Improving Quality and Strengthening Accountability in Oregon’s Schools:
A Broad Review of Promising Practices and Policy Options

Prepared for
The Chalkboard Project

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Part I

Introduction
BACKGROUND

This report is the second in a series of research reports produced for The Chalkboard Project, an effort sponsored by five Oregon foundations to share best practices, broaden perspectives, and unite the citizens of Oregon in the goal of a superior public education system. In support of this goal, this report explores practices and policies employed in other states and countries and, where appropriate, in the Oregon context as well. While education quality can be determined in a wide variety of ways, this report defines quality as student achievement in relation to tangible, specific learning goals. We assume that such improvements will result in students who are ultimately more economically productive and democratically active citizens.

The predecessor to this report, entitled Improving Quality and Strengthening Accountability in Oregon’s Schools: A Broad Review of Promising Practices and Policy Options, described the existing conditions of Oregon’s K-12 system but stopped short of offering solutions. The first report showed that when compared to their national peers:

- Oregon students fare better in mathematics and science education than they do in reading and writing.
- Student performance appears better in middle schools than at the elementary level.
- Oregon’s K-12 system appears to serve low-income and urban-children better than systems in other states; however, Oregon students from middle and upper income families appear to underachieve relative to their peers from middle to upper-income families across the country.
- Oregon schools—like schools in nearly every state nationwide—observe wide variation in student performance by ethnicity: in many cases, with white and Asian students outperforming black, Hispanic, and Native American students.
- Oregon’s high dropout rate stands out nationally and Oregon school officials are more likely to express concerns about absenteeism than their peers in others states.
- Oregon’s performance on college entrance and placement exams and tests is less impressive when disaggregated by racial group and compared with other states.

This report moves from describing problems to exploring a wide range of policy options that schools might employ to solve them. Our research is
intentionally inclusive: we have critically reviewed literature across a broad spectrum of policies with a demonstrated or theoretical link to student achievement or attainment. The final product of the complete review is a slate of best practices and promising policies that could form the foundation of The Chalkboard Project’s engagement process with Oregonians.

OVERVIEW OF THE EDUCATION POLICY DEBATE

The production of consistently positive educational outcomes is exceedingly complex. The range of factors hypothesized to affect learning is expansive and difficult to measure. Students arrive at schools with different challenges, motivations, family backgrounds and supports. Many of the factors that determine student achievement fall substantially outside the sphere of authority and responsibility identified by society for schooling. However, schools can and do make a difference. Schools that contain quality teachers, maintain orderly learning environments, and implement high, consistent standards for all students, among other things, can and do produce measurable achievement impacts. For example, particularly compelling evidence suggests that a student with a strong teacher can advance 1.5 grades in a school year while a student with a poor teacher advances only half a grade.\(^1\) Education experts and economists generally agree that quality teachers and schools deliver superior results. When it comes to prescriptions for creating quality schools, however, the consensus largely disappears.

Stepping away from the hundreds of individual policy options in the education policy arena, the majority of policy prescriptions advanced during the past two decades fall into one of three categories:

- Resource- and input-based reforms (for example, class size reductions, teacher recruitment and licensing reform)
- Standards-based reforms (e.g., programs that assess, reward, and sanction schools based on student performance)
- Incentive-based, sanctions-based, and market-based, reforms (e.g., programs that increase competition within school systems with the goal of inducing better performance).

These reform approaches are not mutually exclusive, and federal and state policymakers frequently combine features from two or more of the categories in developing a comprehensive reform package. For example, the federal No Child Left Behind framework draws heavily from both the standards- and sanctions-based categories, putting in place rigorous goals for student performance and requiring states to implement sanctions-based programs if schools fail to meet those goals. California’s education reforms of the late 1990s coupled class size reductions with standard-based reforms.

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In the remainder of this section, we expand our discussion of each of the reform categories and outline the theories that underlie them.

**RESOURCE- AND INPUT-BASED REFORMS**

Policies advocating resource and input-based solutions assume that the historic system of publicly supplied and funded education is fundamentally sound. They view inadequate funding as the primary barrier to even more impressive student achievement. Prescriptions for improvement focus on changes to inputs and processes within the current system. Policy recommendations range from efforts to improve teacher quality through certification processes or salary adjustments to suggestions for appropriate staffing and instructional practices for special needs students. The most prominent recommendation in this report centers on reduced class sizes and related policies that increase contact time between teachers and students.

A number of states and organizations have assembled packaged recommendations embodied by so-called “cost-out,” or adequacy models. The models, which “cost out” the price of what is defined as an adequate or quality education system, detail the characteristics of prototypical schools and advance a comprehensive list of policy options. Oregon’s cost-out model is known as the Quality Education Model (QEM). Its most recent version, if fully implemented, calls for a 27 percent increase in the 2003-05 K-12 biennial budget and directs almost half of the increase to class size reduction strategies. It is worth noting that the QEM goes beyond many cost-out models by addressing the changes required in the educational system for the increased funding to result in improved learning results.

**STANDARDS-BASED REFORMS**

During much of the past two decades, efforts to improve schools have focused on making the system’s actors—teachers, principals, superintendents, school boards, students, parents, local communities, legislators—more accountable for their individual roles and responsibilities in supporting and advancing student achievement. This is a topic of intense interest currently—models and approaches abound.

Standards-based reforms are based on government regulation of public education and are rooted in a traditional arrangement under which the state (or local entity acting under authority granted to it by the state) provides funds and sets rules that each funded institution must follow. Within this regulatory framework, most states across the country have implemented variations of reforms that assess, reward, and sanction schools and districts based on student performance on standardized tests and other desired outcomes (e.g., attendance and dropout rates). Major aspects of the federal No Child Left Behind legislation fall into this category, which expects that states enable essentially all children to reach state-defined achievement standards. The regulatory reforms can be characterized as institutional-level accountability—or arrangements between legislatures and school districts or school districts and schools.
INCENTIVE-BASED AND SANCTION-BASED REFORMS

Advocates of incentive-based and sanction-based reforms argue that per student funding has increased for years with no corresponding improvement in student achievement. Moreover, scanning across the range of resource-based solutions over the past several decades, they find few policies, if any, that meet their standard of best practices. They contend a lack of best practices should come as no surprise given the wide diversity of students’ learning processes. Rather than identify and mandate “one-size-fits-all” approaches, this camp believes that incentive-based policies would reward entrepreneurial schools and teachers who develop the necessarily complex packages of multiple practices that meet the needs of their unique student populations.

They urge policymakers and taxpayers to hold resources constant until appropriate incentives are introduced and the system is exposed to more competitive pressure. The range of incentive-based and sanction-based solutions includes labeling of schools based on performance, and expansion of school choice for students and parents, salary compensation reform for teachers and administrators, and self-governance (or privatization) of individual schools. Competitive pressure, they believe, will inspire innovation, reward quality, and lead to more satisfied parents and students who have more control over the educational services they receive.

ORGANIZATION OF THE REPORT

The report consists of four parts. Part I introduces the report, frames the national K-12 education policy debate, and outlines our research method.

Part II: Improving Quality: Evidence on Resource- and Input-Based Policies and Student Achievement contains Chapters 2 through 8 and reviews the evidence on resource- and input-based strategies with each chapter focusing on a different aspect of the education production process. The chapters’ topics parallel categories advanced in Oregon’s QEM and similar cost-out models.

- **Chapter 2: Class Size** reviews the evidence on class size reduction strategies and considers findings for different grade levels and for students of different ethnic, racial, and socio-economic backgrounds.

- **Chapter 3: Staff Quality** reviews policies aimed at improving teacher, principal, and administrator quality through recruitment, licensure, retention, and related professional development policies.

- **Chapter 4: Facilities and School Size** considers effective facilities, optimal school size, and small learning communities.

- **Chapter 5: Instructional Practices** covers curriculum alignment, diagnostic testing, student grouping, homework, duration of
instruction (e.g., tutoring, summer school, extended school days, contact hours), and discipline policies.

- **Chapter 6: Special Education** considers the rapidly growing area of special education and addresses student identification and placement policies, mainstreaming, and other strategies.

- **Chapter 7: Readiness to Learn** considers the capacity of early childhood education programs, pre-kindergarten, and kindergarten to more fully prepare children to learn.

- **Chapter 8: Student and Parent Involvement** discusses the practices and policies schools have implemented to improve student attendance and civility, and stimulate parental involvement.

Part III is entitled *Strengthening Accountability: Evidence on Regulatory and Market-Based Strategies to Improve Student Achievement* and addresses the standards- and incentive-based approaches discussed in the previous section. Part III's constituent chapters introduce and critique two different philosophical approaches to establishing accountability. The first approach is based on *government regulation* of public education. The second approach assumes the *marketplace* will impose its own discipline on the educational system if true market forces can be set in motion. Each approach has its proponents and detractors, and each may have its place in the governance of education. Part III contains three chapters.

- **Chapter 9: Regulatory Accountability** examines regulatory approaches along a continuum that takes into account the intrusiveness of the mechanisms state governments employ to control and direct local schools toward achievement of state education goals. Approaches examined include data-driven, incentive-driven, standards-driven, and consequence-driven accountability systems.

- **Chapter 10: Market-Based Reforms** reviews theory and empirical evidence associated with a range of school choice policies. Some, such as open inter-district enrollment and charter schools, can operate within the K-12 system’s existing administrative structure. Others, such as targeted or universal vouchers, essentially change the system’s fundamental structure.

- **Chapter 11: Teacher Compensation Reform** provides an in-depth discussion of two emerging methods to replace or modify traditional teacher compensation scales: Knowledge and Skill Based Pay (KSBP) and School Based Performance Awards (SBPA).

In conclusion, Part IV summarizes our findings across the preceding 11 chapters.
RESEARCH METHODS

The Chalkboard Project requested an expansive review of best and promising practices that have a demonstrated ability to increase student achievement and strengthen accountability. The research charge was broad, and while the wide range of topics covered did not lend itself to an identical research approach across every category, our research method generally consisted of five steps: 1) review The Chalkboard Project’s findings from focus groups and stakeholder surveys; 2) review documents and databases from education policy clearinghouses and academic literature; 3) review program evaluations and examples of best practices nationally and in Oregon; 4) interview national and local education policy experts, and 5) respond to critiques from experts in the field being reviewed. We detail each of these steps below.

• Review focus groups and stakeholder surveys. At the outset of our research, The Chalkboard Project conducted focus groups with students, teachers, and principals to identify existing problems and policy options to improve student achievement. In addition, The Chalkboard Project surveyed a wide range of Oregon’s K-12 stakeholders, including Department of Education officials, representatives of labor and school management organizations, state legislators, business leaders, and education policy think tanks.

The valuable input from these complementary processes provided a foundation for our research, and in a number of cases, helped us prioritize our topics for investigation, pointed us to key research and suggested promising practices within Oregon.

We also selected topics for investigation based on their potential benefit in relation to cost. In the process, we investigated many of the augmentations suggested by the QEM to ascertain their likely effects on student learning. We developed an extensive and exhaustive list that we investigated initially. We then culled the list to focus upon those areas that seemed most likely to yield the greatest benefit in the Oregon context.

• Review education policy clearinghouse publications and databases and academic literature. For each of the policy areas discussed in our three policy reports, we conducted a review of resources and documents available through education policy clearinghouses. The US Department of Education, the Consortium for Policy Research in Education, the Education Commission of the States, the American Institutes for Research, and the National Conference of State Legislatures and a number of other organizations are charged with collecting and disseminating information on best and promising practices in an array of categories including market-based reforms, class size reduction strategies, staff recruitment and retention strategies, and school finance. Table 1.1 provides a selected list of the clearinghouses reviewed during the course of our research.
These clearinghouses pointed the research team to seminal papers, literature reviews, and meta-analyses that quantitatively summarize findings across a number of studies. Moreover, a number of these clearinghouses maintain databases that provide detailed documentation of practices and regulations used across the United States.

Table 1-1: Selected Education Policy Clearinghouses Reviewed

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<tr>
<th>Organization</th>
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<td>American Association of School Administrators</td>
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<tr>
<td>American Education Finance Association (AEFA)</td>
<td><a href="http://www.gse.upenn.edu/cpre/">http://www.gse.upenn.edu/cpre/</a></td>
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<td>American Institutes for Research (AIR)</td>
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<td>Association of Educational Purchasing Agencies</td>
<td><a href="http://www.aepacoop.org/">http://www.aepacoop.org/</a></td>
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<td>Brookings Institution</td>
<td><a href="http://www.brookings.edu/default.htm">http://www.brookings.edu/default.htm</a></td>
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<tr>
<td>Center for Education Reform</td>
<td><a href="http://www.edreform.com">http://www.edreform.com</a></td>
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<td>Center for Special Education Finance (CSEF)</td>
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<td>Center on Education Policy</td>
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<td>Committee for Education Funding</td>
<td><a href="http://www.cef.org">http://www.cef.org</a></td>
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<td>Consortium for Policy Research in Education (CPRE)</td>
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<td>Council of Chief State School Officers (CCSSO)</td>
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We also consulted refereed journals for literature syntheses, best-evidence reports, and meta-analyses to enable us to identify areas where some agreement exists on key findings and effective programs. The review of research literature included journals such as *Educational Policy* and *Educational Evaluation and Policy Analysis* and the online journal *Educational Policy Analysis Archives*. Books that reported the results from large-scale studies were also reviewed. Representative examples include *Learning Policy* by Cohen and Hill and *Redesigning Accountability Systems* by Fuhrman and Elmore. Additionally, reports on key policy issues and programs were collected from a range of organizations. These reports provided additional insight into the most current findings related to education policy and related issues.

- **Review program evaluations and best practices.** To assess whether a policy reaches the standard of a best practice, we prioritized evidence from formal program evaluations. Program evaluations are more rigorous in some areas than in others. For example, researchers can test, with varying degrees of statistical precision, whether a
discrete intervention such as class size reduction, vouchers, or tutoring programs has a demonstrated relationship to improved student achievement or some other desired outcome. In other areas such as school finance, formal program evaluations are not as available.

Education evaluations vary considerably in their quality. The gold standard is the controlled experiment. In this model, policymakers change a policy for one group of students, keep a comparable group of students in environments without those changed services, and compare outcomes between the two groups over time. When such experiments are well designed and executed, they provide solid evidence about a policy’s effectiveness. Unfortunately, true experiments are expensive and ethically problematic, and, therefore, exceedingly rare in the education policy arena.

Absent experiments, researchers use statistical, or quasi-experimental, techniques in an attempt to isolate the relationship between a policy change and an educational outcome. Though methodologically less desirable than controlled experiments, well designed statistical analyses, if replicated in a number of similar settings, can shed light on whether a policy works and for whom. Typically, as quasi-experimental evidence accumulates in a policy area, researchers will conduct meta-analyses that attempt to quantitatively summarize findings across a large number of individual evaluative studies.

Meta-analyses provide an additional insight into educational research findings. This method, developed and refined over the past 25 years, allows for a great number of studies on a topic to be aggregated in a way that permits some conclusions about the overall trends in the findings across studies. High-quality meta-analyses disqualify studies with methodological flaws and shortcomings and combine statistically the findings from the highest-quality studies. The result is often expressed as an effect size, the degree to which student learning is increased by the method being studied.

The reality is that most educational programs are not evaluated at all. Those that are, generally rely on non-experimental techniques. These techniques are used when states, districts, or schools implement a policy, observe a change in educational achievement, and speculate or draw conclusions about how a particular policy may have influenced the observed difference. However, without a well-defined comparison group, it is much more difficult to determine the extent to which changes in outcomes were caused by the policy as opposed to other factors that were also present in the environment.² Compounding the

² For example, as California implemented class size reductions during the late 1990s, the state simultaneously changed the average tenure of the teaching corps as typically young, inexperienced teachers filled the demand for new positions. Having, somewhat unintentionally, changed two inputs at once (class size and teacher quality), researchers could not
problem, states, districts, and schools often implement packages of policies simultaneously. In these instances, even if researchers measure a subsequent change in student achievement, it is extremely difficult to identify which component of a package caused the observed change.

In short, utilizing educational research to make policy decisions or recommendations is by necessity an approximate art. The goal of this report is to draw from the most convincing sources first, then to identify carefully other promising practices and innovative programs while making clear the limitations of the research base underlying them. This does not mean that such practices and programs are unworthy of consideration, only that we cannot verify their effectiveness scientifically in the same fashion as we can for the far fewer practices for which experimental or strong quasi-experimental data exist.

When research results suggested promising practices, we sought examples of where such programs had been implemented by states or local school districts. Here again, we looked at evidence of effectiveness for policies and programs undertaken. We also sought to identify, in particular, examples of how these practices or policies were being enacted within the state of Oregon, where such examples existed. Additionally, we sought out examples of innovative practices that were based on sound theory, programs that do not yet have a comprehensive research base but present a strong logical argument for their effects.

• **Interview national and local education policy experts.** After having assembled, reviewed, and assimilated literature on a particular topic, we interviewed recognized national and local academic and policy experts. In the areas of market-based and teacher compensation reforms, we asked the University of Washington’s Paul Hill and University of Wisconsin’s Allan Odden to comment on our understanding of the literature and policy option recommendations. We discussed policy options on parental involvement and accountability with Harvard University’s Robert Behn.

Given their in-depth knowledge of Oregon’s education delivery system, local education experts were particularly important to our research effort. We interviewed numerous officials from the Oregon Department of Education, Oregon School Boards Association, the Teacher Standards and Practices Commission, the Confederation of School Administrators, the Oregon Education Association, the Legislative Revenue Office, as well as administrators from individual school districts.

isolate the effect of either change. Moreover, the class size policy was implemented statewide, leaving researchers without a comparison group of students in larger classes.
These interviews served to help us affirm the thoroughness of our searches and the reasonableness of our conclusions. These experts guided us toward additional sources of information and, on occasion, made suggestions on how our findings might better reflect the state of knowledge in a particular area.

- **Respond to peer review commentary.** *The Chalkboard Project* distributed preliminary drafts of this report for external and internal (Chalkboard Project) peer review. Reviewers were requested to comment on the general accuracy of the literature reviews, as well as the appropriateness of the policy options. Reviewers were also urged to identify any promising areas of reform that were absent from the reports. The Project received external reviews from Andy Porter of Vanderbilt University, Michael Kirst of Stanford University, Paul Hill and Robin Lake of the University of Washington’s Center on Reinventing Public Education, Andy Plattner of KSAPlus Communications, Jill Kirk of the Oregon Business Council, and Jay Casbon of Oregon State University’s Bend campus. Internal reviews were conducted by Ron Saxton and Roger Gray. The research team assembled and summarized the reviews.

In response to the reviews, the research team restructured a number of chapters, expanded research and policy recommendations in areas deemed not adequately covered in the preliminary draft, and in some cases, revised specific policy recommendations to address comments advanced by one or more reviewers.

**PURPOSE AND CLASSIFICATION OF POLICY OPTIONS**

The *Project’s* Board of Directors called on the research team to develop a wide range of policy options. Each topical chapter in this report concludes with policy options. In developing those options, the research team’s goal was to be inclusive and disclose the range of credible policies available to Oregonians interested in improving the K-12 system. In some cases, a policy option described in one chapter may not necessarily complement options described in another. For example, a number of the market-based strategies outlined in Chapter 10 are not philosophically compatible with several of the policy options described in Chapters 2 to 8.

In short, rather than advancing an internally consistent, omnibus reform package, the report advances an array of possible policy options that could be combined into any number of state or local reform packages. With the range of policy options better clarified, *The Chalkboard Project* turns its civic engagement process to these promising policies that resonate with the public at large.

For each of the policy options advanced, *The Project’s* Board of Directors requested some classification based on an option’s supporting evidence. The
policy options described in this report vary considerably in the degree to which they have been tried and tested. Some have long track records and have been the focus of rigorous research while others have a strong theoretical foundation but, because they are new, lack a demonstrated link to student achievement or other desired outcome. In this report, we have developed a taxonomy to classify the policy options based on the degree of their research foundation.

- **Proven practices.** Practices backed by experimental, quasi-experimental studies, or strong evidence from meta-analyses suggesting a causal relationship between a program and a desired educational outcome.

- **Promising practices.** Practices backed by a limited number of correlative studies that demonstrate strong, consistent relationships between the program and a desired educational outcome, or extended use of the program with positive results in more than one setting.

- **Innovative practices based on strong theory.** Practices with sound theoretical foundations supported by preliminary evaluations or descriptive studies that indicate high satisfaction with a program or high potential for a desired educational outcome and/or strong backing for a program among particular groups in the educational community.

Ultimately, the education reform debate boils down to tradeoffs between policy options and their expected returns. We developed the taxonomy to help Oregonians understand the choices they are making when selecting among the policy options. Policymakers and the public can expect that, if wisely implemented, an investment in proven practices would have a positive educational outcome. Such practices, if supported by the public, may warrant wider scale implementation across the state. Conversely, outcomes for the innovative approaches are less certain; therefore, they may lend themselves to pilot implementations that are closely evaluated before being adopted statewide, particularly if they are costly.
Part II

Improving Quality: Evidence on Resource- and Input-Based Policies and Student Achievement
INTRODUCTION

In the Chalkboard Project’s recent focus groups with award-winning teachers and principals, participants frequently pointed to their district’s large and increasing class sizes as a barrier to stronger student achievement. Class-size reduction strategies have been among the most common and hotly debated education reforms over the past several decades. The approach’s simplicity drives its popularity. Unlike complex curriculum or testing redesigns, the purpose of class size reductions is easily conveyed to and understood by parents and taxpayers. Simply put, a smaller number of students in the classroom allows a teacher more one-on-one time to address the individual concerns and learning challenges of each student. Recently, an economist (Lazear, 1999) spelled out the theory behind class size reduction strategies more formally. He argues that each child in a classroom has her own independent likelihood of disrupting a class on a given day. Therefore, the overall likelihood of classroom disruption increases with the number of children. When the disruption occurs, the teacher suspends the educational activity, and such suspensions have a negative effect on student achievement.

Class size reduction strategies are arguably the most analyzed and debated educational reform of the past several decades. Researchers have advanced hundreds of articles that support, condemn, or stand silent on the efficacy of the approach. Standing above all these analyses are the findings of a single scientific experiment—the Tennessee Student/Teacher Achievement Ratio project, or Project STAR—which randomly assigned students and teachers to large and small classes. The project’s findings, discussed in more detail later in the chapter, suggested small classes had a measurable effect on student achievement in both reading and mathematics. The findings were released and debated throughout the 1990s and fueled support for class size reduction strategies; a number of states and individual school districts pointed to Project STAR as they enacted policies to drive down student-teacher ratios.

The class size debate is particularly salient in Oregon, where class sizes are among the highest in the nation and on the rise. The State’s Quality Education Model (QEM) calls for a number of reforms that would drive down class sizes at the elementary, middle, and high school levels. Implemented as a package and aimed at elementary grades, the QEM’s class-size recommendations would increase the state’s K-12 spending for the 2003-2005 biennium by $0.566 billion, an 11 percent increase over the state’s existing budget.

This chapter seeks to give Oregonians a sense of what they might expect to receive for that investment. Given state and local budgetary constraints, policymakers have to carefully consider the cost-effectiveness of class size policies and determine for which students they work best and under what
conditions. Moreover, policymakers need a sense of the efficacy of small classes relative to other policy options. While a class size policy may yield a return on student achievement, a competing policy package of similar cost may promise an even better one.

The remainder of this chapter is separated into three sections. First, we review the academic and professional literature for evidence on the relationship between class size and student achievement. Second, we discuss Oregon’s existing conditions and review the Quality Education Model’s recommendations regarding class size. In a final section, we advance policy option recommendations.

**REVIEW OF THE LITERATURE¹**

In our earlier report, *The Condition of K-12 Education*, we outlined a host of variables that academics and education professionals have hypothesized affect student achievement. These variables include the socio-economic status of a child’s family and peers, the quality of her teacher, the overall level resources available to her school, and her degree of choice in educational options. Among the commonly hypothesized variables is the size of the student’s class.

In their attempts to link education policies to changes in student achievement, academics have two methods at their disposal. The gold standard is the randomized field experiment. The goal of the experiment is to create two groups of children that are virtually identical in every respect except one: the treatment—or in this case—the size of their class. Such an experiment has been conducted once in Tennessee.

Without these ideal randomized experiments, researchers fall back on more common, less expensive statistical techniques. Through these techniques, they attempt to assemble data on as many factors as possible that are hypothesized to affect student achievement. Then, with econometric models, they attempt to isolate the affect of each factor. In this area, the literature on class size is relatively robust and describes hundreds of studies of varying quality performed since the 1960s. Moreover, given the prominence of the class size debate, economists have spent considerable effort analyzing and sorting the good from the bad in an attempt to summarize and clarify the relationship between class size and student achievement.

In the balance of this section, we review the ongoing debate. We start with a discussion of the competing literature reviews advanced by Stanford University’s Eric Hanushek and Princeton University’s Alan Krueger. A review of the same set of 59 studies leaves Krueger optimistic and Hanushek pessimistic about the effectiveness of class-size reduction policies. We then turn to a discussion of the findings from the Tennessee STAR project, which, as the only randomized field experiment of a class-size policy, warrants an in-depth discussion. We conclude the literature review with findings from California’s CSR program, which was inspired by Tennessee STAR and is the nation’s highest profile, most recent attempt to reduce class sizes.
META-ANALYSES OF CLASS SIZE STUDIES

The academic literature attempting to link class size and student achievement is voluminous. Economists and other academics have conducted hundreds of studies with the goal of isolating the relationship between class size and a variety of measures of achievement. Stanford University’s Eric Hanushek is the recognized pioneer in his attempts to review and summarize the findings from this large body of work. In an influential 1997 literature review (CITE), Hanushek identified 59 studies that he deemed “high quality” and then analyzed 277 separate class size reduction estimates contained in those studies. He concluded that only 15 percent of the 277 estimated showed a positive (and statistically significant) relationship to achievement while 13 percent of the estimates suggested a negative relationship. The balance of estimate (60 percent) found no statistically significant relationship—positive or negative—to achievement (see Table 2.X, Column 1). From his review, Hanushek concluded that the findings on class size reductions are cloudy at best and, in the relatively rare instances in which a relationship is established, that relationship is just as likely to be negative as positive.

Princeton University’s Alan Krueger recently reanalyzed Hanushek’s 1997 review and concluded that Hanushek’s method of weighting findings misrepresented the literature. Most simply, Krueger argued that Hanushek’s “one vote per estimate” method had no statistical basis and that alternative methods suggested class size reductions, on balance, yielded positive impacts on student achievement. Krueger advanced three alternative methods of summarizing the findings from the 59 studies. The first method gave the findings of each study equal weight—regardless of the number of individual estimates it reported (that is, “one vote per study”). Krueger’s second method weighted studies according to the number of times they were cited in the academic literature assuming that academics would cite higher quality studies more often. Finally, in a third approach, Krueger developed a statistical model to estimate an “average” finding from each study (that is, Krueger’s so-called Selection-Adjusted weighting) and then assigned each study one vote. Within individual studies, this third method gives more value to estimates based on a full sample of students than estimates based on sub-samples or sub-populations, which are inherently more uncertain.

Columns 2 through 4 in Table 2-1 report the findings from Krueger’s reanalysis of Hanushek’s 1997 work. In short, each of his alternative weighting methods suggests that class size reductions, on balance, show more positive impacts than negative. The simplest method—one study, one vote—suggests 26 percent of studies show a positive impact, 10 percent a negative impact, and 51 percent no distinguishable impact at all. Krueger’s alternative weighting methods provide more support for class size reductions but—even these alternative schemes—show a large share of studies that fail to establish a relationship between class size reduction and achievement.
Table 2.1: Findings from Competing Reviews of 59 Studies Class Size Reduction

<table>
<thead>
<tr>
<th>Effect of Class Size Reduction on Student Achievement</th>
<th>Hanushek weights (1)</th>
<th>Krueger alternative weights</th>
<th>Selection-adjusted weighted studies</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive</td>
<td>15%</td>
<td>26%</td>
<td>31%</td>
</tr>
<tr>
<td>Negative</td>
<td>13%</td>
<td>10%</td>
<td>7%</td>
</tr>
<tr>
<td>Statistically insignificant</td>
<td>60%</td>
<td>51%</td>
<td>43%</td>
</tr>
</tbody>
</table>

Source: Adapted from Table 1-2 (page 14) in Mishel and Rothstein (2002)

Rather than referee this argument between two respected economists, we will simply note the two reviews have essentially bounded the evidence of quasi-experimental studies on class size reductions. At worst, according to Hanushek, class size reductions policies have a very weak, virtually non-existent link to student achievement. At best, according to Krueger, class size reduction policies may produce positive outcomes, but they are even more likely to yield no achievement improvement at all. In short, the literature suggests that if policymakers proceed at all in this area, they should do so carefully with a full understanding that the empirical evidence offers no guarantee of achievement gains.

TENNESSEE PROJECT STAR

The strongest argument in favor of class size reduction policies is associated with a single experiment conducted in Tennessee during 1985-1990. The only wide-scale, randomized field study of its kind, the Tennessee STAR project reduced class sizes in Kindergarten through Grade 3. All Tennessee elementary schools were invited to participate in the project and ultimately 79 schools did, which resulted in more than 6,000 students per grade level.

Students and teachers were randomly assigned to one of three class types:

1. **Regular classes.** Classes had student teacher ratios of 22-26 with part-time Basic Skills aides who were available 25 to 33 percent of the time.

2. **Regular classes with full-time aides.** Classes had student teacher ratios of 22-26 and had a full-time teacher’s aides.

3. **Small classes.** Classes had student-teacher ratios between 13 and 17.

Students remained in the same class type through the end of third grade and were randomly assigned a new teacher each year.

Project STAR’s key findings to date include:
• Students in small classes performed better than students in regular and regular/aide classes in all locations and at every grade level. STAR’s kindergarten students in small classes showed measurable achievement advantages over students in regular classes and regular classes with aides. The STAR-achievement advantage persisted through first grade with small class students scoring in the 64th percentile and 59th percentile in reading and mathematics, respectively, on the Stanford Achievement Test (SAT). Meanwhile, students in regular classes scored in the 53rd percentile in reading (11 percentage points lower) and the 47th percentile (12 percentage points lower) in mathematics.

• Small-class size effects diminish after first grade. Researchers concluded that the achievement gains were concentrated in Kindergarten and first grade. By reviewing cohorts of new students who entered the program in Kindergarten, they found the achievement gains were established in the first two years (K-1) and then declined slightly in Grade 2 and 3. Nonetheless, students in small classes continued to hold a measurable achievement advantage at end of the Grade 3. Researchers speculated that the class size effect may be pronounced in K-1 because children are not well socialized or familiar with classroom routines. They further argue that teachers can more easily manage the “better socialized” students in Grades 2 and 3.

• Adding aides to regular-sized classes was less effective than small classes in enhancing student performance. By the end of first grade, students in regular classes with full-time aides scored significantly higher on achievement tests than their peers in regular classes who had the part-time services of Basic Skills aides. At the end of third grade, however, the students with full-time aides slightly underperformed relative to students in regular classes.

• Small classes help low socioeconomic student achievement, but they also help high SES student achievement. Students in low-income families typically experienced higher achievement gains from small classes than students from middle-and upper-income families.

Not surprisingly, Krueger and Hanusek view the STAR findings differently. Hanushek believes a compromised randomization and poorly documented teacher selection processes cloud the STAR findings. Even if the findings are accepted at face value, Hanushek argues that Project STAR “speaks just to the possible small effects of major and costly reductions in class size at kindergarten or first grade. It provides no evidence about beneficial effects at later grades.” Krueger counters that STAR’s experimental methods were solid and the experiment “provides the most compelling evidence presently available [on the relationship between class size and achievement] (Mishel et. al. 2002).
Methodological debates aside, Project STAR’s findings relate to a single intervention conducted in a single place at an experimental (rather than full implementation) scale. Put simply, Project STAR suggests that moving from class sizes of 22 to 15 may work at certain grade levels in Tennessee. However, the project offers no evidence about moving from class sizes of 30 to 20 in Oregon. Moreover, the Project STAR research failed to document the specific classroom practices that produced the positive outcomes.

**CALIFORNIA CSR**

In mid-1996, California had some of the highest student-teacher ratios in the nation, and its 4th grade NAEP reading scores were the lowest among participating states. At the time, the findings of Tennessee STAR were still relatively new and suggested class size reductions could improve student achievement, particularly for low-income and minority students.

Passed in July 1996, California CSR was the largest, most coordinated effort to reduce class sizes in US history. California’s annual investment increased from $1.0 billion to $1.5 billion over the program’s first four years. The state offers schools $850 per student (originally $650) for every K-3 student in a class with 20 students or fewer. The initial years of implementation coincided with unprecedented growth in the state’s fiscal position fueled by an overheated economy.

Implemented during the fall 1996-2001, researchers released the following findings in late 2002.

- **California CSR implementation was rapid but to some extent failed minority and low-income students.** The voluntary program started in July 1996. During 1996-1999, the number of K-3 teachers in California increased 46 percent from 62,226 to 91,112. Implementation was slower in schools serving low-income students, the very population considered most likely to benefit from the policy.

- **California CSR’s effect on student achievement was inconclusive.** For the 1998 school year, with CSR partially implemented, researchers measured a small, positive association between CSR participation for third graders and state test scores after controlling for student and school characteristics. By 2001, CSR’s implementation across the state was complete, so researchers had no comparison group of K-3 students who remained in large classes. With no clear comparison group, researchers compared students with different levels of exposure to CSR given that the pace of CSR implementation varied across schools. While test scores increase contemporaneously with CSR implementation, researchers found no relationship between test scores and the amount of a student’s CSR exposure. In short, they could not attribute test score gains to CSR. Researchers cannot say definitively whether weaknesses in the CSR intervention, the research design, or both are to blame for the lack of measured impacts.
• **Rapid, large scale CSR implementation resulted in a shortage of qualified teachers.** With a 46 percent increase in K-3 teachers over a three-year period, schools struggled to find qualified teachers. Consequently, the share of K-3 teachers working with so-called emergency (incomplete) credentials increased from 1.8 percent in the program’s first year to 12.5 percent in the second year. By the 2000-01 school year, more than 20 percent of teachers were not fully credentialed in schools with high percentages of low-income students.

• **CSR placed stress on already overcrowded facilities and squeezed out other programs in some districts.** CSR creates an immediate demand for additional classroom space that many California schools were unable to easily accommodate. Consequently, space-constrained schools converted libraries, lunchrooms, auditoriums, and nearby community venues into classroom space. In addition, the state-funding formula for CSR overcompensated some districts for the marginal cost of the program and under-compensated others. In schools and districts where the state allotment proved insufficient given pre-CSR class sizes and facilities, school boards typically reduced spending on facility maintenance and administration. A number of districts also reduced spending on professional development, computer programs, and libraries.

• **CSR, despite its implementation challenges, proved popular with parents.** Surveys of parents during the early implementation of CSR indicated that satisfaction with educational services was highly correlated with class size.

The California experience provides a host of lessons and recommendations for districts and states considering class size reduction strategies. First, policymakers should implement the policy gradually, so as not to compromise teacher quality. In short, any achievement gains earned through lower class sizes could easily be erased by achievement losses through weakened teacher quality. Similarly, policymakers should ensure that facilities have reasonable capacity to absorb the expansion in the number of classes and avoid the often chaotic scrambling for class space reported by a range of California districts. Second, policymakers should allow some flexibility in the implementation of the class-size “treatment”. In California, CSR generally resulted in a “one size fits all” approach through which the state directed all participating schools to reduce K-3 class sizes to 20 or fewer. Ironically, few, if any, schools experimented with the lower class sizes (13 to 17) shown to be effective in Project STAR.
OREGON PRACTICES AND QEM RECOMMENDATIONS

A number of the conditions that California policymakers used to justify their CSR program hold true in Oregon today. As discussed in The Condition of K-12 Education in Oregon, student performance on the 4th grade NAEP reading examination is sub-par. Moreover, as shown in Table 2.2, Oregon’s class sizes and pupil-teacher ratios are among the highest in the nation.

Table 2.2: Comparative Class Sizes; Oregon and Five States with the Lowest Class Sizes (2000) or Pupil to Teacher Ratios (2002)

<table>
<thead>
<tr>
<th>Rank</th>
<th>State</th>
<th>Average</th>
<th>Median</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>NE</td>
<td>17.5</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>ND</td>
<td>17.8</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>SC</td>
<td>17.9</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>ME</td>
<td>18.0</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>VT</td>
<td>18.1</td>
<td></td>
</tr>
<tr>
<td>49</td>
<td>Oregon</td>
<td>23.9</td>
<td></td>
</tr>
</tbody>
</table>

Class size reductions are an implicit feature of Oregon’s Quality Education Model (QEM). The QEM’s full implementation prototype contains three policy categories that directly address class size or student-to-staff ratios: elementary class size, core subject staffing in middle and high schools, and subject area specialists. Table 2.3 reports existing or “baseline” levels (Column 1) and full-prototype recommended levels (Column 2) for each policy area. For example, the Oregon Department of Education estimates that the baseline Kindergarten and Grade 1-3 class size stands at about 24 students while the QEM full implementation prototype recommends a class size of 20 at those levels.

Under staffing for core subjects—which relates to the middle and high school levels—ODE reports 20.8 and 42.0 staff members for the middle and high school levels, respectively. The QEM suggests the middle school staff levels are about right and recommends that high school staffing increase to 44.

Finally, the QEM calls for subject area specialists in elementary, middle, and high schools: 4.5 per elementary school (up from 2.2), 1.5 per middle school (up from 0.5), and 3.0 per high school where none currently exist.
The third column reports the estimated cost if these approaches had been implemented in the 2003-05 biennium. The most expensive category is the subject area specialists for elementary schools, which total $236 million for the biennium; this translates to roughly $462 per elementary student per year\(^5\). Reducing Grade 1-3 class sizes falls next in line at $153.6 million per biennium. Implemented as a package, the QEM's full-implementation recommendations related to class size call for $566.6 million in the 2003-05 biennial budget, or an 11 percent increase above baseline costs.

Table 2.3 Quality Education Model Recommendations Related to Class Size, Estimated Staff Levels and Costs Related to the 2003-05 Biennium

<table>
<thead>
<tr>
<th></th>
<th>ODE Estimated Baseline Level</th>
<th>QEM Full Implementation Prototype</th>
<th>Estimated Cost per Biennium</th>
<th>Cost Expressed as a Share of State School</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Elementary Class Size</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Kindergarten</td>
<td>23.5</td>
<td>20.0</td>
<td>15,252,309</td>
<td>0.3%</td>
</tr>
<tr>
<td>Grade 1-3</td>
<td>24.0</td>
<td>20.0</td>
<td>153,612,539</td>
<td>3.0%</td>
</tr>
<tr>
<td>Grade 4-5</td>
<td>24.0</td>
<td>24.0</td>
<td>0</td>
<td>0.0%</td>
</tr>
<tr>
<td><strong>Number of Staff in Core Subjects</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Middle</td>
<td>20.80</td>
<td>21.0</td>
<td>7,128,353</td>
<td>0.1%</td>
</tr>
<tr>
<td>High</td>
<td>42.00</td>
<td>44.00</td>
<td>47,390,306</td>
<td>0.9%</td>
</tr>
<tr>
<td><strong>Subject Area Specialists (Reading and Mathematics)</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elementary</td>
<td>2.20</td>
<td>4.50</td>
<td>235,539,226</td>
<td>4.6%</td>
</tr>
<tr>
<td>Middle</td>
<td>0.50</td>
<td>1.50</td>
<td>35,641,764</td>
<td>0.7%</td>
</tr>
<tr>
<td>High</td>
<td>0.00</td>
<td>3.00</td>
<td>71,085,460</td>
<td>1.4%</td>
</tr>
<tr>
<td><strong>TOTAL QEM COST OF STRATEGIES RELATED TO CLASS SIZE</strong></td>
<td></td>
<td></td>
<td>565,649,957</td>
<td>11.0%</td>
</tr>
<tr>
<td><strong>ESTIMATED BASELINE 2003-05 STATE SCHOOL FUND REQUIREMENT</strong></td>
<td></td>
<td></td>
<td>5,139,048,985</td>
<td></td>
</tr>
</tbody>
</table>

Source: ECONorthwest adapted from Oregon Department of Education analysis

**POLICY OPTIONS**

While the research community has spent considerable time and effort analyzing class size policies, it has not definitively accepted or rejected small classes as a cost-effective policy to improve student achievement. The Project STAR findings, while impressive and far more rigorous than evidence on most education reforms, speak to a single approach implemented in a single state. While STAR suggests that moving from 22 to 15 students in the K-3 grades yields achievement gains in Tennessee, the project offers no evidence on the effectiveness of moving from 30 to 25 students or from 25 to 20. Moreover, STAR is silent from Grade 4 onward. After Project STAR, the balance of the literature, all non-experimental, is cloudy at best. Even Princeton’s Krueger, who is generally optimistic about the efficacy of such policies, essentially concludes that studies are more likely to find no effect of class size than a positive one.

In short, the research community has offered Oregon’s policymakers no clear-cut evidence to fully embrace or abandon class size reduction policies. Given this considerable uncertainty, the following features would greatly improve a program’s likelihood for success:
• **Target investments on any class size reductions on Grades K-1 but permit flexibility to test other models in the early grades.** (Promising Practice) The literature suggests policies have the highest likelihood to generate achievement gains at the K-1 level. Moreover, within those grades, students from low-income families appear to benefit more than students from middle- and upper-income families. Therefore, a phased-in strategy could start small with schools in low-income areas and progress gradually to higher income areas as financial resources, the supply of qualified teachers, and facilities allow. Drawing from the QEM recommendations, reducing class sizes at the K-1 only would cost about $65 million per biennium, or 1.3 percent in addition to the state’s baseline spending. However, Project STAR’s findings support lowering class sizes below the QEM’s recommended 20. If the only true experiment ever conducted in this policy area found impacts with class sizes of 13 to 17, it seems logical to test these lower levels for some schools.

The limited evidence weakens somewhat beyond the first grade. Krueger and others point to STAR’s longer-term impacts and argue that students with class size reductions throughout their K-3 experience show improved test scores at the middle-school level. Hanushek would argue class size reductions at Grades 2 and 3 are either non-existent or so tiny that their costs far exceed their benefits. After third grade, no strong empirical evidence exists to suggest that the benefits of class size reductions exceed their costs.

Given so many unknowns about class size persist, policymakers should allow flexibility and experimentation and allow localities to explore best practices. First and foremost, local districts with no interest in reducing class sizes should not have to. The underlying evidence is not strong enough to support a mandatory policy. Moreover, Oregon should learn from California’s mistake in this area. With essentially a “one size fits all” approach, California was left no comparison group (large class size districts) with which to gauge the effectiveness of its policy and little, if any, variation in the class size policy (that is, most districts drove K-3 classes to 20). Researchers in California have highlighted a number of policy variations that, in retrospect, they would have liked to have tested through more flexible implementation. For example, classes of 13-17 at K-1 for all students or all K-3 low-income students, and smaller classes targeted for new teachers.

Researchers distinguish between policies that *complement* and *compete* with class size reductions. Complementarily policies might increase the likelihood that class size reductions will produce a positive and include teacher professional development and mentoring. By contrast, competing policies increase the cost of class size reductions and potentially compromise their impacts. Competing policies included extended school days or school years,
increased teacher salaries, and alternative school settings for at-risk students.

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2 Hanusek considered studies only if they were included in a book or journal, controlled for family background, and had at least one measure of resources available to the schools.

3 The summary of Tennessee Project STAR was derived from Word, Elizabeth and others. The State of Tennessee’s Student/Teacher Achievement Ratio (STAR) Project: Final Summary Report. Tennessee State Department of Education. Nashville, TN.

4 The summary of California’s Class Size Reduction Initiative was derived from Bohrnstedt, George and Brian Stecher editors. September 2002. What We Have Learned About Class Size Reduction in California. California Department of Education. Sacramento, CA.

5 To calculate the annual costs, we divide the biennium cost for the category ($236 million) by two and divide that result ($118 million) by the number of elementary school students (254,983).
INTRODUCTION

Any discussion of ways to improve schools must address the people directly involved in providing education: teachers and administrators. Numerous studies have documented that students taught by effective teachers outperform students taught by ineffective teachers.¹ This difference is most pronounced for students frequently considered the most challenging: those who have a history of low performance.²

Almost all 50 states have enacted legislation to improve teacher recruitment or enhance education certification.³ Emerging research is finding that teachers who have high verbal and cognitive ability, have received focused training on educational foundations and content-specific pedagogy, and have a background in the subject matter they teach are able to elicit greater gains in student learning.⁴ This line of research also shows that even though states vary greatly in the number and type of policies in place, the states with the most qualified teachers tend to have the most successful students.

This chapter does not identify specific causal relationships between teacher quality and student achievement, but does examine all the variables that have been suggested as having the strongest relationships with student learning. While the existing research identifying causal relationships between specific teacher attributes and behaviors and specific student learning outcomes is referenced at various points in this chapter and others, those findings continue to evolve rapidly so that in all likelihood the relationships will be more strongly established reasonably soon. When this occurs, it will lead to potentially revolutionary changes in the role of teacher and what is expected of teachers in terms of all the areas discussed in this chapter. Until this body of research matures, it is possible to offer intriguing glimpses into the variables that may be most closely associated with student learning and how best to maximize teacher quality in these areas.

This chapter presents results in five policy areas related to staff quality that were determined to benefit student achievement the most. They are:

- Teacher Recruitment
- Teacher Preparation
- Teacher Retention
- Teacher Professional Development
- Principal and Administrator Leadership.
While the state of the research is highly variable among these five areas, all have been examined by means of a range of studies employing quantitative and qualitative methodologies that, while they rarely establish true causal relationships, provide insight into the potential effects of policies and practices in each of these areas on student achievement.

TEACHER RECRUITMENT

When the robust body of literature demonstrating the critical link between teacher quality and student achievement is coupled with the projection that somewhere between 1.7 million and 2.7 million new teachers will be needed by 2008-09, a clear area of concern is the qualification of teachers entering the profession. This chapter will first summarize what is known about the projected need for new teachers and will then discuss factors related to teacher quality that should be considered in the area of teacher recruitment.

Nationally, urban and rural areas have the greatest demand for teachers. Recent reports also indicate a demand for teachers with specialized skills in special education, mathematics, science, bilingual education, and technology education. Table 3.1 presents a rank-ordered listing of the areas of greatest educational staffing need for the nation as a whole and for Oregon in 2002-2003.

