesive picture of schools in a high standards environment can be difficult and time consuming, but it appears to be a necessary first step in successful reform.

Second, successful school reform leaders have accomplished their tasks using a variety of techniques, but there are some common strategies. These have included providing opportunities for others within the organization to "catch the vision," while at the same time avoiding a "top-down" approach. They have also avoided waiting for "bottom-up" reform to take place. Many have used external pressure from the grant, state accountability, or district expectations to move things forward, and have used the formative evaluation results in a strategic fashion to address district or school issues. Additionally, the successful leaders have been willing to take risks by making changes in policy and/or personnel. In these instances the leaders used the reform process in an effective way to affect change that could not have been accomplished otherwise.

Third, without an effective and established governance structure for making institutional decisions, progress at reform is unlikely. Because many schools lack a meaningful mechanism, reform in those schools has been limited. Schools that either had such a mechanism in place already or adopted one early in the grant process have moved ahead. An important element of this decision-making is the avoidance of a total consensus model, which can stymie the efforts of a large majority of teachers.

Fourth, adult issues at the schools must be addressed before meaningful reform can move forward. The issues generally revolve around resistance to change and the inability or refusal to work with others. Research has shown adult collaboration and trust to be necessary components of school reform and directly related to academic

achievement. Yet, some schools are plagued by personnel problems in these areas, resulting in limited forward movement on reform and contributing to a considerably less cohesive school culture.

Finally, professional development and adult learning must occur at all levels of the organization to ensure the institutionalization of the reforms. Where this has not happened, classroom teachers, building leaders and district office personnel can be at odds with each other over the direction and purpose of reform. This becomes particularly important as schools move toward implementation of reinvention plans, which may conflict with existing district policies. Perhaps the greatest challenge ahead will be to change classroom instruction. However, the evaluation results of the Teacher Leadership Project have shown that if professional development activities are based on certain proven principles for teacher learning, this can be accomplished.

In what other business or profession could an employee simply decide to "refrain" from participating in a major undertaking of the organization? Yet, that is what is happening in some schools. Without meaningful ways to deal with these adult issues in Washington schools, it is doubtful that reform in a number of places will take place.

CONCLUSIONS: VISIONS OF A HIGH STANDARDS ENVIRONEMENT[4]

The current efforts at educational reform in the state of Washington were begun formally in 1993 by the passing of Engrossed Substitute House Bill 1209 (HB1209), also known as the Washington State Education Reform Act. The reform efforts within Washington State generally reflect the school restructuring efforts in other states around the country. Their importance has grown since the passage of the federal ESEA law, commonly referred to No Child Left Behind.

Meeting the requirements of the reform in the state of Washington is proving problematic in numerous places. The research suggests that many schools, at least as they are traditionally conceived, are inadequate environments in which to expect all students achieving at high levels. Whether by design or not, the reform expectations have made the inadequacies of the current school and instructional model glaringly obvious. In places, some educators are still holding on to the traditional model, attempting a variety first order changes, test preparation activities and the like. In these schools, students are struggling to meet the academic achievement expectations. In other locales, educators have recognized that to get all students at high levels of achievement, major reinvention of the school model is necessary. In these schools, higher levels of student achievement can be found.

The research suggests that many schools, at least as they are traditionally conceived, are inadequate environments in which to expect all students achieving at high levels.

The findings in Washington State are not unique. Similar findings have been reported in other states that are attempting to implement *standards-based systems* with *high expectations* for all students. For example, researchers in Texas found that high achieving schools work very hard at creating a new school culture in which the building leadership (consisting of the principal and teacher leaders) focuses efforts on student achievement and accepts no excuses for poor performance. They employ a unified and common curriculum, continuously assess student progress, and intervene immediately when students or teachers are struggling. They make high-quality teaching and research-based instructional practice the top priorities and collaborate extensively, both inside and outside the school (Just for the Kids, n.d.).

These findings also suggest that schools might learn from research in other fields. Prior to studying high achieving districts, Cawelti and Protheroe (2001) began by looking at "high achieving organizations" in general and found:

> These organizations focus on clear standards, and they have developed procedures to assess progress toward these standards. They have

[4] Sections under this topic have been adapted from Fouts & Brown, 2002.

> restructured the system to place accountability in the hands of the people closest to the products, and they typically have adopted a "no excuses" mentality. (p. 2)

This description comes much closer to describing the schools creating new professional environments for teachers than it does our traditional schools.

Whether by design or not, the reform expectations have made the inadequacies of the current school and instructional model glaringly obvious.

What does all of this research suggest? The demand for higher standards and schools where all children are learning at high levels requires changes that are more than just superficial; that is, more than just first order changes of new schedules, new computers, or new committees. These research findings suggest that there must be more fundamental changes in the school and teacher culture to provide the best chance for all children to be successful. While there are a number of first order changes that may be necessary, the research evidence from a variety of studies indicates that both the school and teacher culture must be fundamentally changed in the schools before substantial improvement in academic achievement is likely.