Table 3.1: National Areas of Greatest Need and Projected Shortage Areas for Oregon Educators, 2002-03

<table>
<thead>
<tr>
<th>National Area of Greatest Need</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Special Education</td>
<td>1</td>
</tr>
<tr>
<td>Bilingual education</td>
<td>2</td>
</tr>
<tr>
<td>Science (Physics)</td>
<td>3</td>
</tr>
<tr>
<td>Mathematics, speech pathologists, science</td>
<td>4</td>
</tr>
<tr>
<td>Computer education</td>
<td>5</td>
</tr>
<tr>
<td>Foreign language (Spanish), technology education</td>
<td>6</td>
</tr>
<tr>
<td>English as a second language</td>
<td>7</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Projected Oregon Educator Shortage Areas</th>
<th>Rank</th>
</tr>
</thead>
<tbody>
<tr>
<td>Special Education</td>
<td>1</td>
</tr>
<tr>
<td>Mathematics</td>
<td>2</td>
</tr>
<tr>
<td>Counselors</td>
<td>3</td>
</tr>
<tr>
<td>Speech pathologist, foreign language (Spanish)</td>
<td>4</td>
</tr>
<tr>
<td>High school principals. Technology education</td>
<td>5</td>
</tr>
<tr>
<td>Library media, science, superintendents</td>
<td>6</td>
</tr>
<tr>
<td>English as a second language and bilingual education</td>
<td>7</td>
</tr>
</tbody>
</table>

Source: Oregon School Personnel Association
Certain state and local policies make it more difficult for school districts to recruit experienced teachers from out of state to fill job openings. Some of these policies may increase the likelihood that a school will offer a job to a less experienced applicant. Examples of difficulties include but are not limited to:

- Lack of reciprocity to allow veteran teachers to transfer from out of state
- Restrictions on pensions
- Policies that encourage the hiring of less-experienced teachers to save money on teacher salary

In addition, efforts to recruit experienced teachers from other states involve potentially greater expense in terms of travel and relocation incentives with no guarantee that the efforts will be rewarded. In light of these challenges, it is unlikely that teacher shortages will be addressed in any substantive way through policies to hire experienced teachers from other geographic regions of the country. Thus, the remainder of this section will focus on recruitment of new teachers to the profession.

**LITERATURE REVIEW**

The literature on recruitment is comprised of descriptive reports of current conditions and analyses of projected trends. Trends in recruitment show a shift over the last decade from general teacher shortages to shortages in specific regions and subject areas. Student enrollments are expected to continue to grow in western and southern states. Estimates predict two million teachers will be needed in the next decade. Hiring decisions will likely focus on filling positions in specific subject areas including special education, mathematics, science, bilingual education and education technology.

Low salary is often cited as a reason for the shortage of qualified teachers. When compared on an hourly basis to the earnings of other professionals with equivalent training and education, teachers make about 20 percent less. Teacher salaries compared on a per diem basis, particularly when benefits are included, compare much more favorably.

However, salary offers for college graduates in all fields have grown at twice the rate of new teachers’ salaries, and the difference in starting salaries between teachers and other professions was $13,726 in 2001. Although research on the actual effect of salary on teacher recruitment is inconclusive, several studies have reported that differences in starting salary play a particularly important role in the ability of districts to recruit new teachers. Other studies report that the effect of salary might well be confounded by other factors such as working environment and intellectual compatibility of colleagues.
The challenge of recruitment is exacerbated by the need to ensure that schools hire highly qualified teachers. The result is that states often establish ambitious recruitment policies at the same time that they are employing more rigorous licensure standards. States differ greatly in terms of how they deal with the tension that result from such conflicting pressures. Some hold staunchly to their policies on standards for teacher licensure while others either do not have such standards or fail to enforce them.

Linda Darling-Hammond discusses the discrepancies in her widely cited analysis of state performance data and educational policies. Comparing student performance on the National Assessment of Educational Progress (NAEP), she found a strong correlation between states’ hiring practices and student performance. Students from states with a higher proportion of licensed teachers significantly outperformed students from states that allowed hiring of non-licensed teachers. The differences were dramatic: states with strong teacher licensure requirements ranked highest on the NAEP, while states with greater numbers of non-licensed teachers ranked lowest. Although her study has been criticized for analyzing data at a state- rather than district-level, the findings have been supported in other research. Thus, when considering recruitment policies, it is important to keep sight of standards for quality as well.

Nationally, teachers who have yet to meet licensure requirements are disproportionately found in low performing rural and urban schools. This trend may not be as distinct in Oregon, in part because there is less economic and residential polarization in the state and school districts have somewhat greater ability to distribute teachers more equitably because few districts are composed exclusively of low performing schools. Because more qualified teachers tend to be found in suburban districts, rural and urban districts often meet their demand for new teachers by hiring minimally qualified teachers. Exacerbating this problem, many of these minimally prepared teachers are also hired to teach in areas in which they did not major. This situation is generally referred to as teaching “out of field.”

Even within districts, great variation in the quality of teachers can exist, and this variation is often correlated with specific school demographics, with the best-prepared teachers selecting the schools with the least challenging student population, with subsequent inequities in funding. A promising practice to combat this trend is moving towards a student-based budgeting model rather than a staff-based funding model. A student-based budgeting model allocates an amount of money per student based on the challenges associated with teaching that student. Each school has a budget and must hire its teachers based on their actual salaries, not an “FTE” (Full-Time Equivalency) model in which a school receives staff allocations and is not responsible to consider staff salaries. Research on the effectiveness of moving to a student-based budgeting model to more equitably distribute high-quality experienced teachers within districts has been conducted in Cincinnati, Seattle, and Baltimore. The rigor of the research and conclusiveness of the findings moves it to near proven practice level, despite its fairly recent arrival on the scene. This practice helps increase equity among schools and spreads
teachers experience and potentially expertise more equally throughout the system, which creates the potential for greater student achievement in all schools, not just those located in privileged communities with easy-to-educate students. This approach is cost-neutral, since it reallocates resources rather than requiring new resources to be infused into the system.

Rather than focusing on redistributing resources within states and districts, some states have turned their attention to recruiting people who possess traits valued in teachers and providing them with alternative routes to licensure. Some of these efforts have focused on recruiting academically talented college students into teaching, while others have attempted to hire successful professionals from other fields, such as science and engineering, into the classroom. The effectiveness of such alternative licensure programs in terms of teacher preparation and retention will be discussed in greater depth in later sections. Research on the effectiveness of such alternative licensure programs to recruit high-quality teachers is inconclusive.

Proponents of fast-track certification programs suggest that reducing the time needed for highly educated individuals to earn their teaching licenses by providing them with a shorter route to becoming teachers will result in an increase in the number of qualified teachers in high-need areas. Critics contend that such programs actually end up providing students with a poorer quality education as well as costing schools more money because teachers without sufficient preparation are more likely to leave the profession.

Several states have reported some success in increasing the number of teachers in the pipeline by offering alternative routes to licensure. As of 2000, more than 115 alternative licensure programs currently operate. Many states target these programs specifically to increasing the number of teachers in shortage areas. The most successful alternative licensure programs employ rigorous screening, are based in schools, place teachers in subjects in which they hold a degree, work closely with quality mentors, and meet high performance standards. One research study indicates that secondary school math and science teachers taught by teachers who hold a degree in that subject have a strong positive impact on student achievement, even when those teachers have not been through a traditional teacher education program.

Alternative routes to certification, such as the “Troops to Teachers” program, have been around for more than a decade. Nearly all states now have some sort of alternative licensing process that allows applicants to avoid traditional teacher education programs. Some programs specifically target professionals from fields such as computer software engineering or other areas where workers possess skills difficult to find in teachers who pursue traditional certification routes. The number of individuals participating in these programs has increased annually over the past 15 years since their inception in the early 1990s. These teachers are generally older, are making a definitive decision to teach and therefore are less likely to leave teaching, and receive some sort of intensive, mentor-based experience before entering the classroom on their own. In 2003, 46 states had 144 different alternative
routes to certification. In Texas and New Jersey, 24% of new teachers were certified through alternative means in 2003. An estimated 200,000 people have entered teaching through alternative certification routes since 1984.\textsuperscript{25}

As described earlier, however, critics argue that many of these programs are producing individuals lacking competencies necessary to teach students, and that a disproportionately high number of teachers who enter the profession through alternative routes leave within five years.\textsuperscript{26}

The experience of Massachusetts’ Institute for New Teachers (MINT) can serve as a cautionary tale about the prospects of fast-track programs to recruit large numbers of highly qualified teachers to the profession. Established in 1998, MINT offers a seven-week course of study designed to prepare college graduates with strong content area knowledge for public school teaching. Although the program was established in part in reaction to the low performance of pre-service teachers on the state’s first teacher test in 1998, MINT graduates have performed even more poorly on the teacher test than pre-service teachers enrolled in traditional teacher education programs. In addition, MINT has had difficulty finding qualified applicants even when offering substantial scholarship incentives and $20,000 signing bonuses.\textsuperscript{27}

Some studies have used the ACT and/or SAT scores of entering college freshmen as a means by which to compare the relative quality of students entering different professions. One such study found that although education majors’ scores were worse than the general student population receiving bachelor’s degrees, the difference washed out when the comparison was limited to those who actually earned teaching licenses.\textsuperscript{28} It should be noted that the use of ACT/SAT scores in this way is questionable, not only because it ignores any intervening influence that attending college might have on students’ academic preparation, but also because neither the ACT nor the SAT have been validated for this purpose. Both tests are designed to measure high school students’ likelihood of successfully completing their first year in college, not how well qualified they will be to enter the workforce five or more years later.

We move now to a discussion of promising practices in the area of recruiting highly qualified teachers to the profession.

**PROMISING PRACTICES**

Many states including Washington, California, Florida and Missouri have implemented policies in conjunction with community colleges to increase the number of individuals interested in joining the teaching profession.\textsuperscript{29} Strategies include stimulating interest at the high school and community college levels by offering scholarships and loan forgiveness programs. Some states recruit candidates before they enter college through career fairs and education clubs.

South Carolina has established the Center for Teacher Recruitment, a pre-collegiate recruitment organization. Elementary students are exposed to
teaching through career fairs, middle school students can enroll in a program that shows students how to plan for college, and high school students can enroll in courses that allow them to have hands-on experiences in the classroom. The effects of the program appear to indicate some promise, with more than 2,000 former “cadets” now teaching in the state. Of course, such results must be interpreted with caution, as the program should currently be regarded as an innovative practice based on sound theory rather than anything more definitive.

Connecticut is home to a practice with more empirical support. Faced with teacher shortages and a desire to improve student performance on the NAEP, Connecticut instituted one of the most comprehensive educational reforms of the last decade. In 1996, the state passed the Educational Enhancement Act, allocating over $300 million to increase starting salaries in all schools across the state so that low-wealth districts could compete for qualified teachers. Concurrently, the state increased the requirements for teacher licensure, requiring a major in the content area to be taught plus classes in teaching and learning. Teacher salaries in Connecticut are now the highest in the nation, which has helped contribute to teacher surpluses.

North Carolina, Pennsylvania, and South Carolina have created websites that allow teachers to search for and apply to open positions throughout the state as opposed to applying to each individual district. No empirical work on the effectiveness of such web-based recruitment strategies exists, but the format saves schools money, as they can quickly and efficiently post jobs that will be seen by a larger audience than would be reached by a newspaper advertisement. Expanding the potential applicant pool in this manner may help districts in their effort to recruit more qualified teachers. Such efforts may help districts attract teachers from other areas in their state and the nation where teacher surpluses exist.

Perhaps the most promising practice in terms of recruiting highly qualified teachers to work with the most challenging student populations involves the research on moving from staff-based to student-based funding models within states and districts discussed in the literature review section. Not only were urban school districts in Cincinnati, Seattle, and Baltimore that moved to a student-based budgeting model able to more equitably distribute their experienced teachers across schools in their districts, all three also documented a correlated increase in student performance at their lowest-performing schools. It should be noted that this funding model has been tested in urban districts to date, and the results may not generalize to more rural or even suburban districts.

**OREGON CONTEXT**

The Oregon Teachers Standards and Practices Commission’s (TSPC) *K-12 Educator Supply and Demand Snapshots* report discusses recruitment practices. Results from a survey included in the report show 54 percent of Oregon principals experienced difficulty recruiting teachers in the past two years in the ethnic minority, gender diversity, and/or native-speakers
categories. The survey also documented that geographic regions in Oregon experiencing the most trouble recruiting diverse candidates are the north coast, eastern Oregon, Salem metro and the Columbia Gorge/central Oregon.

Surveys completed by principals throughout the state in the report *Oregon School Principals’ Study 2000* indicated that of the new initially licensed teachers, 92 percent of elementary, 94 percent of middle school and 91 percent of high schools rated their new teachers as very well prepared or fairly well prepared. The survey results go on to show that nearly twice as many of the new initially licensed teachers were reported to be very well prepared as compared to teachers from two years previous. A survey of cooperating and supervising teachers of student teachers showed similar results: Student teachers were rated as excellent or good by 92 percent of the 758 responding cooperating teachers.

As Table 3.2 illustrates, Oregon has made progress toward licensing teachers in the shortage areas identified in Table 3-1. Each of Oregon’s key shortage areas has experienced a greater than 100 percent growth of newly licensed teachers. The greatest growth has occurred in the preparation of licensed math instructors, with an increase of well over 300 percent since 2000-01. However, the majority of licensed teachers for the areas of SPED, Spanish, Chemistry, Technology, and ESOL continue to be prepared in states other than Oregon.

<table>
<thead>
<tr>
<th>Shortage Areas</th>
<th>2000-01</th>
<th>2002-03</th>
<th>Percent change</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Prepared at Oregon Institutions</td>
<td>Prepared in Other States</td>
<td>Total</td>
</tr>
<tr>
<td>Education</td>
<td>176</td>
<td>25</td>
<td>201</td>
</tr>
<tr>
<td>Math</td>
<td>63</td>
<td>17</td>
<td>80</td>
</tr>
<tr>
<td>Physics</td>
<td>4</td>
<td>4</td>
<td>8</td>
</tr>
<tr>
<td>Spanish</td>
<td>35</td>
<td>4</td>
<td>39</td>
</tr>
<tr>
<td>Chemistry</td>
<td>17</td>
<td>4</td>
<td>21</td>
</tr>
<tr>
<td>Technology</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Education</td>
<td>5</td>
<td>2</td>
<td>7</td>
</tr>
<tr>
<td>Reading</td>
<td>16</td>
<td>6</td>
<td>22</td>
</tr>
<tr>
<td>ESOL/Bilingual</td>
<td>103</td>
<td>8</td>
<td>111</td>
</tr>
</tbody>
</table>

Source: Teachers Standards and Practices Commission

While Oregon’s public schools have experienced significant demographic shifts in enrollment in the past decade that are projected to continue, the proportion of minority teachers employed in the state has changed very little since 1992. Table 3.3 shows a slight increase in percentage of minority teachers over the last decade.
Table 3.3: Teachers employed in Oregon

<table>
<thead>
<tr>
<th>Year</th>
<th>All Teachers</th>
<th>Total Minority Teachers</th>
<th>Percent minority</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td>28,849</td>
<td>1,252</td>
<td>4.4%</td>
</tr>
<tr>
<td>1999</td>
<td>29,878</td>
<td>1,234</td>
<td>4.1%</td>
</tr>
<tr>
<td>1998</td>
<td>29,335</td>
<td>1,186</td>
<td>4.0%</td>
</tr>
<tr>
<td>1992</td>
<td>29,153</td>
<td>1,031</td>
<td>3.5%</td>
</tr>
</tbody>
</table>

Source: Teachers Standards and Practices Commission

Table 3.4 presents the demographic changes observed in Oregon’s schools. Enrollment by Hispanic students has increased at an average rate of 10% per year since 1989-90. Hispanic students can be expected to continue to account for an increasing share of Oregon’s total student body. These demographics suggest a continued need for recruitment and training of teachers with skills for working with diverse student populations.

Table 3.4: Fall Enrollment (October 1) in Oregon Public K-12 Schools, by Race and Ethnicity, 1989-90 through 2003-04

<table>
<thead>
<tr>
<th>School Year</th>
<th>White</th>
<th>Black</th>
<th>Hispanic</th>
<th>Asian/Pacific Islander</th>
<th>American Indian / Alaskan Native</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1989-90</td>
<td>421,240</td>
<td>11,238</td>
<td>18,742</td>
<td>13,095</td>
<td>8,079</td>
<td>472,394</td>
</tr>
<tr>
<td>1990-91</td>
<td>430,513</td>
<td>11,421</td>
<td>21,200</td>
<td>13,574</td>
<td>7,944</td>
<td>484,652</td>
</tr>
<tr>
<td>1991-92</td>
<td>439,351</td>
<td>11,998</td>
<td>24,165</td>
<td>14,359</td>
<td>8,741</td>
<td>498,614</td>
</tr>
<tr>
<td>1992-93</td>
<td>446,251</td>
<td>12,220</td>
<td>27,115</td>
<td>15,360</td>
<td>9,176</td>
<td>510,122</td>
</tr>
<tr>
<td>1993-94</td>
<td>447,781</td>
<td>12,630</td>
<td>30,244</td>
<td>16,137</td>
<td>9,819</td>
<td>516,611</td>
</tr>
<tr>
<td>1994-95</td>
<td>449,120</td>
<td>13,190</td>
<td>32,787</td>
<td>16,700</td>
<td>10,148</td>
<td>521,945</td>
</tr>
<tr>
<td>1995-96</td>
<td>450,276</td>
<td>13,556</td>
<td>36,059</td>
<td>17,720</td>
<td>10,303</td>
<td>527,914</td>
</tr>
<tr>
<td>1996-97</td>
<td>455,045</td>
<td>13,714</td>
<td>40,118</td>
<td>18,060</td>
<td>10,917</td>
<td>537,854</td>
</tr>
<tr>
<td>1997-98</td>
<td>452,163</td>
<td>14,139</td>
<td>43,712</td>
<td>19,209</td>
<td>11,156</td>
<td>540,379</td>
</tr>
<tr>
<td>1998-99</td>
<td>450,116</td>
<td>14,757</td>
<td>47,029</td>
<td>19,831</td>
<td>11,134</td>
<td>542,867</td>
</tr>
<tr>
<td>1999-00</td>
<td>446,480</td>
<td>15,064</td>
<td>51,543</td>
<td>20,610</td>
<td>11,388</td>
<td>545,085</td>
</tr>
<tr>
<td>2000-01</td>
<td>440,898</td>
<td>15,455</td>
<td>56,377</td>
<td>21,560</td>
<td>11,390</td>
<td>545,680</td>
</tr>
<tr>
<td>2001-02</td>
<td>438,875</td>
<td>16,061</td>
<td>62,394</td>
<td>22,642</td>
<td>11,707</td>
<td>551,679</td>
</tr>
<tr>
<td>2002-03</td>
<td>435,087</td>
<td>16,455</td>
<td>67,515</td>
<td>22,733</td>
<td>11,994</td>
<td>553,784</td>
</tr>
<tr>
<td>2003-04</td>
<td>424,561</td>
<td>16,586</td>
<td>73,288</td>
<td>24,528</td>
<td>12,653</td>
<td>551,616</td>
</tr>
</tbody>
</table>

Average Annual Growth Rate 89-90 to 03-04: 0.06% 2.82% 10.23% 4.58% 3.26% 1.11%

Source: Oregon Department of Education
Note: White category includes students with unknown race and ethnicity.

**TEACHER PREPARATION**

Licensure or certification, two terms often used interchangeably, serves as the primary gate-keeping mechanism for the teaching profession. This mechanism was created as a means to ensure that an individual has acquired the minimum skills necessary to teach prior to being hired to work as a teacher. States vary in the type and amount of requirements they have for teacher licensure. Common requirements include completion of an accredited teacher education program, student teaching, and a recommendation from a
teacher education institution. Many states also require pre-service teachers to pass a certification test.\textsuperscript{37}

In addition to the traditional routes to teaching, many states have instituted alternative routes to earning a teaching license, a policy that was discussed earlier in this chapter in some detail. Determining the effect of teacher licensure on student performance is a complex task, for there is a great deal of variation in the knowledge and skills that such licensure is supposed to certify. A teacher fully licensed in one state may not meet basic licensure requirements in a neighboring state, for example, and the rigor of the coursework offered by different teacher preparation programs within a single state varies tremendously.\textsuperscript{38}

Despite this complexity, however, sufficient research exists in some areas to warrant some tentative conclusions. In this section, a summary of the research on teacher preparation—including subject matter knowledge, pedagogical knowledge, general knowledge / verbal ability, and level of education—is provided.

**LITERATURE REVIEW**

The effect of subject matter knowledge on teachers’ effectiveness depends, in part, on the complexity of the material the teacher is presenting. In elementary school, for example, no relationship has been found between teacher certification in math and student math achievement or between teacher degree in English and student reading achievement.\textsuperscript{39} As the subject matter becomes more complex and specialized, however, teacher expertise in the content becomes more important.

Consistent and strong support has been found for the conclusion that high school math and science students taught by teachers who major in math or science outperform their peers taught by teachers with less content expertise, even when controlling for students’ socio-economic status and prior achievement.\textsuperscript{40} The impact of having a teacher with a strong background in math or science is even more significant in advanced courses, such as calculus and physics.\textsuperscript{41} Since schools in depressed economic areas are more likely to have teachers not licensed in math, this is a potential approach to consider in school improvement efforts.

In addition, numerous studies confirm the positive impact of pedagogical coursework at all grade levels.\textsuperscript{42} Teachers who have taken classes targeting methods of teaching specific to their teaching assignment outperform their colleagues who are lacking this background learning. Researchers reported that high school students taught by fully licensed teachers tended to have higher levels of performance in math and science.\textsuperscript{43} The American Institutes for Research concluded that the only two characteristics that positively affected student math achievement were whether their teachers were certified and had majored or minored in math.
The Center for the Study of Teaching and Policy (CSTP) completed an analysis of the impact of state teacher preparation policies on student achievement. The analysis used national surveys of state policies, case studies of state reform activities, and state-level data on teachers and other school resources, as well as student achievement, to examine how teachers' qualifications can alter achievement. Their findings suggest that the research on the effect of alternative routes to certification is as yet unclear. Alternative routes seem to attract a more diverse group of prospective teachers in terms of ethnicity and age. However, teachers who enter the profession through alternative routes do not appear to have any advantage over their colleagues who follow traditional routes to certification in terms of their GPAs or subject matter and pedagogical knowledge. Teachers who have completed alternate certification programs that include rigorous coursework and intensive supervision and mentoring seem to perform just as well as their traditionally-prepared colleagues, as measured by student performance on the Iowa Test of Basic Skills, self-reports of job satisfaction, and evaluations by school supervisors. The authors note, however, that “successful alternate routes to teacher certification appear to be resource- and labor-intensive.”

The components of the best teacher preparation programs—whether alternate or traditional—are similar. They include:

- High standards for admittance to the program
- Consistent and regular supervision and mentoring
- Sufficient pedagogical training that includes instruction, curriculum, management, and meeting diverse student needs
- Regular and in-depth evaluation
- Guided practice planning lessons and teaching prior to assuming full responsibility for a classroom
- High standards for exit from the program.

Over 40 states have education policies that include multi-tiered licensure for teachers. These policies require teachers to go beyond their initial license to attain a second license. While the majority of these states use the number of years’ teaching as a basis for fulfilling the second tier requirements, some states, such as California, use this model as a means to connect pre-service education with professional development and advanced degrees.

Another variation of the multi-tiered licensure model is to create a performance-based licensure system, where the tiers of licensure are tied to established standards of what teachers should know and be able to do at different stages of their career. This use of multi-tiered licensure requires teachers to show results from their professional development time or mastery of teaching competencies. Some states have tied compensation to advancing from one tier to the next as a means to motivate teachers to improve their
practice. North Carolina and Connecticut, two states that have been particularly successful in improving student performance on the NAEP, use their rigorous licensing requirements as leverage. Both will be discussed in the Promising Practices section below.

While the majority of teachers follow a traditional path to licensure, a small number of individuals pursue alternative routes to certification. These requirements are usually less stringent and allow individuals a much quicker means to achieve licensure. The most visible examples include Troops to Teachers and Teach for America. Teach for America is a highly publicized example of an alternative route to certification; however, research to date shows limited support for creating cohorts of teachers who are as effective as traditionally trained teachers.

In some cases, alternatively certified teachers may experience more difficulty due to limited pre-service training, especially in classroom management skills. Limited support exists for both short and long-term retention rates for alternatively trained teachers. The National Center for Education Statistics reports that new teachers who begin teaching prior to receiving certification leave the profession at a much higher rate than their fully certified colleagues. In one study, NCES researchers found that 49% of non-certified teachers left within 5 years, compared to only 14% of certified teachers.

PROMISING PRACTICES

All states currently require teachers to have a bachelor's degree for full licensure and to have completed a teacher-preparation program. Some states also require teacher candidates to take tests designed to assess their mastery of pedagogical skills and/or subject matter. Licensure requirements vary from state to state, and once certified, teachers in most states must renew their certification or license periodically. The current trend for most states is to use a multi-tiered system of licensure where teachers move from a provisional license to full licensure as they complete additional coursework or meet professional development requirements. Many states recognize certification from the National Board for Professional Teaching Standards (NBPTS) as the highest tier in their licensure system.

Since 1994, the NBPTS has certified 31,140 teachers across the United States. To earn Board certification, a teacher must have at least three years of full time teaching experience, hold a baccalaureate degree from an accredited institution, be fully licensed by a state teacher licensing agency, and successfully complete a rigorous year-long assessment. The first part of the assessment involves the development of a teaching portfolio to document that the teacher has met the NBPTS standards for teaching; portfolios include both reflective writing to address key standards of professional educators and annotated student work samples along with classroom artifacts that serve as evidence of student learning. Development of the portfolio normally takes between 400 and 600 hours. The second part of the assessment requires teachers to go to an assessment center to answer a
series of constructed-response questions designed to assess the candidate’s knowledge of pedagogy, curriculum, and instruction relevant to the specific subject and age level in which Board certification is sought.51

The research community is still debating the degree to which NBPTS certification results in better student performance. Increasing evidence is emerging that students taught by Board certified teachers outperform students taught by teachers of comparable experience working in the same schools who are not Board certified. In a multi-year study of over 600,000 North Carolina student records, researchers reported that students taught by Board certified teachers significantly outperformed their peers in both reading and math in grades 3, 4, and 5. On average, students taught by Board certified teachers improved 7 percent more in math and reading than their peers taught by teachers who had pursued but not attained Board certification.52

Additional promising practices in the area of teacher preparation involve more large-scale changes in state policy. Two states that have successfully enacted comprehensive overhauls of their teacher preparation and licensure programs with dramatic improvements in student performance on the NAEP are Connecticut and North Carolina. Despite an increase in the proportion of students with limited English proficiency and from low-income backgrounds, Connecticut’s ranking in the NAEP has seen continual improvement since its reforms were instituted.53 North Carolina’s story is even more dramatic, posting the largest NAEP gains in both reading and mathematics of all states. Starting near the bottom of the state rankings in 1990, North Carolina students now score well above the national average.54 In addition, Wisconsin has a long history of strong student performance on the NAEP as well as on other measures of student performance, such as SAT/ACT scores.

CONNECTICUT

Prior to 1989, Connecticut had one standard license with no renewal requirements. In 1989, the state implemented the Beginning Educator Support and Training (BEST) program.55 Initially a one-year school-based mentor program, BEST morphed into a multi-year support program in the mid 1990s. At this time, a more structured induction program was developed. Teachers were required to create a content-specific portfolio based on the portfolio requirements of the National Board for Professional Teaching Standards, take part in comprehensive mentoring and induction, and show competencies in various teaching practices linked to content-based teaching standards appropriate to their field. Portfolios that have not met the standard of quality expected by the state must be resubmitted.56

Once teachers have passed through the BEST program they move from an initial license (tier 1) to a provisional license (tier 2). While holding a provisional license, teachers have eight years to earn a master’s degree related to their area of endorsement. Upon completion of the degree, teachers have no more renewal requirements. Teachers who do not complete a master’s degree during the eight-year period will have their license
revoked. Connecticut also offers a third tier called a professional educators license. Teachers who complete 30 school months of successful teaching can choose this license. The license is renewed every five years by completing 90 hours of continuing education credits. As mentioned earlier, Connecticut’s students have showed continued improvement on the NAEP since the overhaul of the state’s licensure program and accompanying education reforms.

**NORTH CAROLINA**

North Carolina’s reforms since 1983 have been substantial. They have included: (a) significant increases in teacher salary and investments in early childhood education, (b) a reward-based career development program to encourage greater education and National Board certification, (c) an aggressive scholarship program aimed at recruiting able high school students into teacher preparation by subsidizing the entirety of their college education, (d) requiring teacher education programs to be accredited by the National Council for the Accreditation of Teacher Education (NCATE), (e) increasing the rigor of teacher and principal licensure requirements, (f) investing in the improvement of curriculum in teacher education, (g) creating a North Carolina Center for the Advancement of Teaching and professional development academies, (h) developing networks to promote teacher professional development in writing and mathematics, (i) instituting a mentoring program for new teachers, and (j) providing incentives for teachers to pursue National Board certification.

In addition, in the early 1990s North Carolina introduced new curriculum standards and a comprehensive program of professional development to assist teachers across the state in learning how to implement the standards. In 1994-95, an assessment system linked to these standards and to the NAEP was implemented. Then, in 1997, the state passed the Educational Excellence Act, creating a professional standards board for teaching, requiring that all colleges of education create professional development partnerships with schools to provide yearlong student teaching experiences, upgrading licensure standards, enhancing the beginning teacher mentorship program, and providing pay incentives for teachers to pursue master’s degrees and National Board certification. Increases in student performance since North Carolina initiated its reform policies have been dramatic; further attention to happenings in the state is warranted.

**WISCONSIN**

Wisconsin started a performance based licensure program in 1994. The new model was created to restructure the way teachers were prepared. The new system created ten Wisconsin Teacher Standards. In response, teacher preparation programs altered their requirements from credit hours to meeting prescribed standards. Pre-service teachers were also required to complete a portfolio assessment using the ten Wisconsin teacher standards. Wisconsin has used this model for the last decade. As of August 31, 2004 Wisconsin will use a three-tired system. It should be noted before explaining
the different tiers that licensure tiers are not tied directly to compensation, although teachers who earn National Board for Professional Teaching Standards certification receive a ten-year stipend. A description of each tier follows:

- **Initial Educator License.** New teachers receive this non-renewable license once they complete an accredited program and pass the necessary licensure tests. This license must be held for at least three years, but no more than five. During this time period, teachers are required to create a Professional Development Plan (PDP). The plan must use two or more of the ten Wisconsin Teacher Standards. Teachers receive assistance from a district mentor. Once completed, the PDP is assessed. Teachers then move to the next tier to earn a professional educator license.

- **Professional Educator License.** This license is a five-year renewable license. Another PDP is created. It must demonstrate how the PDP is tied to student learning. The PDP must also demonstrate how teachers make a difference in student learning. This PDP is then assessed for completion.

- **Master Educator License.** The third and highest tier in Wisconsin is the master educator license. This is a voluntary ten-year renewable license. Two routes are available to teachers. The first is to become certified by NBPTS. The other route is to complete a master’s degree, hold eight years teaching experience, and completion of a portfolio demonstrating how the teacher has contributed to the profession. The master educator license was created with the intention of giving recognition to teachers who go beyond the norms of teaching. This third license is usually limited to those who would like to assume leadership roles.

Promising practices are not limited to multi-tier licensure systems. Some states prefer to use a string licensure system. Ideally, this system links teacher accountability to student achievement results. Many would agree that teacher accountability does not constitute the only measure of teacher performance. Rather, a complete accountability system will include appropriate accountability for both teachers and the entire school. The essence of quality teacher licensure systems relies on strong connections between the license and the characteristics of a quality teacher.

**OREGON CONTEXT**

The Oregon Teacher Standards and Practices Commission (TSPC) govern Oregon’s teaching licensure program. As of January 15, 1999, Oregon has offered a two-tiered licensure system; however, details about the requirements for moving from an Initial to a Continuing License continue to be refined. The final rules for the permanent changes to these license requirements are expected to occur in July of 2005. The requirements in late 2004 stipulated that teachers holding an Initial Teaching License (ITL) will
be given 10 years from the date their license was first issued to complete the requirements for either continued renewal of the ITL—an option only for teachers who hold a Master’s degree when they receive their first ITL—or completion of the Continuing Teacher License (CTL) requirements.63

In Oregon, teachers first receive an Initial Teacher License (ITL), which is valid for 3 years for people who received a license prior to June of 2005 and is valid for 5 years if received after that date.64 To qualify for this initial license, a teacher must complete the following basic requirements: (a) possess a bachelor’s degree or higher, (b) complete an initial teacher education program, (c) receive a passing score on a test of professional teaching knowledge or have five years teaching experience in a public school outside of Oregon, (d) receive a passing score on one or more tests of subject mastery for license endorsements, (e) receive a passing score on a test of basic verbal and computational skills, and (f) receive a passing score on a test of U.S. and Oregon civil rights laws upon completion of a TSPC-approved course or workshop.65

People interested in earning their ITL typically complete a year or more of coursework in a TSPC-approved teacher education program. However, the state also offers distance-education courses, programs specifically designed to assist instructional/teacher aides through the process of becoming licensed teachers, and an intern pathway for qualified applicants holding baccalaureate degrees.66

In order to continue working as a teacher in Oregon after the Initial Licensure period has expired, a teacher must hold a Continuing Teacher/Educator License. This second tier license is valid for five years and may be renewed for the duration of the teacher’s career.

To qualify for a Continuing Teacher License (CTL), an applicant must: (a) have a Master’s or Doctoral degree in the arts and sciences or an advanced degree in the professions, (b) have completed at least 6 semester hours of graduate credit or the equivalent, (c) have a minimum of three years’ successful teaching at least half-time since receiving the Initial License, and (d) have established, maintained, and reported a continuing professional development plan.67

The twelve Oregon institutions currently offering CTL programs are: Concordia University, Portland; Eastern Oregon University, La Grande; George Fox University, Newberg; Lewis and Clark College, Portland; Oregon State University, Corvallis; Pacific University, Forest Grove and Eugene; Portland State University, Portland; Southern Oregon University, Ashland; University of Oregon, Eugene; University of Portland, Portland; Western Oregon University, Monmouth; and Willamette University, Salem.68

The TSCP is still working on designing assessment tools for continuing licensure that will help teachers gather evidence to document proficiency in the following three areas:
• Teacher Capacity to Design Teaching and Facilitate Learning
• Teacher Impact on Student Learning
• Teacher Contribution to School, Community, and Profession

The TSPC is developing a plan to set different requirements for teachers seeking renewal of their ITL based on their level of education at time of first licensure. The current plan suggests that teachers who hold a Master’s degree when they are first licensed to teach in Oregon will be required to complete 3 semester or 4.5 quarter hours of graduate level study beyond the Master’s for the first renewal of their ITL. For the second renewal, they will be required to complete an additional 3 semester or 4.5-quarter hours of graduate level study as well as 3 years of successful teaching. Subsequent renewals of the ITL, each good for 5 years, will require at least one year of teaching and 125 Continuing Professional Development Units.\(^\text{69}\)

For teachers who hold a Bachelor’s degree when they are first licensed to teach in Oregon, the first renewal of the 5 year ITL will require 3 semester or 4.5 quarter hours of graduate level course work to be completed. The second renewal of the ITL will require teachers to complete a Master’s degree or 30 semester / 45 quarter hours of graduate course work, divided evenly between content area classes, classes dealing with pedagogy, and educationally related electives.\(^\text{70}\)

In designing the CTL requirements to fit a Standards-Based model, the TSPC has laid the groundwork for a system of continuing professional development.\(^\text{71}\) The extent to which the state will devote resources to ensuring that the system is sufficiently supported, however, remains to be seen.

Table 3.6 shows pass rates for licensing tests in Oregon. All test takers were educated at Oregon institutions. The table gives a glimpse of how well institutions are preparing teachers. It should be noted that some institutions require a passing score for acceptance into teacher education programs. Many teachers take these exams very early in their education coursework. The table also shows that the pass percentages are much lower for members of two minority groups (Latino and African American) than for those of white, Asian, and Native Peoples groups.
Table 3.6: Individuals Taking and Passing Tests Who Received Training at Oregon Institutions

<table>
<thead>
<tr>
<th>Race/ethnicity</th>
<th>Administrators Educational Leadership</th>
<th>Counselors School Guidance Counseling</th>
<th>Elementary/Middle School MSAT Multiple Choice</th>
<th>Elementary/Middle School MSAT Content Area Short Answers</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>number passing / taking</td>
<td>percent pass</td>
<td>passing/ percent taking</td>
<td>passing/ percent pass</td>
</tr>
<tr>
<td>Native Peoples</td>
<td>2/2</td>
<td>100%</td>
<td>no test takers</td>
<td>22/31</td>
</tr>
<tr>
<td>Asian</td>
<td>7/7</td>
<td>100%</td>
<td>2/2</td>
<td>100%</td>
</tr>
<tr>
<td>African American</td>
<td>8/11</td>
<td>73%</td>
<td>2/3</td>
<td>67%</td>
</tr>
<tr>
<td>Hispanic</td>
<td>15/17</td>
<td>88%</td>
<td>7/8</td>
<td>88%</td>
</tr>
<tr>
<td>Pacific Islanders</td>
<td>1/1</td>
<td>100%</td>
<td>1/1</td>
<td>100%</td>
</tr>
<tr>
<td>White</td>
<td>397/401</td>
<td>99%</td>
<td>106/114</td>
<td>93%</td>
</tr>
</tbody>
</table>

Source: Teachers Standards and Practices Commission

Table 3.7 shows trends among licensed teachers in 2003. Oregon has experienced a substantial increase in the number of individuals receiving their teaching licenses since 1995.

Table 3.7: Newly Prepared TSPC-Licensed Educators from Oregon Colleges / Universities and Other States, 1995-96 through 2002-2003

<table>
<thead>
<tr>
<th>Year</th>
<th>Number</th>
<th>% of Total</th>
<th>Number</th>
<th>% of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2002-03</td>
<td>2,940</td>
<td>46%</td>
<td>3,435</td>
<td>54%</td>
</tr>
<tr>
<td>2001-02</td>
<td>2,732</td>
<td>40%</td>
<td>4,070</td>
<td>60%</td>
</tr>
<tr>
<td>2000-01</td>
<td>2,477</td>
<td>61%</td>
<td>3,656</td>
<td>39%</td>
</tr>
<tr>
<td>1998-00</td>
<td>1,950</td>
<td>55%</td>
<td>1,570</td>
<td>45%</td>
</tr>
<tr>
<td>1997-98</td>
<td>1,568</td>
<td>57%</td>
<td>1,182</td>
<td>43%</td>
</tr>
<tr>
<td>1996-97</td>
<td>1,070</td>
<td>56%</td>
<td>842</td>
<td>44%</td>
</tr>
<tr>
<td>1995-96</td>
<td>1,124</td>
<td>47%</td>
<td>1,247</td>
<td>53%</td>
</tr>
</tbody>
</table>

Source: Teachers Standards and Practices Commission

Although the number of National Board certified teachers in Oregon continues to grow, the state still ranks in the bottom third of the nation in terms of number of National Board certified teachers. As of the 2003 assessment cycle, Oregon has 103 National Board certified teachers, in contrast to Wisconsin’s 197, Washington’s 346, Idaho’s 312, and North Carolina’s 6633.72
TEACHER RETENTION

Approximately 207,000 or 6 percent of teachers in the United States will not return to teaching next year. In low-income schools the attrition rate has been almost twice as high as in wealthier schools. Researchers estimate the attrition rate in the first five years of teaching to range from a low of 14% for beginning teachers who enter the profession fully-certified to a high of 50%, when those who begin teaching prior to earning a full certification are included in calculations. Some may argue that replacing teachers is a normal part of change within any profession. Closer analysis shows this is a poor conclusion to draw. When both human and monetary costs are considered, conservative estimates indicate that schools in the United States spend more than $2.6 billion annually to replace lost teachers. The human and monetary costs combined with the expense of training and recruiting new teachers are substantial.

Teachers who leave the profession early in their careers present challenges for schools in a number of areas. Districts must spend money to advertise for open positions, time devoted to screening applications and interviewing prospective employees takes teachers and administrators away from their primary responsibilities, and the extra human and material support newly hired teachers require presents a burden for schools. In addition, there is strong evidence that teachers’ effectiveness grows dramatically during their first few years of experience.

One approach to improving education is to reduce the number of teachers who leave the profession each year. Policies aimed at teacher retention often seek to improve teacher quality by providing more support to teachers, especially during their initial years in the profession, commonly called the induction period. This next section will present a summary of the research on factors related to teacher retention.

LITERATURE REVIEW

An analysis of Missouri college graduates and public school teachers completed by Podgursky, Monroe, and Watson found that teachers with above-average ACT scores were more likely to leave the profession within five years than their colleagues with lower ACT scores. This trend was particularly notable in math and science teachers. They found no evidence to suggest that the decision to leave teaching was based on the desire to seek higher paying jobs. In addition, the researchers reported a gender difference in the factors influencing the decision to leave teaching. They found that the likelihood that women with high ACT scores would leave the profession was related to the relative strength of the ACT scores of the women with whom they were working. High-ability women who worked with colleagues who had below-average ACT scores were more likely to leave teaching. This study approaches the issue of teacher retention from a slightly different angle than the majority of studies. More common—and hence more substantiated—are studies that examine the effect of induction programs on reducing teachers’ decisions to leave the profession within their first few years on the job.
Numerous studies have reported that the quality of the first teaching experience is a more powerful predictor of retention projections than teachers’ prior academic performance or the adequacy of teacher education. New teachers are especially vulnerable when they are assigned to teach low-performing students and receive little additional professional support and feedback. Research demonstrates a correlation between teachers who leave the field and factors such as poor support, poor working conditions, low salaries and a lack of experience. Due to the nature of these data, statements of causality are unwarranted. However, such studies provide rich insights for the development of more rigorous designs that can provide more direct information about causality and offer guidance for policy development.

To help ensure a teacher’s first years in the field are positive, schools often implement induction programs to bolster retention. Induction refers to the professional guidance and support teachers receive during the transition into their first teaching positions. Each state, district and school may operate a unique induction program, but the common goal is to increase the confidence and effectiveness of new teachers in order to retain them. Research over the past twenty years is conclusive that teacher support programs yield positive retention results. As a result, the number of schools implementing induction programs for new teachers has increased greatly. By 2003, 79 percent of new teachers reported some form of induction. In 2004, induction programs can be found in 30 states, with fifteen states requiring induction programs for all new teachers.

Researchers analyzed the School and Staffing Surveys (SASS) focusing on the effects of participation in mentoring and induction programs and in retention rates. The SASS allowed researchers to use a national sample of 3,235 first-year teachers. At the completion of the analysis, results showed that having a mentor in the same field reduced attrition by 30 percent. Results also showed that:

- The establishment of common planning time with other teachers in the same subject area reduced attrition by 44 percent.
- Regular collaboration with other teachers yielded a reduction of 27 percent in retention loss.
- The creation of teacher networks contributed to retention reductions of 44 percent.

A second analysis of the data from SASS showed that first-year teachers who did not participate in any induction program were 20 percent more likely to leave the profession. Programs that relied on multiple support components experienced the greatest retention benefits.

**PROMISING PRACTICES**

An analysis for the Education Commission of the States of ten empirical studies looking at induction and mentoring programs found positive effects...
on new teachers in each study.\textsuperscript{88} The findings confirm that new teachers are well served through additional clinical practice beyond what they receive during student teaching. The benefits of a sound induction program are reduced attrition, improved teacher quality and improved student achievement. Corollary benefits include elimination of poor teachers through standards-based assessments, gains in the practical skills necessary for a smoother first year and staff community building. Following are five key aspects of a high quality comprehensive induction program identified by the Commission’s analysis:

\begin{itemize}
  \item **Mentoring.** High quality mentoring requires a structured relationship with a veteran teacher who works in the same field or subject. Mentors work with new teachers by observing them in their teaching environment, giving feedback, as well as demonstrating effective teaching methods and assisting with planning. The best mentoring programs require training on how to coach new teachers.
  \item **Common Planning time.** Frequently scheduled common planning time enhances the new teacher’s efficiency and helps them connect with other staff, creating a collaborative culture. Lesson planning and creating valid student assessments are daunting tasks that are believed best performed in a supervised and supportive environment.
  \item **Professional Development.** Professional development should be ongoing. Besides clinical practice in the classroom, new teachers must continue to build on the content knowledge and skills from their teacher education program. Early and regular participation in professional development that expands content knowledge, addresses diverse learning needs and classroom management have shown the largest positive returns.
  \item **Teacher Networks.** The creation of teacher networks outside the local school provides new teachers with a community of colleagues within which to collaborate and to seek support. Reducing isolation is vital to retention.
  \item **Standards-based Evaluation.** The use of a standards-based evaluation process can help schools reduce the number of teachers not suited to the profession, as well as monitor the progress of new teachers in order to better intervene and to support them.
\end{itemize}

It should also be noted that high-functioning learning communities within schools have strong principal leadership, dedicated staff resources, incentives for participation in induction activities, and strong alignment between school needs and induction practices.\textsuperscript{89}

**CONNECTICUT**

Connecticut implemented the Beginning Educator Support and Training Program in 1989.\textsuperscript{90} BEST is a two-year comprehensive induction program.
BEST requires all new classroom teachers to participate in the program. Completion of the program is required for continuing licensure. The BEST program supports new teachers using school- or district-based mentors or support teams. Consistency throughout the state is ensured with the use of minimum quality standards for school-based mentoring. Mentors must also complete a course offered at regional service centers. The course emphasizes strategies and skills that are most needed for first-year teacher. Other aspects of BEST include: common planning time and collaboration, ongoing professional development, external networks, assessment and evaluation, principal leadership, incentives for participation and adequate and stable funding. Total cost estimates per teacher range from $1,660 to $3,560 shared between the state and local districts.

Results of the BEST program indicate reduced attrition during the crucial first five years. The most recent numbers for the program show only six to seven percent of new teachers leave the profession in the first year. Other positive results show teachers were more reflective in their practice and in their participation in standards-based professional development. The program also helped to develop leadership skills among new teachers. The greatest strength of the BEST program is its focus on working with new teachers as well as on utilizing experienced teachers through structured mentoring.91

MONTANA

During the 1990s, Montana conducted an evaluation of their Beginning Teacher Support Program (BTSP).92 The basic premise of BTSP was to place volunteer mentors with mentees for one year. BTSP tried to match mentor and mentees according to grade level and subject. Mentors were not provided with training in mentoring or given release time to work with mentees. There was also no standardization about what role the mentors would play. The evaluations attempted to isolate the effects of mentoring from other aspects of new teacher support. Data were collected through pre- and post-program questionnaires. The evaluation also used retention data from the individual districts. Results showed a positive effect for those who participated in a retention program. The second year of the program resulted in a 92 percent retention rate for mentored teachers as compared to 73 percent for non-mentored teachers. The third and final year of the evaluation resulted in a 100 percent retention rate for mentored teachers compared to 70 percent for non-mentored teachers.93

OREGON CONTEXT

How does Oregon compare to these national statistics? A new study with lead researcher Mark Ankeny from George Fox University, working with the O-QAT project, has found that Oregon appears to be doing somewhat better than the national average in terms of teacher attrition. On average, 10% of new public school teachers in Oregon leave after one year, 21% after two years, 33% after four years, and 37% after five years.94
Table 3.5 lists all licensed and non-licensed personnel for 2002-03. This table serves as a reference when considering Oregon shortage areas and licensed personnel. The following categories have experienced a decrease from 2000-01 to 2002-03: classroom teachers, guidance/counseling personnel, principals and assistants, and district administrators.

### Table 3.5: Oregon Public School Licensed and Non-Licensed Personnel

<table>
<thead>
<tr>
<th></th>
<th>2000-01</th>
<th>2002-03</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Licensed Personnel</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Classroom Teachers</td>
<td>23,262</td>
<td>22,171</td>
</tr>
<tr>
<td>Other Teachers</td>
<td>4,832</td>
<td>4,925</td>
</tr>
<tr>
<td>Curriculum Specialists</td>
<td>301</td>
<td>434</td>
</tr>
<tr>
<td>Library/Media Specialist</td>
<td>555</td>
<td>510</td>
</tr>
<tr>
<td>Guidance/ Counseling Personnel</td>
<td>1,232</td>
<td>1,172</td>
</tr>
<tr>
<td>Principals and Assistants</td>
<td>1,631</td>
<td>1,597</td>
</tr>
<tr>
<td>District Administrators</td>
<td>838</td>
<td>701</td>
</tr>
<tr>
<td>Other Professional Personnel</td>
<td>1,423</td>
<td>1,541</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>34,074</td>
<td>33,051</td>
</tr>
<tr>
<td><strong>Non-licensed Personnel</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teacher Aide/Interns</td>
<td>8,106</td>
<td>8,313</td>
</tr>
<tr>
<td>Office/Clerical</td>
<td>5,348</td>
<td>4,697</td>
</tr>
<tr>
<td>Others</td>
<td>8,640</td>
<td>8,132</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>22,094</td>
<td>21,142</td>
</tr>
<tr>
<td><strong>Total All staff</strong></td>
<td>56,168</td>
<td>54,193</td>
</tr>
</tbody>
</table>


Oregon currently has no statewide policy on new teacher induction. However, a small-scale induction program is offered to beginning and student teachers in high-needs schools through the Oregon University System. The program offers training to approximately 110 teacher mentors a year through the participation of five universities: Eastern Oregon, Oregon State, Portland State, Southern Oregon, and Western Oregon. Each mentor is expected to work with 2 new teachers. No research is currently available evaluating the impact of this program on teacher retention in Oregon.

**TEACHER PROFESSIONAL DEVELOPMENT**

Professional development is generally considered a vital piece in a state's effort to improve schools. Sustained professional development is key to ensuring teachers build and hone the necessary knowledge and skills they need to meet the needs of a wide range of students. On average, U.S. school districts spent three percent of total expenditures on teacher professional development.
development activities throughout the 1990s. These expenditures roughly equate to $200 per pupil.

A growing body of literature exists on different models of professional development. The effects of these models on teaching and student achievement are documented with direct evidence. The type and amount of literature varies greatly and includes large and small-scale studies, individual cases, program evaluations, and surveys. Major methodologies utilized are descriptive, qualitative, correlational and factor analysis. Almost no experimental or quasi-experimental research has been conducted on this topic.

**LITERATURE REVIEW**

A review of trends in professional development over the last half-century shows that philosophy has shifted focus from helping teachers adopt a particular behavior to helping teachers be more reflective and critical of their own practices. The new professional development goal is to allow teachers to determine what will be the most effective decision for improving student achievement.

During the 1960s and 1970s, professional development research focused on teacher behavior and ways to alter behavior. The 1980s saw a shift from changing teacher behavior to improving the entire school. It was determined that professional development was the most efficient means to restructure and reform schools. Student achievement and teacher quality has been the trend since the early 1990s, specifically the role of professional development in student achievement and the certification and education of teachers as a way to ensure quality.

The small body of research on the effects of different models of professional development describes the characteristics of high quality professional development programs. Characteristics include a focus on content, active learning, linking content to standards, opportunities to participate in leadership roles, and collaboration within schools across grades and departments. These characteristics can give guidance to schools, districts and states in developing sound professional development programs. Recent studies suggest that teacher professional development is related to the intensity and duration of the program. Research has also shown that professional development focusing on specific subject content and student learning has a positive impact on student achievement.

A review of 10 studies on the impact of mentoring on teacher retention yielded some empirical support for the claim that assistance for new teachers – and in particular, teacher mentoring programs – have a positive impact on teachers and their retention. The study further concluded that the effects of mentoring could be magnified when combined with other programs. Teacher mentoring was popular in the early 1990s as a state program to help improve teacher retention and quality, but has faded somewhat in the past 10 years, which is somewhat surprising, given the surge of teacher
retirements during the past 5 years in particular. Beginning teacher support programs are once again being examined as a way to help ensure teacher quality and retention.

**PROMISING PRACTICES**

An evaluation of the Eisenhower Program, completed for the U.S. Department of Education, examined how much professional development programs affect teaching. The study is one of the only ones to use longitudinal data from a national sample of teachers to examine a wide variety of professional development programs. The program was specifically designed to isolate the relationship between professional development and change in teaching practice over time. The program identified several professional development program weaknesses. They include teachers in the same school having different professional development experiences, variance in experiences from year to year, and a lack of consistency in program type and duration.

Researchers mailed a survey to a national sample of 1,027 teachers chosen by probability sampling methods. Three structural features or characteristics of professional development comprised the study focus: (a) active learning, which encompasses opportunities for teachers to be actively involved in reviewing student work or feedback on teaching; (b) coherence, or how consistent the professional development experiences are with the teachers’ goals, state standards and assessments, and content of the professional development activity; and (c) whether or not this content improves and/or deepens content knowledge.

The Eisenhower study produced three major positive findings. First, active learning and coherence significantly increase teachers’ use of active, project-centered instruction in their classrooms. Second, when professional development is focused on specific, higher-order teaching strategies, teachers’ use of those strategies increases in the classroom. Finally, high quality professional development that uses collective participation, active learning and coherence, can increase the impact of professional development activities on teaching practices. This longitudinal study also showed little change in teachers’ practice for the short term. Only after extensive professional development can changes in practice be observed.

The findings from the Eisenhower study are similar to other recent studies that show the importance of content focus in professional development. In a separate analysis of multiple research studies, researchers found that teacher change was more likely to occur when professional development included five key practices.

- Effective professional development should continue for longer durations. Professional development that is long-term allows teachers more time to learn about their practice.
• Strong connections should be made between what is learned during a professional development experience and a teacher’s work context. One study showed that the effectiveness of a professional development program depended on how well teachers could make connections between what they learned and their own work.\textsuperscript{111}

• When professional development programs emphasize analysis and reflection rather than mere demonstration of techniques, teaching practices improve. When teachers are asked to explain and defend their current practices, they are more likely to reflect and change them.\textsuperscript{112}

• Programs that help teachers better understand how their students learn result in longer periods of change in practice.\textsuperscript{113}

• More effective programs include a variety of activities such as theory into practice exercises, demonstrations, and feedback.\textsuperscript{114}

Research shows that the effectiveness of standards-based state education reform policies increases when paired with coherent implementation and opportunities for professional development. A study in California demonstrated an improvement in elementary school student performance in mathematics when teachers had substantial opportunities to gain the skills necessary to create consistency among the tests used to assess students’ knowledge, the curricula being taught, and other instruments of classroom practices.\textsuperscript{115} Their studies add support to the finding that professional development activities linked to state content standards and accountability systems are more likely to succeed when teachers are provided extended opportunities for professional development linked to the standards.\textsuperscript{116}

Some of the most compelling research on the ability of statewide professional development to improve student performance comes from studies of the Tennessee Value-Added Assessment System (TVASS). Although the TVASS is not a professional development system, per se, it has shown promising results and deserves to be mentioned. Created in the early 1990’s, the TVASS uses statistical modeling to calculate the amount of additional learning that a district, school, or teacher adds to their students during a given school year, as measured by subject-specific tests in five areas. After determining the gain in student achievement, TVASS calculates teacher effectiveness by comparing students’ actual growth to what was expected. The statistical manipulations made possible by the modeling enable the state to exclude factors other than the teacher in order to isolate the contribution made by individual teachers.\textsuperscript{117}

TVASS data are compiled annually by the state and distributed to districts, schools, and teachers. Because the assessments by which student performance is measured are closely tied to the state’s content standards, TVASS provides crucial information about the degree to which individual teachers are able to effectively convey to students the skills and knowledge the state has deemed most critical in their subject area. And, with a reliable
A source of information about which teachers are most consistently able to improve their students’ learning, districts are better able to make staffing decisions and tailor professional development programs to their teachers’ needs. Several Tennessee communities have used the TVASS data as a key leverage point in their work to close the achievement gap.

Chattanooga, for example, has instituted a comprehensive program to improve the quality of education in high-poverty, low-performing, urban elementary schools. The city offered to pay teachers who consistently showed the highest gains in TVASS scores annual bonuses of $5000 per year for agreeing to teach in one of nine low-performing elementary schools. Along with the bonus offered by the district, local businesses offered these high-performing teachers housing benefits and scholarships to pursue graduate studies. All nine schools—previously among the state’s 20 lowest scoring—have improved significantly in all five tested subject areas in each year since the program has been in operation, an improvement that outpaced all other schools in the district.1

How can systems based on value-added data like that in the TVASS inform professional development? First, value-added data can add to our understanding of the extent to which teacher quality affects student learning. Second, value-added data allows schools to pinpoint professional development needs with much greater accuracy. Finally, by providing information on teachers who are consistently able to help students achieve at greater-than-expected levels, value-added data can assist with purposeful, efficient strategies to reduce the achievement gap by recruiting the most proficient teacher to teach the children who most need their skills.1

OREGON CONTEXT

Although professional development is a vital piece in a state’s efforts to improve its schools, Oregon does not have a statewide structured professional development system in place. Instead, Oregon ties licensure requirements to professional development, encouraging individual teachers to identify their own weaknesses and work to gain skills and knowledge to alleviate these areas. Some larger districts use in-house resources to deliver professional development. However, professional development is entirely a local district matter. The state mandates two “in-service” days, one in the fall and one in the spring, but these can be and are utilized for an extremely wide range of activities that may or may not be directly related to state goals or to instructional improvement.

Oregon currently gathers very little data on the effectiveness of teacher education programs, although discussions are in the works regarding “value-added” models that draw connections between student learning performance and the preparation program in which their teachers received training. Efforts by the Oregon Quality Assurance In Teaching Program (O-QAT) to obtain this kind of data resulted in a 2002 survey of recent graduates of Oregon Teacher Preparation Programs to determine adequacy of preparation.
Oregon has had beginning teacher support programs in place, but they have come and gone at least twice in the past 20 years. In the late 1980s, Oregon had a mentor teacher program that funded compensation for veteran teachers to spend time coaching and advising new teachers. In 1987 the Oregon Beginning Teacher Support Program was implemented. Pilot programs were implemented in 55 school districts initially. The state funded the pilots at $3.9 million over two years. In the 1991-92 budget, $3 million was provided, an amount sufficient to support mentoring of about 700 new teachers. Participation was voluntary, since funding was not adequate to cover all new teachers. This program was continued through 1993, when funding was eliminated.122

A second attempt at support for beginning teachers was implemented in 2001 as an amendment to the Oregon Educational Act for the 21st Century, and went into effect July 1, 2001. These provisions, contained in sections 329.675 through 329.725, outline the terms for a beginning teacher support program that would provide mentor teachers with $3000 to assist new teachers. The program also applies to new administrators. However, funding for this program was eliminated in the past two budgets.

Therefore, Oregon currently has statute and policy regarding beginning teacher support. The state lacks only funding to implement these support systems.

**PRINCIPAL/ADMINISTRATOR LEADERSHIP**

Principals, administrators and superintendents play a vital role in student achievement. In fact, a recent review of the research on the extent to which leadership affects student learning reported that leadership’s contribution to what students learn at school is second only to classroom instruction.123 Given this influence, it is important to understand the factors that influence the recruitment, training, and retention of effective administrators.

The term *school administrator* describes both principals and district level administrators, such as superintendents. Superintendents typically have a background in management and administration, while principals and other administrators more commonly have a background in teaching. Both jobs demand strong management and administrative skills. Increasingly, superintendents and principals are also expected to be instructional leaders. Successful instructional leadership practices require the individual to utilize data to drive instruction, to distribute leadership responsibilities among teachers and other administrators, to guard time for instruction and professional development, to connect teachers to outside professional learning opportunities and to provide mentoring, supervision and support focused on academic achievement.

Nationwide, the United States is experiencing an administrator shortage. Approximately half of all districts report difficulty finding qualified
applicants to posted positions, and the challenge is even more pronounced for rural districts.\textsuperscript{124} In addition, the average length of time that administrators remain in their jobs is continuing to decline.\textsuperscript{125} This section will present a short summary of the research on principal / administrator leadership.

**LITERATURE REVIEW**

As an education reform and policy issue, school leadership has only recently begun to receive attention. A strong research base does not yet exist. There is, however, a small number of improvement strategies generally believed to be sound.

Principals, and the leadership they provide, are linked to student achievement in an indirect relationship via their effect on the school and the teachers within it. Student achievement scores improve when teachers believe that principals clearly communicate what is expected of them, are supportive and encouraging of staff, are successful in getting resources for the school, enforce rules for student conduct, talk with teachers regarding instructional practices, have confidence in the expertise of the teachers and take a personal interest in the professional development of teachers.\textsuperscript{126}

Researchers found in a study of Chicago-based elementary school principals that principals focusing on specific behaviors led to more productive schools.\textsuperscript{127} Principals who demonstrated a leadership style that was inclusive and facilitative, focused the institution on student learning, provided efficient management, and combined pressure with support were leading more productive schools. In addition, the researchers reported that productive schools tended to have principals who were quick to respond to highly visible problems at their schools and exhibited a comprehensive, coherent plan for school development. Effective principals focused their energy and resources on issues related to the essential goals of their schools rather than being distracted from this focus by conflicting pressures. The key common issues principals focused on were simple ones. They included developing and strengthening community ties, developing teachers’ knowledge and skills via professional development and promoting a school-based professional community.

Principals play a key role in enabling teachers to set high expectations for student achievement. The most effective principals serve as instructional leaders to teachers and students and see their role as one of supporting their staff.\textsuperscript{128} This kind of leader keeps school activities focused on student learning and facilitates strong learning communities among the teachers. Highly effective principals also work to include parents and community members in supporting students’ achievement. They believe not only that students can meet high learning standards, but that instructional leaders can learn to be more effective also. Practices such as visiting classrooms regularly, meeting with teachers in large and small groups to discuss teaching and learning, and discussing student progress regularly with each teacher are indicative of principals who are effective instructional leaders. An additional way in which principals help facilitate the professional development of their staff includes
altering the daily schedule to provide time for teacher learning and to promote professional development (often via focused “teaching” faculty meetings). Emerging empirical support suggests that these practices shape school norms by promoting regular discussions of teaching and learning. Such discussions encourage reflection and provide the impetus for continual improvement as teachers, students, and administrators try new practices.

Although the best teachers may be the most suitable for moving into principal positions and leading others in the instructional mission of the school, many do not want the job. These exemplary teachers report that the job of principal demands too little time devoted to instructional leadership and too much time devoted to “other duties”. Some have called for districts to change their expectations of the practices, responsibilities and duties currently assigned to principals, many of which are largely non-academic duties. Instead, they recommend that districts relegate these duties to assistant principals to make way for principals to lead teachers in their instructional growth.

Results of a 2003 survey of Colorado superintendents showed that 80 percent of current superintendents believe the state faces a shortage of qualified superintendent candidates. The situation is somewhat better for principals at least in large districts, because many teachers hold administrative licenses. Regardless of district size, however, the challenge is to find potential administrators who, in addition to holding an administrative license, possess the qualifications and characteristics needed to be successful in a district or school.

Most states require prospective administrators to complete a master’s degree or doctorate in educational leadership or in educational administration in order to receive a license. Thirty states require a master’s degree for principals, and 33 states require superintendents to participate in a college-based system of licensure. Structure and content of administration programs vary greatly among institutions. Some require coursework specific to the job specifications such as school law, budgeting, and human resource skills; others do not.

Critics argue that administration preparation programs are not producing high-quality administrators with the proper leadership and management skills needed. A survey completed by the National Center on Education Information found that states that require licenses also require administrators to have prior teaching and / or related experience. Only Colorado, Georgia, Mississippi, New Jersey and Ohio do not require prior education-related experience.

Similar to teacher preparation, administrator preparation programs have moved to a standards-based model. Standards are set for what principals and administrators should know and be able to do before they are hired. The two most prominent standards guidelines are the Education Leadership Constituent Council (ELCC) guidelines created by the National Policy Board for Educational Administration (NPBEA) and the Interstate School Leaders
Licensure Consortium (ISLLC) standards. Over thirty states have adopted ISLLC standards. States use these requirements in varying degrees as requirements for licensure, professional development and preparation programs.

Most districts do not emphasize in-service professional development for principals and superintendents. Continuing education classes and university semester hours are required by some states in order for administrators to retain their licenses. These requirements vary from state to state. Alaska requires administrators to have six semester hours of credit to renew their license, while the District of Columbia requires 200 clock hours of training. Florida requires a level two certificate for principals, attained when principals successfully document performance to the Florida district superintendent.

In addition to requiring courses and credits, many districts have established in-house orientation programs and academies. District academies cover resources, discipline policies, budgeting, purchasing and technology. The National Association of Elementary School Principals (NAESP), the National Association of Secondary School Principals (NASSP), the National Staff Development Council, and the American Association of School Administrators (AASA) also provide professional development.

PROMISING PRACTICES

Due to high administrative turnover rates and low student achievement, many districts are altering their recruiting practices. Districts are encouraging potential administrators to go through licensure as well as supporting them along the way. Districts are financing coursework, placing administrators in internships, and reducing workloads in order for coursework to be completed. The Wallace foundation has established the Leadership for Educational Achievement in Districts (LEAD) in 12 states including Oregon. LEAD supports districts in attracting and preparing a capable and diverse pool of superintendents, principals and other administrators to improve the conditions that lead to academic success for all students.

The National Association of Elementary School Principals (NAESP) and The National Association of Secondary School Principals (NASSP) have issued a set of recommended promising practices. They recommend that states and districts provide funding for principal mentoring programs and increase the communication and connections between university principal preparation programs and individual schools/districts. NAESP and NASSP also encourage the creation of incentives for universities to collaborate with school districts. Both associations also endorse the implementation of salary levels that are competitive with professions with similar job descriptions. Principal leadership programs that pair regular assessment with meaningful ongoing evaluations will result in the greatest benefits. Additional practices that the associations recommend are the provision of quality internships and a push toward small school size.
OREGON CONTEXT

Oregon currently has four different administrator licenses applicable to principals as well as superintendents. These are the Initial Administrator, Continuing Administrator, Transitional Administrator, and Exceptional Administrator. One license, the Continuing Superintendent, is available exclusively to superintendents. All licenses require the ability to satisfy measures of: (a) professional knowledge, (b) basic skills, (c) civil rights, (d) Oregon school law and finance, (e) recent experience. Requirements specified by the Oregon Teacher Standards and Practices commission pertinent to each type of license are presented below.

For an Initial Administrator License, a person must: (a) hold at least a Master’s degree in any field, (b) have completed an approved Master’s or post-Master’s administrator education program, (c) have at least three years’ experience as a licensed full-time educator in any state, and (d) have completed a school practicum covering all student age levels.

Continuing Administrator Licenses require at least three years of experience working as an Oregon school administrator on transitional or initial license and a demonstration of advanced competency. Advanced competency must be demonstrated through either completion of a one-year institutional program beyond a Master’s degree, not including any courses taken to earn an IAL, or earning a doctoral degree in school administration.

To hold a Transitional Administrator License, a person must have a Master’s degree or higher in the arts and sciences or an equivalent advanced degree in the professions but cannot satisfy all requirements for the IAL. Employers must co-apply for this license if the administrator does not have three years’ experience as a licensed full-time educator, or have neither completed any state’s administrator education program nor been licensed by any state as a school administrator. Applicants who have been principals or superintendents in any state can use this license for a superintendency.

Exceptional Administrator Licenses are designed for people who have been offered employment conditional upon licensure but do not qualify for another license. To hold an Exceptional Administrator License, a person must have a Master’s or higher degree in any field as well as professional experience sufficient to compensate for lack of experience in elementary or secondary school settings.

For a Continuing Superintendent License, a person must have three years’ experience working at least half time as a superintendent in an approved Oregon school. In addition, demonstrated advanced superintendent competency is required through completion of an approved institutional program or a doctoral degree in school administration.

In late 2004, a group from higher education, supported by an Oregon Department of Education grant, was working to develop a new set of standards for Oregon administrators. The TSPC approved moving the
proposed standards to hearing and plans to hold discussion on the details of the proposed standards until they are presented in January 2005. On December 1st, 2004, the COSA Licensure Committee met with the group from higher education and other stakeholders to review the standards, discuss potential changes in the Initial, Continuing, and Continuing Superintendent Licenses, and consider the method for assessing successful completion of the standards.\(^{143}\)

Oregon is one of 12 states to take part in the Wallace LEAD grant for principal/administrator development. The LEAD project is a proactive approach in which districts are attempting to alter old norms and patterns by encouraging teachers to consider becoming administrators, assisting them in becoming licensed, and placing them in an internship program. The goal is to prepare highly qualified administrators, increase district-state collaborations, increase recruitment, improve retention, and increase incentives. The emphasis is on applying research to improve the core functions of schools—curriculum, instruction and student learning. The cooperative partnership of the University of Oregon and the Eugene, 4J school district are the participating Wallace LEAD institutions in Oregon.

**POLICY OPTIONS**

Research is unambiguous that a good teacher can make a profound difference on a student’s achievement. Principals seem uniquely positioned to promote success in this teacher-student relationship by teaching, modeling, organizing, leading, and facilitating effective school improvement programs. The following recommendations address the issue of how licensing of new and veteran teachers and administrators can work to support sustained improvements in student learning.

- **Overhaul teacher licensing requirements to send a consistent message about the knowledge that is important for prospective teachers to learn and the skills that are important for them to master.** (Promising Practice) Although evidence on the relationship between teacher knowledge and skill and student learning is still emerging, state policy in this area is currently inconsistent or weak. Reforms ought to fall along five dimensions.

  The state would support the ability of teacher preparation programs to attract academically well-prepared candidates by offering incentives to highly-qualified students, particularly those from high needs groups and ethnic groups underrepresented in the teaching population.

  The system of student teaching would be redesigned to follow more of the proven principles of effective professional development. Prospective teachers would receive scaffolded support to develop the core foundational skills necessary for classroom success, such as classroom management and instructional planning, and then build upon those skills to master a range of teaching techniques. They would receive high-quality coaching and mentoring, and the amount of time each spent student teaching would vary based on how long it
takes the person to master the skills necessary to enable all students to meet state standards. University and school-based supervision of student teachers would be intensified to ensure adequate quality control. In essence, student teaching should become a standards-based, rather than a time-based, process.

Licensing policy would ensure that all elementary school teachers are capable of teaching a wide range of children to read, write, do math, and understand science by requiring that, in order to receive an initial teaching license, prospective elementary teachers would have to present evidence that they had taken an approved sequence of content-area college-level courses. Acceptable courses would provide an adequate knowledge base in core academic areas as well as intensive instruction in evidence-based methods of teaching these subjects successfully to a wide range of students.

The induction process would incorporate adequate support for teachers new to the profession through mentoring by highly trained expert teachers with the goal of ensuring that beginning teachers master and utilize proven, effective techniques that enable all students to achieve state learning goals, particularly those for whom an achievement gap exists.

The licensure system would require secondary school teachers in all core academic disciplines, but particularly in math and science, to participate in content-based continuing education in their subject area to ensure that their content knowledge necessary to teach state standards is complete and current. The teacher evaluation process would be refocused to ensure, as one dimension of all teachers’ evaluation, that they possess up-to-date and accurate knowledge of the subject matter they teach generally and as it relates to state content standards specifically. The evaluation process would also gauge the ability of each teacher to communicate with a wide range of students in order to engage them in learning.

The reformed system would put into place a “value-added” system to judge the effectiveness of each teacher preparation program based on the ability of its graduates to teach students from a wide range of economic, social, racial, and ethnic backgrounds in ways that close the gap in achievement between these students and others. Preparation programs would be required to implement practices identified in the question as enabling teachers to be successful teaching a range of student successfully. This would be done in close partnership with school districts.

If such a reformed system could be instituted, it would open the door for more alternative routes to certification. When clear performance expectations for prospective teachers are established and teachers are expected to meet such standards before receiving a license, it becomes more possible to establish programs designed around demonstrating proficiency to teach, not on completion of courses. Such programs could be developed by school districts in partnership with universities.
or by consortia of school districts with needs for particular types of teachers. Incentives could be attached to attract qualified adults from other professions who wish to make a career change. The potential result is a much larger pool of talent from which to draw future teachers and a streamlined preparation process with much higher quality control potential.

• **Institute high-quality teacher mentoring programs geared toward environments where teacher turnover is highest or where teacher shortages exist.** (Promising Practice) Mentoring programs appear to be a cost-effective way to retain many of the best and brightest who enter teaching. As noted previously, Oregon had a statewide mentor teacher program that was eliminated in the early 1990s, ironically not long after educational standards were implemented and expectations increased, and just before teacher retirements began to increase. The legal framework for mentoring remains intact. Only funding is required to revive high quality mentor programs based on the latest research that can help Oregon develop and retain a talented cadre of educators.

• **Develop principal licensing standards that require candidates to demonstrate the ability to successfully lead school-wide instructional learning as well as to implement meaningful school improvement efforts.** (Promising Practice) Principal licensing standards and local administrator evaluation procedures should be designed and implemented in ways that ensure that all principals can effectively lead schools in ways that lead to improvements in student learning. Some of the necessary skills include the ability to identify effective classroom techniques when observing classrooms, to evaluate the degree to which teachers have mastered and are implementing techniques proven to improve student learning, to interpret student achievement data to identify key areas in need of improvement, and to organize and lead the process of setting goals and creating the organizational conditions necessary to achieve identified goals.

• **Create a statewide administrator leadership academy that offers intensive, focused training that enables competent administrators to become outstanding instructional leaders.** (Innovative Practice) An academy of this nature can be a catalyst and focal point for a range of efforts currently undertaken by the state’s administrator organization, its universities, and by various districts. A small-population state such as Oregon must organize and support a central program of administrator leadership development if it is to raise the overall quality of the state’s school administrators to the level required of them to transform Oregon schools so that they consistently produce high levels of student achievement across the state.

• **Create “Professional Development Schools.”** The purposes of the professional development schools would be to better prepare the next
generation of Oregon students in a way that would ensure these teachers could enable all students to meet state standards and to help maximize new teacher retention. These schools would be operated jointly by a local school district, an ESD, and one or more university-level teacher preparation program. All Professional Development Schools in the state would be linked electronically and would share resources. They would also create real-time and virtual support groups for new teachers, who could share experiences with their peers. This policy option would be implemented in tandem with the policy option for mentor teachers so that beginning teachers would receive support from mentors when they left the professional development schools.

• **Institute higher expectations for teacher professional development statewide.** Current policy allows each school district to establish its own policies and practices in relation to teacher professional development. Given the demonstrated importance of professional development as a cost-effective means to improve teacher performance and student learning, districts and schools should be required to demonstrate that the professional development activities in which their teachers participate are of a high quality and clearly focused on improving student achievement. The Teacher Standards and Practices Commission could be charged with developing a framework of effective professional development practices to which districts would be required to adhere. Teachers whose districts failed to meet these standards would not be able to count professional development activities undertaken in their district toward state-required professional development hours or licensing requirements.

• **Evaluate both teacher evaluation and dismissal procedures to allow school districts to remove those teachers that are truly unable to help students learn.** Current state policy regarding teacher evaluation and dismissal is quite complete and detailed. However, few Oregon teachers are subject to termination each year. While the goal is not to dismiss teachers arbitrarily or use the evaluation process in a punitive fashion, annual appraisals of teachers should result in better identification of teachers in need of improvement. Those teachers should then receive support to improve. However, when a teacher is either unable or unwilling to improve, school districts should be able to remove that teacher in a timely fashion without undue expense. The legislature should review the dismissal procedures, consistent with all applicable federal and state law, and enable districts to remove those teachers who truly do not enable students to learn. The Oregon Department of Education, in partnership with the Confederation of Oregon School Administrators, the Oregon School Boards Association, and the Oregon Educational Association should develop workshops for principals and board members that help them understand how best to identify poor performers, how to help them improve, and, when necessary, how to remove them promptly and efficiently. Effective dismissal policies
should never be seen as a primary means of improving the teaching corps. They are a last resort to be used in a system in which teachers have had ample opportunities to improve their teaching as a normal part of ongoing teacher professional development.


6 American Association for Employment in Education. (1999). Teacher supply and demand in the United States. American Association for Employment in Education, Inc.: Columbus, OH.


Ibid.

For more information, see the State of Connecticut, Department of Education web site at http://www.state.ct.us/sde/dtl/t-a/supplyanddemand/index.htm


36 Ibid.


38 Ibid.

39 Rowan, B., Correnti, R., & Miller, R.J. (2002). What large-scale, survey research tells us about teacher effects on student achievement: Insights from the Prospects study of elementary schools. Teachers College Record, 104(8), 1525-67.


41 Ibid.


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Ibid.


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89 Ibid.


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93 Ibid.


106 Ibid.

107 Ibid.


118 Ibid.

119 Ibid.


Chapter 3: Staff Quality


135 Ibid.


142 Ibid.

Chapter 4

Facilities and School Size

INTRODUCTION

Heightened awareness of the need for college-bound and non-college-bound students to exit high school with the necessary critical thinking skills to compete in an increasingly competitive economy draws attention to the topic of facility quality and optimal school size. The related issues of aging school buildings, growing student populations and limited resources compound these already-complex issues.

Despite a growing research base that supports the education of children in small schools, a reliance on large schools and consolidation continues in Oregon. The research base linking small schools to student achievement is not as robust as for other resource-based strategies like class size reductions or tutoring. Moreover, small school strategies can be expensive and much needs to be learned about their cost-effectiveness relative to other interventions. Nonetheless, the emerging research suggests local school districts and the State should pursue policies to foster experimentation with small learning communities where research shows the greatest positive effects on achievement.

This chapter examines several aspects of how best to house students in school. It begins with an examination of the role of the physical facility itself. Next, the optimal size of a school is considered, both as it relates to the size of the building and the student learning that occurs at different sizes. Finally, the small learning community is reviewed as a method to organize students within the building that may lead to enhanced learning and success for all students.

FACILITIES

The issue of effective school facilities centers not only on the condition of the physical building but also on the ways in which these buildings are utilized. There is very little research on how student achievement can be improved by opening access to school classrooms for alternative uses. While there is a great deal of research around after-school programs and their impact on student learning, these areas of research involve more programmatic issues rather than alternative uses of school facilities and equipment. In the current environment of reduced school funding and greater accountability in the use of these funds, the research in this area is surprisingly absent of alternative uses of school facilities for the purpose of making the best of limited funds.
LITERATURE REVIEW

The empirical research over the past 30 years does not establish a direct relationship between student achievement and the characteristics of school facilities. Despite the lack of empirical research, two recent areas of study have emerged on this subject focusing on the quality of the physical buildings and design principals such as acoustics and lighting. A 1998 National Academy of Sciences paper speculates that the condition of school facilities may in fact influence other factors including parental involvement that, in turn, are believed to directly affect student outcomes.¹

Today’s students learn in an environment of increasingly old and sometimes outdated school facilities. A 2001 report published by the Council of Educational Facility Planners indicates that the average age of schools across the county is 42 and over 40 percent of these facilities report unsatisfactory environmental conditions. In addition, while the student population has almost doubled from 25 million students in 1950 to more than 47 million in 2001, the number of public schools has decreased by almost two-thirds since 1930 (262,000 to 91,000 schools.).²

The average age of Oregon school buildings is 40.1 years. This is slightly less than the national average. Most of these buildings were not designed to accommodate today’s large student population. Almost 60 percent of Oregon school buildings (or 1,591 buildings) have never been remodeled.³ In the absence of new or expanded schools, some schools experience over-crowding and poor conditions.

Current research by architects and educational facility planners has demonstrated that the condition of school buildings can have an impact on student outcomes. The Council of Educational Facility Planners in cooperation with Milwaukee Public Schools studied the effect of school building conditions on student achievement in elementary, middle and high school facilities.⁴ They found that “Facility condition may have a stronger effect on student performance than the combined influences of family background, socio-economic status, school attendance, and behavior.” Other studies have also found a positive relationship between the condition of school buildings and student achievement in Virginia, Alabama, New York, West Virginia and Arizona⁵.

Mark Stricherz frames this discussion in a slightly different manner. He states that:

Research does show that student achievement lags in shabby school buildings—those with no science labs, inadequate ventilation, and faulty heating systems. … But while scholars say rundown school buildings hurt student performance, most are deeply skeptical about studies linking improved achievement with top-notch buildings.⁶

Another area of study centers on design principles such as movement patterns, acoustics, lighting (often referred to as daylighting), and color. The
findings in this area have been mixed in terms of their affect on student achievement.

In a 2001 study in Georgia, several design principals (circulation pattern/movement, architectural design, large meeting places, daylighting, color, outside learning areas, instructional laboratories) were found to influence student learning for 3rd and 5th grade students in Georgia. A report by the Heschong Mahone Group for the California Energy Commission found that elementary school students in classrooms with the most daylight experienced a 21 percent improvement in learning rates compared to students in classrooms with the least daylight. Several other studies have documented the relationship between daylighting and student outcomes.

However, a report by Interactive Inc. in 2000 found no relationship between student achievement and a variety of school design factors such as classroom lighting, thermal factors, noise level, maintenance, interior decoration, and color. This study looked at a random sample of 394 schools in Arizona and used 5th, 8th, and 11th grade Stanford 9 scores in 1998 and 1999.

**PROMISING PRACTICES**

While capital expenditures for new building construction or improving the condition of existing school buildings can be prohibitive, the cost of utilizing design principals in school facilities is a much more manageable alternative for improving school facilities. For example, research shows that design and construction strategies that incorporate daylighting do not significantly increase costs over conventionally designed schools. Incorporating these findings into practice could have implications for some cost-effective strategies for increasing student achievement through more effective educational facilities.

**OREGON CONTEXT**

The Oregon Department of Education’s Database Initiative project (DBI) produces school- and district-level reports on funding, students, staffing, and infrastructure for the Oregon educational system. DBI data from 2001-02 on school facilities offer the following characteristics for the 2,695 school buildings tracked in the database:

- The average age of these 2,695 school buildings is 40.1 years old, with 20 school buildings over 100 years old.

- The average size of a school building in Oregon is 31,935 square feet.

- Of these total buildings, 1,104 (41 percent) have been remodeled at some point while the remaining 1,591 (59 percent) have not been remodeled.
• The average age of buildings that have not been remodeled is 31 years old, compared to 53 years old for those buildings that have been remodeled.

• For those 1,104 buildings that have been remodeled, it has been an average of 16.6 years since they were last remodeled.

• Buildings that have been remodeled are more than 3 times larger than those buildings that have not been remodeled (54,750 vs. 16,097 square feet).

• Newer buildings tend to be smaller in size than older buildings. It appears that a significant number of new buildings have been smaller modular or portable classrooms, which could be influencing this trend.\textsuperscript{11}

Many districts in Oregon are consolidating schools, but may ignore how “effective” (e.g., acoustics, daylighting) a facility is when considering which facilities to close. Architects in the past few years have begun using effective acoustic design principals in their design of school facilities. The Acoustical Society of America released a study in 2000 that linked traditional ceiling and floor design/materials with reduced auditory clarity of lower frequencies, which tend to be vowels that have been found to be critical to comprehension rates.\textsuperscript{12} However, acoustics are often only considered in gymnasiums, music classrooms, and theater/auditoriums and not in the classrooms of the Oregon schools. This area as well as daylighting may represent a cost-effective strategy for improving student achievement by focusing more on classrooms instead on other structures within school facilities.

**OPTIMAL SCHOOL SIZE**

Optimal school size has long been an issue of great interest about which opinions and research abound. The difficulty of determining optimality is largely explained by the fact that the decision-making is deeply intertwined with equally challenging policy areas including school consolidation, school choice and resource allocation. There appears to be loose consensus that the scale of most schools is too large. However, recommendations on how best to optimize school size are diverse.

Because resources vary greatly across communities, optimal school size has tended to yield different answers depending on the community. In rural areas, distance and topography compound any negative aspects of large size schools. Students spend tremendous amounts of time traveling to and from school, as do their parents. Many students cannot participate in school as fully, due to distance. Consolidation of schools tends to lengthen the distances that must be traveled.

Due to changes in residential patterns, many large, middle-class schools have become large inner-city schools attended by impoverished students.
Many of these schools are characterized by dysfunction due to overcrowding and plagued by low achievement. These are the characteristics of large urban schools that seem to stifle any hope of realizing the benefits of economies of scale.

**LITERATURE REVIEW**

Research in the area of optimal school size has been significant and it has tended to favor smaller school sizes. One researcher drawing this conclusion summarizes findings when he states that, “... good schools can differ widely in size, and there is no such thing as ‘optimal’ school size. Rather, the ‘right’ size for a school depends on local conditions and contexts.”

However, studies that have quantified an optimal size for schools have generally recommended a school size no smaller than 300 students and no larger than 900 students. Karen Irmsher comments on this wide range when she writes that:

> Despite widespread agreement that the scale of most schools is too large, prescriptions for ideal size vary. Fowler, Howley and others consider the potential for curricular adequacy to be reached at 400 students. Meier defines small schools as enrolling 300 to 400 students. Lee and Smith conclude that high school students learn best when enrollment is between 600 and 900. A joint policy statement issued by the Carnegie Foundation and the National Association of Secondary School Principals recommended that high schools break into units of no more than 600 students. None recommend fewer than 300 or more than 900 students.

Another area of focus for studies on optimal school size is the relative cost-effectiveness of different sized schools. The traditional approach to cost/benefit studies on optional school size focuses on economies of scale in that large schools cost less per student than smaller schools.

The case can be made for a slightly different relationship between school size and cost-effectiveness. Accordingly, the argument that follows identifies diseconomies of scale as existing for schools that are either at the small or large end of the school size continuum. These diseconomies can be viewed as “a mathematical depiction of the school size-cost relationship, which shows that it is U-shaped; that is, average per-pupil costs do decline up to a point as enrollment increases, reach a minimum, and then rise with further school growth.” Researchers explain the growth in expenditures by the large staff needed to manage and control large numbers of students as schools become larger and larger.

A different approach to operationalizing “cost” for high schools can be had by using cost-per-graduate rather than cost-per-student. Using the traditional cost-per-student measure, researchers have found that high schools with fewer than 600 students cost more than schools with more than 2,000 students. However, these small high schools had a slightly lower cost-per-graduate than the larger high schools because they also had a lower dropout rate (even though these small schools also served a higher
percentage of poor and part-time special education students). Funk and Bailey replicated these results in Nebraska in their study, “Small Schools, Big Results: Nebraska High School Completion and Postsecondary Enrollment Rates by Size of School District.”

PROMISING PRACTICES

A growing body of research supports the link between small school size and student achievement, particularly for impoverished student populations. While smaller schools may not be a feasible option in all situations, schools serving lower socio-economic student populations are thought to be good candidates for downsizing.

A 2000 report summarizing a series of studies from Georgia, Ohio, Montana, and Texas on school size, poverty, and student achievement found that as schools become larger, the negative effects of poverty on student achievement increase.17 The correlation well documented in other studies between poverty and low achievement is as much as 10 times stronger in larger schools than in smaller ones in all 4 states. These studies were replicated in Washington state using fourth and seventh grade Washington Assessment of Student Learning (WASL) scale scores in reading and mathematics.18 The results showed that “small schools had the greatest equity effects” in that when school poverty is high; students perform better in small schools.

OREGON CONTEXT

Although the DBI does not offer a report that breaks out the size of Oregon school at different levels, there is data on the average school size for all 1,112 schools in the database. Based on 2002-03 school-level data from the DBI, the average school size for all 1,112 Oregon schools in the database is 450 enrolled students.

Many school districts in Oregon are consolidating schools, either to save administrative costs or to address issues related to underutilized/inefficient schools. This perspective tends to be common in Oregon, but it is not supported by the literature on the subject. Many difficult-to-measure costs are not completely considered or understood when consolidation decisions are made.

SMALL LEARNING COMMUNITIES

Support for small learning communities grows out of the perception that today’s rural and urban high schools fail to equip students with the advanced thinking and writing skills required by employers. Supporters assert that these skills are no different than the skills required for success in higher education. However, not all students are higher-ed bound and so do not learn these skills in school. As a result, non-college bound high school graduates
are not prepared to work successfully in today's economy where an individual’s education is closely linked to future opportunities.

Supporters of small learning communities contend that large schools, particularly large high schools, are poorly designed to equip students with a contemporary set of skills because, unlike the economy in which students will be expected to find a place, they have evolved little over the past 50 years. Critics describe large schools as being unnecessarily bureaucratic, prone to inefficiency and a source of isolation and disconnection among students. The failure of many young people to graduate or leave high school with the academic preparation to succeed in college, work or life in general is largely attributed to these shortcomings.

Underlying the design of small learning communities is the expectation that in a small, tailored learning environment all high school graduates are capable of the advanced thinking and writing required for college work, regardless of whether they intend to pursue higher education. It is argued that students are more likely to reach this potential in small learning communities because they will receive individualized attention in a safe environment in which high expectations have greater meaning. Students most at risk of being left behind in large schools are believed to be the best served.

**LITERATURE REVIEW**

The logic for the creation of large high schools is the implied capacity to offer comprehensive instructional programs at lower costs than smaller schools. During the post-World War II period, middle-class students predominated in large, urban schools. In the intervening years, residential patterns show that many of these families have moved to the suburbs leaving mostly minority and/or low-income students to attend large, urban schools. School size research shows that small learning communities serve these students better than the large school model.

The rationale for school consolidation and the creation of large schools relies on measurable budget costs of production to support the assertion that large schools offer economies of scale. Research into small learning communities often introduces difficult-to-measure costs, or diseconomies of scale, that undermine the logic and the realization of large school economies of scale. Difficult-to-measure costs associated with large schools can include but are not limited to overcrowding, incoherent course offerings, low expectations accompanied by non-college tracking, disruptive and/or violent behavior and an organizational inability to respond to changing environmental factors.

Almost 40 years of existing small schools research and literature indicate better student attendance, higher graduation rates and equal or better academic achievement levels. Research also points to greater parent involvement and fewer incidences of violent or disruptive behavior. Only recently, however, has the research in favor of small schools received serious
attention. New interest is often explained by widespread concern following intense coverage of recent school shootings.\textsuperscript{22} Concern over violence joins a long list of disturbing indicators that things are not as many believe they should be.

Kathleen Cotton, in a widely cited review of 31 studies on small schools, found a significant positive and no negative correlation between small schools and student achievement. She writes that:

About half the student achievement research finds no difference between the achievement levels of students in large and small schools, including small alternative schools. ... The other half finds student achievement in small schools to be superior to that in large schools. ... None of the research finds large schools superior to small schools in their achievement effects.\textsuperscript{23}

Following a synthesis of 103 studies and reviews, Cotton makes several assertions about small learning communities. She writes that people in small learning communities come to know and rely on one another. Parents are more easily drawn into the school community to offer support and students and staff are found to have a greater sense of personal efficacy. She also finds that small school students tend to be more responsible for their own learning, a trait that will serve them well as adults in today's economy.\textsuperscript{24}

Cotton cautions against examining the correlations between school size and achievement. She notes that the effects of smallness and achievement are indirect. Effects of smallness are likely mediated through small-school features including quality of social environment and student attachment to the small learning community.

School connectedness is believed to be a powerful outcome of small learning communities. Using results from the National Longitudinal Study of Adolescent Health, University of Minnesota researchers observed that school connectedness is a “powerful protective factor” in keeping students positively engaged at school. Their research showed students connected to school are less likely: to use alcohol or illegal drugs, to engage in violent behavior, to become pregnant or to experience emotional distress.\textsuperscript{25}

Participation in extracurricular activities, a form of school connectedness, is found to be much higher in small schools than in large schools. Students in smaller schools are also believed to participate in a greater breadth of activities. Researchers conclude that, given smaller school size, everyone, including the most reticent of students, is needed to fill out teams and clubs.\textsuperscript{26} As schools grow, extracurricular opportunities do not always grow proportionately, leaving many students outside of these activities. As schools expand, fewer students are needed to fill available slots on sports teams, in clubs or in musical and theatre groups.\textsuperscript{27}

All research does not point to small school learning communities as a valuable reform. Critics contend that small learning community advocates use flawed logic in evaluating a school's efficacy by student achievement
status at one time – high school graduation. Recent research on school effects question the logic of small schools by using student achievement growth throughout high school as the measurement outcome for judging a school’s effect on student learning.

Much uncertainty still exists as to how school size influences different educational outcomes. Moreover, it is not clear whether the same set of student and school predictors affects student learning and transience at schools of different sizes. Reform efforts guided by school effectiveness research may be ineffective to the extent that different factors impact schools of different sizes.

THE MATTHEW PROJECT

Focusing on Montana, Georgia, Ohio and Texas, the Matthew Project investigated the possible academic effects of school size related to "excellence" and to "equity" effects at different socioeconomic status levels. Each state’s achievement test scores were analyzed. Almost every school in each state was included in the analysis. The Matthew Project studies are well regarded because they are replicable.

While excellence effects of size varied substantially across states, the Matthew Project found that the influence of size consistently and substantially varied by socioeconomic level. In impoverished schools, large school size exerted a negative influence. A positive influence on achievement was found in affluent schools. In short, "all else equal, larger school size benefits achievement in affluent communities, but it is detrimental in impoverished communities.