The two models presented in Table 6 are contrasting approaches to curriculum organization and to the role of the teacher in an educational setting. The two models are opposite ends of a spectrum, and seldom are schools on these extremes. However, the model is useful for explaining the nature of the school culture that exists in many schools currently, and the school culture that research suggests produces the best results in a standards-based environment.

Prior to the current standards-based reform movement in the state, the model found in many of the schools in Washington more closely resembled the model in the left column than it did the model in the right column. State guidelines did provide learning goals, but school districts were able to develop their own goals independent of the state's goals, and these, therefore, could be quite diverse from district to district. It was not unusual for a student who changed districts during the school year to find the new district's goals, and therefore the curriculum for that grade, considerably different than the district from which she just left. Compounding this problem was the limited accountability for teachers to teach the district or school curriculum that had been adopted. Many teachers included and excluded topics and skills from the curriculum with little monitoring from the administration or colleagues. Although done with the best of intentions, this often resulted in gaps between grades at a school (vertically) and within a grade level at a school (horizontally).

Table 6. Traditional vs. Standards-Based Model of School Culture

	Prior or Current Model	Standards Based Model
Learning Goals	General Diverse	Specific Uniform for state
Curriculum	Between grades Potential sequence gaps Within grade Potential for considerable variation	Between grades Tight sequence Within grade Limited variation
Assessment	Traditional generic basic skills and/or knowledge May or may not be tied to district goals, curriculum, and instruction Periodic	Higher order skills (basic skills) Closely tied to state learning goals, curriculum, and instruction On-going
Accountability	Teacher Low accountability on what to teach Student Social promotion School Low accountability for student performance	Teacher High accountability on what to teach Student Performance-based School High accountability for student performance
Professional Development	Teacher controlled Individualized	Focused on building needs Collective decision
Beliefs	Some students can achieve at high levels	All students can achieve at high levels
Teacher Role	Independence	Collaboration

Traditionally, large-scale assessments often focused on generic basic skills, which may or may not be tied closely to the state's learning goals or the local district's curriculum. Teacher accountability for teaching the district curriculum was often minimal, and school accountability for student success was not formalized. Professional development was often left to the individual teacher. Lastly, and maybe most importantly, the teacher professional culture of the school has been one of considerable independence. What to teach and how to teach it was oftentimes left to the individual teacher to decide, and little time was spent in team planning, sharing successful teaching practices, and aligning the curriculum with the assessment.

In contrast, in a standards-based model in which all students are expected to achieve at high levels (right column of Table 6), there is a narrowing of the curricula to *Essential Learnings* that all students are expected to master. This expectation requires a type of curriculum uniformity across districts, across schools, and across given grade levels in the schools. It also requires a tight sequence from grade to grade as a student progresses through the system to insure all Essential Learnings are taught and mastered. In this state, the Essential Learnings have been defined in such as a way as to require considerable higher order thinking skills, with the assumption that the generic basic skills are at least a component of those skills, if not a prerequisite. The ordered sequence of the curriculum requires continual classroom assessments on the part of the teacher to determine mastery, with higher stakes assessments taking place periodically. However, for this model to be effective, the professional culture of teachers must change from one of working in isolation, to one of extensive collaboration with colleagues to insure curriculum alignment with the assessments, to maintain appropriate sequence of the curriculum, and to identify successful teaching strategies and techniques necessary for the more intellectually demanding requirements of the Essential Learnings. Professional development is often a collective area based on the overall need of the school rather than the desire of the individual teacher. In this model, teachers are expected to teach the required curriculum and to monitor student progress; students are to be promoted on the basis of successfully demonstrating competence; and schools are held accountable for student performance.

The ordered sequence of the curriculum requires continual classroom assessments on the part of the teacher to determine mastery, with higher stakes assessments taking place periodically. However, for this model to be effective, the professional culture of teachers must change from one of working in isolation, to one of extensive collaboration with colleagues to insure curriculum alignment with the assessments, to maintain appropriate sequence of the curriculum, and to identify successful teaching strategies and techniques necessary for the more intellectually demanding requirements of the Essential Learnings.

What is important to note about the two models of school and professional culture is that research is indicating that schools and districts that are demonstrating the largest increases in student achievement as measured by the state assessments are successfully making the transition to the standards-based model from the traditional model of education. The research suggests that these schools are *not* accomplishing these increases by adopting new curriculum materials, schedules, programs and other *first order changes* alone. The schools most successful in increasing student achievement are driven by *second order changes* in philosophy and approach to the their curriculum, instruction, and professional culture similar to the model on the right side of Table 6.

As research has allowed us a vision of a successful high standards environment, it has also revealed why some schools are able to re-culture their schools and other are not. In some places the education experience has remained basically unchanged for decades. In fact, many teachers have spent their entire careers in the traditional professional culture making it very difficult for them to even envision, much less accept, another approach to teaching and learning. In other words, the school transition from the left side of the table to the right side of the table has proven extremely difficult. For whatever reason, there are still a number of educators in the state that apparently do not understand the depth of changes in schooling inherent within the state reform efforts; or if they do understand, they reject the model as unsuitable. In either case, this is the level where change must take place before a high standards environment can be created. All of the evidence suggests that for many students, achievement at high levels depends on it.

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