From state to state, the Matthew Project found strong and consistent "equity effects." In smaller schools, a weaker relationship between achievement and socioeconomic status was found than in larger schools. Depending on a state’s median size by grade level, "smaller" and "larger" schools varied.

The Matthew Project concluded that in each of the four states, achievement variance associated with socioeconomic status was diminished by between 20 and 70 percent in smaller schools. In Georgia, Ohio and Texas, poverty’s negative effect on average student achievement was reduced in every grade in smaller schools. In two of the three grades tested, smaller schools in Montana minimized poverty's dampening effect on achievement.

PROMISING PRACTICES

OREGON CONTEXT

In April 2003, the Meyer Memorial Trust and the Bill & Melinda Gates Foundation launched the Oregon Small School Initiative. The initiative is a $25 million, five-year effort to develop 10 to 12 new small high schools and to convert 18 to 20 large high schools into small learning communities. The
initiative builds on the Bill & Melinda Gates Foundation’s effort to strengthen high schools in order to improve graduation rates among African American and Hispanic students.\textsuperscript{32}

The Gates Family Foundation supports the creation of school systems comprised of a varied portfolio of small high schools with different emphases, approaches to teaching and/or distinct organizing philosophies. The logic being that every student will fit with at least one model in the portfolio but each school will not fit every student. This approach aligns with the idea that successful efforts to downsize are predicated on “the ability of the subunits or subschools to establish a collective identity, projecting clear, identifiable boundaries and displaying perceptible differences – palpable to students – from whatever lies beyond those boundaries.”\textsuperscript{33}

The Oregon Small School Initiative seeks to eliminate the growing numbers of high school dropouts and to close the widening achievement gap between minority and low-income students and their peers. Accordingly, the initiative focuses on communities and schools with large populations of low-income and minority students. Student achievement, college readiness, attendance and graduation rates and the number of students who go on to higher education are the initiative’s measurements of success.

Oregon education leaders and organizations including the Oregon Small Schools Initiative, the Oregon Department of Education, the Confederation of Oregon Schools Administrators, the Oregon Schools Boards Association and the Oregon Education Association (OEA) have endorsed the initiative.\textsuperscript{34}

The initiative is overseen by E3: Employers for Education Excellence. E3 is a nonprofit that was founded in 1996 in partnership with the Oregon Business Council to promote high academic standards and to involve communities in the education process.

**POLICY OPTIONS**

Despite comprehensive professional literature supporting the education of children in small schools, findings from the Matthew Project and growing consensus among educators, educational researchers and concerned communities in favor of them, the results are not yet conclusive regarding their effectiveness or potential shortcomings, particularly as regards sorting students into different schools based on different levels of expectation and challenge.

The following policies suggest ways in which small learning communities might better be explored and put into place through a variety of strategies and structure while continuing to research their effects, intended and otherwise.
• **Use incentives to encourage the creation of small schools and carefully evaluate the results of the conversion of large schools to small learning environments.** (Promising Practice) The start-up capital, assistance and oversight resources found in the Oregon Small Schools Initiative exemplify the kind of encouragement needed to develop small learning communities. The Oregon Department of Education could on a smaller scale consider offering local districts similar kinds of support. Evaluations should be longitudinal in nature and seek to determine how successfully all students make the transition from high school to postsecondary education and careers.

• **Focus development of small learning communities on schools with concentrated populations of poor and minority students.** (Promising Practice) Recommendations that all schools be small miss the point of school size research. Small learning communities have shown the greatest positive effects on achievement in impoverished communities. Creating small schools in affluent communities in which achievement is sound could actually prove to be counterproductive if the benefits of large schools in certain environments are not taken into consideration. Focusing on communities with special needs, such as those with concentrations of second language learners, allows for programs specifically tailored to the needs of these students without lowering expectations or standards.

• **Encourage Schools-within-Schools.** (Innovative Practice) Chicago, New York City, Philadelphia and many other cities have instituted restructuring efforts to house several small schools within an existing large school building and to enhance educational possibilities. Portland has begun similar restructuring efforts. Schools-within-schools may represent the most effective and direct approach to encouraging a reasonable pace of change. Schools-within-schools also make good use of current facilities.

• **Identify and remove obstacles in law and/or policy that serve as disincentives for the creation of small learning communities.** (Promising Practice) A good first step would entail an audit of existing Oregon statutes, policies, regulations and procedures to identify barriers. Athletic participation rules at the high school level may need to be revised. Building codes also merit attention, as they may need reinterpreting to allow for space sharing.

• **Develop a detailed inventory of Oregon school facilities, their condition, the likely costs needed to replace or remodel the facility, and the date such replacement or remodeling will likely be necessary.** In addition, projections of needs for new schools to cope with student
growth should be developed. (Promising Practice) With this information, it will be possible to predict with much greater precision the bonded indebtedness needs of Oregon school districts well into the future. This is important information since local communities must bear the burden of the bonds necessary to renovate and replace Oregon’s school buildings. This database will allow educators and policymakers alike to gauge the projected tax burden that will be necessary at the local level to fund school building improvements and replacements, in addition to new facilities that will be needed. This broad, long-term perspective will help in planning tax policy at the state and local levels and may lead to discussions of additional strategies to ensure Oregon school districts are capable of keeping pace with their capital needs now and in the future. The goal should be to modernize Oregon schools in order to reduce maintenance and energy costs and to improve the quality of the learning spaces to help improve student achievement.


Chapter 4: Facilities & School Size


The Matthew Project measured excellence by “effect size” at different levels of socioeconomic status. Effect size is a ratio of the difference in terms of standard deviation units. An effect size of -0.5 indicates a negative difference. This would mean that larger school size decreases achievement.

The Matthew Project measured equity by dividing schools in each state into smaller school v. larger school groups divided at the median of size. Correlations between socioeconomic status and achievement within the groups were calculated.


Oregon’s high school dropout rate ranks among the highest rates in the nation and noticeably exceeds the national average. While the dropout rate has decreased steadily since 1997, dropout rates among Oregon’s Hispanic and African American high school students remain high. See Chalkboard Report 1 Table 2.7 and Table 2.8.


INTRODUCTION

Although it seems quite logical that instructional practices—the vast array of teacher behaviors that directly interact with student learning—are an important variable in the complex equation of what it takes to increase the effectiveness of a school, current research can provide only inconsistent and uneven guidance in this area. The challenge of developing an empirical foundation for effective instructional practices arises from their complexity and multi-faceted nature of the instructional process, which makes it difficult to study under controlled circumstances. What a teacher does in planning and implementing a particular instructional approach is difficult to study and even more difficult to connect directly with student learning, except when instruction is confined to the most basic of learning tasks. Thus, although this chapter will examine and present the best evidence and most promising practices to increase student learning through better instructional methods, it is done with the caveat that much of the literature base is uneven in terms of what it reveals about the effects of specific methods. The vast majority of research in this area is correlational. Such research catalogues a variety of factors related to improved student achievement, yet such studies cannot provide definitive answers about the degree to which any of these factors might cause the improvement in student achievement or how factors interact with one another.

In addition, little systematic information has been gathered about how effectively or to what extent Oregon schools put these strategies into practice. Because choice of instructional methods is a local decision that in most instances is left to the discretion of individual teachers, accurately describing the conditions in Oregon schools is not technically feasible. Some teachers may utilize the methods discussed here with positive effect. Other teachers may employ poor instructional methodology or have no identifiable methods at all and simply teach as they feel is best.

This chapter presents a number of the most promising means for improving instruction, which are grouped into two broad categories. We begin with those strategies most directly relevant to classroom teachers and then move to a discussion of strategies that might better be thought of as pertaining to the larger school system. The seven areas most relevant to classroom instruction include:

- **Curriculum Alignment.** Curriculum alignment is the process of organizing instruction in a manner that ensures teachers build upon what was previously taught. It focuses on commonly agreed-upon knowledge and skills.

- **Use of Data to Inform Instruction.** This method requires regular assessments of student progress toward mastering the implemented
curriculum. The results should be utilized to adjust the instructional program within the classroom.

- **Effective Grouping Methods.** This method adjusts instruction to the needs of individual students. A number of methods have been shown to work well with a wide range of students. Grouping can be based on results from diagnostic tests.

- **Literacy Development.** At the heart of student achievement are literacy skills. These must be developed through proven instructional methods.

- **Meeting Diverse Student Needs.** Classroom teachers are responsible for a wide array of students, including those from widely divergent socio-economic backgrounds, language skill, cognitive ability, and complex combinations of ethnic/racial backgrounds. Teachers must have the knowledge and skills to structure their instruction in ways that enable the widest possible range of students to learn.

The four strategies that might better be thought of as pertaining to the larger school system rather than to individual classrooms include:

- **Effective Uses of Technology.** As technology finds its way into the classroom, evidence regarding how best to utilize it to support student learning is emerging.

- **Duration of Instruction.** Instruction is affected by how long students are present in class during the day and the year. Duration of instruction is addressed to identify methods deemed most likely to help enhance student learning and to support the instructional methods reviewed here. A related issue is the use of out-of-class time and homework as strategies to support effective in-class instruction. Both offer cost-effective ways to extend student learning beyond the school day.

- **Arts in Education.** Arts education can be an important component of an overall program of instruction, but relatively little is known about how best to fit art with academics and what exactly art contributes to the academic education of students.

- **Extracurricular Activities.** It has long been known that athletics have been a way to keep students interested in and participating in high school, in particular. Extra-curricular activities more generally may have other beneficial effects for schools, when implemented properly.
CURRICULUM ALIGNMENT

Identifying and selecting a curriculum planning process helps to develop a framework for monitoring student progress. Curriculum alignment can be defined as “the degree to which expectations and assessments are in agreement and serve in conjunction with one another to guide the system in ensuring that students learn what they are expected to know and do.”¹ A basic tenet of standards-based school accountability is that curriculum should be aligned with what is being tested at the school, district, state and national levels.²

Many school districts across the country are focusing on the explicit communication of standards on a number of levels. Primary goals are to make state and district standards easily accessible to educators and to provide resources that enable teachers to align their teaching to the standards. Content standards are designed to build upon one another from grade to grade. Performance standards specify how well students must perform at each level in relation to the content standards.

When speaking of curriculum alignment, it is important to keep in mind that when alignment occurs as ideally envisioned, activities are consciously connected both within a class and across grade levels. Within a class, lectures and activities should be aligned with independent practice and assessments; individual lessons should be aligned with the broader goals of the course; and all curriculum, instruction, and assessments should be aligned with the state standards for that particular grade level and content area. Alignment between grade levels should result in a coherent sequence of gradually more challenging content and performance expectations, eliminating the potential for either redundancy of material or gaps in student learning.

LITERATURE REVIEW

Michael Cohen has been a leader in defining and expounding the theoretical framework and rationale for instructional alignment since the early 1980s. Although few of his publications are empirical in nature, they do provide a solid basis for understanding the philosophical underpinnings of curricular alignment. Cohen argues that the more aligned school systems are with one another, the more effective such systems can be at providing a seamless education to students, and that this alignment is especially important for academically low-achieving students.³

How do Cohen’s ideas play out in the real world? Currently, the degree to which the content and performance standards taught in the K-12 system are aligned to content and performance standards varies tremendously both within and across states.⁴ To date, no definitive study directly linking curricular alignment to student achievement has been published, but the findings from several small studies lend credence to the views that greater alignment can pay dividends in student achievement.
One such study took place in California. The two-year study was conducted to analyze the effectiveness of curriculum alignment on reading achievement. Two elementary schools aligned third and fifth grade curriculum with the state standards, assessed incrementally to evaluate student progress, and provided faculty and administrator training in the best practices use of alignment and assessment data. A third elementary school was used as a control. All three schools had matching demographics. Results of the analysis indicated that test scores in reading rose significantly for students in the treatment schools. Test scores in the control school did not significantly improve and in some cases decreased over the same period of time.\(^5\)

A larger study examined the effect of curriculum alignment on third grade students’ mathematics achievement. Researchers in the DeKalb County School System, DeKalb, Georgia, reported that third grade students taught by teachers who had aligned their curriculum with state standards significantly outperformed their peers from a matched comparison group whose teachers had not participated in the curriculum alignment effort. After one year of curriculum alignment, students from the treatment group outperformed their matched comparison group peers an average of 5.12 normal curve equivalent (NCE) points on the Iowa Test of Basic Skills in mathematics.\(^6\)

**PROMISING PRACTICES**

**VIRGINIA**

Efforts to align curriculum in Virginia have led to the development of alignment indicators that address three areas of curriculum: the written, taught and assessed curriculum. The written curriculum alignment indicators focus on providing educators with resources, selecting instructional strategies that align with state learning standards, using student performance data to drive instruction, and monitoring teacher implementation of curriculum throughout the year. Taught curriculum alignment indicators address the goal of using instructional strategies that promote critical thinking and differentiated instruction for all students. Assessment indicators also focus on providing evaluation results and progress toward goals to both students and parents.\(^7\) Although these indicators have the potential to inform future research on the effect of aligning the curriculum, as yet no published studies have used the indicators to document any benefit to alignment.

**WISCONSIN**

Similarly, although the following school district examples illustrate comprehensive approaches to curriculum alignment, they are currently not supported by empirical studies that link this alignment to a beneficial impact on students. The Wisconsin Rapids Public School District, in the small town of Wisconsin Rapids, uses curriculum-planning models to align with state and national science standards. To begin, a team made up of classroom
teachers, the director of curriculum and instruction, staff development personnel, key administrators, and the K-12 science coordinator, developed a curriculum framework at a local level. They utilized publications, research articles, state and national standards and curriculum documents from other districts. Selection of a curriculum planning process helped develop the framework for monitoring student progress. To promote capacity building, the district provides opportunities for professional development, creates a culture of accountability and includes parents and the community as part of the learning community. A further emphasis is placed on monitoring, reflecting and evaluating the effectiveness of the curriculum in improving student achievement.8

MICHIGAN

The Grand Rapids Public School District, in Grand Rapids, Michigan, used teams of curriculum specialists, teachers and administrators to analyze gaps between adopted curriculum and state benchmarks and standards, as well as standardized testing content. A major focus was on integrating curriculum. To accomplish this, the team created four strands for use in all content areas: Inquiry, Communication, Content Analysis and Problem Solving, and Connection and Construction. The teams then developed benchmarks, concept statements, and content that fit into each of the strands, giving specific attention to connections between grades and spiraling curriculum from kindergarten to high school. These strands and their accompanying benchmarks, concept statements, and content standards were incorporated into mathematics, language arts, social studies, and science.9

THE OREGON CONTEXT

The Oregon Department of Education offers a curriculum alignment-scoring guide that is designed to assist in developing and evaluating school and district curriculum. According to the scoring guide, schools that meet alignment criteria exhibit the following: (a) content standards and benchmarks are included in the written curriculum, (b) content for benchmark year is distributed among the benchmark year and prior grades, (c) the curriculum includes identification of instructional resources, (d) a target for instructional time allotted is provided for each benchmark, (e) assessment resources and tools are identified for each benchmark, and (f) example assessment items illustrate each benchmark standard.10

The ODE website also has an online curriculum alignment resource for teachers called the Teaching and Learning Resource Center. The site matches instructional resources to academic standards, includes content background information, sample lessons, assessment items and other materials designed to assist teachers. The instructional resources include sample lessons using technology and sample items similar to those found on statewide assessments. Currently, the resource center can match all of the mathematics standards. Effort is being made to provide materials for reading and literature Foundations (K-2) and Grade-Level Standards (3-CIM).11
On a district level, the Greater Albany School District board policy identifies the following components as essential for addressing curriculum alignment: Oregon’s academic standards, district academic goals, alignment and articulation of curriculum, and planned course statements. Further, the Board states “to facilitate continued development of a high quality program it is important that every available resource be utilized including evaluation of student performance using appropriate measurement tools and procedures, surveys of parent perceptions and the recommendations of the teaching and administrative staff.”

As mentioned previously, there is currently no way to assess the degree to which schools across the state have aligned their curriculum, instruction, and classroom assessments to the state content and performance standards. Such incredible variation exists even between two classrooms at a single school that it is unlikely that meaningful comparisons will be able to be made anytime in the near future. Furthermore, the cost to manage such a task is likely to prove far greater than the possible benefits that would accrue.

**USE OF DATA TO INFORM INSTRUCTION**

In many ways, the skills needed in teaching are similar to those needed to maneuver a car through rush hour traffic on the highway. Like drivers, teachers must be alert to what is going on around them. They must be able to adjust their own actions to meet the needs of a situation in a constant state of flux. And, just as on the highway, being alert to the early warning signs of danger to come can help avert disastrous events from occurring. The following section summarizes the research on the effect of using data to inform instruction. A number of technology programs that can assist teachers with diagnostic testing are also discussed.

**LITERATURE REVIEW**

A large body of work has focused on the use of Curriculum-Based Measurement (CBM) to improve teachers’ ability to modify their instruction to address identified student needs. CBM should not be thought of as a particular test or assessment package, but rather as an approach to frequent monitoring of student progress using a variety of short, relatively easy to administer assessments designed to measure the types of skills specifically being covered in the students’ classes. CBMs have a rich history of use in measuring student competency in areas of spelling, reading fluency, written language and mathematics. Originally designed to identify students in need of special education services, the goal of CBM is to give teachers a set of evaluation procedures that allow them to graph student progress and make instructional changes accordingly. CBM works by repeatedly assessing students in short, simple processes to show where progress is or is not occurring. It provides a curriculum-centered rationale for the kinds of services and interventions students may need. Currently, CBM is primarily used in elementary and special education settings. Efforts are being made to develop measurement systems for the pre-primary and secondary levels.
Research indicates that in classrooms where teachers used both curriculum-based measurement and self-monitoring procedures to assess student progress, significantly more student growth was demonstrated. One study examined the effects of combining curriculum-based measurement in mathematics with teachers' instructional changes on academic progress of elementary students with learning disabilities and mild mental disabilities.\textsuperscript{16} Groups were divided into a control group with no curriculum-based measurement, a curriculum-based measurement-only group, and a curriculum-based measurement group with self-monitoring.

Recent efforts have been made to incorporate technology into curriculum based measurement procedures. One study examined the effects of a computer-based software program on the academic achievement of children grade three through five. Grade Level Expectations for the Everyday Math curriculum were assessed using the Accelerated Math (AM) software. The AM program individualizes practice assessments for students using an Algorithm Problem Generator. Research findings indicated that students in classrooms with the greatest implementation of the AM intervention benefited the most. Math achievement gains were significant for low, middle and high performing students.\textsuperscript{17}

In his paper entitled “Using Standardized Test Data To Guide Instruction and Intervention,” Mertler recommends using national percentile rankings to identify students who are in the bottom 25\textsuperscript{th} percentile to target students who may benefit from interventions. Individual interventions address areas where a student performs below average, typically by providing intensive one-on-one or small group instruction. Mertler suggests identifying these areas, establishing priorities as a focus for the intervention, and incorporating new or different resources, methods of instruction, reinforcement and/or assessment to meet the needs of the student.\textsuperscript{18}

**PROMISING PRACTICES**

In a report published by CRESST/Learning Research Development Center, several benefits of using technology as a tool for assessment are described. A focus is placed on communicating learning goals, interpreting performance, tracking progress and using appropriate corrective actions. A number of strategies and tools that assist with these goals are described:

- **Cognitively Guided Instruction (CGI) provides a framework of cognitive language that can be adapted to any classroom and curriculum.** CGI focuses on using alternative strategies for problem solving (especially in math).

- **Interpretive Guidelines are informative assessment designs.** Technology programs like “Facets of Thinking” and DIAGNOSER provide “prescriptions” for student learning and instruction.

- **Rubrics can be used in assessing performance.** Rubrics help to distinguish different quality performances, with scores that emphasize
quality over quantity. Analytic rubrics are particularly effective when diagnosing strengths and weaknesses. In addition, rubrics provided to students prior to instruction can help focus student and parent attention on the specific skills and performance levels expected.

- Make explicit, consistent relationships between assessments and instruction. KIDMAP is a software program that helps teachers with assessments and crafting individual trajectories for their students. It is a comprehensive database that contains national standards, rubrics, sample assessments and lesson plans. Formative or curriculum-embedded assessments should be created after establishing an end-of-unit assessment (rather than inserting assessments during instruction that generally cover information just learned).^{19}

**Wisconsin**

Recent research by the Wisconsin Center for Education Research has focused on a program called CATCH, Classroom Assessment as a basis for Teacher Change. CATCH concentrates on developing and testing a program of professional development that helps teachers to change formative assessment practices. Researchers developing the program emphasize that assessment is an important component of the teaching and learning process.^{20}

For example, an assessment that asks students to choose their own mathematical tools to solve a problem illustrates students’ grasp of concepts and processes rather than which facts, standard algorithms, and definitions they know. The program follows a three-level assessment pyramid:

![Assessment Pyramid Diagram](image)

**Level I = reproduction:** The most frequently asked type of question; determines whether basic facts and skills are mastered.

**Level II = connections:** Students use their own strategies and choose their own tools to solve problems.
Level III = analysis: The least frequently asked type of question; students must not only solve problems but pose questions and communicate reasoning.

Using this method, two urban school districts showed improved student achievement scores on standardized tests. Scores exceeded those earned by students taught by non-CATCH teachers.21

Perhaps the most compelling research to date on the effect of using data to inform instruction comes from a multi-method study conducted by the Bay Area School Reform Collaborative (BASRC).22 The group surveyed 32 K-8 schools in the San Francisco Bay Area on a variety of topics, including instructional practices, in addition to gathering data on how well each of the schools were doing at closing the achievement gap between low-performing and high-performing students over the four year time period between 1998 and 2002. Schools where all students made academic progress and low-performing students made more rapid progress were defined as “gap-closing” while schools where high-performing students made more progress than low-performing students were defined as “non-gap-closing.” Results of these quantitative data gathering efforts informed the selection of the qualitative phase of the study: in-depth case studies of three schools making dramatic progress in narrowing the achievement gap.

The BASRC study reports that how schools use data is the most significant factor in the difference between schools that are successfully closing the achievement gap and those that are not. In gap-closing schools, teachers use data to understand the skill deficits of low-achieving students more frequently than their colleagues at non-gap-closing schools. “About two-thirds of respondents from gap-closing schools use data to understand skill gaps at least several times a month and, sometimes, several times a week. In contrast, under a quarter of respondents from non-closing schools use data this frequently; in fact, over 75% of these teachers reported using data only a few times a year, or never.”23

Similarly, teachers at gap-closing schools were significantly more likely to administer regular assessments than their peers at non-gap-closing schools. Whereas 91% of teachers at the gap-closing schools reported assessing their students at least monthly and 55% of them reported using weekly assessments, only 79% of teachers at the non-gap-closing schools assessed their students at least monthly and only 32% used weekly assessments. In addition, gap-closing and non-gap-closing schools reported a significant difference in the amount of professional development around the use of data to inform instruction teachers received. Fully 50% of teachers from gap-closing schools indicated that they received professional development on linking low-performing student data to instructional strategies a few times a month. In contrast, only 26% of teachers from non-gap-closing schools indicate that they received training in this area more than a few times a year.24 Although this study has not yet been replicated it offers significant insight into a potentially powerful strategy for school improvement.
THE OREGON CONTEXT

As with other sections of this chapter, it is impossible to pinpoint definitive trends in Oregon schools’ approach to using data to inform instructional decisions.

The Oregon Department of Education offers some small assistance in this area through the use of the Lexile Framework for Reading, a program that uses a scientific approach to measure text difficulty and current reading ability of students. The program contains an assigned text level for various reading materials that can be matched to the reading ability of the student. Educators and parents have access to the Lexile portals website to find books and other materials that are appropriate to each student’s reading level. Parents and teachers can use the Lexile score printed on the Individual Student Reports students receive after taking the statewide assessment to determine the appropriate reading level for individual students as well as to track their progression in reading achievement over time.\(^{25}\) It should be noted, however, that research on CBMs indicates that more frequent assessment information is much more useful than a single annual score.

Some individual districts have embraced the practice of regular progress monitoring and systematic use of data to inform instruction. A prime example of a district where the regular and ongoing use of data drives many instructional and curricular decisions is the Bethel School District, in Eugene.\(^{26}\) The district implemented the Bethel Reading Project in the late 1990s to address the needs of its students, a population characterized by high mobility rates and low socioeconomic status. The Bethel Reading Project includes the use of measurable goals for each grade level, regular assessment and progress monitoring, and use of research-based curricula.

In 1996-97, 15% of students in second grade were referred for Special Education services. After initiating and implementing the reading project, the number dropped to 2% in 2003. Equally as remarkable, the percent of third grade students meeting their reading benchmark standard increased from 28% before the reading project to 67% in the 2001-2002 school year.\(^{27}\) In 2004, 94% of third grade students met the state benchmark for reading.\(^{28}\) The success of the reading project has motivated the district recently to expand its focus to elementary school mathematics as well. Although the district does not yet have results documenting the effectiveness of the math program over time, preliminary analyses suggest that the results will be similar in effect to the reading program.\(^{29}\)

EFFECTIVE GROUPING METHODS

The debate over how best to group students for instruction is complex and frequently contentious. On one hand, advocates of homogeneous grouping—where students of like ability are grouped together for instruction—argue that such arrangements increase teachers’ ability to efficiently provide instruction targeted to students’ current level of skill. They suggest that homogeneous grouping decreases the likelihood that instruction
will be targeted to students of average ability to the detriment of both high-achieving and low-achieving students. On the other hand, educators who favor heterogeneous, or mixed-ability, grouping argue that because the real world is composed of people of all ability levels, students need experience working with a wide range of people. They suggest that homogeneous groupings exacerbate the inequities between low-performing students (who often are grouped for basic-skills-based remedial instruction) and high-performing students (who are more likely to be exposed to enrichment activities). One's perspective on the relative merit of these arguments is likely to influence the degree to which one personally favors one grouping method over another.

Likewise, research findings also provide contradictory and somewhat confusing results. This confusion is perhaps alleviated somewhat by the studies that point out that grouping alone is not directly related to achievement. What happens after the grouping of students (instructional quality, instructional time, interventions) is ultimately the most important factor of academic achievement. In addition, there is consistent evidence that regardless of whether a group is homogeneous or heterogeneous, the presence of certain instructional features associated with cooperative learning are linked to greater academic achievement and social growth.

Cooperative learning occurs when students work together towards a shared goal. According to Ysseldyke, cooperative learning is composed of five key elements:

- **Positive interdependence.** Each student depends on and is accountable to others,
- **Individual accountability.** Each student must learn the material.
- **Promotive interaction.** Group members share information and help one another.
- **Social Skills.** Leadership and communication.
- **Group Processing.** Assessing the effectiveness of the group interaction. Studies show that cooperative learning is most effective when implemented school-wide.30

**LITERATURE REVIEW**

**HOMOGENEOUS AND HETEROGENEOUS GROUPING**

A considerable body of research focusing on grouping practices in a variety of educational environments exists. A large number of studies have found conflicting results on the effectiveness of different grouping strategies. Again, depending on one’s perspective, many of these findings could be used to support either heterogeneous or homogeneous groupings.
Most recently, two meta-analyses of research conducted between 1992-1997 concluded the following: (a) advanced students benefit more academically than low-ability students from ability grouping, (b) homogeneous groups are more beneficial for all abilities than heterogeneous, (c) small group learning is more beneficial than whole group learning, (d) what is done when students are grouped is more directly related to achievement than the actual placement in a group, (e) low ability students benefit academically when paired with high-ability peers, but the same is not necessarily true for the high ability partner, (f) both high ability and low ability students benefit from more social interactions when grouped within class with like-ability peers, (g) students act out less and participate in discussions more when low ability students are paired with like-ability peers, (h) low ability students tend to acquire more self-confidence about their abilities when in mixed-ability groups.  

Other studies that support the efficacy of homogeneous groupings include a meta-analysis, conducted by Lou and others that found within-class homogeneous grouping was favored over heterogeneous grouping in terms of student achievement. A study of elementary school students by Petrello found that among three homogeneous ability groups (high, medium, and low), the lower group gained the most benefit from ability grouping. Similarly, a study by Butler et al. found that second graders who were grouped homogeneously outscored their heterogeneously grouped peers in reading comprehension assessments. The homogeneously grouped students also spent more time on-task, and this finding was most significant for low-achieving and middle-achieving students.

At the secondary level, a study by Burks investigated ability grouping effects for eighth grade students in mathematics. He found that students in high-ability groups had higher homework completion rates and more positive attitudes about homework than those in low or middle groups. High-ability group students also exhibited more appropriate behavior in math. These findings are supported in The Tracking and Ability Grouping Debate, in which Loveless addresses the issues and criticisms related to homogeneous and heterogeneous grouping. His research found that placement in a low track often emphasizes good behavior and menial skills, which can result in inferior education. Placement in high tracks is generally associated with more preparation for college. However, Loveless found that when students are placed into separate classes, but are exposed to the same curriculum, no significant effects on achievement are noted. When the curriculum is adjusted to ability level, student achievement is raised, especially for the students receiving accelerated curriculum.

COOPERATIVE LEARNING

A large body of research has been conducted on cooperative learning. A meta-analysis by Johnson and Johnson, as cited in Thousand, Villa, and Nevin, found 164 studies conducted since 1970 on specific cooperative learning methods, conducted at all levels of schooling (elementary through post-secondary). The sizeable amount and scope of the research indicates
confidence in the research results on cooperative learning. The results of the meta-analysis indicated that all eight cooperative learning methods studied were effective in promoting higher achievement than either competitive or individualistic efforts. Further, the researchers indicate that cooperative learning is more effective when “learning goals are highly important, mastery and retention are important, the focus is on complex or conceptual learning, problem solving is desired, divergent thinking or creativity is desired, and higher-level reasoning strategies and critical thinking are needed.”

Johnson and Johnson further present findings validating the effectiveness of cooperative learning (CL) groups in terms of assessment. During CL, teachers can gather observational data to drive further instruction. CL assessment techniques are largely student-driven and interactive, allowing assessment to become part of the instructional process. They also found that cooperatively structured learning results in higher achievement in terms of retention and higher-level thinking.

**PROMISING PRACTICES**

The following promising practices are taken from Kathleen Cotton’s synthesis *Effective Schooling Practices*. Cotton’s synthesis of empirical work on instructional practices suggests the following promising practices for teachers forming instructional groups to address both academic and affective needs. These practices integrate the use of homogeneous, heterogeneous, and cooperative learning groups, recognizing the type of grouping that is most effective in a given situation or environment. The practices also recognize that grouping alone does not predict achievement.

- Use whole group instruction when introducing new concepts and skills.
- Form smaller groups as needed to make sure all students learn thoroughly. Then place students according to individual achievement levels (ability-grouping) for short-term learning activities.
- Monitor instructional approaches, so that students in lower groups still receive high-quality instruction.
- Review and adjust groups often, moving students when achievement levels change.
- Form small groups for instruction and practice in the use of higher-order thinking skills.
- Make use of heterogeneous cooperative learning groups, structuring for both group rewards and individual accountability.
- Set up peer tutoring and peer evaluation groups to use time effectively and to ensure that students receive the assistance they
need to learn successfully.

- Ensure that learning groups exhibit gender, cultural, ability-disability, and socioeconomic balance.\(^{39}\)

**THE OREGON CONTEXT**

Oregon has neither a statewide policy on grouping strategies nor a systematic way in which to gather data on school or district policies related to student grouping. As in so many aspects of instructional practices, how students are grouped typically depends on decisions made at the individual classroom level.

One aspect of grouping in which there is more consistency, however, involves the use of homogeneous groups for early reading instruction in many elementary schools. Such reading groups are usually relatively fluid: once students consistently show mastery of the content at a particular level of performance, membership in reading groups shift. One district that has fully implemented a program of flexible reading groups based on CBM assessment data is Bethel School District in Eugene. Their program was described in some detail in the *Using Data to Inform Instruction* section of this chapter; readers are referred to that section for additional information.

**LITERACY DEVELOPMENT**

Research suggests that early literacy development is crucial in predicting future academic achievement in school. Most studies suggest that early readers must be reading at grade level by the third grade if they are to be successful during the remainder of their school years. Reading instruction in the early years of schooling encompasses a number of instructional techniques, including a focus on phonemic awareness and phonics.

Instruction for early readers in phonemic awareness is crucial for developing early literacy skills. Phonemic awareness involves teaching children to focus on the smallest separate units of sound in spoken words and learning to manipulate them. It varies from similarly effective and complimentary phonics instruction, which teaches children to blend or segment sounds in words using letters.

This section summarizes the research on instruction in phonemic awareness and phonics as it relates to literacy development. In addition, the section addresses some practical considerations involving how best to deliver instruction in early literacy skills. These considerations are particularly germane for students who need intensive intervention to prevent ongoing deficits in academic achievement that are linked to not being a proficient reader by the end of third grade.
LITERATURE REVIEW

PHONEMIC AWARENESS AND PHONICS

A U.S. Department of Education report entitled “Identifying and Implementing Educational Practices Supported by Rigorous Evidence: A User Friendly Guide,” identifies research-based practices that are found to be effective in terms of educational outcomes. Researchers found strong evidence that for early readers, instruction in phonemic awareness and phonics significantly increases reading proficiency. In addition, one-to-one tutoring by qualified, trained tutors increases the reading proficiency for at-risk readers in grades 1-3.40

The National Reading Panel issued findings on a number of instructional strategies in a comprehensive 2000 report. First, phonemic awareness was found to be one of the best predictors of how well children will learn to read during the first two years of instruction. A meta-analysis found that “teaching children to manipulate phonemes was highly effective under a variety of teaching conditions with a variety of learners across a range of grade and age levels.”41 Second, the report suggested that a complementary focus on phonics instruction also helps students with early language acquisition skills.

Phonics instruction focuses on letter-sound correspondences and their use in reading and spelling. A meta-analysis that compared phonics instruction to other forms of instruction found that systematic phonics instruction produced significant benefits for children in kindergarten through sixth grade. Systematic phonics instruction was determined to be the most effective instructional method for improving reading skills for students with learning disabilities, low-achieving students, and students from low socioeconomic backgrounds.42

ONE-TO-ONE TUTORING

Wasik and Slavin reviewed sixteen studies of five one-to-one tutoring programs. The effects of the programs were found to be cumulative and more positive when certified teachers were used.43 Wasik also determined that the effectiveness of a volunteer program is dependent upon tutor training and following of guidelines, as well as evaluation of the effectiveness of the program.44

While the research described above points to the importance of highly trained and often certified tutors, other studies have shown that well-trained nonprofessional tutors can have a positive effect on learning outcomes. Non-certified tutors were utilized in a study of 23 first graders at risk for learning disabilities. Students received one-to-one tutoring for 30 minutes, four days per week, for one school year. Tutors focused on phonological skills, explicit decoding, writing, spelling and reading phonically controlled text. Researchers found that students who participated in the program outperformed the control group in terms of reading, spelling and decoding.45
A program called Sound Partners, which utilizes non-teacher tutors to assist with instruction in basic phonological awareness and reading skills, also reported positive results.46

Peer tutoring, either within-grade or across-grade levels, has also shown promising results. At the middle school level, an after school peer tutoring program in a rural southeastern school district targeted 89 at-risk students. After one semester of enrollment, student academic performance increased for the majority of the students across the subjects of language arts, science, mathematics, and social studies. The program was least successful in mathematics. Sixth graders benefited the most and eighth graders the least.47

Another study specifically looked at the benefits of peer tutoring for students receiving special education services. A meta-analysis conducted by the University of Miami and funded by the U.S. Office of Special Education Programs (OSEP) found that, in terms of reading achievement for students with disabilities, student pairing was more effective than either small or whole group instruction. Peer-mediated instruction and tutoring included working with same-age pairs, cross age-pairs and cooperative partners. An additional finding indicated that students with disabilities benefited more from tutoring younger students than from being tutored by older students.48

A 2001 report from the U.S. Department of Education emphasized the need for well-designed tutoring programs, stating that low achieving students who receive tutoring show significant gains in reading skills when compared to a control group. Among the features most associated with achievement gains are: extensive training for tutors, structured tutoring sessions, formal time commitments, monitoring of services, and alignment between classroom instruction, curriculum and tutoring services.49

Volunteer reading programs are increasingly utilized to assist with improving children’s reading abilities. According to the issue brief from the National Governors’ Association, students participating in tutoring programs experienced academic gains and increased self-confidence. The authors recommended four elements crucial to quality tutoring programs: (a) training for volunteers, (b) assessment-based instruction, (c) structured reading sessions, and (d) an onsite coordinator. Recommendations also focused on early intervention and the development of research-proven volunteer programs.50

**PROMISING PRACTICES**

**DIRECT INSTRUCTION**

Direct Instruction is a research-based teaching model developed in 1968 by Siegfried Engelmann, a professor at the University of Oregon. Direct Instruction is often used to address reading goals but is also used in all curricular areas, including mathematics, science, and social studies. Direct Instruction is designed to improve student achievement through the
utilization of well-developed, planned, and scripted lessons and teaching tasks.

Schools or school districts that have reported success with Direct Instruction include Siefert Elementary, in the Milwaukee Public School system, and Wesley Elementary, in Houston. Siefert saw state standardized test scores for fourth graders rise from a 22% passing rate in 1997-1998 to 57% in 1999-2000. At Wesley Elementary, a school with 80% of the students receiving subsidized lunches, first graders scored at the 82nd percentile on reading tests, about 50 points higher than expected when compared to similar at-risk schools. In Oregon, the Bethel School District utilizes Direct Instruction methods and curriculum as part of the Bethel Reading Project.

Direct Instruction is best suited for lessons in which basic skills are being taught. With its emphasis on developing automaticity of student response to a specific prompt, it is ideal for helping students master discrete skills such as phonemic segmentation and phonics. It is less appropriate, however, for learning tasks associated with higher-order cognitive demands. Thus, Direct Instruction is typically most appropriate for early elementary school students or students who have not yet mastered these basic skills. It should also be noted that the design and methodology of Direct Instruction lends itself particularly well to experimental and quasi-experimental designs, and that its developers were committed to such research.

SUCCESS FOR ALL

Researchers from Johns Hopkins University, aware that students who fall behind in reading before the third grade are unlikely to catch up with their peers, developed a program to address this issue. The Success for All (SFA) program was initiated during the 1987-1988 school year in a Baltimore inner-city school in which 76% of the students qualified for free lunch and most were African-American. The program focused on one-to-one tutoring for low-achieving students, the use of a research-based reading curriculum, frequent assessments, and family support programs.

The one-to-one tutoring provided immediate and intensive interventions. Certified teachers worked with kindergarten through third grade students, concentrating about 40% of their efforts on first graders. Initial informal reading inventories identified which students were candidates for assistance, and then regular assessments were performed at eight-week intervals. Tutors supported these students for additional 20-minute reading sessions focusing on skills practice and addressing specific learning deficits. Tutoring activities were aligned with and supplemented the regular classroom curriculum.

Across all grades, SFA students outscored control students, with the 25% of students identified as low achieving showing the greatest effects. Results for the first grade target group indicated that SFA students scored an average grade equivalent of 2.0, in comparison to 1.6 in the control group.
addition, special education referrals and retentions were significantly reduced.\textsuperscript{56}

The same program was implemented at Philadelphia’s Francis Scott Key Elementary School but specifically targeted Limited English Proficiency students. At Francis Scott Key School, 52% of the students were Asian and spoke little or no English at home. Results from several analyses indicated that LEP students strongly benefited from the SFA program.\textsuperscript{57}

A statewide evaluation of SFA programs in Texas also indicated that Success for All was effective in reducing the achievement gap for African-American and Latino students. When compared to white students, African-American students participating in SFA scored only 4 percentage points less, while Latino students scored seven percentage points less on a test of reading achievement. In contrast, the gap between white students and non-participating SFA African-American and Latino students was 14% and 10% respectively.\textsuperscript{58}

The results of SFA have been questioned by some researchers, as have the research studies upon which the claims of the efficacy for SFA are based. Continuing research is being conducted on this approach, which is more than simply an instructional technique and can better be described as a whole-school improvement model focused on instruction.

\textbf{PEER RESEARCH LABORATORY}

A peer-tutor model developed by the Peer Research Laboratory at City University in New York, recommended that the tutoring process be developmental in nature. In this model, all prospective peer tutors have the experience of being the tutee before becoming tutors. Regardless of academic ability, the model proposes that all students have the opportunity for learning through teaching. The program is also designed to help remove the negativity sometimes associated with receiving help, an attitude especially found in secondary schools.\textsuperscript{59} This model is an innovative practice based on sound theory, but it is not yet grounded in research.

\textbf{OREGON CONTEXT}

\textbf{SMART: Start Making a Reader Today tutoring program.} A recent survey of Oregon principals indicated that the SMART program is highly regarded as effective in improving reading performances for at-risk students in grades K-3. Ninety-six percent of principals reported that SMART contributes to academic success. The one-to-one tutoring attention consists of thirty-minute sessions twice per week. Students also receive two new books a month to keep at home. In Multnomah and Lane counties, a longitudinal study revealed that SMART participants registered higher reading fluency and greater reading comprehension scores than their counterparts.\textsuperscript{60}

\textbf{The Willamette High School Peer Tutoring Program, Eugene.} Students in grades 9 through 12 are nominated by staff and students to
participate in a peer-tutoring program. Students are trained for six weeks in tutoring techniques and strategies and are then placed in a classroom where assistance has been requested. The school has observed the following outcomes from the program: (a) tutees respond well to tutors their age and often feel the tutors are more approachable for help than teachers, (b) tutors gain insights about the difficulties their teachers experience every day. As a result, the tutors often act as "bridges" between staff and students, (c) tutors become aware and more respectful of diversity in their peers, and (d) tutors often establish long-lasting positive relationships with the students they help.61

DIFFERENTIATING INSTRUCTION TO MEET THE DIVERSE LEARNING NEEDS OF STUDENTS

As noted in Chapter 3, one of the greatest challenges facing educators is how to meet the diverse needs of the students in their classrooms. Students vary in many ways: cognitive ability, motivation, interests, culture, race or ethnicity, language spoken at home, amount of parental support received, feelings of self-efficacy, and access to resources, to name a few. Likewise, teachers differ in their ability to provide appropriate instruction to this diverse group of students. This section provides a summary of the research on instructional practices related to working effectively with diverse student needs.

LITERATURE REVIEW

Although the topic of how to address the needs of diverse students is broad, the literature contains sufficient evidence to suggest that certain teacher behaviors are more likely to result in student learning across diverse groups of students than other teacher behaviors. These desirable behaviors improve the educational performance of students from diverse backgrounds, not because they specifically target those students, but because they are the foundation of excellent teaching, and their effect holds for all students. What are these strategies?

In her 1995 synthesis of the research on effective teaching practices, Kathleen Cotton distills the essence of more than 500 research articles into short lists of teacher behaviors, many of which are pertinent to this discussion. Her synthesis suggests that the most effective teachers:

1. Plan a coherent, well thought out curriculum in advance.

2. Integrate their instruction across content areas.

3. Form dynamic instructional groups that change to fit students’ academic and affective needs.

4. Use learning time efficiently.
5. Use smooth, efficient classroom routines.

6. Set clear behavior standards and enforce them fairly and consistently.

7. Ensure that students understand the objectives of each lesson.

8. Provide focused and clear instruction, avoiding digressions.

9. Routinely provide students feedback on how their learning is progressing.

10. Review and re-teach materials as needed.

11. Focus on building critical and creative thinking skills.

12. Use effective questioning techniques to engage student interest and monitor for understanding.

13. Seamlessly integrate workplace readiness skills into content-area instruction to help students understand the relevance of what they are learning.

14. Have high expectations for student learning and encourage all students to give their best effort.

15. Establish systems to recognize superior work while de-emphasizing competition.

16. Foster positive, caring interactions with and among students.

17. Provide extra time and instruction to high-needs students.

18. Support high-needs students’ social and academic resiliency by focusing on meeting individual learning goals rather than competition with other students.

19. Demonstrate respect and empathy for students from different cultural and socioeconomic backgrounds.

20. Closely monitor student progress, using a variety of assessment strategies.\(^{62}\)

Many of these findings are echoed in the work of Marzano, Pickering, and Pollock, who conducted a meta-analysis of instructional strategies that demonstrated improved student achievement. Their study provides not only a list of suggested strategies, but also a numerical indication of the power of each of the strategies to affect achievement gain, an effect size. The results of the meta-analysis are presented below, along with the effect size and corresponding percentile gain that use of the strategy might reasonably be expected to promote: (a) identifying similarities and differences in the content being delivered (effect size: 1.61; percentile gain: 45), (b) summarizing and
note-taking (effect size: 1.00; percentile gain: 34), (c) using representations or responses that don’t involve words (effect size: .75; percentile gain: 27), (d) cooperative learning (effect size: .73; percentile gain: 27), (e) setting objectives and providing feedback (effect size: .61; percentile gain: 23), (f) generating and testing hypotheses (effect size: .61; percentile gain: 23), and (g) using questions, cues, and advance organizers (effect size: .59; percentile gain: 22).  

**PROMISING PRACTICES**

Although limited empirical work has been done to measure the effect on student achievement of differentiated instruction, this approach has a broad base of support in the literature. Differentiated instruction is a systematic approach to meeting the needs of students who have different abilities yet are all in the same class. The intent of the approach is to “maximize each student’s growth and individual success by meeting each student where he or she is, and assisting the learning process.” Tomlinson is perhaps the best known for her work describing the essential aspects of this instructional approach. According to Tomlinson, the three main elements of the curriculum that can be differentiated in order to meet diverse student needs are the content, the process, and the products of education.

A key to differentiated instruction is the need to plan in advance. Advance planning enables the teacher to clearly determine the incremental steps necessary to master the skills and knowledge identified as most important in a particular lesson or unit. Identification of these incremental steps allows the teacher to design tasks of differing complexity that will assist students at all levels of skill to make progress towards learning the important concepts, principles, and skills of the course. Teachers using differentiated instruction frequently use flexible grouping strategies in order to maximize the opportunity to challenge every learner in the room. Finally, assessment guides both the development of the learning tasks as well as the organization of student learning groups targeted to specific learning goals.

Tomlinson suggests the following guidelines to assist teachers in differentiating their instruction:

- Clarify the most important concepts and generalizations so that all students know what they are expected to be learning.
- Actively use assessment not only to measure the success of instruction but also to extend student learning.
- When designing lessons, focus on critical and creative thinking rather than rote memorization of discrete facts.
- Develop engaging and varied lessons that will appeal to all your students, not just those in the middle.
- Give students choices in learning, but ensure that you have a balance between teacher-assigned tasks and those that students select.
THE OREGON CONTEXT

The diversity of students across the state takes many shapes. In the same classroom, a teacher might have students who live far below the poverty line and those whose families number among the wealthiest in the community. Students receiving special education services are mainstreamed in general education classrooms to the fullest extent possible given the individual challenges they face, and they are likely to sit beside students identified as Talented and Gifted in those classrooms. An increasing number of Oregon students have grown up in homes where English is not the primary language spoken, and the state has seen a continual increase in the proportion of students from non-white racial backgrounds as well. Hispanics continue to be Oregon’s fastest growing ethnic group, and this trend is not likely to change in the near future.68

As with other areas of instructional practices, however, little is known about the current state of teachers’ competency in meeting diverse student needs. Reducing the achievement gap—between white and non-white students, English language learners and native English speakers, students from low SES and middle/high SES backgrounds, and students receiving special education services and those who don’t qualify for those services—continues to be a challenge that schools across the state are confronting.69

EFFECTIVE USES OF TECHNOLOGY IN TEACHING

Computer use in the classroom has greatly increased during the last two decades. When properly integrated, computers can help improve academic achievement. Students should have frequent and easy access to technology, teachers should be highly trained and capable in the use of technology, and technology use must support critical thinking and the application of knowledge. In general, student affect towards the use of technology in the classroom has shown to be very high.

LITERATURE REVIEW

A report by the Milken Exchange on Education Technology was the foundation for the following literature review. Five large-scale state and national studies were analyzed and summarized to present the impact of various technology uses on academic achievement. In addition, two smaller scale studies demonstrated promising new uses of technology in improving student learning. The analysis by the Milken Exchange suggested that positive gains in student achievement on researcher-constructed, standardized, and national tests could be achieved by using any of the following:

• Computer assisted instruction
• Integrated learning systems technology
• Simulations and software that teaches higher order thinking
• Collaborative networked technologies
• Design and programming technologies.\textsuperscript{70}

A meta-analysis of more than 500 research studies defined computer-based instruction as using software for tutorial, drill and practice, and Integrated Learning Systems, which are computer-based systems for delivery of curriculum and instruction. Results from the studies indicate that on average, students who use computer-based instruction scored higher (64\textsuperscript{th} percentile) on achievement tests than did students who did not receive computer-based instruction (50\textsuperscript{th} percentile). Students also learned more in less time using computer-based instruction. General attitudes were also more positive when computer-based instruction was included in the classroom.\textsuperscript{71}

A review of research from 1990-1997 found that across subject areas, students exposed to technology rich environments experienced positive effects on achievement. Further, both regular and special education students demonstrated increases in achievement from preschool to higher education when placed in technology rich environments. Attitudes towards learning were more positive when computers were used for instruction.

The Apple Classrooms of Tomorrow (ACOT) program emphasized to teachers the potential of computers to support learning and encouraged cooperative learning. Initiated in five school sites in four states (California, Tennessee, Minnesota, and Ohio), the program was found to have a positive impact on student attitudes and on changing teacher practices towards more cooperative learning.\textsuperscript{73}

In the late 1980s, the West Virginia Legislature passed a proposal to fund increased technology education in the schools, primarily targeting basic skills development for students grades K-6. The West Virginia Basic Skills/Computer Education (BS/CE) initiative has demonstrated success in terms of academic achievement. A 1999 study analyzed a sample of 950 fifth-grade students who had participated in the program since 1991-1992. Findings indicated that as students increased their participation in BS/CE, their scores on the Stanford 9 standardized assessment increased, with lower achieving students’ scores demonstrating the largest increase. In addition, the greatest achievement gains occurred when students had consistent access to technology with adequately trained teachers.\textsuperscript{74}

A national study of eighth grade students found that when they used computers for applications that supported context-based learning and higher-order thinking skills, scores rose by over four tenths of a grade level when compared to the mean. When computers were used for “drill and practice,” student scores declined six tenths of a grade level.\textsuperscript{75}
Most research on school technology focuses on incorporating it within the curriculum at school, and does not specify how it can be used to connect the home and school. Research on small/rural schools will sometimes cite technology as a means for increasing curriculum offerings to the level offered by larger schools, but rarely discusses how connecting home and school via technology can impact student achievement. Twenty-eight states have established either a virtual school or have a cyber charter school where students are able to take courses online; however, Oregon is not among them.\textsuperscript{76}

**PROMISING PRACTICES**

**COMPUTER SUPPORTED INTENTIONAL LEARNING ENVIRONMENT**

Computer Supported Intentional Learning Environment (CSILE) is a network technology that connects students with peers forming a collaborative learning environment. The multimedia environment allows students to ask questions, retrieve other students’ answers to their questions, comment on each other’s work, and restructure and reformulate answers. Students generate their own “nodes” to store information, conduct dialogues, and accumulate knowledge. Research on the effectiveness of this program indicates that students participating in CSILE outperform their control group peers on measures of depth of understanding, reflection, and standardized reading, language and vocabulary tests.\textsuperscript{77}

**EARLY CONNECTIONS**

Early Connections is an online resource by Northwest Educational Technology Consortium that provides resources and education on the appropriate uses of technology with young children. Early Connections states that children receive the greatest benefits from technology when the following elements are present:

- The lesson is directly connected to the curriculum.
- Technology allows for active learning.
- The software is interactive or discovery based.
- The lesson or project is open-ended.
- Technology’s applied to real life situations or problems.
- The setting allows children to interact with each other as well.
- Computers are part of the classroom, rather than set apart in a lab.\textsuperscript{78}
THE CENTER FOR APPLIED RESEARCH IN EDUCATION TECHNOLOGY

CARET is a project of the International Society for Technology in Education with a goal of linking research in education technology to practice. CARET has documented several areas where school technology can influence student learning and improve student outcomes. CARET found that technology could improve student performance if included as an essential part of the overall educational plan of the school. Teacher, administrator, and the general school community’s support of the use of technology in the schools and for professional development are important. A study in New Jersey demonstrated that student performance improved on standardized tests in writing and mathematics as part of a broad-based educational change combining integration of technology with instruction, extensive professional development for teachers, and computer use at home and school. 79

CARET also found that technology could have a high impact on student achievement if integrated directly into the school curriculum and assessment programs. In other words, any technology applications or instructional software used in the schools needs to directly reinforce the curriculum objectives being assessed. Studies in New Hampshire, Virginia, West Virginia, and Pittsburgh have shown increases in student outcomes by integrating technology into schools.

Technology also improves student performance when the application is integrated into the typical instructional day, and when these applications are used in the classroom as opposed to a computer laboratory setting. CARET has documented studies in both Virginia and West Virginia that have shown that this is particularly true for math achievement/performance.

CARET's findings also indicate that technology can address the needs of low performing, at-risk, and learning handicapped students, as well as improve student motivation, attitude, and interest in learning. A study by Xin and Reith investigated the effects of using video technology as a tool for improving the vocabulary and reading comprehension skills of students with learning disabilities. They found that students in the grades 4, 5, and 6 video instruction group had statistically higher word acquisition scores than those students that were not in the video instruction group. 80

ARKANSAS

In 2000, the Arkansas State Department of Education revised their technology plan to recognize technological progress and other changes since the original plan was adopted in October 1997. The 2000 Arkansas Education Technology Plan contains a list of technology standards for students that are intended to increase student performance. Several standards for grades 3-5, 6-8, and 9-12 involve using technology and collaboration tools outside the classroom, presumably from home. 81
INDIANA

In a 1997 Indiana study by Richard Coley found that students who were provided home computers and modem access to school through a state program, “showed improvement in all writing skills, a better understanding and broader view of math” than students who were not provided these resources.  

IDAHO

A 2002 study in Idaho concluded that students who had access to computers both at home and at school scored higher on a computer capability index than those students that did not have access in both locations. Schools with high computer capability were then shown to have gained more on math, reading, and language arts achievement than lower capability schools, and students within schools with higher computer capability also gained more than their peers.  

SOUTH DAKOTA

A web-based program in South Dakota connecting home and school allowed parents and students to access grades, homework, and teacher comments. Student academic performance (as measured by GPA) was higher for those in the program than students not in the program.  

THE OREGON CONTEXT

The Oregon Department of Education, Office of Professional Technical Education, provides a link to Online Information Technology Curriculum free to Oregon teachers. This is an industry standards-based, state-purchased curriculum with 22 modules, including student activities and complete lesson plans.  

The Oregon Department of Education (ODE) also has an IP-based video network called Oregon Access Network that allows students, teachers, and administrators to interact with their counterparts in classrooms all around the state. The network is also used for conferences and meetings, workshops and professional development opportunities. Students are able to access courses and content not regularly available in their school. The ODE website also has information/resources for students interested in e-Learning distance education, videoconference classes for K-12 students, virtual field trips, and on-line courses. ODE data from 2002-03 on instructional technology indicate that there is no relationship between the size of a school and the number of students either per instructional computer or per instructional Internet connection. The same holds true at the district level.  

In March 2004, Education Week released Technology Counts 2004, the seventh edition of an annual report on technology trends around the world. This report highlighted the following technology-related characteristics of the Oregon educational system:
• Oregon is increasing in the number of online learning opportunities for students and Internet-based training courses for teachers, as well as designing a more comprehensive system for distance education.

• In addition, the state has eight district-sponsored online schools, offering approximately 240 courses for high school students.

• Oregon has 4.5 students per instructional computer: 4.6 in high-poverty schools, 4.0 in high minority schools (national averages are 4.0, 4.2, 4.3, respectively).

• There are 5.5 Oregon students per Internet connected computer (national average = 4.3).

• The state has 12.1 students per Internet connected computer in classrooms (national average = 8.4).

• In 95% of Oregon schools at least one classroom has Internet access (national average = 92%).

• In 65% of schools in the state at least half of the teachers use the Internet for instruction (national average = 74%).

• 15% of schools in Oregon offer distance-learning programs (national average = 23%)

**DURATION OF INSTRUCTION**

Across the nation, many districts are considering two relatively new concepts, Year-Round Schools and Extended School Years (ESY), in an effort to address overcrowding and failure to meet academic goals and progress. The Extended School Year increases the duration of instruction from the traditional 180 days to 200 days or more. Typically, low achievers have a greater risk of loss of achievement over the summer than do higher achievers. In addition to ESY, after school programs and summer school also address the needs of students who may be in jeopardy of not meeting standards or failing to make adequate progress towards goals. Not surprisingly, the effectiveness of the programs relies heavily on the participation rates of the targeted child, the family involvement and support given to the child, as well as on the quality of instruction offered during the extra time spent at school.

A more traditional approach to extending the amount of time students spend on school-related work involves increasing the time demands of their homework assignments. This approach seeks to increase the duration of instruction by increasing the quantity or level of difficulty of students’ homework assignments, thereby keeping students engaged in learning for a larger proportion of the day. We turn now to a summary of the literature on increasing the duration of instruction.
LITERATURE REVIEW

EXTENDED SCHOOL YEAR

According to Frazier and Morrison (1998), kindergartners who attended an ESY program made more progress than their traditional counterparts. The gains occurred only in the “summer” or extended portion of the school year. The gains were particularly evident in mathematics and reading, domains directly influenced by formal schooling. Gains were less significant for levels of cognitive competence.

SUMMER SCHOOL

In a review published in 2000, Cooper, Charlton, Valentine, and Muhlenbruck studied the results of 93 evaluations of summer school programs. They found that programs that focused on remedial or accelerated learning had positive effects on knowledge and skill building. Remedial programs had larger effects when the instruction was individualized and occurred in small group format. Middle class students showed larger positive effects than did disadvantaged students.87

Students at risk of academic failure tend to lose ground during the summer if they do not participate in summer school. One recent study, for example, examined a nationally representative data set tracking over 9000 kindergarten students from the day they entered school through the end of first grade. All students were tested in reading and mathematics at the beginning, middle, and end of the kindergarten and first-grade years. None of the students in the sample attended summer school. The study found that students from high SES backgrounds, and white and Asian students did not experience any statistically significant loss of mathematics or reading performance over the summer months. However, students from low SES backgrounds, and African American and Hispanic students did experience such losses, and those losses were not made up the following school year.88 Although this study did not address the effect of attending summer school, its demonstration of the effect of a summer without attending classes has implications for research in this area.

HOMEWORK

Decades of research have investigated the effectiveness of homework for improving academic outcomes and learning resulting in clear empirical support for homework, especially in later grades. Despite protestations that students are being inundated with homework, the average student spends less than one hour per day on homework, an amount that has not changed substantially in the past 20 years.89 In general, research findings indicate a positive correlation between the amount of homework completed and academic achievement.90

Cooper, Lindsay, Nye, and Greathouse examined the relationship between the amount of homework assigned, homework completion rates,
attitudes about homework, and academic achievement. The 1998 study found weak positive correlations between the amount of homework assigned and academic achievement. Positive correlations were also found between the amount of homework completed and achievement, especially in grades 6-12. Cooper et al. suggest that homework is more effective at higher-grade levels and declines in effectiveness in the lower grades.91

A later study by Cooper and colleagues found that developing positive attitudes toward homework in the early grades was an important predictor of future academic success as homework becomes increasingly important. They also found that positive parent facilitation focusing on autonomous student behavior rather than direct instructional involvement was the greatest predictor of homework completion and, therefore, indirectly a predictor of teacher-assigned grades.92

**PROMISING PRACTICES**

The Wake County Public School System has an Accelerated Learning Program (ALP) that seeks to help all students reach grade level performance in reading and mathematics. The program provided up to 22 days of extra instruction to 7,325 students during the 2000-2001 school year, with most services provided outside the regular school day. An evaluation of the program, which drew on several data sources, found changes in both growth and performance that supported the effectiveness of ALP and other assistance at grades 3 through 8. The number of students able to reach grade level achievement increased over 1999-2000, and fewer students dropped from grade-level to below grade-level achievement.93

A similar program in Kentucky, called the Extended School Services (ESS) program, was established in 1990 to address the needs of students at risk of academic failure. The program extends the school day, week, or year, depending upon the needs of each student. All Kentucky school districts receive funding for ESS implementation. A 2002 evaluation of the program focused on selection and retention, a consolidated plan, children’s perceptions, relationship to regular school programs, the role of parents, and staffing and evaluation. The study reported that district and school coordinators felt that the ESS helped to address the needs of students at risk academically. The coordinators agreed that ESS funds should remain a separate categorical fund and identified staffing issues, professional development, and transportation as the most needed improvements.94

The Educational Program for Homeless Children and Youth in Devil’s Lake, North Dakota, provides additional instructional time by employing regular classroom teachers to provide after school tutoring, homework help sessions and summer programs, and to meet regularly with the director to discuss individual student needs and achievement. Pre- and post-summer program results from the 22 students who participated in the program indicated improvement in math and language skills for nearly all students as measured by performance on the Wide Range Achievement Test (WRAT).95
THE OREGON CONTEXT

The Oregon Department of Education reports that Supplemental Educational Services, such as extended day/extended school year programs, will be provided free of charge to students who come from low-income families and are attending schools with Title I-A funding that have been designated as being in “Improvement Status.” Schools are so identified if they have failed for two consecutive years to make adequate yearly progress as defined in No Child Left Behind. However, the ODE notes that many districts already offer such programs as part of their Title I-A program or as part of their regular offerings to all students.96

Supplemental Educational Services are provided by approved schools that have “a documented demonstrable record of effectiveness in improving student achievement.”97 Schools and districts seeking approval as Supplemental Educational Services Providers must collect data to demonstrate that their programs are effective in improving achievement of participating students over two years. Acceptable forms of data include improvement on the statewide large-scale assessment or other standardized tests that have sufficient predictive validity for the Oregon assessment, improvement on classroom tests or tests given at the start and ending of the supplemental assistance program, and attendance data.98

THE ARTS IN EDUCATION

Researchers continue to debate the relationship between the arts and other academic subjects. A growing body of research points to arts education as a critical component of a complete education for all students. The results are far from conclusive at this time and should be considered suggestive of a relationship rather than demonstrating causality. However, arts education by its very nature is difficult to assess in ways that are comparable to other core academic subjects. For the purposes of this chapter, the arts are defined as encompassing the performing arts (music, dance, drama) and the visual and fine arts (drawing, painting, sculpture, ceramics, jewelry). Studies of the arts are assumed to enable students to acquire knowledge and skills in a number of distinct areas, including technical, cultural and historical, and aesthetics and art criticism.99

Research suggests that the arts can be a means to improve student achievement, foster cultural literacy, develop critical social skills for at-risk youth, and prepare students for an economy where creative and artistic skills are increasingly valued. Public school districts throughout the United States have regularly made competence in the arts one of the fundamental characteristics of a complete education for all their students. At the same time, a recent report by the National Association of State Boards of Education indicates that reading, math, and science are the primary focus for instruction, and the arts and foreign language instruction must increasingly compete with core academic areas.100
While funds for arts education continue to decline, the effects of this type of education are increasingly viewed as having the potential to play an integral role not only in the individual’s development and academic achievement but also in the vitality of regional and national economies.\textsuperscript{101} Arts-based teaching and learning strategies appear to be potentially cost effective options for states looking to build workforce skills, increase academic success, heighten standardized test scores, and lower the rate of crime among general and at-risk populations.\textsuperscript{102}

The new framework for the federal role in public education has created both challenges and opportunities for local and state leaders looking to secure funding and implement strategies to improve arts-based teaching and learning. The Elementary and Secondary Education Act of 1965 as reauthorized by the \textit{No Child Left Behind Act} of 2001 (NCLB) establishes the framework for federal funding for schools. NCLB reiterates the importance of core academic subjects and encourages active support of such subjects. The definition of core academic subjects in NCLB includes the arts.\textsuperscript{103} However, the law does not establish a specific definition of what the arts entail as an academic discipline. National organizations for the arts have previously defined standards for dance, music, theater and the visual arts.\textsuperscript{104} Although most states have adopted standards in the arts, few states have incorporated the arts into their accountability programs. Arts are subsequently not part of NCLB’s required assessment of student progress. These exclusions may together have the unintended consequence of tempting schools and districts to reduce their investment in areas such as arts-based educational practices to favor a curriculum weighted to subjects measured by state accountability systems.\textsuperscript{105}

\textbf{LITERATURE REVIEW}

Arts-based educational practices can be implemented according to various models, utilizing different techniques and adapting to an array of diverse settings. The variety of different approaches to arts-based teaching and learning makes the research base for effective practices similarly diverse. The literature establishes an array of models for initiating arts-based educational practices. Implementation of promising practices in art education occurs at a range of levels and involves the collaboration of community organizations, classrooms, schools of teacher education, populations of special learners, and whole schools. The literature describes the different approaches to and evaluates the effectiveness of the various methods for arts-based teaching and learning.

Community-based models utilize local arts centers to accomplish the goals of arts education. Project Zero at the Harvard Graduate School of Education has suggested that the arts partnerships at the community level teach skills that can transfer to the workplace, build coalitions among the organizations themselves, and develop partnerships with public agencies, arts organizations, and schools.\textsuperscript{106}
The classroom level of implementation brings art instructional practices to the regular class environment. Artists may visit teachers in their classrooms to assist in the integration of art curriculum into other disciplines. A variety of methods can be used to teach classroom teachers how to incorporate arts-based instruction. Districts may contract a professional artist from the community or utilize art teachers already employed by the district.107

Professional development models for art education include teacher training in the use of art to raise student achievement across the disciplines. Arts for Academic Achievement (AAA) in Minneapolis utilized this model to instruct teachers how to better put into practice the integrative arts partnership. The foundation of the professional development model as adapted by AAA is that when teachers and artists work together to integrate arts and non-art disciplines, teaching in non-arts disciplines becomes more effective, and thus, student achievement improves.108

For populations of learners with special needs, the arts can be used to adapt standard lessons to create more individualized and accessible learning experiences. Combining arts infused strategies with instruction for students with learning difficulties has shown promise. Special Education educators are looking to this model of arts-based instruction as a method of boosting student achievement.109

The whole-school approach encourages comprehensive alterations that promote change throughout the school. Mississippi established arts-infused instruction utilizing this method. Schools operating with this model will require students to take classes in music, dance, drama and visual art. Integrating arts across the disciplines to immerse students in an interdisciplinary arts-based learning environment is the goal of the whole-school model.110

Despite mounting evidence showing a relationship between arts education and improving student outcomes in achievement and other areas, the research does not appear to show that art-based educational practices will conclusively result in higher academic achievement. Although several small studies have shown that arts instruction can help students learn, the research aimed at proving a relationship between arts and standardized academic tests are, on balance, inconclusive.111 Burton, Horowitz and Abeles have found that it is difficult to accurately assess the effects of arts education. The lack of traditional experimental designs utilizing random sampling and control groups undercuts the claims of causal linkages between arts and academics.112

The literature does consistently make a solid argument for maintaining arts-based educational practices as an integral and permanent part of the curriculum. Elliot Eisner and others have consistently maintained that the learning experiences the arts can provide are uniquely valuable.113 Exposure to the arts helps to develop conceptual underpinnings for art education as a tool to expedite the acquisition of essential values and understandings. The
arts from this perspective enable learners to conceptualize the essential characteristics of the world around them, learn to critically evaluate and compare these characteristics, and ultimately actualize and understand the complexity of their experiences.\textsuperscript{114} The arts provide a way of thinking unavailable in other disciplines. The aesthetic framework established by working with different art-based strategies facilitates more engaged student decision-making, problem solving and thinking in new and creative ways.\textsuperscript{115} A meta-analysis of arts education research conducted by Harvard University’s Project Zero concluded that the arts are critical regardless of the effect on general learning or impact on other subjects.\textsuperscript{116} The research team conducting the meta-analysis of data from 188 studies found what they termed “reliable causal” links between listening to music and spatial-temporal reasoning, playing music and spatial reasoning, and between drama and verbal skills.\textsuperscript{117}

The most conclusive research on the effects of arts instruction seems to link spatial reasoning to better performance in mathematics. One of the most thorough studies on the subject was conducted by E. Glenn Schallenberg at the University of Toronto and concluded that music lessons triggered increases in the IQs of 6-year-old children.\textsuperscript{118} While previous research had suggested that musical training was related to improved literacy, math and spatial skills, much of the work had compared children receiving music lessons exclusively with those not receiving lessons. This left open the possibility that children getting lessons had prior advantages associated with their family and raised questions as to whether the improvements were the direct result of music or simply the effect of structured extracurricular work with artistic skill. For this classic study, 144 six-year-olds were recruited and divided into four groups: students receiving voice lessons, keyboard lessons, drama lessons, and no lessons.\textsuperscript{119} Children receiving keyboard and voice lessons exhibited noticeable improvements on IQ tests with an average noted gain of six and seven IQ points respectively. Children receiving drama lessons had an increase of five points while children without lessons had an improvement of four points. Schallenberg concludes that musical training was responsible for higher IQ scores and drama students had improved social skills not evident in the other groups.\textsuperscript{120}

Researchers also look to test scores as a general way to link arts to academics. In 1997, the National Assessment of Educational Progress (NAEP) conducted large-scale assessments of American students’ knowledge and skills in the arts including academic areas of reading, math, science, civics, geography and other subjects.\textsuperscript{121} Approximately 6,500 8th graders from 270 public and nonpublic schools in the United States participated in the assessment which included activities in visual arts, theater, and music and which was coordinated with three arts processes: responding, creating, and performing.\textsuperscript{122} In the area of music, most students exhibited some skill in critiquing simple performance, yet abilities in creating music were limited. In the visual arts, students’ abilities to place artworks in historical or cultural contexts varied. In theater, students’ abilities to integrate expression and dialogue to communicate meaning also varied.\textsuperscript{123}
Champions of Change: The Impact of the Arts on Learning is a compilation of seven studies that indicates involvement in the arts has positive effects on student behavior, attitudes, and academic performance. In this compendium of recent research results, some of the most significant findings indicate that learning in and through the arts can yield considerable advantages for children from disadvantaged backgrounds. Although researchers from Harvard, Stanford, and UCLA conducted investigations and presented findings independently, findings illustrate a consensus regarding positive implications for students who receive education in the arts. The findings concur that the arts reach students who are not otherwise being reached, contribute to connections between students, create positive learning environments, and generally provide learning experiences and new challenges in the lives of students already considered successful.

In Critical Links: Learning in the Arts and Student Academic and Social Development, The Arts Education Partnership compiled 62 of the latest studies exploring the links between the cognitive capabilities enhanced by exposure to education in the arts. The research in this compendium suggests that learning in the arts may have positive implications for greater academic achievement for students in other disciplines. Other relevant findings suggest that education in the arts, may complement reading and language development, spatial reasoning and spatial temporal reasoning, critical thinking, problem solving, motivation to learn, conflict resolution, self-control, self-identity, and social collaboration skills.

Northeastern University Professor Ann M. Galligan’s paper Creativity, Culture, Education and the Workforce examines the economic impact of arts and humanities with particular attention to the roles creativity, innovation, and critical thinking play in maintaining America’s competitive strength in the international economy. Providing the opportunity for students to experience a complete education in the arts, Galligan argues, “can help them cope with, and master, fast-paced technological advances, forces of globalization, and major demographic and societal shifts that characterize today’s world.” Galligan points to several studies that suggest that arts education can help achieve the objectives of achieving school standards, reaching all learners, and helping youth develop positively.

On the topic of achieving school standards, numerous studies and effective programs conclude that education in the arts is correlated with higher grades, better scores on tests, and higher attendance rates. A longitudinal evaluation of the Arts for Academic Achievement program in Minnesota appears to confirm Galligan’s hypothesis in that it shows a significant relationship between arts integrated instruction and improved student learning in reading and mathematics for students participating in the program. The study, conducted by the Center for Applied Research and Educational Improvement at the University of Minnesota, found that although the relationship was not apparent for every student, in every class, or in every year of the project, evidence existed that education in the arts is associated with real changes that benefit student learning.
Howard Gardner’s work on multiple intelligences at Harvard University indicates that art education may have the capacity to provide additional ways to accelerate student achievement. Students who have difficulty learning when presented with information through traditional lecture or readings may benefit the most from instructional strategies that integrate alternative methods of learning and subjects, such as education in the arts.

Shirley Brice Heath’s research at Stanford University suggests that students who participate in sports/academic, community service, and arts programs achieve at higher levels in school and in their individual lives than youth from similar socio-economic backgrounds who don’t participate in such aspects of schooling. Heath’s research appears to suggest that those participating in arts programs performed better than groups involved in the other activities. James Caterall of UCLA conducted research that yielded similar results. In his study Champions of Change, Caterall found that education in the arts could have a significant leveling impact for socio-economically disadvantaged youngsters.

**PROMISING PRACTICES**

Arts education enjoys solid public support. A 2001 Harris poll reported that an overwhelming majority of American adults see the arts as critical to providing children with a well-rounded education, and nine in 10 parents of school-age children oppose subjecting programs in the arts to budget cutbacks.

The *No Child Left Behind Act of 2001* establishes the importance of support and assistance for “core academic subjects.” NCLB requires states to establish plans to improve student achievement. To establish these plans, states are expected to consult with local education agencies, teachers, administrators, parents and other key actors.

NCLB’s inclusion of the arts in its definition of core academic subjects reframes state policy objectives in the area of art education. As a core academic subject, the arts should be subjected to the same rigorous content and performance standards as reading, math, science, and other disciplines. Education Secretary Rod Paige wrote a letter to the country’s superintendents in July 2004 to dispel the notion that NCLB is responsible for arts education programs being endangered in the contemporary political climate. Paige recognizes in the letter that the arts are a core academic subject under the NCLB and states that “the arts have a significant role in education both for their intrinsic value and for the ways in which they can enhance general academic achievement and improve students’ social and emotional development.”

Paige points to studies that have shown arts teaching and learning can increase students’ cognitive and social development, and be a critical link for students in developing thinking skills and motivational tools they may need to achieve at higher levels, including links between arts learning and achievement in reading and math.
CALIFORNIA

Programs in California, Connecticut, Mississippi, and New York, have shown promise in terms of arts’ positive effects on test scores, increased academic achievement, lower absenteeism and skills development.138

The Arts Education Demonstration Project, developed by the California Arts Council, targets K-12 public schools to develop best practices in arts education. The program was designed to develop comprehensive arts education models and evaluate why and how the models are successful so that other communities and schools can adapt these proven practices to new sites and new student populations.139

CONNECTICUT

In Connecticut, the Commission on the Arts developed the High Order Thinking Schools Program (HOT). Established in 1994, the program coordinates with “laboratory” schools located across 22 districts. The program emphasizes child-centered education utilizing an array of techniques and strategies that motivate alterations in educational practices and fundamentally stimulates change in school culture.140 The HOT Schools Program provides each participating school with curriculum development funding, technical assistance, resident artists, administrator retreats, peer collaboration, and an annual summer institute.141 Participating schools commit to create school cultures that nurture the concept of learning in and through the arts in an environment that facilitates expression of each child’s voice. The program has expanded in Connecticut and has been a template for programs in New Hampshire, Rhode Island and Delaware.142

MISSISSIPPI

Mississippi has developed the Whole Schools Project that incorporates arts instruction into the regular classroom. In this arts-infused instruction model of school reform, all members of the community play an integral role in the success of the program. The goal of the project is to create a comprehensive arts education program that can effectively serve every student in a school. Superintendents, principals, students, parents, businesses, community organizations, and arts and classroom teachers are key players in the Whole Schools Project. By promoting collaboration between arts and classroom teachers, the project has enhanced curriculum assessment practices, increased student engagement, and increased student achievement.143

NEW YORK

New York established the Empire State Partnership with the goal of developing the arts as a discipline equal to other disciplines in its ability to enhance skills and knowledge acquisition in other core curriculum areas. Created in 1997, the program focuses on integrating the arts into the process of teaching and learning. Working with the Department of Education, the
New York State Council on the Arts developed a plan where schools can have access to and utilize resources in the state including museums, music companies, community centers, natural environment organizations, as well as literacy and writing programs. The collaboration between classrooms and community organizations is designed to facilitate long-term tangible and intangible skill acquisition. Evaluation of the Empire State Partnership initiative in New York suggests that students are provided with more sustained learning experiences than more standard curriculum can offer. Individual schools participating in the program report evidence of possible improved school attendance and gains in reading skills among some students related to the program.

**OREGON CONTEXT**

Current Oregon law stipulates that each district must offer instruction in the academic content standards in English, mathematics, science, history, geography, economics, civics, the arts, second languages, physical education, and health. In 1996, the State Board of Education adopted the academic content expectations or standards for arts education. The student performance standards are developed and assessed by local school districts. Senate Bill 65, initiated by the 2001 legislative assembly, mandates that all Oregon school districts establish a local performance standard in the arts. Music is the subject a district must offer if it is able to have only one curriculum in The Arts. Students may have their choice of additional arts curricula if they are offered by the district and are accompanied by locally developed performance standards. Local discipline-specific standards are based on national standards in the disciplines, i.e., visual art, music, etc. The Oregon Arts Content Standards are currently being reviewed and revised. Individual districts may choose to include a requirement that students demonstrate mastery of art standards in order to earn the Certificate of Initial Mastery. Assessment would be developed and administered at the district level. No district has yet chosen to require art for students to earn a CIM.

**EXTRACURRICULAR ACTIVITIES**

Educators and policymakers have shown increasing interest in the effects of participation in school extracurricular activities on student achievement and long-term academic success. School officials faced with financial limitations and the pressing need to balance budgets might consider cutting extracurricular activities. The perceived optional nature of the activities may leave extracurricular programs vulnerable to cutbacks. Extracurricular programs are voluntary and do not count for grades or credit and, therefore, may be considered by districts to be nonessential and expendable.

School programs outside of the normal day typically include interscholastic and intramural athletic programs, school government clubs, music, art, and drama organizations, and academic, service, and vocational clubs. Researchers investigating links between extracurricular programs
and student outcomes have discovered that programs outside the normal school day may help students stay in and succeed at school. The findings from research are largely correlative and suggest that consistent extracurricular activity participation may be associated with educational attainment throughout adolescence, interpersonal competence, and college attendance.\textsuperscript{149} Although the potential for such programs may seem obvious, the most appropriate methods for actualizing the benefits are not clearly understood. The wide array of diverse extracurricular and after-school programs makes researching and generalizing the effects of these school programs a significant challenge.

**LITERATURE REVIEW**

Extracurricular programs are available to public school students throughout the United States. The National Federation of State High School Associations (NFHS) estimates that typical high schools allocate only 1% - 3% of their total budgets to fund extracurricular activities.\textsuperscript{150} Understanding the role that these extracurricular activities play in influencing academic and social outcomes for students is difficult and demands a research design that includes a detailed analysis of the individual and his or her interaction with the environment over time.

Mahoney, Cairns, and Farmer (2003) conducted a longitudinal study to investigate consistent participation in extracurricular activities as a contributor to long-term academic gain. They interviewed 695 boys and girls yearly until completion of high school and then again at the age of 20. Interpersonal skills, educational goals and family economic status were analyzed to ascertain educational achievement status in young adulthood.\textsuperscript{151} Participants for this investigation are also members of the ongoing Carolina Longitudinal Study. In prior assessments of the Carolina Study, extracurricular activity participation was linked to low rates of school dropout and lower rates of arrest. The researchers sought to expand on prior analysis that evaluated extracurricular activity participation in relation to the absence or presence of negative outcomes such as criminal activity or school failure.\textsuperscript{152} Positive indicators of educational attainment were added to the analysis in this study to allow for a more even assessment of who might benefit from participation in extracurricular activities over time. The 8-year longitudinal investigation examined the effect of activities outside the normal school curriculum within the conceptual framework of adolescent processes involving family economic status, interpersonal competence, and educational aspirations.\textsuperscript{153} The main finding of the study affirmed the belief that participation in extracurricular activities across adolescence is related to educational attainment in early adulthood. The finding was true for boys and girls with high and low prior interpersonal competence levels at the beginning of the investigation.\textsuperscript{154}

Mahoney and Cairns (1997) found that at-risk students benefited from experiences in extracurricular activities. The research suggested that marginal students derive a positive connection to their school by engaging in activities outside of the typical curriculum. The findings linked school
extracurricular programs to lower rates of dropout rates in boys and girls.\textsuperscript{155} Whereas alternative approaches to address the needs of at-risk student populations such as dropout prevention and remedial education may foster the formation of oppositional cultures, this study suggests that involvement in extracurricular activities may bolster the student-school connection.\textsuperscript{156} This positive connection to school suggests the potential for positive effects on later educational achievement.

Other researchers have looked to a more detailed analysis of dropout rates in relation to specific student activity. McNeal (1995) evaluated the different types of extracurricular activities available to students and the relative impact each activity has on dropout rates. Findings suggest that students who participate in academic clubs and organizations, fine arts activities, and athletics appear less likely to drop out than those who do not incorporate extracurricular activity into their school experience.\textsuperscript{157} Athletic participation was shown to reduce the chance that a student will drop out by nearly 40%. Fine arts activities in contrast were shown to reduce chances of dropping out by 15%.\textsuperscript{158}

Eccles and Barber (1999) examined the potential advantages and disadvantages associated with five categories of activities including team sports, school engagement, performing arts, academic clubs and pro-social community oriented activities. The study included 1,259 European adolescents and studied the relation between participation in extracurricular activities and academic potential. Involvement with a pro-social volunteer or church related activity was found to enhance educational potential and decrease involvement in risky behaviors.\textsuperscript{159} Participation in team sports was also linked to positive educational outcomes in addition to the risk factor of drinking alcohol.\textsuperscript{160}

Rombokas (1995) conducted research to investigate if students involved in extracurricular activities would show higher levels of educational achievement by earning higher grades. After interviewing 292 college students and examining collected data pertaining to academic and social achievement, Rombokas found that higher intellectual and social development was associated with participation in high school extracurricular programs.\textsuperscript{161} This research appears to confirm the hypothesis that extracurricular activities often act as a motivating factor for students to stay in and regularly attend school.

Marsh (1992) examined outcomes for students who did not engage in extracurricular activities and compared them to students who participated at a moderate level. The impact of participation in the activities was shown to be linked with increased connection to school and identification with school values.\textsuperscript{162} Positive student perceptions of school have notable implications for academic outcomes.

Silliker and Quirk (1997) studied the academic outcomes of students who played interscholastic soccer and who did not play other sports or engage in other extracurricular activities. The grade point average for girls and boys
was higher during the soccer season than it was during the off-season. The research bolsters the assumption that participating in athletics for students does not negatively effect and may improve academic achievement. Findings of Gerber (1996) concurred with the previous research proving that extracurricular participation does not have negative implications for student achievement. Gerber’s research suggests that the activities that are school-related have a greater chance of enhancing achievement than activities outside of the school.

Guest and Schneider (2003) sought to better understand the implications of high school student’s extracurricular activity participation by investigating how school and community contexts relate to associations among students’ participation, academic achievement and educational motivation. The researchers’ consideration of social context as an essential part of research on development accentuates the changing nature of meaning and effects of participation among communities. This study suggests that the importance and relative impact of participation in extracurricular activities depends on context. The assumption underlying previous studies is that engagement in extracurricular activities has universally beneficial effects regardless of individual perceptions of the activity or the unique social context. The results of the work of Guest and Schneider do not prove causality. The findings instead suggest that the value of extracurricular participation is dependent on the social context. The results also indicate that participation in sports is most strongly linked with achievement in schools with low educational expectations and schools in poor communities. Characteristics of participation in non-athletic activities also vary according to context but are more consistently linked with both higher educational aspirations and higher academic achievement than is engaging in sports.

Broh (2002) analyzed data from the National Educational Longitudinal Study of 1988 to examine the effect that participation in extracurricular activities has on high school achievement. The study suggests that the developmental and social capital benefits stemming extracurricular activities boost students’ achievement. Participation in sports appears to promote student growth and foster social ties among parents, students, and schools. The enhanced relationships and individual development then explain the effect of participation on achievement.

In addition to intellectual skill-building and emotional well being, physical education and athletics are widely considered an important component of K-12 education. Key educational policy such as the Goals 2000: Educate America Act (1994) addresses the dimension of students’ education, reinforcing the connection between physical and mental health: “children will receive the nutrition, physical activity experiences, and health care needed to arrive at school with healthy minds and bodies, and to maintain the mental alertness necessary to be prepared to learn, and the number of low-birth weight babies will be significantly reduced through enhanced prenatal health systems.”
Research on the effects of athletics focuses either on the physical or social/educational benefits. The methodologies are different in the two areas. Neither employs experimental designs extensively. Most research has relied on correlational studies that have identified some important effects of physical education and athletics in schools.

Physical benefits of school athletics include loco-motor and manipulative skill development in the primary grades, as well as the development of positive self-concept and responsibility in adolescence. Brain researchers have even postulated that physical education may lead to strengthened neural connections in the brain based on observations experiments with mice. Increasingly, Americans look to schools to help reduce recent increases in chronic health problems such as obesity and to promote proper nutrition.

There are many purported social benefits of athletics, particularly in high schools. For example, researchers Hart, Gary, Duhmel and Homefield (2003) have found that interscholastic athletics may help to improve aspects of leadership skills (self-esteem, empowerment and time management) in middle-school girls. Broh (2002) suggests that student participation in athletics helps to boost social ties among students, parents and schools. Importantly, high school dropout prevention programs use extracurricular activities such as physical education to promote student retention.

PROMISING PRACTICES

The potential of extending the school day with extracurricular activities has become increasingly popular despite dwindling resources. Learning opportunities outside normal school hours present a promising avenue to enhance student achievement and enrich the greater community.

Researcher Joy Dryfoos divides extracurricular school activities into three categories. The three major administrative approaches to implementing extracurricular programs include school-administered programs, community-based organizations (CBO), and community schools.

SCHOOL-ADMINISTERED ACTIVITIES

Traditionally conceived extracurricular programs, like sports teams, are rarely viewed as formal after-school or extended-day activities. Common notions of extracurricular programs include sports programs, band and music programs, and academic clubs.

More formal after school programs can incorporate childcare, tutoring, or enrichment programs. Parents and the community may be offered access to these programs as a means to these formal extended-day services. Day care programs emphasize recreational activities, a positive climate, and safety. Day care programs are generally available to children in preschool to third grade.
COMMUNITY-BASED ORGANIZATION PROGRAMS

Dryfoos points to the significant growth in community-based organization attempts to manage student activities as a service to parents and students in local schools. Childcare, youth development services, community centers, safe houses, and parent support programs represent community-based-organization efforts to facilitate extracurricular services. Two examples of exemplary community-based-organization programs are Bridges to Success and Beacon Schools.

Bridges to Success was originally started in Indianapolis and utilizes the capacity of local United Way organizations in coordination with other CBOs to encourage youth development through life-skills training, health services, arts and culture, and education.

Beacon Schools originated in New York in 1991 and allow Community-Based-Organization programs to utilize public school buildings for an array of activities including youth programs and community enrichment projects. The primary objective of the program is to minimize crime and violence by providing after-school program options for the entire family to expand the ties between schools and surrounding communities.

After-school programs outside of schools differ from day care programs in that they typically provide transportation, a wider range of program options, and are more affordable. Examples of promising after-school programs include Boys & Girls Clubs, the YMCA, Big Brothers/Big Sisters, 4-H programs, church programs, as well as parks and recreation programs.

COMMUNITY/SCHOOL COLLABORATION

By integrating classroom and after-school activities, this type of school reform perceives schools as a resource for the community. At the same time, a school depends on community partnerships to successfully operate extracurricular programs. The University-assisted schools model was created by the University of Pennsylvania’s Center for Community Partnerships. Linking schools with local universities give university faculty the opportunity to collaborate with teachers on curricular development. The partnership also enables student practicum experience and volunteer positions in after-school programs.

OREGON CONTEXT

Oregon, like many states, faces a fiscal environment so prone to cutbacks that even the basic school day is subject to alteration because of fiscal shortfalls. The 2002-2003 school year was reduced by 3 weeks to compensate for diminishing resources. Administrators have very little room to navigate financial issues and will look to cut programs without proven advantage. Lack of accountability systems for after-school programs combined with the threat of budget cuts make the programs a challenge to maintain. The advantages of extracurricular programs can be significant. Sustaining fiscal
support for promising activities in Oregon can be justified in terms of the comparative advantage extracurricular activities accrue for students, parents, and communities alike.

**POLICY OPTIONS**

Improving teacher instructional practices is potentially one of the most cost-effective means to bring about gains in student learning. If teachers are not currently utilizing the most efficient, effective instructional techniques possible, then learning suffers proportionately. The degree to which practices can be made more effective is the degree to which learning can be improved without necessarily incurring significant new costs.

The problem is that the research base on which practices are demonstrably and consistently most effective for all students is far from conclusive or definitive. Although some methods work for some students some of the time, few meet a more universal standard. For this reason, it would be imprudent for the state to mandate specific instructional practices statewide.

However, enough evidence exists in a few areas to suggest that these techniques be utilized to a much greater degree and more consistently than they are currently. If schools could implement these approaches in an appropriate fashion, student learning would likely improve as a result.

- **Encourage Oregon schools to adopt targeted one-on-one tutoring for K-3 students demonstrating reading deficiencies.** (Promising Practice) This is an area where a number of programs have produced research-based results indicating effectiveness, although discussion continues about the true effectiveness of the programs, pending additional research. Some of these programs are whole-school reforms with tutoring strategies as a centerpiece; others focus almost entirely on tutoring alone. Some combine tutoring with small-group and whole-group instruction.

These programs’ per-student costs can be high, and evidence about how well the programs can be replicated and maintained is still emerging. Therefore, the state should encourage systematic experimentation with these approaches and others that might meet the same criteria applied to these. With the limited evidence at hand, experiments should target those students who have the greatest need and show the highest likelihood of benefiting from the programs. Moreover, the state should encourage experimentation in the programs’ delivery in order to find ways to reduce costs, including the necessity of using hourly paid tutors and highly trained volunteers in certain select situations. The SMART program, for example, uses less-highly-trained volunteers to achieve positive results.

Given that many Oregon schools have already undertaken programs utilizing one or more of these methods, it may be possible to begin by gathering and analyzing data statewide from such sites to determine
the effects of tutoring-based interventions on student reading scores at third grade within the Oregon context.

When determining the cost-benefit of such programs, it is important to contrast current costs with the projected costs of students who fail to learn to read in the early grades and must be remediated sporadically or annually for the rest of their public schooling. Funding might eventually occur through a graduated shifting of resources from upper to lower grades, with the expectation that students will not require the same degree of assistance at later grades.

This strategy of individual tutoring may also be combined with class size reduction in situations where a teacher spends part of the day tutoring individual students and the balance teaching a regular class. In this way, a reduction in overall class size is obtained, but the additional teacher is employed in a means that is most likely to result in improved student achievement for students most in need.

- **Require, as a condition of the state school improvement process, that schools conduct a systematic process to validate empirically the effectiveness of their instructional programs in reading, writing, mathematics, and science. (Innovative Practice)** This recommendation is grounded in the notion that instruction is unlikely to improve systematically within the current policy model. The intent of the recommendation is to bridge the gap between the existing research base and current school administration and instructional practices. If successful, this policy would result in schools becoming much more intentional in terms of the instructional methods they employed, which is preferable to state-mandated instruction on one hand or completely localized, idiosyncratic instructional methods on the other.

The systematic process utilized by each school should consist of an internal program evaluation in combination with evidence from external sources demonstrating the effectiveness of the school’s instructional program. The aspects to be evaluated include but are not limited to grouping practices, curriculum-based measurement and alignment, textbooks, instructional methodologies, and uses of technology.

Currently, schools have no requirements to demonstrate that any program employed is effective in any systematic fashion, either through external evidence of effectiveness or internal program evaluation. As a result, a school can continue to use teaching or grouping strategies that are ineffective, thereby limiting the number of students who will reach state standards, regardless of any reduction in class size or other increases in resources available at the school site. The state process of school improvement is limited to district-level improvement plans, which may or may not address instructional methodologies and which the district is entirely responsible to monitor independently.
This process needs to become focused on school-level analyses conducted by teams of highly qualified Oregon educators and others with specific knowledge of research-validated effective instructional methods and techniques. The process should include a site visit where a team can observe teaching and examine course outlines, assignments, and assessments. The goal of the visit would be to provide the staff with detailed suggestions upon which they might build an improvement plan that incorporates best practices derived from research. The local school board, through the superintendent, would be responsible to monitor implementation of the plan. The state team would return in a year to gauge progress and review any evaluation data the district has collected on its implementation of research-validated teaching and learning methods.

In reading, districts might utilize as a guideline the principles laid out in the Bethel Reading Project to ensure that all schools have a reading instruction program appropriate to the needs and achievement level of their students. Such a plan would contain the following elements:

- A set of strategic, research-based measurable goals to guide instruction and learning
- A valid and reliable assessment system to monitor progress in the early grades
- Adoption and implementation of research-based reading programs that support the full range of learners
- Adequate, prioritized, protected time for reading instruction and practice
- Differentiated instruction, grouping, and scheduling that maximizes learning
- Strong and informed instructional leaders who maintain focus and establish mechanisms to support reading programs
- An integrated system of research-based professional development and resource allocation.

• **Enhance the capability of teachers in the state to acquire the skills necessary to implement more effective instructional practices.** (Promising Practice) Currently, few districts have the capacity or resources to identify the most effective instructional techniques and train their teachers in the use of such techniques. The result is that teachers either receive little systematic professional development focused on improving instructional strategies or are trained in methods of questionable quality. The ODE, in partnership with the state’s universities, should sponsor a professional development academy where districts send staff to become trained in the most current techniques and research. These educators and administrators would then return to their districts and train others and work with teachers directly to help improve instructional skills and increase the ability of schools to utilize data to improve student learning. This policy is a companion to those contained in Chapter 3.
that recommended changes in the licensure process that would lead to more performance-based licensing, the use of professional development schools as laboratories for new teachers to hone their skills and veterans to acquire and apply new ones, and the establishment by TSPC of statewide standards for professional development.

- **Expect Oregon teachers and schools to use data on student learning to inform instruction.** (Promising Practice) Many of the instructional practices described in this chapter rely on regular data on student learning to monitor and adjust specific strategies associated with the instructional practice. The Oregon Department of Education should establish a data system capable of providing diagnostic data to teachers in a timely fashion. The system should allow for local adaptation so that information can be kept current and used on a real-time basis. Schools should be expected to generate supplemental data on student learning required for the instructional methods they choose to employ locally.

  This standardized data will allow schools to judge their performance relative to one another more easily and to identify those schools that are doing the best job with students from similar backgrounds. Educators can then visit those schools to learn why they are successful. Better, more consistent data support such collaborative improvement practices and the development of a community of learners among Oregon educators. Similarly, poor performing schools can be identified and assisted sooner.

  At the very least, Oregon educators should become much more technologically adept so that they can utilize data from a sophisticated system to tailor instruction more to student individual needs. Additionally, all schools should develop websites that enable parents and students to check grades, get assignments, communicate with teachers, access course materials and examples, get online help either from an email hotline or from a database containing answers to frequently asked questions or help with concepts with which students have trouble regularly.

- **Utilize technology much more extensively for instruction.** Once educators can understand and integrate a data system into a comprehensive information management system, they can use the results the system generates to inform technology-based instruction. Such instruction would take advantage of the range of promising technologically-based learning methods, including Computer Supported Intentional Learning Environments, self-paced curriculum, online courses, simulations, tutorials, and creative uses of technology in the graphic arts and design areas.

  To implement this policy may well involve the purchase of some new technology and software, but will also require the more effective use of existing computers and networks. The issue is both a hardware/software problem and a professional development problem. Teachers need both the equipment and the skills to integrate
technology much more effectively and extensively into their teaching. Schools need to offer many more opportunities for students to use technology to work independently or collaboratively, within and outside of class, to advance their achievement and to address their shortcoming by means of their own initiative, with guidance and assistance from teachers and tutors.

- **Examine the feasibility of re-establishing magnet arts schools.** (Promising Practice) Oregon has in the past had magnet schools devoted to the arts that produced many successful students who remained in school to graduate, then went on to careers in the arts or simply increased their appreciation and enjoyment of the arts. Such schools have reemerged nationally in many communities in response to cuts in arts programs. Through planning grants and other means, ODE should encourage districts to develop schools specifically focused on the arts. These schools would be designed to be beacons for the arts within a community to help ensure that the arts are not lost from the local curriculum. The schools should serve the additional purposes of exposing other students in the district to the arts via performances or other experiences in which students can be directly involved and to serving as professional development centers where teachers throughout the district can learn how to integrate the arts more effectively into the regular instructional program.

- **Develop pilot schools that connect curricular and extracurricular programs directly.** (Innovative Practice) This recommendation is consistent with the small schools recommendations presented in Chapter 4. The state, in partnership with foundations and other potential funders, would sponsor the development of a series of schools that blurred or eliminated the boundaries between in-class and out-of-class learning. Such schools would connect coursework with their applications, studying physiology and nutrition, for example as means to enhance athletic performance, or conducting extensive field study over extended periods of time to investigate a range of social and scientific phenomena. Extra-curricular activities would be required of all students and would be used as a means to build leadership skills and character as much as to compete or win a sporting contest. These schools would emphasize teamwork on and off the athletic field and would integrate activities such as plays and performances into the school’s life more centrally. For students in these schools, there would be no clear line between their academic classes and their extra-curricular activities, and these students would be judged on the knowledge and skills they mastered, not the place they mastered them.

- **Develop a common statewide format for Individual Development Plans that would be completed for each student and would identify the educational activities and opportunities to be made available to the student in relation to the student’s needs and interests, consistent with state and federal education goals.** The Oregon Department of Education has already devoted considerable time, energy, and effort to creating such
plans for the Certificate of Advanced Mastery, which school districts are supposed to complete for each CAM student. The use of these plans does not appear to be widespread, nor do the plans appear to have much effect on educational offerings or practices. The goal of the plans should be to move beyond being a bureaucratic requirement that simply generates more paperwork to serving as a model for determining the educational program to be offered locally. The IDPs can ensure that a scheduled program of instruction is derived more directly from student needs and interests. The information in the IDPs, when assembled, could help identify courses to be offered, necessary professional development for teachers, areas of student interest, and, potentially, the cost of providing everything listed in the IDPs. Through the IDPs the state and local districts would have a means of negotiating what would be offered to students and how it would be funded. Current practice simply funds what exists, whether it is adequate or meets students’ needs. Through the IDP method, individual needs would be acknowledged and placed at the center of the instructional and educational processes, and their costs would be determined and aggregated.

The IDPs also create an additional tool by which parents might be involved in their children’s education. Parents could review options with their children to select the programs that best represents the children’s interests and the parents’ aspirations for their children. When parents participate in making decisions about their children’s future, they have a greater ownership in the process and a greater stake in the results. Rather than asserting that it was the school’s job to educate the student, parents could come to see themselves as partners in the development of their children’s educational program and its ultimate success. Chapter 8 contains more information and additional recommendations related to parental involvement.

- **ODE should establish the means by which the physical well being of students in the state is ascertained. Such information should be included in school report cards.** The Children’s Rights Alliance, in its May 2004 submission to the National Task Force on Obesity contended that “the State is obliged to take action to promote the health of children and to ensure that institutions and agencies do not by their actions damage children’s health.” Without an inventory of the baseline condition of the health and well being of Oregon school children, it is not possible to determine whether state actions are helping or hindering student health over time.

In order to determine the wellbeing of Oregon school children, ODE should devise a set of criteria upon which all Oregon school children would be assessed. Results would be included in school report cards. In this way, parents and community members would be able to ascertain whether the student population was becoming more or less healthy over time. Since poor health is often associated with poverty, this process of assessing well being could also determine if some schools have a “health gap” that needs to be closed along with the achievement gap.
Measures of wellbeing might include days ill per year, student nutritional habits, physical stamina, average weight in relation to height, and evidence of untreated maladies that might limit educational participation and achievement, such as uncorrected eyesight.

An indirect result of this monitoring would be to determine how many students would be capable of participating in extracurricular athletic activities of all types. Given the importance of such participation as a means to keep students engaged in school, measures of student wellbeing can be expected to be related to student achievement in the long run.

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9 Ibid.


21 Ibid.


23 Ibid. p. 11.


42 Ibid.


56 Ibid.

57 Ibid.


66 Ibid.

67 Ibid.


70 Schacter, J. (1999). The impact of education technology on student achievement: What the most current research has to say. Santa Monica, CA: Milken Family Foundation.


76 Technology Counts 2004 [Electronic version]. Education Week, 25.


97 Ibid.

98 Ibid.


102 Ibid.


104 Ibid.


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114 Ibid.

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117 Ibid.


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123 Ibid.


127 Ibid.


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133 Ibid.


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139 Ibid.

140 Ibid.

141 Ibid.

142 Ibid.

143 Ibid.

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153 Ibid.

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166 Ibid.

167 Ibid.


Ibid.

Ibid.


Ibid.


INTRODUCTION

Special Education in American public schools is experiencing unprecedented growth. From optimistic beginnings as a result of federal legislation in the mid-1970s through tumultuous expansion and revision in the 1980s and 1990s, special education has evolved with the goal of meeting the needs of children age birth to 21 with disabilities. Some thirty years after its legal inception, special education has become what amounts to a parallel school system within the large regular education system, one that has yet to demonstrate its full potential to educate all students with disabilities.

In July of 2002, the newly formed President’s Commission on Excellence in Special Education (PCESE) released a report containing policy recommendations designed to improve the performance of students receiving special education services. The findings and recommendations reflected some of the most common issues and conflicts affecting special education programs today. Among these were the misidentification of disabilities, the overrepresentation of children of color, the lack of emphasis on prevention and early intervention, and the lack of cooperative integration between regular education and special education. The current available literature spans the spectrum of these issues and includes selected empirical evidence but largely fails to coalesce into functional data for use by educators or policy makers.

The rapid growth in special education identification and enrollment has also led to an increase in expenditures. According to the Oregon School Board Association, growth in spending on special education in Oregon significantly outpaced growth in spending on regular programs. From 1992 to 2000, spending per student on regular instruction grew at an annual average rate of three percent while spending per student on special education programs grew at an average annual rate of 14.3 percent. In 1992, Oregon K-12 schools spent $448 per student on special education programs. By 2000, the system spent $1,301 per student.¹

Possibly as much as one-fifth of all current spending on education is directed at slightly more than 10% of the student population despite limited evidence of the effectiveness of special education programs in raising achievement.² Expenditures to provide schooling for students with identified handicaps are more than twice those provided for regular education. However, caution should be taken when focusing on costs as the sole measure of effectiveness, since the essential educational purpose and benefits of special education is highly dependent on the individual student being served.³ By more closely examining the research and literature related to the effectiveness of special education, it may be possible to determine if current strategies for identification and placement are effective and accurate and if the programs lead to improved outcomes for special education students.
Special education can only be effective if students learn more with it than without it. Often lacking a feasible and ethical method for measuring a control group in the research, it is necessary to measure the performance of groups of students with disabilities or gifted individuals before and after receiving special education. To the extent that special education can be shown to achieve better results than students would receive in general education or to improve the quality of life for students, the programs can be reasonably deemed effective and valuable.

IDENTIFICATION AND PLACEMENT

The percentage of students identified as needing special education intervention grew by 32.2 percent nationally from 1991 to 2001 and now represents 13.3 percent of the total public school enrollment. In Oregon, the number of students served under IDEA has shown an annual increase of 2.8 percent from 1991 through 2001, reflecting a growth rate that is two and one-half times higher than the growth rate of overall enrollment.\(^4\)

Table 6.1 shows an increase in students receiving federal aid from 1998-99 to 2000-01 of 239,000.

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<tbody>
<tr>
<td>Federal Aid (thousands)</td>
<td>4,144</td>
<td>4,529</td>
<td>4,631</td>
<td>4,761</td>
<td>4,941</td>
<td>5,111</td>
<td>5,309</td>
<td>5,378</td>
<td>5,573</td>
<td>5,729</td>
<td>5,903</td>
<td>6,054</td>
<td>6,190</td>
<td>6,293</td>
</tr>
</tbody>
</table>


Table 6.2 reflects the percentage of students funded by IDEA nationally (13.3 percent). Oregon exceeds this rate at 13.8 percent. Percent change of disabled students served under IDEA, birth to 21 from 1990-91 to 2000-01 was 32.2 percent.\(^5\)
Table 6.2: Disabled Students as a Percent of Public School Enrollment and Percent Change in Disabled Students Under 21 in Selected States

<table>
<thead>
<tr>
<th></th>
<th>Disabled students as a percent of public school enrollment, 2000-01</th>
<th>Percent change in number of disabled students under 21, 1990-91 to 2000-01</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nationally</td>
<td>13.3</td>
<td>32.2</td>
</tr>
<tr>
<td>Rhode Island (highest percent enrolled nationally)</td>
<td>19.5</td>
<td>45.8</td>
</tr>
<tr>
<td>Oregon</td>
<td>13.8</td>
<td>36.4</td>
</tr>
<tr>
<td>Montana</td>
<td>12.4</td>
<td>11.6</td>
</tr>
<tr>
<td>Idaho</td>
<td>11.9</td>
<td>32.5</td>
</tr>
<tr>
<td>Washington</td>
<td>11.8</td>
<td>39.2</td>
</tr>
<tr>
<td>Nevada</td>
<td>11.2</td>
<td>106.9</td>
</tr>
<tr>
<td>Utah</td>
<td>11.2</td>
<td>12.9</td>
</tr>
<tr>
<td>Arizona</td>
<td>11</td>
<td>30.1</td>
</tr>
<tr>
<td>California (lowest percent enrolled nationally)</td>
<td>10.5</td>
<td>37.5</td>
</tr>
</tbody>
</table>


**LITERATURE REVIEW**

While most discussion regarding special education focuses on the costs of providing the programs for children with disabilities, the issue of effectiveness of such programs remains largely unaddressed. Determining the effectiveness of special education programs is difficult because students outside of the process do not provide a methodologically sound comparison group for research. Research comparing the special education population to non-special education students does not allow for an accurate measure of program success because special education students by definition deviate from other students in significant ways, indicating that differences in outcome in terms of achievement and other factors often confuses program effects with other factors. Despite the difficulty of isolating causal effects of special education, research suggests the possible moderate positive impact on achievement resulting from these programs.

Hanushek, Kain, and Rivkin attempted to identify effects of special education by evaluating longitudinal information on individual students included in the UTD Texas Schools Project. The researchers investigated the effects of special education placement on student achievement, controlling for fixed student and school effects. By tracking students who were in and out of targeted programs, the study identified program effectiveness from changes over a given period for individual outcomes. Results of the study indicate that special education programs on average raise the level of achievement for students receiving special treatment. This longitudinal analysis seems to suggest that special education programs can be expected to provide the intended benefits without negatively affecting the non-special education population. Achievement gains for those students without treatment are notably related to the percentage of students classified as special education.
The results of research done by Hanushek and his colleagues do not represent a coherent cost-benefit analysis, are particularized to Texas, and may not be generalized to populations that are not tested. The tendencies revealed in the research do, however, suggest the potential for positive effects of special education programs. The investigation indicates significant gains in mathematics achievement related to the average special education program and suggests that the programs generally boost achievement of students provided this special treatment. One trend suggested by the study is the tendency for schools to target services toward students who stand to gain the most from the service. The finding that emerges once individual differences are taken into consideration suggests program effectiveness in terms of individual performance resulting from placement into special education. The researchers concluded that despite the limitations of the study “the evidence provides a convincing case that the special education programs on average provide the intended benefits without reducing achievement for the non-special-education population.”

Many researchers are concerned with what they deem as the overrepresentation of certain groups in special education. The group with the most extensive empirical evidence supporting its overrepresentation in special education is ethnic minorities. The Office of Special Education Programs has collected data that shows evidence of strong identification of African American students in the categories of mental retardation (MR) and emotional disturbance (ED); American Indian students are overrepresented in learning disability (LD); Asian/Pacific Islander students are underrepresented in almost every category; and African American, Latino, and American Indian students are underrepresented in the gifted and talented (GT) category. Early identification using unbiased identification measures is a prime concern for educators and policy makers. Researchers assert that minority students who come from disadvantaged neighborhoods may not be as prepared when they start school, or they may have cultural and behavioral differences that their predominantly white, middle-class teachers do not understand.

Statistics vary regionally. For example, 39 percent of American Indian/Alaskan Native students in Florida were identified as having some type of disability, whereas no students from this racial group in the District of Columbia were identified. For Hispanic students, higher percentages of disabilities were identified in the Northeast region than in the South region. These variations did not coincide with poverty rates in those regions.
Table 6.3: Percentage of Children Ages 6-21 Served Under IDEA, by Race/Ethnicity

<table>
<thead>
<tr>
<th></th>
<th>All Disabilities</th>
<th>Learning Disabilities</th>
<th>Mental Retardation</th>
<th>Emotional Disturbance</th>
</tr>
</thead>
<tbody>
<tr>
<td>American Indian/Alaska Native</td>
<td>11.28</td>
<td>6.29</td>
<td>1.03</td>
<td>0.86</td>
</tr>
<tr>
<td>Asian/Pacific Islander</td>
<td>4.01</td>
<td>1.70</td>
<td>0.43</td>
<td>0.20</td>
</tr>
<tr>
<td>Black</td>
<td>12.09</td>
<td>5.57</td>
<td>2.23</td>
<td>1.32</td>
</tr>
<tr>
<td>Hispanic</td>
<td>8.18</td>
<td>4.97</td>
<td>0.60</td>
<td>0.51</td>
</tr>
<tr>
<td>White</td>
<td>8.51</td>
<td>4.27</td>
<td>0.79</td>
<td>0.69</td>
</tr>
</tbody>
</table>


The second group that might be over-identified is boys, who receive certain special education designations at a much higher rate than girls. Wehmeyer and Schwarz found that boys exhibit behavior patterns that are more likely to result in their referral to special education. Gender bias in referrals and assessments is also suspected. However, some researchers support the hypothesis that males are not necessarily overrepresented in special education but that females are underrepresented and not receiving appropriate services. Wehmeyer and Schwarz find that boys generally are more aggressive than females and are therefore identified as needing services for learning disabilities, while females who need similar attention tend to be overlooked or are placed in more restrictive environments than their male counterparts.  

The special education classification of learning disabled has seen the largest increase in enrollment over the last three decades. Since 1975, the population of individuals identified as having learning disabilities has increased about 150 percent to a level that represents over 50 percent of all students with disabilities and over 5 percent of all students in school. This is far higher than those students with mental retardation, serious emotional disturbance, or speech-language disabilities.  

Poverty is strongly correlated with identification of needed special education services, most notably learning disabilities. Gottlieb, Gottlieb, and Wishner concluded after 10 years of study that special education practices are no more effective now than they were 25 years ago. In the sample drawn in 1992 from an impoverished region of a large urban school system, children receiving special education services were identified as poor, with 90 percent being on public assistance. Seventy percent were male, and 95 percent were members of a minority group. Nineteen percent were foreign born and 44 percent were from families whose primary language was not English. Gottlieb, Gottlieb, and Wishner suggest that students classified as learning disabled in inner-city schools are not disabled but rather just the fallout of a failed regular education system that cannot meet the needs of their students and provide them with an appropriate regular education. The authors theorize that this failure may be the result of lack of financing and funding for staff development, inexperienced teachers, overcrowding, and time limitations. Special education classes can be effective but there are not enough other services available to meet the existing needs.
Hosp and Reschly argue that the variables of poverty and race are shown to affect identification for special education services, but assert that achievement is the most important predictor of identification for special education services. They use district level data for analysis using academic, demographic and economic variables. They found that the three variables contribute to variances in strength of relationships between disproportionate representations across racial/ethnic groups. Their results did not indicate that achievement differences caused disproportionate representation, only that they were related. They found that educators influence achievement, and since achievement is an important predictor of identification, efforts must focus on this variable (achievement) as opposed to reporting economic and demographic relations. Their recommendations include the implementation of prevention strategies using early intervention practices, universal screening for children not sufficiently responding to prevention, and further research at the individual level.

The data suggests that special education teachers should work directly with the classroom teacher, and engage in long-term training. Hosp and Reschly propose that inclusion is not the solution to this problem, but rather the delivery of intensive and effective instruction services to these children. They also propose that community-based interventions, such as delivery of social services and medical care in tandem with extended day and year round educational interventions would be effective.

**MAINTREAMING AND INCLUSION**

The Individuals with Disabilities Education Act (IDEA) mandated that children with disabilities receive a Free and Appropriate Education (FAPE). This law was later amended so that students are also educated in the Least Restrictive Environment (LRE). A child can only be removed from the regular education setting when specialized services cannot provide satisfactory aid to a child within that setting. Special education environments range from regular classroom placement (least restrictive) to a completely segregated institution or hospital (most restrictive).

Mainstreaming specifies that, if a student is not receiving adequate services in the general classroom, they should still have the opportunity to spend the most time possible integrated into school activities. Inclusion refers to the current practice of delivering special education services and instruction in the regular education classroom. Inclusion connotes a commitment to educate every child in the school and classroom that he or she would have attended but for the exceptionality. Whether or not this is an effective trend is difficult to assess and data on achievement success is not readily available. Much of the research suggests that mainstreaming is a more appropriate approach to assist students in achieving success, allowing them to get precise aid from specialists in their field rather than regular education teachers who may be less qualified in that area. Advocates for inclusion specify that students not fully integrated into the regular classroom are being segregated and do not have access to the experiences that every student should have.
LITERATURE REVIEW

Researchers continue to debate the degree to which special education students should be included in the general education curriculum. Issues vary from physical and instructional access, to philosophical differences, such as conflicting and poorly defined theoretical views and pedagogical practices.19

In an article evaluating the state of research and practice in provision of inclusive education placements for students with severe disabilities, Hunt and Goetz identify full inclusion as an increasingly common and desirable educational practice. The authors reviewed 19 studies to establish guidelines for inclusive schools from the data. Parental involvement is identified in the literature as an essential element of effective inclusive schooling.20 Students with severe disabilities can accomplish positive outcomes in inclusive settings. Students with severe disabilities benefit from interaction in inclusive settings. Students without disabilities experience positive results by sharing a classroom setting with students having severe disabilities.21 This analysis of the literature found that collaborative efforts among school personnel together with curricular alterations to educational practices are a vital component in effective inclusion efforts.22

In a review of meta-analyses attempting to discern the effects of inclusive education, Baker, Wang, and Walberg argue that a common measure or effect size is evident. Comparing effects of inclusive versus non-inclusive educational practices for special-needs children, the authors conclude that a small-to-moderate beneficial effects of inclusive education on the academic and social outcomes of special-needs children.23 Numerous studies point to the potential of inclusion for improving student outcomes. The topic remains the subject of rigorous debate. At this point, research can only suggest that inclusion is appropriate and beneficial for some students and potentially counterproductive or harmful for others.

Some teachers view inclusion as teaching special needs students and general education students in the same classroom but at different times, in different settings and with different lessons. In other interpretations of inclusion, the school provides a place for special needs students among their peers without variation of instruction. The National Center on Accessing the General Curriculum used the definition that inclusion is membership in a general education classroom with peers in the appropriate age group, having an individualized relevant objective to learn, and access to the curriculum. Several instructional practices that incorporate inclusion look promising and are being utilized at an increasing rate. The integration of specialized services with regular education strives to better serve mainstreamed special education students and to advance the achievement of early intervention strategies.

Instructional grouping strategies, especially student pairing where one student helps the other, had more positive effects on students' reading achievement than whole class instruction. Cross-age tutoring or grouping in this study was not as effective when students with disabilities were paired,
although students with disabilities were found to benefit from tutoring younger students. The researchers note that such tutoring can be effective in producing better reading outcomes for students in both general education and special education classrooms, and other studies have shown that it has the potential to improve the social relationships of children.  

Literature reveals new instruction techniques such as differential learning strategies used by teachers to accommodate and adapt instruction for diverse learners in general education that have special education needs. The goal of differential teaching strategies is to meet all students’ needs whenever possible in the general education setting. However, the conflicting demands of standardized curriculum and assessments such as the NCLB legislation makes the implementation of differentiated instruction to meet all students’ needs challenging.

Integration of services as a part of early intervention is defined as multiple organizations combined or linked with one another to improve children’s outcomes. These services are important to the success of early intervention. There are many factors that determine the success of these programs. The adequate training of professionals is of primary importance. Skills that need to be highly developed include interpersonal skills for working with families, including conflict resolution and negotiation, and the ability to work across disciplinary and agency boundaries. Important also is the structural knowledge of early intervention service systems, funding sources, infant and toddler development related to early intervention, accessing funding sources and coordinating with government agencies, and respect to the cultural and economic diversity of clients.

The National Early Intervention Longitudinal Study examined the IDEA early intervention system with a representative sample of infants and toddlers with disabilities. NEILS results indicate that infants and toddlers entering early intervention programs come from a variety of diverse backgrounds. Children enter early intervention in the first 3 years of life with varied reasons. NEILS has found that across the range of children entering early intervention, most are considered healthy at the time of entry to the program. Results of the study show that some groups of infants and toddlers are disproportionately represented in early intervention in comparison with their representation in the general population. The research also showed that 60% of infants and toddlers in early intervention are male. This increase in representation continues in special education in populations at later ages. NEILS confirms that early intervention serves families from a wide range of income groups and levels of educational attainment. The study results also suggest that there are proportionately more African American infants and toddlers in early intervention programs than there are in the general population and that speech/language eligibility designation for some children may serve as a preliminary indicator of a developmental disorder.

Rebecca Felton and Pamela Pepper reviewed the research pertaining to methods of identifying children at risk for reading disabilities and determined that successful programs of early identification and intervention
must be grounded in a firm adherence to research that is based on theoretical understandings of reading disabilities as well as research facilitating practical application in school environments. The authors point to the large body of research that warrants the effectiveness of phonological awareness training in facilitating acquisition of fundamental reading skills.

Donald Hammill analyzed the combined results of three meta-analyses on the topic of measures of specific abilities related to reading. The research examined over 450 research studies and evaluated approximately 11,000 different coefficients. In the analysis, Hammill found that the best predictors of reading were strongly linked other written language abilities in this case skills involving print. Implications of the research imply that a focus on teaching written language abilities such as print awareness can influence literacy skills. The understanding and interpretation of graphic symbols and how the symbols represent oral language and thought is integral to an understanding of reading skill acquisition. At the same time, conventions determine how language is expressed through writing. The findings of the meta-analysis suggests that professionals seeking to identify or teach reading to young children at risk for reading difficulty should emphasize actual reading and other print activities because of the strong link to reading performance. The study appears to indicate that current practices using non-print abilities for screening and instruction may be misdirected or overemphasized. Early identification and intervention utilizing print awareness techniques appears promising.

The full service concept consists of schools providing the educational, psychological, physical, and social requirements for students and their families in one location. During the early 1990s the approach gained momentum in both the educational and social reform movements as a promising method that could offer intensive, comprehensive, and integrated services using the support and services of the school and community. Although not widely used in education settings, these programs propose to integrate special education students into a specialized program without excluding them from the regular classroom experience.

Positive aspects of full service programs are inclusion and integration. Students receive remedial aid from onsite specialists. Programs are interconnected with regular education. Another benefit is communication; special education and general education teachers collaborate with one another. Personnel at sites usually find ways to reach limited-English-proficient populations. There are ongoing needs assessments such as mental health, social service, educational support, and physical health services that are readily available to assist general education personnel. Cultural sensitivity is also valued in full service programs. Providers represent their community's cultural and linguistic backgrounds. Prevention using early intervention strategies takes place so that students are diagnosed and treated as early as possible. Referring students to more intensive support programs minimizes problems with students.
Full service programs give students with a wide range of learning disabilities the best of both worlds: access to the curriculum as well as access to a variety of specialized services. Warger concludes that barriers to implementing the full service model are a lack of adequate funding, in part because Medicaid and managed care are not viable sources for the resources to treat students with serious mental health problems.

**TEXAS**

In Texas, five high poverty and highly successful schools were studied. The various programs for special education in all five schools shared similar characteristics. There was a strong community belief that students could be academically successful and the community felt it was of primary importance to ensure that all students perform at grade level or better. School leaders and staff made an effort to minimize labels in the belief that it negatively impacts performance expectations. They set high, measurable goals for students. The school’s faculty and staff chose to focus on early, intensive intervention to bring students to grade level by the end of first grade. They have a pre-primary Child Development program for three and four year olds that serve to prepare students with special education needs for success in the regular education curriculum. Faculty and staff collaboration is emphasized. Teachers rely on program support specialists, counselors, and administrators to help teach lessons. Through their campus Assistance Component Program teachers collaborate with support staff to conduct activities for students having difficulties. Students hear the same concept from multiple voices and various angles.

C. Hitchcock, an inclusion advocate and education visionary, states that teachers indicated that they found it difficult, or impossible, to modify teaching methods and curriculum materials to meet individual student needs. This may be because of past dependence on special services. Hitchcock goes on to predict that by 2006 special education will no longer be a separate service. All students will benefit from the school’s learning specialists. Access to, and progress within, the general curriculum, will be a right for everyone. Classrooms will exist as social learning environments, with trained educators implementing differentiated instructional methods with flexible content, and using the technology tools necessary to provide access for each student. The use of the term disabled will cease, as all students are included in a diverse learning environment where teachers are successful through collaboration with colleagues.

Table 6.4 and Table 6.5 show the percentage distribution of student’s ages 6-21 with disabilities by educational environment and disability type in 1988-89 and 1998-99. In 1998-99 states reported that 47 percent of students with disabilities spent 80 percent or more of the day in a regular education classroom. The size of increase varied by type of disability. The largest increase occurred among students with specific learning disabilities, from 20 to 45 percent. The smallest increases occurred among students with multiple disabilities, from 7 to 11 percent, and those who are both deaf and blind, from 12 to 14 percent.
Table 6.4 data reflecting the increase in the percentage of students with disabilities included in regular classrooms is noteworthy because the number of students with disabilities being served in the regular education classroom has been growing faster than total school enrollments. The ratio of special education students to total K-12 enrollment in 1988-89 was 112 per 1,000 students and in 1998-99 it was 130 per 1,000 students.\textsuperscript{39}

Table 6.4: Percentage of Students With Disabilities by Educational Environment

<table>
<thead>
<tr>
<th>Percent of the day in regular classroom</th>
<th>Greater than 80 percent</th>
<th>79-40 percent</th>
<th>Less than 40 percent</th>
<th>Not in Regular School</th>
</tr>
</thead>
<tbody>
<tr>
<td>1988-89</td>
<td>30.5</td>
<td>28.4</td>
<td>24.3</td>
<td>24.3</td>
</tr>
<tr>
<td>1998-99</td>
<td>47.4</td>
<td>28.4</td>
<td>20.1</td>
<td>20.1</td>
</tr>
</tbody>
</table>


Table 6.5 shows inclusion of students with disabilities in other facilities slightly decreased. The percentage of students with disabilities educated in separate facilities declined for students of all disability types except for those with visual impairments.

Table 6.5: Percentage of Students With Disabilities in Other Facilities

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Separate facilities</td>
<td>4.6</td>
<td>2.9</td>
</tr>
<tr>
<td>Residential facilities</td>
<td>0.9</td>
<td>0.7</td>
</tr>
<tr>
<td>Home/hospital</td>
<td>0.8</td>
<td>0.5</td>
</tr>
</tbody>
</table>


**SPECIAL EDUCATION INSTRUCTIONAL PRACTICES**

The question of whether special education intervention leads to improved student achievement is difficult to answer because the methods of assessment used in special education span a broad range and are by definition less uniform than measures used for regular education. Scores on standardized testing for students receiving special education services have historically been omitted from the aggregated state totals due to test modifications or other adaptations that create validity concerns. Assessment data for students receiving special education services are difficult to find, possibly the result of educators utilizing the Individual Education Program (IEP) as the method and location for documentation of individual student progress and goal attainment.

The desired progression of students out of special education and into regular education can be hindered by barriers that range from lack of physical or instructional access to philosophical conflicts, such as theoretical and pedagogical differences regarding inclusion practices. Support for continuing teacher training and development is inconsistent at best and
varies with available resources in each school district. Little empirical evidence exists as to the effectiveness of the many methods and practices currently implemented in special education. Schools often make significant long-term choices in their curriculum with little or no data to support their selection as scientifically sound.

Tracking and improving student achievement in special education requires attention to several key issues. A primary goal of systematic reform is to address the barriers that obstruct the development of efficient programs that allow special education learners to be included in the regular curriculum. Efforts must have administrative support. Professionals in this field need to have a common understanding of curriculum development and alignment to state and national standards. The No Child Left Behind legislation requires states to set uniform performance targets for children. Recent amendments provide an exception for at least one percent of special education students for whom it is inappropriate to assess by the normative standards.

The unprecedented growth in students identified as needing special education services increases the challenges that teachers face. Following are a few of the challenges:

- **Increased Teacher Responsibilities.** Large class size makes individualized attention from the teacher a challenging proposition. Teachers must be available to assess and accommodate individual academic, intellectual, and emotional needs.

- **Issues of Time, Skills and Training.** General education teachers frequently report having inadequate training, time and personnel resources for including students with disabilities. Providing assistance to teachers in the form of extra personnel and administrative support, such as facilitating collaboration between staff by scheduling common planning time and promoting continued training could serve to lessen the burden.

- **Practitioner Attitudes to Shifting Roles and Expectations.** There is evidence of some negative attitudes existing among teachers because of obstacles to effective instruction and inclusion. Inclusion practices need to be accepted and promoted by all affected parties if they are to be effective.

**THE IEP PROCESS**

Federal special education requires schools to develop an individualized education program (IEP) for each student identified as having an educationally-related handicap. The IEP specifies the special education programs and services that will be given to the handicapped child. The Individualized Education Program (IEP) is the comprehensive document that serves as the basis for implementation of special education services for the
individual student’s identified deficit areas. By law, the IEP is expected to be specific, sequential, appropriate and realistic. Within the IEP document are observable and measurable goals and objectives with anticipated timelines. The IEP must be developed within thirty days of eligibility determination and be reviewed annually.

LITERATURE REVIEW

IDEA requires public school systems to develop appropriate Individualized Education Programs (IEPs) to reflect the needs of each child. Each student's IEP must be developed by a team of knowledgeable persons and be reviewed annually. The team consists of the child's teacher and parents, the special education teacher, the principal, the child, if appropriate; an agency representative who is qualified to provide or supervise the provision of special education; and other individuals at the parents' or agency's discretion.41

The literature reveals a few notable methods that are being used to increase the effectiveness of the IEP process. The self-determination model is a method whereby students with learning disabilities learn to advocate for themselves during their Individualized Education Program conferences. This study deemed that high school students with learning disabilities who were taught to self-advocate during their Individual Education Program (IEP) conferences contributed important and relevant information. Their input accounted for 86 percent of the goals on their IEPs.42

The Association for Retarded Citizens, or ARC, has created a scale to measure self-determination, which they define as the teachable and measurable skills such as self-evaluation, decision-making, problem solving, leadership, and self-advocacy.43 The ARC's Self-Determination scale is a student self-report measure of self-determination designed for use by students with mild mental retardation and learning disabilities. To help students become more self-determined and enable them to evaluate their beliefs about themselves, students work with educators and others to identify individual areas of strength and limitations related to goals and objectives and to self-assess their progress.

The ability to identify and accomplish goals based on the foundation of knowing and valuing oneself is the essence of self-determination. This concept and the notion of self-advocacy have been traditionally promoted by policymakers in the U.S. Department of Education, advocates, researchers, and people with disabilities.44 A review of the literature to investigate interventions designed to increase students' involvement in their individualized program published in 2004 suggested that students having a wide array of varying disabilities can be actively involved in the IEP process.45 Research studies confirm that students with a range of disabilities can benefit from self determination and self advocacy skills. Despite the evidence and widespread support for the potentially positive effects of acquiring self-determination skills, instruction of these skills in school environments or curricula is not yet widely practiced.46 Studies examined in
this review reveal that students can learn self-determine skills and use them in a school environment. Most studies on the issue of self-determination have examined the immediate impact of these skills in particular scenarios and little research has been conducted to extrapolate the longitudinal impact or long-term implications or effectiveness of instruction in the area of special education.47

Research seems to validate the potential for students with wide ranging disabilities to actively participate in the IEP process. Despite the support from policymakers, researchers, and educators, the issue of widespread student participation in the IEP process has yet to be addressed systematically by policy makers. Even at the high school level, student involvement is far from the norm.48 The findings of the aforementioned literature review combined with other contemporary research indicate that despite evidence that the level of student participation in IEP meetings is less than optimal, the phenomenon is not the result of student inability to be involved.49

Over two decades of research support the practice of teaching students to apply self-determination skills, including goal setting, goal attainment, problem solving, self regulation, self awareness and participation in IEPs. A meta-analysis conducted in 2001 by Algozzine et al. found that self-determination skills can be taught to and learned by students at various degrees of disability.50 Teacher access to information on how to instruct self-determination skills, access to the general curriculum, and details associated with standards-based reform, are characterized in the literature as potential emerging barriers to promoting self-determination skills.51

In Kentucky, a correlational study using the Kentucky statewide alternate assessment program for students with severe disabilities found that out of 36 schools and 60 students observed, IEP quality were correlated with the students’ alternate assessment scores. Students with severe cognitive disabilities participate in an alternative assessment program called The Alternate Portfolio. Scores from the portfolio are included in school accountability indexes. The portfolio is much like the portfolios used by regular education students, with participants scored as Novice, Apprentice, Proficient, or Distinguished. There was a moderate correlation between Alternate Portfolio scores and PQI (Program Quality Indicator) scores. No correlation existed between assessment scores and IEP quality. An explanation for these correlations is that the instructor collaboration in the schools generates increased learning opportunities for all students.

Kentucky’s educational system is significant in evaluation because it was the first state to require full inclusion of special education students in large-scale assessments. Teachers surveyed found significant benefit in using this form of assessment for accountability.52
PROMISING PRACTICES

OREGON CONTEXT

In 2001, the Oregon Legislature established the Oregon Legislative Special Education Task Force to research and make recommendations to the Legislature on structuring special education funding and services to fully meet the needs of students with disabilities who receive special education and related services in Oregon’s public schools. They concluded their findings in 2002.53

Oregon proposes to align instruction, identify assessment norms, and establish committees of stakeholders for transition services, and train administration support staff as well as regular staff. The state proposes to implement better funding strategies with caps to serve those with high needs and to lobby Congress to fully fund the Federal share of IDEA, as well as to not legislate or establish through ODE policy pupil/teacher ratios for special education.54

In 2001-02 nearly 78,000 Oregon children and youth (birth-21) with disabilities received special education or other services. Of the 70,909 who were school-aged (5-21), 96 percent attended a regular public school where they participated in the general curriculum and received specially designed instruction and related services. Other students with disabilities received their education and special education services in a state-operated or state-supported program. The goal for these students is similar to that for all students: to receive an education that prepares them for living and working in an integrated community setting of their choice.

POLICY OPTIONS

Special education instruction constitutes an important and ever-increasing component of the state educational system. With its separate rules and regulations and strong legal framework, special education demands and receives unique treatment even in times of declining resources. The fundamental question is whether special education programs are resulting in improvements in student learning proportional to the resources devoted to them. This is an uncomfortable question to ask, in large measure because to some degree there seems to be an unspoken assumption that if a student is labeled “special education,” the school should not be held responsible for that student achieving at levels comparable to those not so labeled.

While such a position may be fully justifiable for a proportion of special education students, particularly those with severe and profound disabilities, it is perhaps less defensible when applied to the largest categories of students, those labeled “learning disabled” or “emotional disturbed” or “speech-language impaired.” In many cases these students can reasonably be expected to achieve at levels comparable to their non-disabled classmates. In fact, one of the primary goals of special education legislation was and is to
ensure that precisely this result is achieved for many students with challenges that can be addressed through targeted support and services.

Unfortunately, little if any evidence of systematic evaluation of special education programs can be found. Extensive, impassioned debates over the merits of mainstreaming dominate the literature. While specific treatments are tested experimentally in controlled settings with small numbers of students, few are ever evaluated in real-world situations across multiple classrooms and schools. The net effect is that it is very difficult to determine how well special education programs are working and if the number of students with special education labels meeting state standards is greater than, about equal to, or less than might reasonably be expected.

The level of confidence in the policy option is determined by the strength of the research underlying it. In the case of special education, the policy options recommended here all imply or require further research and examination before a high confidence level can be assumed. Therefore, the following recommendations are offered not because definitive research exists to support them, but because they are necessary to seek answers to some of the basic questions regarding the effectiveness of special education and the resources devoted to such programs.

- **Evaluate the learning gains that are achieved in special education by student disability category to determine the effectiveness of special education programs.** (Innovative Practice) The Oregon Department of Education would be charged to collect systematic data on the relative success of special education students by disability type and educational program. The goal would be to identify programs that appeared to out-perform comparator programs, and then to share the practices utilized in the effective programs. As a part of a revised school improvement process, schools would be judged on the degree to which their special education programs were utilizing effective techniques and returning to regular classrooms students capable of meeting state standards.

- **Improve the criteria and methods for assigning special education designations.** (Innovative Practice) Educators expert in special education would be assembled and charged with developing a set of systematic diagnostic criteria that would be used when making special education placements. The criteria would be specific to each handicap category included in special education and would also address students with multiple handicapping conditions. These criteria would eventually become consistent statewide as all special education teachers were trained to apply them in a highly reliable fashion. In this way, the probability that all students designated special education, no matter where they resided in the state, would truly be deserving of the designation and would be properly placed into a program most likely to benefit them. The net effect of this policy would be to decrease unnecessary, inaccurate, and inappropriate special education placements and to allow special education programs to be targeted more specifically on students who could truly benefit.
from carefully-designed programs related to their handicapping condition.

- **Explore the notion of prioritizing educational services within special education in much the same way that the state prioritizes medical treatments in the Oregon Health Plan.** Local school districts (and by extension the state and federal government) are expected to provide and pay for any and all special education services deemed necessary for a student, even though some may be much more important, necessary, and potentially beneficial than others. Building upon the work described in the previous paragraph, the state should undertake to rate the cost-effectiveness of various special education “treatments” in relation to special education “conditions.” In this fashion, it may eventually become possible to determine the cost to the state of each condition-treatment pair and how far down a list of these pairings does state and federal special education funding cover. In this fashion, it becomes apparent which services are being paid for exclusively from the local school budget that is not designated special education. This process is a first step at instituting cost containment for special education, given its dramatic increase relative to the rest of educational funding, while simultaneously ensuring that students with the most demanding conditions always receive the treatments that are potentially most beneficial to them.

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3 Ibid.


5 Ibid.


7 Ibid.

8 Ibid.

9 Ibid.


87 Ibid.


93 Ibid.

94 Ibid


28 Ibid.

29 Ibid.

30 Ibid.


32 Ibid.


34 Ibid.

35 Ibid.


Ibid.

Ibid.

Ibid.

Ibid.


Ibid.


Chapter 7

Readiness To Learn

INTRODUCTION

Support for ensuring that all children begin school ready to learn reaches across policymaker, researcher, practitioner and business communities. It is widely held that early childhood development programs focusing on developing a child’s readiness to learn help to ensure that children have the skills necessary for academic success before beginning their formal schooling. In 1990, state governors attending the President’s Education Summit made readiness to learn the first of many goals that American education was to achieve by the year 2000. Since then, research and practice have continued to show that readiness to learn can be a powerful predictor of future academic success. As a result, policymakers, researchers and practitioners are increasingly supporting early childhood development programs in an effort to yield the largest long-term return on public education monies. Despite growing support for this goal, Oregon and the rest of the nation are far from having achieved the goal of offering accessible early childhood education for all children.

In the last forty years, research has focused on high-quality early childhood education programs’ role in helping to bridge the achievement gap, to improve attendance and to increase economic productivity and social stability. These programs are particularly valued by many supporters for their contributions toward closing the achievement gap between advantaged and disadvantaged children. The Committee for Economic Development published a report in 2002 that established the link between lost opportunities to benefit from quality early childhood programs and threats to future student achievement. The disparity in access to programs, the report argues, “could further widen the gaps in educational achievement that already pose one of the biggest challenges facing elementary and secondary educators that permanently limit economic and social opportunities.”

Susan Neuman, former assistant secretary for elementary and secondary education in the U.S. Department of Education, makes the point that “if we are serious about closing the achievement gap, we cannot wait for children to enter the doors of kindergarten.” If we are to have any chance of having all children achieve proficiency, Neuman argues, we must “immediately and systematically address the enormous differences in school readiness between children from diverse backgrounds.” She points to high quality pre-kindergarten as the best way to ensure readiness. Pre-kindergarten has been consistently documented in the empirical research to be the single best investment for improving achievement.

In light of research findings, supporters of publicly funded early childhood development programs are gaining momentum across the nation with the message that such efforts not only increase a student’s readiness to learn and the opportunities to achieve academic success in school but that they also pay
returns to society in the long run by alleviating the risk of counter-productive behavior that costs taxpayers and harms communities. This argument may be characterized as an economic development rational for funding readiness to learn.

Although nearly every state now funds some form of public preschool program, the level of investment remains far below what is needed to create and maintain high quality readiness to learn programs that serve the needs of all children. The first ever state-by-state assessment of government financed pre-kindergarten programs, The State of Preschool, examines how many 3-and-4 year-olds have access to such programs, the quality of those programs, and the investment level of each state in these early childhood education programs. According to the report, the total state investment in public preschool amounted to about $2.4 billion in 2001-2002, with 10 states accounting for close to 83 percent of the expenditures. The authors conclude that “High-quality preschool can make a critical difference for children, especially those disadvantaged by poverty...This report shows that we’ve made a start, but we still have a long way to go if we are to assure every child the education they deserve.” The researchers working on this report sought to create the state-by-state profile as a tool for policymakers to use as they adapt to the shifting nature of preschool education. “The shift is dramatic” argues Barnett, “because the new evidence on the value of early education is so dramatic...Studies show that we cannot afford to waste the learning opportunities in our children’s early years.”

The advantages of investing in programs emphasizing readiness to learn are increasingly understood to extend beyond benefits for individual children. Accordingly, early childhood development can be viewed as a form of economic development with high public return. An economic development perspective credits readiness to learn programs with improved performance in school, better jobs in the future and superior earning potential as well as with a decreased risk of incarceration. This perspective enjoys support by many outside the education community. Art Rolnick, Senior Vice President and Director of Research, and Rob Grunewald, regional economic analyst for the Federal Reserve Bank of Minneapolis, explain that “studies find that well-focused investments in early childhood development yield high public as well as private returns.” Return on investment in early-childhood development is estimated by economic analysts to be 14 to 15 percent after adjusting for inflation. The real return on U.S. stocks, by contrast, is 7 percent. Rolnick concludes that “investing in human capital breeds economic success not only for those being educated but also for the overall economy.”

In concurrence with Rolnick, Joseph M. Tucci, chairman of the Business Roundtable’s Education and Work Force Task Force has stated that early education is good business. In his assessment, “the business community supports high-quality early education programs because they lead to improved education results, a world-class workforce, a healthier society, and ultimately a stronger economy.” The costs associated with early childhood
development are generally viewed as slight in comparison to the tremendous individual and societal gains.

Widespread support is a promising indicator of the potential for publicly funded pre-kindergarten programs at the state level. A national poll of 3,230 voters conducted in 2001 for the National Institute for Early Education research indicated strong public sentiment for increased state funding for high-quality preschool programs. In the same survey, 90 percent showed support for the idea that states should increase responsibility for funding preschool programs so all parents could afford high-quality programs for their children and 85 percent agreed that states should set standards for learning and teacher qualifications to ensure the quality of preschool programs. Despite the growing consensus that early childhood development has the potential for high individual and societal returns, few states have succeeded in creating and implementing universal access to quality programs focusing on readiness to learn skill acquisition.

An array of promising practices at the state level exists. Three states have exemplary early childhood development programs and numerous others are considering innovative methods to increase children’s readiness to learn and maximize achievement after entering kindergarten. Georgia and Oklahoma have implemented universal pre-kindergarten programs funded by the state. New Jersey’s “Abbot District” preschool program maintains the highest standards in the nation and provides free preschool to all children beginning at age 3 in 30 of the states’ largest and most disadvantaged districts. Head Start, public school pre-kindergarten programs and preschool childcare programs define the environment of early childhood programs in the United States. Innovations such as full-day kindergarten are also gaining in popularity as a method of eliciting successful achievement outcomes for young children just entering school.

LITERATURE REVIEW

Numerous studies over four decades have been conducted to test the hypothesis that high quality early childhood education increases the likelihood that children will become successful students and citizens versus the children without quality early education. Empirical research provides particularly compelling evidence that high-quality early educational development programs can produce dramatic results for low-income children. Research findings can help to inform perspectives on best practices by giving educators and policy-makers valuable information about the consequences of particular features of programs and curriculum design for children’s early development, capacity to learn and quality of life. The most noteworthy studies are discussed at the end of this section. Following is a general discussion of current research with special attention given to entering kindergarten ready to learn and to motivation to learn.

In 2001, Walter S. Gilliam and Edward F. Zigler of Yale University’s Child Study Center conducted a meta-analysis of all evaluations of state-funded early childhood programs from 1977 to 1998. With the data, Gilliam
and Zigler project future trends and generate policy recommendations for delivery of service and program evaluation. They conclude that the pattern of overall findings supports what many believe and have observed: early childhood programs are beneficial toward improving student outcomes in a variety of settings, improving school attendance and increasing academic performance.\textsuperscript{18}

Despite possible methodological limitations in the meta-analysis that may bias assessments both for and against positive impacts of the programs, the findings are consistent in particular areas. Specifically, the researchers found that “state-funded preschool programs may help children enter school with a greater level of developmental competence, helping children perform better in school during the critical early grades.”\textsuperscript{19} The academic literature that links high quality early education programs to increased academic achievement and fewer risk related problems later in life is strong.

Research also indicates that children living in circumstances that increase their risk of school failure, including poverty, and other factors that limit their access to opportunities are more likely to succeed in school if they attend well-designed, high-quality early childhood development programs.\textsuperscript{20} The curriculum of active learning, proactive adult-child interactions, child-centered learning environments, and regular daily routines has been a central principal for the programs proven to be most effective in the empirical research.\textsuperscript{21}

High-quality programs are characterized by practices that encourage the development of fundamental emotional and social skills necessary for success in the classroom and beyond. The positive reinforcement of skills, responsive communication and facilitation between adults and children is a key component of high-quality programs. In addition to socialization, high-quality programs have a variety of structured and informal activities that teach children to reflect, question, predict and hypothesize. Quality programs take advantage of the availability of teaching materials and toys designed to enhance language and literacy skills. They also provide adequate nutrition and incorporate active involvement of families and caretakers.\textsuperscript{22}

High-quality early childhood programs emphasize the maintenance of learning environments conducive to emotional and social skill development. A qualified and well-compensated staff as well as a low teacher-child ratio and small class size are important elements of building high-quality programs. Curriculum content is also an important aspect of the high-quality program. Lessons that emphasize school readiness, language development, cognitive, and social-emotional development in a nurturing environment supported by comprehensive services are well established essential characteristics of successful early childhood development programs.\textsuperscript{23}

The National Academy of Sciences supports the findings articulated above regarding the necessary features of quality preschool programs.\textsuperscript{24} The NAS also identifies three major trends directing public attention to children’s education and care in the early years. They are an unprecedented demand
for childcare due to more women with children remaining in the workforce; a
growing consensus among experts and parents that young children should be
provided with early educational experiences and the accumulation of
evidence from research that quality experiences in the early years can have a
positive impact on later achievement.25

The National Academy of Sciences report identifies cognitive, social-
emotional, and physical development as integral areas of growth that
influence later academic achievement. These areas of growth in turn are
essential components of the early teacher-child relationships that influence
social competence and school achievement. Small class size and low adult-
child ratios also positively influence program outcomes. More extensive
interaction with teachers and smaller group sizes have been linked to more
initiative from children and more opportunities for teachers to work one-on-
one with children to develop language, literacy, and problem solving skills.
The report concludes that curriculum for high-quality early childhood
programs may vary in pedagogical approach but should be specific and
integrated across domains to best prepare children for the demands of formal
schooling.

The trends identified by the National Academy of Science and mounting
evidence suggesting gains in achievement resulting from early childhood
development form the basis for the development, implementation and
evaluation of accessible early education programs.

ENTERING KINDERGARTEN READY TO LEARN

Researchers have long sought ways to better understand and assess how
child readiness to learn is influenced by the quality of classroom settings and
teaching practices. Research shows that the interactions children have with
adults and other children in their families, in childcare and in school
programs, provide the foundation for their success in school.26

A clear definition of readiness to learn is useful when discussing
environmental factors affecting children during the early years before they
begin formal schooling. Researchers Pianta and Walsh offer a good contextual
definition of readiness to learn:

“Children are ready for school when, for a period of several years, they
have been exposed to consistent, stable adults who are emotionally invested
in them: to a physical environment that is safe and predictable; to regular
routines and rhythms of activity; to competent peers; and to materials that
stimulate their exploration and enjoyment of the world and from which they
derive a sense of mastery. These factors alone would be better indices of
readiness for school than any measurable aspect of child performance.”27

La Paro and Pianta make the case that assessing readiness becomes
useful if it can help determine possible future problems and enable policy-
makers to intervene in order to prevent them.28 They conducted a meta-
analysis of 70 longitudinal studies that involved more than 3,000 children to
determine whether preschool readiness assessments accurately predict future functioning. The studies used in the meta-analysis provide information about how well assessments determined children's social/behavioral and academic/cognitive competence during the transition to school. They examined studies that assess a child on a set of skills in preschool and then assessed the same child again in kindergarten, 1st grade, or 2nd grade on the same or similar set of skills. They divided the tests into those that looked at performance in cognitive and language development and those that looked at social competence or problematic behavior.

Results of La Paro and Pianta's efforts show that preschool readiness assessments offer an effective strategy for altering environmental factors to positively impact child readiness. The authors conclude that the widespread and systematic use of classroom observation systems can provide valuable information as to how educational experiences of children can be linked to accountability frameworks. They conclude that a systematic, long-term focus for observed classroom practices is essential to improving student outcomes. La Paro and Pianto emphasize that this is especially true for early childhood programs because the skills acquired at this point in a child's formation are closely linked to their interactions with teachers and peers.

MOTIVATION TO LEARN

Many, if not most, people would agree that children are born with a curiosity and a willingness to learn. Accordingly, a child's early experiences can significantly impact future academic achievement. Research increasingly concludes that early childhood development programs should be an integral part of the strategy to strengthen children's motivation to learn in order to increase the likelihood of future academic success.

One of the most cost effective strategies for increasing readiness to learn is to invest in programs that impart social skills and aid in emotional development. James Heckman, Professor of Economics at the University of Chicago, points out that “the greatest benefits of these programs...are their effects on socialization and not those on IQ. Social skills and motivation have large payoffs in the labor market, so these programs have the potential for a large payoff.”

Over the past 20 years, research has shown that children's emotional and social skills are linked to their early academic standing. Students' academic achievement in the first few years of schooling is built on the prior development of a child’s social and emotional skills. A student’s ability to successfully transition to kindergarten and to engage in positive ways with teachers and classmates depends largely on emotional skills developed prior to entering school. Children who have early difficulty with the transition to kindergarten become increasingly frustrated and disruptive. Difficulties socializing can translate to a less productive classroom environment and greater costs to the community. Disruptions amount to lost educational productivity and a learning environment that is less safe and orderly.
Positive early emotional adjustment is strongly linked to children’s motivation to learn. Research indicates that positive, rewarding engagement with peers and teachers is premised on a child’s ability to regulate emotions in an acceptable manner and that those relationships create a foundation or template for a child’s chances of doing well academically. Children, who behave antisocially and/or have difficulty dealing with their emotions in positive ways, are likely to cause disruptions and are less likely to be accepted by classmates and teachers. Students, who find it difficult to positively engage teachers and classmates, have difficulty paying attention, following directions, getting along with others and controlling negative emotions of anger do poorly in school. Ultimately, the children exhibiting these behaviors are at risk of losing their motivation to learn.

Following are detailed descriptions of noteworthy research studies examining the outcomes of early childhood development and assessing the importance of access to high-quality programs as a factor in learning readiness and future achievement.

**High/Scope Perry Preschool Study**

The High/Scope Perry Preschool study was one of the first studies of the effects of preschool education on children living in poverty and the first to identify long-term effects on participants’ educational achievement, economic success, and avoidance of criminal activity. The results of this study are frequently referenced as a warrant for the implementation of state funded pre-kindergarten programs. The study makes the case that high-quality programs for young children living in poverty, over an extended period of time, improve educational achievement, fosters economic development, assists in avoidance of crime and provides a significant return on the initial investment.

The High/Scope Perry Preschool Study quantified the positive impact of high-quality childhood educational programs on children’s success. The research findings estimated that seven dollars was saved for each dollar invested in high-quality pre-school programs. The savings were calculated by estimating the costs that would be incurred by remedial and special education, dropouts, social disengagement, and unemployment.

The High/Scope Perry Preschool Study has been one of the most frequently cited longitudinal experiments designed to examine the impact of early childhood development programs on disadvantaged children. The study is often cited for its comprehensive longitudinal methodology that is claimed to surpass any other early childhood project. Because the participants were tracked until age 27, estimates of arrests and welfare assistance costs of the Perry children compared to the control group yielded impressive cost-benefit analysis. The seven-to-one return on investment figure is often cited to justify government investment in early childhood programs.

Critics of the High/Scope researchers’ interpretation argue that the causal link between the program and children’s readiness to learn is tentative at
best. The home visitation components of the Perry program has been posited as the major factor responsible for the study’s results. The possibility that people became better parents because of the aspects of the program that established closer relationships between parents and teachers may weaken the claim that high-quality programs directly increase children’s readiness to learn or academic achievement.

Even the most ardent advocates of government funded early education programs have questioned the Perry Project’s sampling and methodology procedures. Edward Zigler, Professor of Psychology at Yale University, points out that the Perry sample “was not only non-representative of children in general; there is some doubt that it was representative of even the bulk of disadvantaged children.” Professor Zigler’s criticism goes on to point to methodological problems of the study where “children had to have a parent at home during the day, resulting in a significant difference between control and intervention groups on the variable of maternal employment... [and] assignment to experimental and control groups was not wholly random.”

Despite potential methodological problems, the High/Scope Perry Preschool Study is a solid longitudinal project with results that show a strong correlation between early childhood development programs and decreased dropout rates, fewer delinquencies, and lower special education enrollment. These advantages appear to stem at least in part from exposure to high-quality early education. The study shows a link between early childhood development and a tangible benefit to children living in poverty that will endure the methodological criticisms. Those seeking programs targeted to children in poverty will continue to find the High/Scope Perry Preschool study a useful model with a clear and replicable curriculum and persuasive results.

The Carolina Abecedarian Project

The Carolina Abecedarian Project, begun in 1972, was an experiment that tracked children who participated in a high quality, early education intervention and a control group of children who did not receive the intervention. The goal of the project was to examine the extent to which enrichment of environmental factors might reduce the rate of academic failure for children living in poverty. In the study, researchers charted the children’s achievement both in the academic setting and in the workplace.

The National Institute of Early Education Research (NIEER) recently conducted a benefit cost analysis of the Abecedarian Early Childhood Intervention project in North Carolina because it is one of the longest running, most carefully conducted and respected studies on early education in America. The analysis showed that high-quality programs increased the expected earnings of participating children and their mothers over their lifetimes, saved the school districts more than $11,000 per child, and improved test scores in math and reading.
Since the Abecedarian project was conducted in the largely middle-class community of Chapel Hill, North Carolina, the findings in reporting of a four dollar benefit for every dollar spent may be even higher in high-crime and low-income neighborhoods.\textsuperscript{40}

Critics of the Abecedarian project express concern that the findings of the project were crafted to bias the data in favor of the program. Once critic argues that by combining the IQ findings of the four cohorts studied, the researchers concluded that the program raised IQ. Spitz points out that Abecedarian researchers may have neglected to report that scores improved for only two of the four groups. The third and fourth groups actually lost 3.68 IQ points more than did the control group failing to warrant the solvency of the intervention.\textsuperscript{41}

The lack of consensus on what aspects of the program caused the children’s gains and what those gains specifically entail may mitigate some of the accepted potential of the program to prevent and solve problems for children living in poverty. As is the case with the High/Scope Perry Preschool Study, a strong correlation between early childhood development and benefits to participants and society can be verified at least in part by the Carolina Abecedarian Project results.

**The Chicago Longitudinal Study**

The Chicago Longitudinal Study is a federally funded investigation of the impacts of early childhood development programs in central city Chicago called the Child-Parent Center Program. The Chicago study has a quasi-experimental design based on identification of existing groups of children and may have more challenges to internal validity than Abecedarian or High/Scope Perry.\textsuperscript{42} Nonetheless, the study combines with the Abecedarian and High/Scope Perry to provide solid evidence of the long-term impact of high-quality preschool programs on young children living in poverty. The study is in its 16\textsuperscript{th} year of operation and continues to investigate the short- and long-term effects of early childhood development and the influence that family and school practices have on children’s behavior.\textsuperscript{43}

Table 7-1 on the following page offers a comparison of the effects, costs and benefits of the Chicago Child-Parent Centers, the Abecedarian Early Childhood Intervention and the Perry Preschool programs.
Table 7-1: The Effects, Costs, and Benefits of Three Preschool Programs

<table>
<thead>
<tr>
<th>Table 7-1: The Effects, Costs, and Benefits of Three Preschool Programs</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Program</th>
<th>Cost</th>
<th>Benefit</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title 1 Chicago Child-Parent Centers</td>
<td>$7,000</td>
<td>$48,000</td>
</tr>
<tr>
<td>Abecedarian Early Childhood Intervention</td>
<td>$33,000</td>
<td>$123,000</td>
</tr>
<tr>
<td>Perry Preschool</td>
<td>$12,000</td>
<td>$108,000</td>
</tr>
</tbody>
</table>

Sources:
The Cost, Quality, and Child Outcomes Study

The Cost, Quality, and Child Outcomes Study represents a continuing project conducted by researchers at four universities, including researchers at the National Center for Early Development & Learning at UNC-Chapel Hill. The study indicates that high-quality pre-school programs have a significant impact on academic achievement. Children in quality programs when they were 3 and 4 years old performed better on math, language and social skills development through the early elementary years than children without access to the programs.

Researchers, who started following these children 4 years ago as part of the Cost, Quality & Outcomes Study, suggest that the policy implications are significant. Early childhood programs targeted to those children that would otherwise not have access to high-quality preschool were shown in this study to yield a substantial benefit in terms of academic achievement.

Georgia Head Start Study

A recent study of 4 year-olds who attended Head Start in Georgia suggests that outcomes of high-quality early childhood programs have positive implications in the areas of school readiness, health, social skills, cognitive skills, and language skills.

In a report entitled: “A Comparison of School Readiness Outcomes for Children Randomly Assigned to a Head Start Program and the Program’s Waiting List,” Abbott-Shim of Georgia State University analyzed the results of nearly 80 children that attended Head Start and 80 that did not and who lacked access to other programs. The study is receiving widespread attention because it is the first Head Start field study to use randomized assignment. Randomized assignment strengthens the methods and provides more robust findings for policymakers.

The impressive results of this most recent study bolster decades of similar research results with a more solid adherence to the gold standard randomized field experiment. “The study is garnering particular attention...,” the National Institute for Early Education research purports, “because it clears a major scientific hurdle that makes the findings more useful for policymakers.”

FULL-DAY KINDERGARTEN

Full-day or extended-day kindergarten also known as full-day kindergarten has steadily gained support in the U.S. as a scheduling option in public schools. The option has increased discussion among parents and policymakers, teachers, administrators and school boards who are looking to the empirical research to determine the potential implications of the
extended day. The literature indicates that the academic effects of full-day kindergarten have been ambiguous.

In a meta-analysis of the effect of full-day kindergarten on student achievement, University of Scranton researcher Joseph Fusaro looked at 23 studies to test the hypothesis that students who attended every-day full-day kindergarten manifested greater achievement than children who attended half-day kindergarten. Fusaro’s analysis points to the lack of true experimental, randomly assigned studies and suggests that for this reason the research falls short of validating the conclusion that full-day kindergartens cause students to achieve at a higher level. The evidence as determined by the meta-analysis did suggest, however, that children who were enrolled in an every-day full-day kindergarten achieved at a higher level than did children who attended half-day kindergarten. The effect size for full-day kindergarten was calculated at .77, which is considered a very significant effect. While conclusions that the full-day program causes higher achievement are not warranted from Fusaro’s analysis, the meta-analysis confirms the hypothesis that full-day kindergarten appears to facilitate the achievement of children.

In the Early Childhood Longitudinal study, Kindergarten Class of 1998-99 (ECLS-K) the U.S. Department of Education collected data to describe how children from diverse backgrounds perform on tests of reading and mathematics skills as they begin kindergarten. The data collected a nationally applicable sample of kindergarten students. Children participating in ECLS-K were assessed in reading/language arts and mathematics two times during the school year. Students were tested once in the fall and once in the spring. Findings suggest that children enrolled in full-day programs, on average, make larger gains in their reading and math achievement scores from fall to spring compared to those in half-day classes. Taking into account differences due to child, family and other classroom characteristics, the beneficial effect associated with full-day programs persists for reading, representing a difference in gain for reading scores of about 32 percent of a standard deviation. The full-day kindergarten classes were also shown to make gains in their mathematics scores from fall to spring that are larger than those in half-day classes. The results represent a variation in mathematics gains scores of about 22 percent standard variation. The non-experimental, pretest-posttest method of the research makes equivalence of the sample at the beginning of the year impossible to determine. This limitation in research design prevents legitimate causal conclusions.

PROMISING PRACTICES

OREGON CONTEXT

The Oregon Kindergarten Readiness Survey indicates that 76% of children entering Oregon kindergartens met all six developmental dimensions of readiness in 2002, compared to 67% in 2000. The survey was
distributed to every kindergarten teacher in Oregon and asked them to evaluate student developmental dimensions of readiness including physical well being, language usage, approach to learning, cognition/general knowledge, social-emotional development, and motor development.

The Oregon Head Start Collaboration Project outlined the essential characteristics of early childhood programs in their report *Essential Elements of Programs for Children: Quality Standards*. The report came about from the “Forging the Link” project and Oregon’s goal to ensure continuity and quality across programs for young children and their families.56 “The only way in which quality for children will become common practice...” the report clarifies, “...is for parents, caregivers, providers, educators, grandparents, aunts, uncles, businesses, communities, neighborhoods, agencies, and legislators to join together to ensure that all programs for children in Oregon will maintain essential elements that reflect early childhood best practices.”57 By identifying the elements that are necessary and achievable for programs, the report provides the necessary information to eliminate barriers for the establishment of quality childhood development programs.

Oregon is fortunate to have several model programs designed to prepare families and early child education providers for the challenges of early learning and the transition to kindergarten. Oregon! Ready to Learn is an initiative of the Oregon Community Foundation that provides opportunities for increased access to resources aimed at early childhood development with particular emphasis on programs serving children in isolated rural or inner city areas. The project focuses on gaps in language and early literacy to increase school readiness by encouraging projects that help families and educators to learn best practices in development and readiness techniques, to identify particular problems in the community and to increase access to ready-to-learn programs that demonstrate exemplary components of early literacy and language development.58 The Early Words program is one of these exemplary language and literacy training programs designed to highlight the importance of early development and to promote connections between adults and children through activities that foster language, and literacy development. The program provides parents and caregivers information on how best to incorporate reading and talking with babies and young children in daily activities.59

Despite extensive attention to best practices and standards, thousands of Oregon children living in poverty do not have access to high-quality early childhood programs. Although Head Start utilizes state funding to serve 3,698 of its grantees, many children in need do not have access to high-quality programs. The lack of access is due to limited funding. Despite state assistance, Head Start is not available for all children who qualify and would likely benefit the most from the program. Table 7-2 provides information about Oregon four-year-olds.
Table 7-2: Oregon Four-Year-Olds in Selected Educational Programs

<table>
<thead>
<tr>
<th>Number of Four-year-olds in Oregon</th>
<th>45,271</th>
</tr>
</thead>
<tbody>
<tr>
<td>Number of Four-year-olds enrolled in state-funded Pre-K programs</td>
<td>3,698</td>
</tr>
<tr>
<td>Number of Four-year-olds enrolled in Head Start</td>
<td>9,129</td>
</tr>
</tbody>
</table>


A 2004 report by “Fight Crime: Invest in Kids,” a national nonprofit organization based in Washington D.C., points to the Oregon Readiness Survey as an example of the benefits of early childhood programs. The nonprofit reports that students who participated in pre-kindergarten programs were significantly more prepared to enter school than those that did not. The report also indicates that although nearly 12,000 children were served by State and federal Head Start programs in 2002, more than 6,000 children from low-income families were prevented from attending pre-kindergarten programs by limited funding. Information compiled by the Oregon Department of Education in 2004 indicates that Head Start serves 59 percent of eligible 3-and-4-year-olds leaving 6,462 eligible children, un-served by the program.

Oregon Head Start Pre-kindergarten was created by the state Legislature in 1987. The program is guided by the federal Head Start Performance Standards. Oregon Head Start serves 3- and 4-year-old children in poverty. State money is provided to all Head Start grantees. The entirety of state money spent on pre-kindergarten programs is distributed through Head Start. Other organizations, both private and nonprofit, that do not receive federal funding may apply for state money, if they meet requirements.

The Quality Standards Checklist created by the National Institute for Early Education Research evaluated pre-kindergarten programs state by state using several criteria. Oregon did not meet the benchmarks in 4 of 10 areas: curriculum standards, teacher degree requirements (BA), assistant teacher degree requirement (Child Development Associate or equivalent), or teacher in-service requirement (at least 15 hours/year). See Table 7-3. Oregon does not have pre-kindergarten curriculum standards and requires no more than a BA of instructors teaching in public pre-kindergarten programs or a CDA in nonpublic pre-kindergartens. Oregon does not require assistant teachers to have the National Institute for Early Education Research recommendation for CDA or an equivalent certification. Oregon fell short of the benchmark for teacher in-service requirements with none reported.
Table 7-3: Oregon Requirements for Pre-kindergarten Programs Compared to NIEER Quality Benchmarks

<table>
<thead>
<tr>
<th>Requirement</th>
<th>Meet benchmark</th>
<th>Does Not Meet benchmark</th>
</tr>
</thead>
<tbody>
<tr>
<td>Comprehensive curriculum standards</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Teacher has BA</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Specialized training in ECE</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Assistant teacher has CDA or equiv.</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>At least 15 hrs/yr in service</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Maximum class size &lt; 20</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Staff-child ratio 1:10 or better</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Vision, hearing, health screening/referral</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>At least 1 family support service</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>At least 1 meal</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>


While room for improvement in the area of Oregon’s early childhood programs remains, there are many related elements that currently exist to support readiness to learn programming. A few of the foundational programs that would support and enhance early childhood programming include the following Oregon benchmarks in family stability and early childhood development, innovations of K-3 school improvement, state-funded Head Start and a system of supports for first-born infants and their parents through Head Start. Additionally, efforts of the Commission for Child Care, the American Public Health Association and the Head Start Collaboration Project are working to develop an early childhood system that functions effectively for all children and their families. These are promising signs of the commitment to ensure that all children in Oregon will enter kindergarten ready to learn.

**NATIONAL CONTEXT**

While many of the nation’s early education programs remain short of adequate funding, several states have recently exhibited promising practices. Forty-two states now invest in at least one type of early education initiative prior to kindergarten. Eighteen states have allocated additional funds to federal Head Start programs targeted to children living in poverty and even more states are considering or have already implemented state administered early education programs utilizing public school space and/or other sites in the community.

The most common approach among state policymakers when considering strategies to maximize the impact of limited resources is to target children...
who appear to be at risk of school failure. Recently, a few states have started to look for ways to establish large-scale universal programs. Oklahoma, Georgia, and New Jersey have established exemplary programs that demonstrate the efficacy of providing high-quality preschool options to all children. The successful implementation of large-scale early childhood programs by these states may be a useful model for other states considering similar initiatives. Ten other states have shown promise for generating early childhood development policies. While many states are poised to make promising gains, others remain unchanged and without adequate programs. A discussion of practices in particular states with exemplary or potentially promising policies will inform options for policy makers. 

In 1993, Georgia pioneered an early childhood program for 4-year-olds funded by lottery revenues and targeted to low-income children. In 1995, Georgia expanded the project to become the first state offering universal, voluntary preschool programs for all 4-year-olds. In 2001-2002, over one half of the 4-year-olds in the state were enrolled in a pre-kindergarten program. While the state does not require teachers to have college degrees or early childhood certification, the state has a reimbursement system that pays more per child to programs whose teachers have higher qualifications. This incentive appears to be effective as 80 percent of Georgia’s preschool teachers are certified. The case of Georgia may serve as an example for states with modest means and the initiative to provide high-quality preschool options to all children.

Oklahoma became the second state in the nation to offer all 4-year-olds the opportunity to attend a preschool program. Enrollment among its 4-year-olds is higher than many other states’ at 60 percent in 2002-2003. The program is offered on a voluntary basis to all districts but participation is not required. Districts throughout the state can partner services through Head Start and private programs without sacrificing established standards.

A 2003 case study of the Oklahoma pre-kindergarten policy identified several features of the program that offer promising opportunities for replication. These include reliance on highly qualified teachers, compensation that remains comparable to teachers in elementary grades, small teacher to child ratios, and inclusion of full-day programming. As the nation continues to look for new and effective early childhood programs, the study suggests that Oklahoma’s focus on universality contributed to the classroom diversity that fosters the gains demonstrated empirically in high-quality pre-kindergarten programs, particularly for children of color and those living in poverty. The pro-social behavior and motivation to learn fostered by high-quality programs has been most noticeable among populations most at risk of school failure. Funding for the program is generated through the state education funding mechanism. Oklahoma’s innovative approach to early education development is an exemplary and effective program that illustrates the potential benefit of the universal approach as the program coexists with and compliments targeted programs at the federal level.
New Jersey’s “Abbot District” preschool program established the most rigorous standards in the nation and guarantees access to free preschool to all children beginning at age 3 in the state’s largest and most disadvantaged districts. The “Abbot District” program provides classes of no more than 15 children with a certified teacher and an assistant. The teachers are compensated at the level of public elementary school salaries. New Jersey allocates more money per child enrolled in state programs and more money per 3-year-old statewide than any other state and is second in the nation in terms of spending per 4-year-old. The model practices of New Jersey offer states considering policies in early childhood programming a useful case study.

Numerous states have implemented practices in preschool policies that show promise. While about ten additional states exhibit practices that show they are poised to make critical advances, the resources, quality and access essential for effective implementation of the programs remains to be fully established. Alabama, Arkansas, California, Florida, Illinois, Maryland, New York, Ohio, Pennsylvania, and West Virginia have all established pre-kindergarten initiatives that have not been comprehensively implemented. The experiences of these 10 states and others seeking innovative policies to address the issue of early childhood development will serve as a useful template for even more states. Years after the Carolina Abecedarian Project, North Carolina remains a leader in data collection and advocacy in the area of early childhood development. Organizations such as the Covenant with North Carolina’s Children and the North Carolina Advocacy Institute are model programs for advocacy and education in the area of early education development programs.

The development of programs to ensure that children enter kindergarten ready to learn is promising. The Chicago Child-Parent Centers, for example, provide comprehensive educational and family support to children living in poverty and to their parents. The essential principle of the program is that by establishing a stable, school-based learning environment during early childhood and through the third grade, in which parental involvement is a major component, increased academic achievement is probable.

**POLICY OPTIONS**

This is an area where enough research exists to support recommendations to facilitate all students entering kindergarten ready to learn and to ensure they receive instruction in kindergarten that helps close the achievement gap and sets them on a course to meet the third-grade benchmarks.

- Provide highly targeted support for low-income students to allow them to attend a state-accredited preschool program that is organized around developing key readiness to learn skills. (Proven Practice) Research supports several different models that have shown significant gains in student achievement in elementary school. In addition, the National Research Council
outlines strategies for creating effective preschool programs that can help the state identify existing effective programs and encourage the development of more effective programs. State support that is carefully targeted to young children most likely to benefit from such programs could yield significant benefits and reduce educational costs for years to come.

• **Develop and implement a statewide, research-validated screening program for all incoming kindergarteners that systematically determines their readiness to learn, and create an individual development plan in which parents play a role equal to the school in bringing the student to a level necessary to succeed in school.** (Promising Practice) Many Oregon schools already utilize the Dynamic Indicators of Basic Early Literacy Skills (DIBELS) on a voluntary basis. It is an example of the kind of instrument that might be included in a comprehensive diagnostic program that would yield data to teachers and parents alike and upon which a focused development plan could be based. This type of diagnostic activity would be expanded and systematized, with data reported statewide to determine the degree to which preschool programs were achieving their goal of enabling more students to enter school ready to learn. The goal is not to push academics down ever further into the school, but rather to allow parents and teachers to work in partnership to develop key pre-literacy skills that can be incorporated into a range of activities within the home and the school. The individual development plan for each student would provide parents with some general goals for their child’s development and specific techniques and materials to help make that happen.

• **Establish and uniformly apply a set of content and assessment standards for preschool and kindergarten entry.** (Promising Practice) The National Academy of Sciences advocates that states develop program standards for early childhood programs and monitor their implementation. “These standards should recognize the variability in the development of young children and adapt kindergarten and primary programs, to this diversity.” This means “kindergartens must be readied for children.”

In practice, this means that standards addressing literacy and language development and basic numeracy need to be in place, both for preschools and kindergartens, and the programs that prepare teachers who will work with these students. Examples of such standards exist nationally and could be adapted to the Oregon context where they could also help evaluate the effectiveness of programs, the preparation of educators, and the readiness of students.

• **Require early education teachers to have a bachelor’s degree with a specialty in early childhood development.** (Innovative Practice) Advancements toward a high-quality teaching force will
require significant public and private support including innovative educational programs, scholarship and loan systems.\textsuperscript{76} The National Academy of Sciences lists this as the first requirement in \textit{Eager to Learn: Educating Our Preschoolers}. Making a bachelor’s degree a requirement would result in Oregon meeting an additional state benchmark on the NIEER Quality Standards Checklist. This would also represent a step toward solving the disparity in pay between early childhood workers and their elementary education counterparts.

- **Pilot a subsidy-based full-day kindergarten program to determine if it would be cost-effective, if implemented statewide.** (Promising Practice) Oregon is one of 16 states that do not finance full-day kindergarten. Currently, only 15 percent of Oregon elementary schools offer a form of full-day kindergarten programs.\textsuperscript{77} Advocacy of state-funded full-day kindergarten is premised on the idea that it also would help Oregon close the achievement gap that separates low-income and minority students from more advantaged students.\textsuperscript{78} Full-day kindergarten advocates claim that the extra time each day allows for more opportunities for teachers to interact with the students.

The state would conduct an experimental or quasi-experimental program in which students from comparable economic backgrounds would be assigned to whole day and half-day kindergarten programs. Their readiness for school would then be gauged. If the results warranted it, the state could then investigate expanding the program, under the rationale that funds invested at this point will decrease costs later by decreasing the number of students who will need additional similar support and remediation.


\textsuperscript{2} Ibid.


\textsuperscript{5} Ibid.


7 Ibid, 8.

8 Ibid, 9.


11 Ibid, 7.


15 Ibid.


19 Ibid, 21.

20 National Academy of Sciences (2003). Details in this section regarding quality programs are drawn from NAS report.


22 Ibid.

23 Ibid.

25 Ibid.


29 Ibid.

30 Ibid.


34 Ibid.


38 Ibid.

39 Ibid.


Ibid.

Ibid, p12.

Ibid, p12.


Ibid.

Ibid.


Ibid.

Ibid.


Ibid, 1.

For project details see the Oregon! Ready to Learn website at http://www.cwp.pdx.edu/Oregon!ReadyToLearn/

See the Oregon Commission on Children & Families website at http://www.ccf.state.or.us/


Oregon Department of Education (2004). *The estimated eligible 3-and-4-year-olds served and unserved by Head Start and Oregon prekindergarten as of January 2004*. Salem, OR: Author


INTRODUCTION

The Chalkboard Project’s early research focused on issues in Oregon related to student attendance and parental involvement, policy areas of special concern to school officials and Oregonians in general. In our earlier report, The Condition of Oregon K-12 Education, we reported that Oregon school officials are much more likely to express concern about absenteeism than officials in other states. Moreover, National Center for Education Statistics (NCES) data suggest that Oregon’s average daily attendance—expressed as a share of all students enrolled in Oregon schools—is low relative to other states. To this point, our diagnosis of Oregon’s attendance problem is based exclusively on state-level surveys and data. Forthcoming data from the Oregon Department of Education will permit in-depth analyses of school-level attendance reports across the state and over time.

Parental involvement in schools is a closely related issue. Research shows a high correlation between parental involvement in school activities and homework and attendance rates. In a statewide poll conducted for The Chalkboard Project, Oregonians viewed parental involvement as critical to the success of K-12 system and said efforts to make parents direct partners in their child’s education should prioritized. A recent survey of school officials suggests involvement by Oregon’s parents falls roughly in the middle of the pack nationally but lags well behind involvement reported by officials in the Northeast and Midwest.

In this chapter, we also explore student civility, which we define as including a range of issues related to student behavior within and outside of the classroom. Increased focus on school accountability has lead most states to require the gathering of data that can inform a discussion about student civility in our schools. These data include student disciplinary referrals as well as suspension and expulsion rates.

TRUANCY REDUCTION

States and localities typically classify a student’s truant behavior as either simple or habitual. Simple truancy implies a student is absent occasionally but has no established pattern of chronic absenteeism. Habitual truants are absent regularly and state legislatures often define the “regular” threshold. Researchers have linked habitual truant behavior with lower academic performance, drug and alcohol abuse, daytime juvenile crime,
higher rates of dropout followed by criminal or self-destructive behavior, and lower earnings potential and increased need for public assistance.¹

**LITERATURE REVIEW**

Researchers have determined that truancy is more likely among males, urban youth, children from low-income families, children with a single parent, children from large families, and children whose parents do not have high school degrees.²

The causes of truancy are manifold. Students’ attitudes about school are important in determining whether or not they want to attend. If they do not feel attached to the school or lack a social network and supportive teachers, they may feel they lack reasons to attend school regularly. Researchers have also found that truant students view their school experiences negatively, feel academically inferior, and are more likely to have family conflict.

According to researchers, fear of harm or victimization—at home or at school—can strongly influence a student’s attitude towards attendance. Conversely, high self-esteem; positive school attitudes; participation in sports, clubs, or volunteer work; and finally, positive attitudes towards police officers, are elements that protect or insulate students from truancy.

Research also suggests that schools that make high demands and provide high levels of student support report the best attendance rates; schools that demand little of students and provide little support have the worst attendance rates. In this same study, however, researchers identified important differences between racial/ethnic groups in terms of absenteeism. Black students were more likely to dropout altogether when the school had lenient disciplinary demands. Conversely, Asian students were more likely to dropout when academic standards were high and disciplinary problems frequent. Ultimately, these trends imply that different students require different approaches to truancy. Finally, if parents are involved in homework and school activities, students usually have higher attendance rates.

**PROMISING PRACTICES**

Most experts believe a successful truancy reduction relies on positive incentives, but many programs employ penalties as well. In July 1996, the U.S. Departments of Education and Justice published a “Manual to Combat Truancy;” the Education Commission of the States feels the Manual as still valid in the year 2004. The Manual offers the following five guidelines for fighting truancy:

1) involve parents in all truancy prevention activities

2) ensure that students face firm sanctions for truancy

3) create meaningful incentives for parental responsibility
4) establish ongoing truancy prevention programs in school

5) involve local law enforcement in truancy reduction efforts

Many recent efforts to combat truancy have taken the firm sanctions principle to mean that students should face a sanction only when other interventions—including provision of a social worker who can involve families and make referrals to social service agencies—have failed. This strategy involves parents by helping them create an environment where household expectations about attendance can become a priority. Given the connection between truants and daytime crime, partnership with law enforcement remains a valid principle.

**WISCONSIN**

Wisconsin employs additional truancy guidelines that include timeliness of action to ensure that truancy is addressed, early intervention before a pattern of truancy is established, and personal contact with parents. Wisconsin begins its truancy prevention efforts with a series of steps mandated by state statutes. First, schools attempt to meet the parents; the younger the truant, the more likely the parent is the cause of the truancy. Second, schools offer educational counseling to see if a change in the student’s curriculum could solve the problem or if any learning difficulties exist. The school also tries to determine if the student is having social problems and how they might be alleviated.

Aside from the usual involvement with the Human Services Department or Municipal Court—involvement that allows schools or states to reduce the number of unexcused absences and impose sanctions on students and or parents—Wisconsin has some unique elements in its programs that limit a student’s opportunity to leave the school grounds. The first involves using block scheduling; this alternative makes classes longer so missing class means missing more material and students move between classes less frequently. The other method is to close an open campus lunch hour so that students do not leave school grounds. This technique will obviously not work for schools that have small cafeterias that cannot serve all students.

Finally, Wisconsin runs Truancy Abatement Centers that allow police to deliver truant students to a common location and eliminate the need to determine which particular school the students should be attending. Center caseworkers conduct family-wide assessments, provide referrals for health and social services, and serve as mediators between parents and children to alleviate attendance barriers. The Center is then involved with families, police, and prosecutors. Center funding ranges between $60,000 and $600,000 annually, and the money comes from a variety of sources that include school districts, county funding, and federal grants. However, program results look less promising. The effect on truancy looks to be negligible, but the effect on daytime juvenile crime looks substantial: decreases range between a –0.9 percent change and a –77.8 percent change.
TENNESSEE

The State of Tennessee uses a wide variety of sanctions and more positive incentives to address truancy. First, the State revokes the driver's licenses of students who are truant, as do at least 15 other states; Tennessee reports that truancy-related revocations fell by 2,373 over 5 years. The State also directs the Department of Human Services to reduce welfare benefits (Temporary Assistance to Needy Families) by 20 percent for a truant minor who is either enrolled as a parent or a child; truant individuals can even be removed from the program. Otherwise, the State utilizes the Department of Children's Services and the Juvenile Court System to declare a habitually truant student unruly, to fine the parents or the student $50 or provide them with community service, to put the student on probation, or to remove the student from the home.

Similar to Wisconsin, Memphis, Tennessee uses a more collaborative approach with its Truancy Assessment Center. The city/school district runs the program for about $100,000 annually and has reduced the percentage of habitually truant repeat offenders from 24 percent to 3 percent in the years between 1999-00 and 2001-02.

In Henry County, Tennessee’s Truancy Prevention Program operates somewhat differently. Three individuals work in two school districts to work with students referred to them by the principals and guidance counselors. The program officers follow the students for the entire year, provide referrals when needed, and encourage students to take the GED before giving up altogether. Additionally, they conduct follow-up visits in the summer to make sure students will register and attend. Between 1994-1995 and 2000-01, the number of truant students fell from 800 to 397. The program operates on a $72,270 grant from the Department of Children’s Services, but continued funding is at risk of being lost altogether.

Additionally, Tennessee operates teen courts that hear cases from burglary to truancy. National evaluations indicate they may reduce recidivism. Memphis and Nashville have installed daytime curfews for minors; some worry this will result in students with legitimate absences being stopped by police. In fact, a home schooling family in Memphis filed a lawsuit for this very reason. Finally, Tennessee uses a Truancy or Attendance Review Board made up of school and district representatives, community members, and the juvenile court system.

Tennessee also recommends getting the Department of Education to provide support and training on truancy prevention. In addition, it encourages other states to make sure truant officers don’t have overwhelming caseloads and promotes increased follow-up. Tennessee also has found that standardized attendance software systems across the state can increase reliability and decrease costs. It also recommends basing funding for schools on average daily attendance instead of average daily membership. This provides schools with greater incentive to make efforts to reduce truancy.
Other important recommendations include provision of alternative education opportunities for truants such as GED programs, adult high schools, or alternative schools. Tennessee also recommends limiting the number of excused absences a parent can provide for a student. Finally, and perhaps most important, Tennessee claims local parental involvement program is key.  

**Georgia**

In 2002, almost a third of Georgia’s middle and high school students missed 10 or more days of school. To address this attendance problem, Georgia employs a number of strategies. One of these strategies involves a partnership between the Atlanta Bar, The Fulton County Juvenile Court, and a program called Kids in Need of Dreams (KIND, Inc.); this partnership is collectively referred to as the Truancy Intervention Project (TIP). In this project, lawyers donate their time and services, represent the student in Juvenile Court, and serve as a family advocate. This program was started in 1991 and serves truants from a population of 150,000 students in Atlanta Public Schools and Fulton County Schools.

Since 1991, the program has served more than 1,700 students between the ages of 13 and 15. More than 76 percent of TIP students have not had further referrals to the court since their involvement in the program. More than 50 percent of TIP’s clients have been female. The attorney’s involvement has been substantial – 682 lawyers have donated 53,932 hours. The donation of these partners has been estimated at $3,239,520 (assuming $60 an hour, the amount court appointed attorneys are paid.) The program has been viewed as so successful it has been exported to twelve other counties. KIND, Inc. provides materials and support for counties both inside and outside of Georgia.

**Ohio**

Ohio school districts use a mediation program for students who have accumulated five or more unexcused absences in a grading period or 10 or more in the school year the process begins. The parents are contacted for a mediation session with a trained mediator, school representative, and possibly the student. The mediator tries to facilitate mutually agreeable solutions to any problems related to the truancy. If truancy persists, the parents are referred to juvenile court and warned of the consequences of failing to keep their child in school. Ultimately, the child can be charged as a delinquent or unruly child (which would allow Children’s Services to intervene and possibly take the student in custody) or the parents will be charged with contributing to the delinquency of a minor and/or charged with a violation of the compulsory state education law.

The Ohio Commission on Dispute Resolution and Conflict Management and the Ohio Supreme Court run the program, which has shown good results in most counties (see Table 8-1). It reports, for six counties, the average
number of absences for the students sampled before mediation, after mediation, and in the following academic year.

Table 8-1: Average Number of Annual Absences by Sampled Students Before and After Mediation, Six Participating Ohio Counties, 2000-01 School Year

<table>
<thead>
<tr>
<th>Counties</th>
<th>Before mediation</th>
<th>After mediation</th>
<th>Following Year (2001-02)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clark</td>
<td>10.7</td>
<td>6.6</td>
<td>3.5</td>
</tr>
<tr>
<td>Delaware</td>
<td>13.2</td>
<td>3.4</td>
<td>2.9</td>
</tr>
<tr>
<td>Franklin</td>
<td>11.4</td>
<td>12.5</td>
<td>10.1</td>
</tr>
<tr>
<td>Lucas</td>
<td>9.3</td>
<td>2.8</td>
<td>3.8</td>
</tr>
<tr>
<td>Ross</td>
<td>15.4</td>
<td>1.3</td>
<td>2.1</td>
</tr>
<tr>
<td>Stark</td>
<td>12.8</td>
<td>2.0</td>
<td>4.3</td>
</tr>
</tbody>
</table>

Source: Ohio Commission on Dispute Resolution and Conflict Management

NEBRASKA

Programs in Nebraska, concentrated in four counties with Indian reservations, provide students with cash incentives to attend school. The Walthill School District gives middle and high school students gift certificates between $15 and $30 for weeklong attendance with no absences and no disciplinary problems. Elementary schools provide a free bicycle to children if they have perfect attendance over an entire semester.6

OREGON CONTEXT

Evidence of organized truancy reduction programs in Oregon is difficult to locate. Many districts employ truant officers, who have responsibilities to locate truant students and encourage them to participate in school. Some system incentives already exist to boost attendance. The federal No Child Left Behind Act and Oregon’s school-level assessment system both consider attendance in their respective accountability schemes. However, Oregon’s statewide funding formula is misaligned with these attendance incentives. The formula’s foundation uses a measure of “average daily resident membership (ADMr), or put simply, a daily estimate of children enrolled in the districts’ public schools. By employing such a structure, the state pays for students whether they are in school or not. While some evidence of intentional abuse has emerged recently from an ESD and the existing formula continues to provide a perverse incentive to encourage absenteeism, no one contends school districts are motivated to take advantage of this provision. However, by allowing absences, schools can operate with lower class sizes without directly jeopardizing their funding level.

According to Jim Scherzinger, former Superintendent of the Portland Public Schools, the method of tracking attendance varies from district to district. Some employ so-called negative reporting through which a student is presumed present and recorded absent only if they are missing at certain
points during the day. Other districts use positive reporting: a student is presumed absent unless affirmatively identified by school staff.

**STUDENT CIVILITY**

School effectiveness is dependent on much more than the program of curriculum and instruction. Although it is true that measures of school effectiveness consider graduation rates, the types of courses students take, performance on large-scale tests, and the relative quality of students’ post-graduate options, they do not stop there. Most measures of school quality also attempt to factor in how well the school promotes a safe environment focused on learning. Data on student disciplinary referrals as well as suspension and expulsion rates, for example, are gathered by most states as part of their accountability programs. This section presents a summary of the research on policies designed to address various aspects of student behavior.

**STUDENT DRESS CODES**

Public school dress codes—which stipulate the types of clothing students may not wear—and uniforms—which describe the type of clothing students must wear—are not a new phenomena. In the 1950s and 1960s many schools prohibited the wearing of certain types of clothing and regulated skirt lengths, while the 1980s saw a renewed interest in uniforms as a means of combating the influence of street gangs in schools. Proponents of school uniforms gained an important ally in President Clinton, who endorsed the idea of public-school uniforms in his 1996 State of the Union Address. Soon after the address, the U.S. Department of Education mailed *A Manual of School Uniforms* to all United States school districts, further reinforcing government support for such policies.

Not surprisingly, more and more school districts across the country began developing dress codes and uniform policies. Today it is estimated that over half of American schools have a formal dress code or uniform policy in place. Advocates of such policies suggest that uniforms or strict dress codes can deliver a variety of benefits: reducing inappropriate student behavior, increasing student achievement, lessening the stress on families trying to stay up with the latest fashion trends, and making it easier for school officials to spot outsiders who come to campus without official invitation. Opponents, on the other hand, argue that policies that focus on regulating student dress are simplistic attempts to resolve much deeper problems and that such policies are unconstitutional because they deprive students of their freedom of expression.

Given such a large proportion of schools implementing policies regulating student dress, the lack of empirical support for the efficacy of such policies is surprising. This section presents an overview of the research to date on school dress codes and uniforms and then highlights a few especially pertinent studies.
LITERATURE REVIEW

Quite a bit has been written over the years about policies involving student dress, but most of the writing can be classified as editorial or opinion pieces rather than research reports. There does exist a small inconclusive body of research on the effect of school uniforms on student behavior, which will be summarized below. Caution is warranted in interpreting the findings, however, as this research is correlational and descriptive in nature; therefore, conclusions of causality should not be made.

A study to examine the effectiveness of dress codes to reduce antisocial behavior reported that gang-related clothing could invite violence in schools where a gang problem exists, even if the clothing is worn unintentionally. In addition, the author reported that wearing high-priced clothing such as designer sneakers and team jackets can lead to violence and theft. Another study referenced in the same article reported that a school, which had implemented a school uniform policy, saw a reduction in student focus on fashion and a concurrent improvement in school safety. The nature of the study, however, precludes the conclusion that the uniform policy had caused the improvement in school safety.

Using data from the National Educational Longitudinal Study of 1988, researchers ran a series of complex statistical analyses on tenth grade data and concluded that no direct effect between uniforms and substance use, behavioral problems or attendance could be detected. Although these findings were contested in a subsequent article that pointed out methodological flaws in the analyses, they are sufficiently convincing to be accepted.

Alongside studies that suggest uniforms and dress codes have negligible effects on student performance or behavior; there are also studies that suggest the opposite. One such study investigated the effects of mandatory uniform policies on two Florida school districts. Although no significant decrease in middle school student discipline infractions occurred, the author reported a significant improvement in elementary school student academic achievement across the two districts.

Two separate studies funded at least in part by manufacturers of school uniforms, used surveys to explore principal, parent, and teacher perception of the effect of school uniform policies. Findings from the study conducted jointly by Lands’ End and the National Association of Elementary School Principals, indicated that school uniform policies had positive influences on schools. Of the 755 principals surveyed, 84% indicated that school uniform policies enhanced the school’s image in the community, 79% indicated that the policies improved classroom discipline, 76% felt such policies reduced peer pressure, 72% believed uniforms enhanced school spirit, 67% attributed improved concentration on school work to the use of uniforms, and 62% believed that school uniform policies improved school safety.

French Toast, another uniform manufacturer, reported similar findings with their survey conducted in York City one year after school uniform
policies were implemented. Of surveyed parents, 68% indicated that they believed uniforms improve academic performance and 84% reported that uniforms promoted helped reduce gender inequalities at school. Of the guidance counselors who participated in the survey, 89% thought that uniforms helped prepare students for the world of work and 59% said that uniforms created a safer environment for learning at school.18

PROMISING PRACTICES

Because of the inconclusive state of the research on school dress codes and uniforms, it is difficult to identify promising practices with firm empirical support. At this point, perhaps, the soundest conclusion to reach is that in settings with a large gang population, where certain kinds of clothing may pose safety risks to students who may unwittingly wear the wrong thing to school, uniforms may make sense. Likewise, in settings where student compulsion to stay abreast of the latest fashion trends may impose financial hardships on parents and may increase sources of tension between students from different socio-economic levels, then dress code or uniform policies may be of benefit.

In such cases, or whenever a community decides that a school dress code or uniform policy is in order, schools would be wise to follow the advice of Benjamin Dowling-Sendor, an assistant appellate defender in North Carolina and an authority on school law. Dowling-Sendor recommends that prior to adoption of a uniform policy, schools should: (a) get input from students and parents, (b) research how uniform policies have affected other school districts, (c) be clear about what they hope to achieve through adopting a policy on school uniforms, and (d) issue written public statements by the school board on the process to help reduce the likelihood that parents in the community will take the issue to court—and to increase the likelihood that the court will uphold the policy should parents decide to take legal action.19

OREGON CONTEXT

In Oregon, local school boards have the authority to establish policies regulating school dress codes and uniforms without state legislation.20 Significant variation exists within the state among school districts in terms of their policies in this area. Uniforms are in place in a number of Oregon elementary schools, which have retained uniforms as an optional or preferred (but not mandatory) form of dress with significant community support.

DISCIPLINE POLICIES

REVIEW OF THE LITERATURE

Administrative rules employed to minimize and deter school safety and discipline problems are commonly referred to as zero-tolerance policies. Enacted in the early 1990s, these policies represent a hard-line approach to the perception by many of an across-the-board growth in school violence.
Increased public awareness of and media focus on school violence created pressure for a legislative response. The 1994 Gun-Free Schools Act made the receipt of federal education dollars contingent upon states legislating zero-tolerance laws. To “send a message” to would-be violators, many school administrations have implemented far-reaching zero-tolerance policies beyond gun possession to treat minor and major disciplinary infractions in the same fashion. Accordingly, these policies increase the number of students expelled from school by removing the discretion previously held by school principals and administrators.

Almost a decade since school-level zero-tolerance policies were first introduced, few studies have evaluated their effectiveness. However, many researchers have found zero-tolerance interventions including uniforms, codes of conduct, open or closed campuses, discipline training and student contracts to have little or no positive effect on school climate or academic outcomes. Outcomes that are associated with zero-tolerance include:

- Rising numbers of suspensions / expulsions creating lifetime opportunity costs for students and negative consequences for families
- Little to no effect on deterring violence and crime in schools
- Serious social and psychological effects resulting from student responses to harsh penalties with few positive opportunities for change
- Disparities in zero-tolerance application resulting in lower-income youth and/or minorities being punished more often.

Critics of zero-tolerance interventions argue that such interventions tend to be overly reactive while discounting the role of school staff in promoting safe, positive school environments.

In a 1996-1997 survey by the National Center for Education Statistics (NCES), 1,234 principals and school disciplinarians at the elementary, middle and high school levels were asked to identify serious or moderate discipline issues. Only two percent of responders listed student possession of weapons. The most frequently cited problems at all levels included student tardiness (40%), student absenteeism (25%) and physical conflicts among students (21%). The annual rate of violent crimes in school occurred at virtually the same rate in 1996-97 as they occurred in 1990-1991 (53 per 100,000 students).

Despite a lack of evidence supporting the need for and the effectiveness of zero-tolerance policies, they remain widely popular. Irwin Hyman concludes “as was the case 20 years ago, despite public perceptions to the contrary the current data do not support the claim that there has been a dramatic overall increase in school-based violence in recent years.”
PROMISING PRACTICES

Current research on school environments as they relate to student discipline focus on shifting from the “get tough” approach encapsulated in zero-tolerance policies to a preventive and social-instructional model known as Positive Behavior Supports (PBS). Originally a model employed for students with developmental disabilities, PBS application has expanded to serve general education populations.

Relying heavily on applied behavior analysis (ABA) from psychology, PBS treats the systems, the settings and the skill levels found within a particular school as the primary components of problematic student behavior. Individual behavior is then considered within the context of this environment. The intention is to “apply behavioral principles in the community in order to reduce problem behaviors and build appropriate behaviors that result in durable change and a rich lifestyle.” Research studies demonstrate that schools that fully implement PBS strategies experience behavioral improvements associated with students successfully learning about their own conduct, working collaboratively, and supporting one another in a community of learners.

The collection of school-wide, archival data and the creation of collaborative teams that include teachers and administrators are essential pieces to implementing a PBS-supported model. Also key to implementation are external sources of guidance, usually from federally funded university-based technical assistance centers. Significant questions exist as to whether schools can reliably incorporate PBS models without this kind of external assistance. These centers assist in the development of appropriate PBS models and implementation procedures. Once PBS is established, school-level teams work to identify problems and to implement strategies to resolve them. The reliance on data also allows the team to assess PBS effectiveness within the school.

The effectiveness of the PBS model comes as no surprise when considered in relation to the research behind its various components. Researchers wrote in the 1980s about certain school characteristics associated with discipline problems. These characteristics included: (a) unclear or inconsistently enforced rules, (b) rules that students did not believe were important, (c) teacher and administrator confusion about how to interpret and enforce the rules, (d) a lack of cooperation between teachers and administrators, (e) inactive administrators, (f) teachers with punitive attitudes, (g) ignoring student misbehavior, and (h) large schools or (i) schools without adequate teaching resources.

These findings were supported in a review of the literature by Daniel Duke, who reported that schools with effective behavior management typically share in the following characteristics: (a) clear rules that are communicated with all members of the school community, (b) a climate where students are treated as individuals, and (c) highly visible principals who take an active role in monitoring possible areas of problems and interacting with staff and students.
Because small schools make it easier to implement such strategies, several researchers suggest that finding ways to reduce the size of schools might help improve student civility and reduce behavior problems.

OREGON CONTEXT

In 2000, Oregon’s Attorney General convened a panel to examine school and community safety issues with three goals in mind: (a) to analyze school and community safety in Oregon, (b) to compile a guide of materials related to prevention, education, policy, and programs, and (c) to provide a forum for interested parties to discuss issues related to the topic, suggest legislation, and develop recommendations for policy. The panel reported that the most pressing school safety need identified by Oregon principals was establishing and improving building security (26%), dealing with inappropriate student behavior (23%), obtaining additional services and resources (13%), handling hazards of a non-violent nature (12%), and systems of behavior management (12%).

When asked to identify the topics around the issue of school safety most important for staff development, principals identified behavior management systems, primary in-school prevention programs, dealing with inappropriate behavior, training on emergency procedures, and academics. The majority of principals identified a lack of resources as the most significant barrier they faced (56%). In addition, the panel found that principals were significantly concerned with instances of bullying, mean-spirited teasing, and harassment at their schools. This finding is consistent with other studies conducted throughout the United States. Nationally, almost 40% of secondary school students report that bullying, mean-spirited teasing, and harassment have a negative effect on academic achievement, school attendance, and relationships with peers.

The panel cited a report by the Oregon Department of Human Services, Health Division that examined experiences and behaviors of Oregon youth. The report found that approximately 19% of adolescents in Oregon admitted to bringing a weapon to school in the 30-day period prior to the day the survey was administered. Weapons listed included knives, guns, and clubs. Students most likely to bring weapons to school were freshmen, minority students, students from low socioeconomic backgrounds, those who were victims of physical abuse, heavy smokers, alcohol or drug users, and those who reported having multiple sexual partners or having attempting suicide.

The panel made eight recommendations to improve school safety in Oregon.

1. Schools should implement comprehensive bullying and harassment reduction programs, including school wide social skills training in conflict resolution; anger management; drug, alcohol, and smoking resistance; empathy, and dating violence.
2. The state should create a center for school safety to coordinate programs, information, and training across Oregon.

3. Schools should implement school wide discipline and safety programs.

4. The state should support programs to prevent antisocial behavior in young children.

5. The state should review policies and procedures related to school security practices.

6. Schools should evaluate the architecture of school buildings as it relates to campus safety.

7. The state should institute standards for school resource officers to ensure consistent enforcement of laws.

8. The state should work to increase the collaboration between community and families.

Recommendations included in the report were quickly passed into law and signed by Governor Kitzhaber on June 26, 2001. The legislation’s key elements established rules for the prevention of bullying and harassment in schools and established a hotline through which students can report threatened or potential violence. The legislature also resulted in the creation of the Center for School Safety at the University of Oregon.

PARENTAL INVOLVEMENT

LITERATURE REVIEW

Parental involvement in a child’s education enhances the child’s success in school. Children perform better and are interested in pursuing higher levels of education when their parents are involved in their schooling. Research also suggests that strong parental involvement correlates with higher student attendance and improved classroom behavior.

Parental involvement drops significantly between the fourth and eighth grades. Some parents believe their children should do homework on their own. Many parents also feel unprepared to assist given they are not well versed in the fields their children study. In addition, parental involvement varies across racial and ethnic groups. The National Coalition for Parental Involvement in Education (2002) reports that parents of all cultural groups are involved at home, but white parents are typically more involved at the school itself. Statistics support this assertion. The 2000 National Assessment of Education Progress (NAEP) records the percent of students in fourth grade who are in a school where parental involvement is either not a problem or only a minor problem. This figure differs by race, ethnicity, and poverty status. The figure for Whites is 73 percent, for Blacks 38 percent, for Hispanic students 48 percent, and for poor students (those who receive a free
or reduced priced lunch) 42 percent. Given the important role of parental involvement in student achievement, researchers suggest practices to stimulate involvement among minority and poor populations, if the nation is going to be successful in eliminating the achievement gaps measured across students of differing races and socio-economic statuses.

**PROMISING PRACTICES**

Individual schools employ a wide array of techniques with the goal of improving parental involvement; most provide incentives. Experts in the area note that schools must recognize cultural and class differences in their attempts to increase involvement. Individual school districts can create bilingual hotlines, provide transportation to school for parents, offer translation services on site, and offer free childcare.

Other schools have tried to provide parents with services or benefits when they attend school functions. For example, some schools host family literacy nights to promote reading at home, provide parenting classes, or offer parents more power in school resource decisions. Other schools take an extra step to make things easier: these schools offer multiple times for conferences, events, and home visits (Sarasota Herald-Tribune, 2004). Sometimes schools will offer the same event in different locations to accommodate parents' needs. Finally, a number of states require medium and large businesses to provide paid leave to employees who attend parent-teacher conferences.

According to U.S. Department of Education officials, schools have turned to a variety of community partners—including pastors and police officers—to boost parental involvement. The Milwaukee, Wisconsin School District’s Neighborhood Schools Initiative program is an example of such partnerships. The schools lease space to and with community organizations, such as the Police Athletic League and local churches, which provide after-school and weekend programs for youth. The Initiative facilitated cooperation between a school and church in the development of a two-campus project and shared use of an existing warehouse facility that will accommodate students from the district elementary school in grades K-3 and a parochial school in grades 4-8. Attendance boundaries were realigned to create a new school to be built adjacent to a Boys and Girls Club center so that students can participate more conveniently in the center’s activities during and after school.

The National Parent-Teacher Association (PTA) stresses the importance of home visits for low-income families. Association research shows that family involvement is critical to increasing overall levels of parental involvement. The National PTA calls for more teacher training around parental involvement and offer a *Certificate of Excellence* program. Through the certification process, individual schools attempt to achieve the PTA’s six standards of parental involvement: parent-school communication, parenting, student learning, parent volunteering, school decision-making and advocacy, and collaborating with community. A number of Oregon schools are in the middle of program’s certification process; the program takes six months to complete.
While most schools focus on incentives, some have, or would like to have, penalties. In South Carolina, State Representative Doug Smith proposed $500 fines or jail time for parents who regularly ignore parent-teacher conferences. The bill would also allow for punishments such as a parental responsibility program or time spent shadowing the student. Superintendents’ reaction to legislation is mixed.45

POLICY OPTIONS

Although Oregon’s schools are already committed to student success and attendance, it seems incongruous that the funding mechanism is not well aligned with this goal. The policy recommendation addresses this incongruity.

• Select a common method for recording student attendance. (Promising Practice) The State should review district methods and adopt a uniform attendance calculation method. Only when common data are available will school officials be able to accurately diagnose the condition of attendance in their schools. Moreover, because standards-based reforms—like the school-level report cards—increasingly compare the relative quality of schools and use attendance as an indicator, common accounting is required on equity grounds.

• Fund school districts based on student attendance rather than enrollment. (Innovative Practice) Once the State has established a common method of determining attendance, it should transition to a funding formula based on student attendance. The transition would add a strong fiscal incentive to get children into the classroom but would also create winners and losers. Therefore, the State should implement the policy gradually over a number of years. Districts with below average attendance, which are likely serving the most challenging populations, would lose resources. Before fully implementing the change, the State should work with highly impacted districts and experiment with truancy reduction policies outlined in the main body of this report. Specific grants to help districts to increase attendance in anticipation of the new funding policies should be available to help districts adapt to new rules.

• Direct ODE to require each school district to adopt a civility plan. Once students are present at school, it is important that they conduct themselves in a fashion consistent with learning and with being a member of a civic community. The current influence of youth culture pushes students toward behaviors that can have a subtly disruptive effect on schools by undermining authority and diverting attention from academic achievement. In place of respect for authority and commitment to academic achievement, young people often mimic elements of popular culture that devalue educational achievement.
Each local board of education would be required to conduct public hearings to determine the standards for civility that should be applied to schools in the district. Such standards would apply to use of language, dress, and interactions between teachers and students and among students. Such codes could have voluntary and mandatory components. The codes would have to be posted prominently in all schools in the district, and students would have to be instructed on the content of the code and examples of its application to real situations. All students would sign a form indicating that the code had been explained to them and that they understood it. Parents would then countersign the same form to indicate they also understood the code. When the code was violated, the emphasis would be on educating, not punishing, the student in order to encourage the valuing of civil behavior.

The research on parental involvement consists of hundreds of candidate school-level approaches with goals of boosting parental volunteerism, involvement in homework, and attendance at parent-teacher conferences. Our review of the literature and discussions with policy experts identified a number of promising practices that could be appropriate for specific schools but none worthy of wide-scale implementation. For a policy option in this area, we turned to Dr. Robert Bain, a national expert in public-sector accountability systems at Harvard University’s John F. Kennedy School of Government. Bain recommends that Oregon require individual schools to develop a self-defined list of criteria that constitutes satisfactory parental involvement.

- **Develop and disseminate school-level standards of satisfactory parental involvement and hold parents accountable.**
  (Innovative Practice) Each school would set criteria based on the characteristics of their community, and one would expect criteria would vary considerably from school to school. Teachers and administrators could draw on the National PTA guidelines as a resource. Once schools developed their respective lists, the State would then compile, summarize, and disseminate the standards so that schools could compare their own requirements to comparable schools around the State. The system would stimulate friendly competition between schools to require and secure the highest level of involvement.

Having established their criteria, schools would then track and report parental involvement relative to the standards. Schools could experiment with a variety of public and private reporting methods. Bain envisions some schools going as far as publishing reports of satisfactory and unsatisfactory involvement at school entrances or in community newspapers. Alternatively, results could be shared privately with the parent. Regardless of the method of reporting, schools should make individual parents aware if their level of involvement is unsatisfactory.
An additional potential measure would be to ask parents to sign voluntary “contracts” that specify the support they would provide their children. Parents would self-report their behavior in relation to the terms of the contract and submit a completed contract at the end of each school year verifying that they had fulfilled the terms they had established relative to their children’s education. Parents who fulfilled their contractual obligations could be publicly recognized or otherwise rewarded.

• **Hold schools accountable and report publicly parental involvement based on school-level standards.** Once schools have a chance to develop and implement parental involvement standards, ODE should begin collecting data on these standards and on school success in achieving satisfactory parental involvement. This information should be included in the school report card each school is required to distribute to parents and community members annually. Over time, ODE should identify reasonable expectations for parental involvement that can be used to judge how effectively each school involves parents.

• **Document best practices and incentives that improve parental involvement.** (Innovative practice) If the State and local school districts adopt the accountability standards outlined above, innovative practices will naturally follow. In other states, school districts hold family literacy nights where they train parents to reinforce reading strategies the children learn in school. Some schools order pizza, give out door prizes, provide child care, and offer extra credit to students whose parents come. Others develop websites that offer updates on student homework assignments and operate automated systems leave school news on parent’s phones. ODE should assemble and disseminate information on practices that work. Some incentives could be created at the State-level as well. For example, in order to count a school-age child as a dependent for tax purposes, the state could require that taxpayers attest to attending parent-teacher conferences on the state income tax form. A similar system could be implemented for state-funded benefits. Should policymakers pursue this route, they should do so equitably and recognize that parents of different socioeconomic statuses would face different challenges in meeting involvement expectations.

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2 Ibid.


8 Ibid.


13 Ibid.


25 Ibid.


37 Ibid, p. 38.


42 Ibid.


44 Education Week. (May 12, 2004).

Part III

Strengthening Accountability: Evidence on Regulatory and Market Based Strategies to Improve Student Achievement
INTRODUCTION

This chapter considers the broad issue of how to establish accountability for publicly funded education. This is a topic of intense interest currently, and multiple policy models and strategies abound. As noted in this report, two different philosophical approaches to establishing accountability are vying for the attention of policymakers. One is based on government regulation of education. This is the more familiar and traditional arrangement under which the state (or local entity acting under authority granted to it by the state) provides funds and sets the rules that each institution that receives funds must follow. The other assumes the market place will enforce its own discipline on the educational system if true market forces can be set in motion.

The chapter examines in some detail the regulatory model, beginning with a discussion of the rationale for this model. Since it is the most widely employed, it is the most complex in its variants and variations. For simplicity’s sake, regulation is considered along a continuum based on the intrusiveness and control exercised by state government over local schools. This continuum begins with data-driven accountability systems that assume that provision of the proper information will result in improved education. Incentive-driven accountability is something of a special case, since it is not particularly widely employed, but does represent a way the state can intervene in a low-impact fashion to shape school behaviors and goals. Next along the continuum is standards-driven accountability, whereby the state sets performance expectations for schools in relation to state academic standards and other criteria. Finally, consequence-driven accountability, which utilizes state tests primarily and attaches consequences to those tests for students and adults, is explored. The chapter then recaps the current state of accountability policy in Oregon and concludes with policy options.

RATIONALE FOR A REGULATED EDUCATION SYSTEM

Public education is a responsibility that in the United States has been undertaken by government since the 1600s. The scope of public education has gradually increased over the past 300 years, from several months’ attendance for several years to nine months of schooling for 12 years for most students. Public education has become one of the most important functions of government in this country, both in terms of dollars expended and number of individuals affected.

The American public education system has been distinguished since its inception by the degree of local control it exhibits. While states have had the legal responsibility for education since the establishment of the Constitution,
local districts in most parts of the country have exercised extraordinary discretion over the content and operation of educational programs. Accountability was fundamentally a local phenomenon, exercised through school board elections and school budget approvals. Local boards hired and fired superintendents (and, often principals and even teachers) based on community values and priorities, among other factors. Performance measures, such as test scores, often differed from district to district, or even school to school. Some districts chose to establish performance measures and to take them seriously; others were less inclined to do so. State legislators, pressured by their local educators to limit state involvement, rarely saw any political advantage in proposing increased state regulation of schooling.

However, this dynamic began to change about 30 years ago as states increasingly took control over education policy. The espoused goals of this more activist state role are improved student learning and, to a lesser degree, improved efficiency in educational system functioning. States have slowly learned that bringing about improvements in student learning via state policies is among the most difficult of all policy challenges. Student learning is at the structural and cultural heart of schools. Making changes in this domain disrupts practices, assumptions, beliefs and structures that have been in place for many years in schools. Schools as organizations are likely to yield to changes in nearly any other aspect of their management and functioning before they allow or respond to changes in the teaching-learning process. This is the challenge states have faced as they have sought to bring about improvements in student learning via the use of the array of regulatory practices and mechanisms under their control.

The state’s rationale for exercising such control and intervention is quite simple and straightforward: since the state pays for schooling, whether it be through state general funding or locally-levied taxes collected under the authority of the state, the state has a fundamental right to intervene in its educational system in ways designed to specify the conditions of organizational functioning, improve quality, or favor particular outcomes.

Regulation in the area of public education has been justified largely on the grounds that the interests of children must be protected by the state, and that public education primarily serves a common good, not an individual or private one. Because the funding for public schools is provided by all taxpayers and not just by those whose children are enrolled in school, oversight of education is assumed to be a public right.

The rationale for regulation is relatively simple: decisions and behaviors made regarding public education must derive from criteria and standards designed to serve the public good, as defined by the state legislature. Public good can encompass an exceedingly broad array of issues, ranging from fiscal procedures to student attire. Regulation is designed to ensure that the aims of government are met via the public schooling process. The scope of regulated domains is limited only by the restraint of legislators.
The remainder of this section examines some of the mechanisms government has available to it to motivate schools to improve. The section also considers the effects such mechanisms have on student learning and on schooling as a public enterprise.

ACCOUNTABILITY THROUGH STATE REGULATORY MECHANISMS

States have long regulated the conditions under which education occurs, including the standards necessary to maintain student health and safety. Within the past 60 years states have developed elaborate systems to regulate the adults who are allowed to work with students, primarily through teacher and administrator licensure or certification requirements. More recently, most states have moved to establish common criteria for evaluating all teachers within a state. Student attendance is regulated and monitored, and the results utilized to determine school funding. The minimum criteria for a high school diploma are established by most states, and may include the specific courses students must take to be eligible for a diploma. Many states have prescribed the books among which schools must select when teaching specific subject areas. More recently, some states have gone so far as to prescribe the instructional method by which some subjects must be taught in elementary schools, reading primary among them.

In general, regulatory mechanisms exist along a continuum from less intrusive to more intrusive. Data reporting systems that simply report information to educators or parents function in a largely unobtrusive fashion to generate a level of accountability, as do curriculum frameworks. The state takes the role of providing a common, objective, point of reference, whether it is data or curriculum, and then steps back to allow local educators to make decisions. Schools are expected to be accountable because the state has provided the tools for local schools to be successful, and the schools should now achieve state goals. This relatively passive approach assumes cause-and-effect relationships will result from key triggering information or resources, such as student performance data or curriculum frameworks.

At the other end of the spectrum, intrusive mechanisms are those in which the state takes a direct role in their implementation and enforcement. Teacher licensure is an example of an intrusive mechanism. The state maintains an agency and staff dedicated to ensuring that licenses are provided only to those who are eligible for them. Individuals who seek new licenses or renewals follow specific procedures to obtain them. School officials are required to ensure employees have the proper license for the position they hold and to have records that verify the status of employee licenses, which agents of the state check periodically.

State testing can exist anywhere along this scale, depending on the specific purposes to which tests and their results are assigned. Typically, the state provides the resources and oversees the design and production of the
tests, schools administer them, and the state processes them and reports results to the schools, students, parents, and the public. From an accountability point of view, however, the state may choose to let individual schools decide how (or whether) to utilize testing data, or schools may be required to develop improvement plans. When the plans are monitored by the state, they become examples of more intrusive accountability models. When educators are left to implement their own improvement plans, this represents a more unobtrusive approach to accountability. The most intrusive of all state accountability mechanisms is the district or school takeover, wherein the local school board and administration is dismissed or replaced in favor of a state-appointed team or the staff of a school is reconstituted.

The state has at its command numerous other mechanisms to control schools and schooling, some of the most important of which will be discussed in the following sections. All attempt to do the same thing, which is to encourage or compel the behavior of everyone within or associated with the educational system toward certain state-identified or mandated goals or conditions. The key question is always how much energy is required by the state to achieve the desired result, and whether, having achieved the result, the educational system is actually any better off or any different than it would have been otherwise.

The federal role in school accountability can no longer be ignored. The No Child Left Behind Act of 2001 sets a more demanding framework for state accountability systems, which must now serve both federal and state goals. State educational improvement goals and policies become a legal obligation under NCLB, which clearly outlines requirements states must follow when establishing standards, assessments and accountability requirements for districts, schools, and individual students. While the importance and preeminence of the federal role are not in dispute, the analysis presented here focuses primarily, but not exclusively, on states. The reason is that Oregonians can do more about and learn more from state education policies than federal policies. Although NCLB may constrain state autonomy, it does not eliminate it. States are still assumed to be responsible for developing and implementing accountability systems. Now, those systems must also meet federal standards. Understanding how to design the best governance and accountability system for Oregon is still an important and compelling goal, even in an era of enhanced federal presence.

Many scholars and policy advocates argue that accountability mechanisms can never achieve much beyond compliance with regulations, and regulations can only describe simple behaviors, not the complex sorts of results necessary for the kinds of changes many believe are necessary if schools are to accomplish key social goals. True accountability is achieved, it is argued, when all participants in the policy and governance process understand and share common goals and have the necessary resources and opportunity to achieve them successfully. Regulatory mechanisms that help create these conditions would be the most desirable. They are, however, very difficult to craft and implement successfully.
The following sections consider the varying strategies states have available to them to motivate educational improvement and quality. These strategies include data-driven accountability, standards-driven accountability, consequence-driven accountability, and incentives-driven accountability. Following those sections, the chapter considers Oregon’s current accountability system and concludes with a set of policy options.

**DATA-DRIVEN ACCOUNTABILITY SYSTEMS**

Data driven accountability systems are the least intrusive of accountability practices. However, data can provide important information about performance and progress at all levels of educational practice. Data can be a valuable diagnostic tool to assess the health of the whole system.

The literature on data-driven accountability mechanisms is largely descriptive. Most state data systems have been developed rather recently, most since the rise of the Internet in the late 1990s, which has facilitated easy access to much larger amounts of sophisticated information on educational system functioning. This entire area continues to evolve rapidly as more powerful software becomes available to analyze data and to construct online interactive databases.

Key issues revolve around accuracy of data, types of data collected, reporting mechanisms and the ability of those using the data to interpret and apply the information effectively.

**LITERATURE REVIEW**

State-based accountability systems are complex combinations of rules, regulations, and policies. The research on these systems is still evolving and is largely descriptive, analytic, and correlative currently. What the research does indicate is that accountability systems are tailored to the particular culture of a state’s political and educational system. No one mechanism or set of mechanisms works equally well in all situations. Where high school exit exams may be a powerful means to elicit improvements in learning in one state, they may have much less effect in others where data-driven systems may elicit greater responsiveness from and cooperation among schools.

The new data-driven reporting systems are largely still in the experimental or early implementation stages. Their potential effect upon the performance of the K-12 education system is yet to be determined. Selecting the kinds of data to collect and designing the database systems to deliver and analyze this information are the major elements in debate at this time, although larger issues such as privacy rights, funding, and educator resistance loom in the background.

Since data systems are so new and because they tend to be implemented in ways that preclude the use of control groups, their effectiveness is largely determined by their effect on practice and by theoretical models that posit
improvements in functioning through the use of such systems. States and other organizations are not developing these systems based on research findings, but on the simple fact that they can now be built, that the technology supports complex, Internet-based data collection, analysis, and distribution systems. Outside of public education, however, large-scale data management systems are commonplace in large organizations and have proven to be effective at improving productivity and quality within a range of environments.

O'Day points out the challenges of accountability systems of all types, but particularly those that data-driven systems encounter. Although the school is the unit of analysis, the individual is the unit of action. People, administrators, teachers, and students, construct the teaching-and-learning process interactively. Yet, results are reported for schools as a whole, as if the school had its own existence independent of the actions of the individuals in it. Such reporting obscures the range of strengths and weaknesses present in the school as an organization. Change ultimately must occur on the individual level, and all the school-level data do is create a general, rather than specific, motivation for change.

A second challenge is that a data system is an external mechanism seeking to influence internal school operations. Past research suggests this mechanism may not always operate as policymakers expect. Finally, and most relevant, information can be both essential to schools and problematic for school improvement. While data are obviously necessary for school improvement, they are not automatically sufficient. The real issue becomes how school staffs utilize data, the capacity they have to understand data, to work with data, and modify practices based on what they have learned. In the final analysis, schools are complex organizations that can reach any of a number of possible decisions about how to react to state demands for improvement.

The Role of Data in an Effective Accountability System

According to Brooks, a successful educational accountability system is built upon three interacting foundational principles: clarity of goals and roles for all actors, a focus on results, and reciprocity of relevant relationships. Brooks goes further and outlines other critical components for an effective system including reliable indicators of performance, a comprehensive public explanation of the system, and an independent body providing checks and balances. Brooks’ analysis suggests the need for a continuous improvement model by which the system as a whole receives reliable feedback.

At the heart of the accountability structure is the assumption that there is an effective feedback loop between the large-scale performance indicators, which may include assessments of student performance among other sources of information, and a group of responsible parties that will use this information to adjust and modify the educational delivery system until goals are met.
Collecting and reporting data for policy formation requires accurate information in order to make useful decisions. Baker & Linn state that systems tend to operate under the premise that the data collected are accurate, which can be a highly problematic assumption.\(^8\) The feedback loop running among student performance data, teachers, schools and state policy makers assumes that the data collected are accurate, that the results will be interpreted properly, and that the actions taken will necessarily cause the desired improvement. In practice, these relationships are much more problematic to establish and maintain.

The Consortium for Policy Research in Education (CPRE), in a longitudinal study of 23 school districts from 1996-1999, found that aligning standards with assessments provided clarity for student achievement.\(^9\) This clarity informed district actions on school improvement plans, curriculum development, and professional development for teachers. The study found that states and school districts applied incentives and sanctions in a wide variety of ways. Some states used performance data to focus on students rather than teachers or provided support for failing schools rather than imposing sanctions. Others utilized the same data for more punitive purposes.

The same study overviewed the implementation of increased accountability systems with the NCLB Act 2001 amendment to the standards based reform, Title I of the Improving America’s Schools Act (IASA). The amendments demonstrate the shift from public reporting as the primary accountability mechanism to a more standardized measure of progress with “attainment of academic proficiency” as outlined in NCLB.\(^10\) The implementation of stronger and more prescriptive national standardized academic goals as set by NCLB has been a dynamic influence on all aspects of the educational system and has tended to force alignment of efforts throughout the K-12 system.

**PROMISING PRACTICES**

**National and State-Level Databases on Student Performance and School Comparisons**

Many states across the country are launching statewide data systems. Database system design requires clear expectations and outcomes before the initial development begins. System analysts and educational policy experts are proposing the most effective designs and criteria for systems. As states adopt data systems, new research will continue to provide the opportunity to hone and modify the structures and applications. Data must be utilized at all levels in order to have a cumulative and consistent impact. A WestEd Policy Brief emphasized that states must “ensure that measured changes reflect accurate and meaningful differences in accomplishments or growth, or the credibility of the entire system can be questioned.”\(^11\)

Emergent software and web-based technology have spawned new tools that can provide a wide array of data to evaluate student, teacher, school and
district level performance. The capability to compare information between groups of students, classrooms, schools, districts and even states provides both a powerful opportunity and a daunting complexity. For example, the Education Commission of the States (ECS) has a web-based database system to provide a “one-stop-shop” resource that provides national level reporting on the status of each state with regard to NCLB requirements as well as state level activity and progress.\textsuperscript{12}

State report cards, although required by the NCLB legislation, have already been instituted in 19 states. These report cards provide annual information on school and district level performance and progress. Typical data collected and reported include student test results at the school and district levels, attendance and dropout rates are included as well as the status of the school in terms of Adequate Yearly Progress (AYP) and school ratings. The report cards also include test results by student groups broken out in ethnic and economic categories.\textsuperscript{13}

Public access to state and national level data on student achievement, school and district performance through state report cards and web-based data systems provides new opportunities to parents and policy makers. Access to this kind of information opens up new possibilities for understanding how well schools are functioning. Parents, teachers, administrators and policy makers will be called on to make informed decisions that will affect or influence future teacher standards, curriculum development, testing criteria, performance expectations, and funding priorities.

Teachers have been collecting data on individual student performance as a standard practice to improve curriculum and delivery methods since teaching began. However, this information has typically stayed within the classroom. Essential to the success of these systems is the accuracy and relevance of the data collected and the ability of those interpreting the data to understand and apply the information effectively. For example, individual districts have the flexibility to frame assessment reports in a variety of ways. Depending upon this framework, teachers can be either motivated to improve teaching practices or alienated and distrustful of the information.\textsuperscript{14}

One limitation of using school-level data in research is the difficulty of comparing data across states. Some researchers believe a national data system would allow more equitable comparisons and enable higher-quality research to identify effective practices and instances of inequity.\textsuperscript{15} The Common Core of Data (CCD), jointly developed by the National Center for Education Statistics (NCES) and the Census Bureau, may be the first step toward such a system.\textsuperscript{16} The Common Core of Data includes data on enrollment, teachers, other staff, graduation and dropout rates, aggregated at the school, district, and state levels. This information can be cross-referenced against the U.S. Census F33 survey of local government finances. Whether a federal database will be expanded to include information on student learning across states remains to be seen, but appears much more likely with the
various NCLB requirements for state-level information that must be reported to the federal government.

**State NCLB Practices Database: Education Commission of the States (ECS)**

The ECS site’s goal is to provide state policymakers, staff and the public with information about the status of education policy in their state. The database tracks changes in policy developments across the 50 states, providing “real-time analysis of No Child Left Behind (NCLB) implementation efforts as well as examples of state practices that meet NCLB requirements. The site is supported by the U.S. Department of Education.

The site provides access to a variety of information in charts, comparison grids, national maps, optional data sorts, and links to individual states for further details. The database also contains information on state laws, departmental regulations, board rules, directives and practices related to 40 requirements across seven major sections of the NCLB legislation.¹⁷

**The National Center for Educational Accountability and Just for the Kids**¹⁸

The National Center for Educational Accountability (NCEA), working with the Council of Chief State School Officers (CCSSO), outlines minimum requirements for an effective Student Achievement System. In addition to data required by NCLB, the system includes the ability to match student records between the K-12 and higher education systems. Currently, the website provides an analysis of each state’s status in regards to their progress meeting these key requirements.

The Just for the Kids School Reports, sponsored by NCEA, are based on the information submitted by each state department of education and provide a view of a school’s academic achievement. Users have the ability to compare schools within the state. Currently 22 states have data available on the Just for the Kids website. Five states are currently using the Just for Kids School reports: Arkansas, Florida, Tennessee, Texas, and Washington.

NCEA also outlines nine key data elements necessary to generate reports for elementary, middle and high schools. The prerequisite is a statewide student identifier system, without which no reports can be compiled. The identified allows for linkage with fall student-level enrollment and demographic information and spring student-level test information. Also necessary for accurate reporting is information on every student in a tested grade who did not take the state test. Full reports at the high school level require some additional data, including student-level high school transcript (course completion) information, student-level SAT, ACT, and AP exam results, student-level graduation and dropout data, and the ability to match student records between the K-12 and higher education systems. A state data
audit system is needed to verify the accuracy of information submitted by school districts.

**Texas**

Just for the Kids-Texas has a Best Practices framework that highlights “a system of success” in high-performing school districts in Texas. The system presents the information organized around themes at the district, school, and classroom levels. For example, one theme, “Develop Student Assessment and Data Monitoring Systems to Monitor School Performance,” is described at all three levels as either “missing the mark” or “on target.” Thus, the data provide a framework and description and offer a potential means to pinpoint class-level practices that are associated with improved student performance.

**Ohio**

Ohio’s approach to database systems reporting is a combination of public input, business partnerships, and professional educator involvement. The Governors Commission on Student Success report contains recommendations drawn from research, focus groups, public opinion surveys, and constituent group meetings. The report outlines a state plan to improve student achievement through a combination of academic rigor as set by standards, assessments aligned with those standards, strategic school improvement tactics, and accountability systems. All of these goals are designed with significant input from teachers, parents and the public.

Ohio’s data system, ILRC, Interactive Local Report Card, is an interactive tool developed for parents, educators, lawmakers, community members, and researchers to provide current and historical Local Report Card data. The design of the website is geared to elicit involvement to help inform and guide parental involvement, plan and evaluate school improvement initiatives, and drive decision making to refine the educational process.

This database is enhanced through a partnership with Battelle for Kids, which produces the Schools On-line Achievement Reports (SOAR). Battelle, a global science and technology company, is associated with the Learning Partnership of the Ohio Business Roundtable, which is the official sponsor of the project. This organization is geared to “support, accelerate and sustain standards-based education.” This reporting system was developed to reflect the criteria set out by the state and to provide much more detailed reports and comparisons than available from the state system.

Ohio extended this system further through House Bill 3 in August 2003, which incorporated a “value-added” progress measure to student performance data. A secure website offers participants district, building, grade, and student level data to use for school improvement decisions at multiple levels.
Arizona

The Arizona Student Accountability Information System (SAIS) is a tool to more effectively manage the $4.2 billion spent annually on K-12 education in Arizona. ADE developed SAIS to advance Arizona's school finance system. The major objectives of SAIS are to implement the new School Finance System to improve school finance processes, reduce the reporting burden, and improve the accuracy and timeliness of student counts required for state and federal funding and reporting.

LEAs submit raw student and school data based on real-time events thus enabling real-time funding. As a result, SAIS will “operationalize school finance reform, leading to true equity and true local control through financial and academic accountability at the level closest to the student.”

SAIS provides an electronic data exchange and on-line processing of data via the Internet. There is a combined secure statewide connectivity with a central data warehouse of accurate and timely student, school, and financial information as well as School Report card data for district and school use.

Colorado

State report cards available on-line along with results from the Colorado State Assessment Program (CSAP), safety and discipline incidents, student/teacher ratio, teacher qualifications, fiscal expenditure patterns, staffing, class size, instructional time, and demographic information. Fiscal expenditure reports show the amount and proportion of money directed to classroom instruction, classroom support, school building operations, and central administration.

Hawaii

Three reporting systems are part of the Strategic Implementation Plan of January 2003 School Status and Improvement Report (SSIR). These are 1) reports on context, process and outcomes; 2) NCLB Accountability report reports on test performance and graduation/retention rates; and 3) the Superintendent’s Report, which highlights six areas: enrollment, special needs, administrative staffing, finance, dropouts and completion rates, and student discipline.

A School Status & Improvement Report (SSIR) is prepared for public schools in the state of Hawaii and includes a description of the school and information on the educational context, process, and outcomes at each school. The context information includes profiles of the student population and the school community. The process dimension of the report describes the school's standards implementation design (SID) along with the school's staffing levels and the quality and adequacy of facilities. The outcome dimension focuses on results of the School Quality Survey (SQS). These are attendance, suspensions, standardized test results, and school completion rates (for high schools).
Other data-collection & reporting mechanisms include Hawaiʻi Public Opinion Poll data and the School Quality Survey, or SQS, given to teachers, students and parents. The survey is described on the Department’s website as being “intended to meet the need for information useful for schools in developing their self-reports for accreditation and standards implementation. The SQS is also intended to provide information about parent involvement and parent and student satisfaction with their schools.” The SQS survey has separate versions containing approximately 45 items each for teachers, parents, and elementary, middle/intermediate, and high school students. Results are accessible to the general public through the Accountability Resource Center Website (ARCH).

**Tracking Fiscal Expenditures to the School and Classroom Level with Better Data**

While providing data on student performance to educators, policymakers, and the public is important, it is only half of the picture. The other half is fiscal expenditures and how such expenditures relate to student learning. Over the past decade, a number of states have undertaken projects to generate fiscal information that allows comparisons among schools and some conclusions about how well state funds are being utilized. While much work remains to be done in this area, the progress that has been made to date is impressive. The challenge has been in moving from a system that was fundamentally local in nature to one that is standardized at the state level so that data reported are consistent and comparable among districts and schools.

Many school districts currently track financial operations at the school level, but few have implemented uniform charts of accounts and other measures necessary to connect expenditures with learning more directly. Several states do have some history established in this area, beginning with Florida, which has been able to track school-level financial data for twenty years. With the advent of computer networks, this information is becoming increasingly available to school personnel.

Hawaiʻi’s data management system tracks resources to the classroom level, then compares expenditure variations between regular schools and those serving what the state designates as “seriously challenged” students.

New Jersey provides districts software that allows them to publish annual report cards for every school that integrate enrollment, personnel, financial, and assessment data. The reports include an array of data on educational inputs, such as teacher-student ratios, district per-pupil expenditures, staff expenditures, and educational outputs in the form of state standardized test scores.

Texas Academic Excellence Indicator provides information in four basic categories for all of the 6000 public schools in the state. The first section of a school’s report consists of detailed information on student performance on the Texas Assessment of Knowledge and Skills, disaggregated by subgroup, both
in terms of percent that passed the test and percent in each of three performance categories, beginning, intermediate, and advanced. The section also contains information on student performance on the SAT, ACT, Advanced Placement and International Baccalaureate exams. The second section presents detailed demographic information on the student body, including ethnicity, economically disadvantaged, mobility, limited-English speakers, the pupil-teacher and discipline incidents per student, and average class size. The third section offers information on staff qualifications and background, and the final section summarizes financial expenditures at the school in terms of budgeted operating expenditures. While this system does not permit easy comparisons among schools, it contains a framework that could eventually be adapted with some ease to such purposes.

Ohio made school-level data collection mandatory in 1994-95 in order to track school-level expenses via individually assigned school codes. Using the Expenditure Flow Model (EFM), which was developed specifically for the state, data are aggregated to district and state levels and divided into instruction, pupil support, staff support, administration, and operations support functions; these, in turn, are divided into central-office and school-site expenditures. The EFM permits districts to compare building costs within a district on comparable categories. The Expenditure Flow Model has enabled school districts to provide fiscal information to their communities in a format that allows interested citizens to see where the dollars actually flow.

Limitations and Challenges of State-Level Fiscal Data Systems

State-level fiscal data systems must try to serve multiple masters. State auditors seldom have the same needs as school principals or interested parents in terms of the data they wish to see and how information should best be organized. The key challenge in the emergence of these systems is to link the fiscal data with student learning and school organization data in a way that allows school administrators in particular to do something about the ways in which they distribute their resources. Since most education budgets are 85% personnel costs, the most important decision any administrator makes is how to array personnel within the building. Often contracts limit the options open, or strong school cultures favor retention of particular programs. For state data systems to be truly useful, schools will have to be able to do something different once they have the data and are able to interpret it accurately.

Pros and Cons of Data-Driven Accountability

Data-driven accountability is premised on the assumption that by sharing accurate, unbiased information on key aspects of system functioning, the system will improve. This improvement will result both from internal efforts undertaken in response to data results and to external pressure applied upon the system by constituents. Bureaucracies abhor negative attention, the theory goes, as well as external intervention into operational decisions. Therefore, bureaucracy responds to and even changes in anticipation of data
that may reflect negatively on the organization. Furthermore, as the number of people who possess what was hitherto insider knowledge about how the organization functions increases, the quality of decisions made to improve the organization also increases. Organizations get better because they can no longer continue being mediocre or worse without everyone knowing about it and pointing it out to members in the organization. This affects the self-esteem of members of the organization and can even publicly label them as less than fully competent. Such pressure serves to enhance motivation to improve student learning in schools.

Moreover, new technologies are enabling greater access to data in all areas of society and the economy. Why, the argument goes, should education be exempt from this trend? Data systems help bring schools into the 21st century by making their operation more transparent and allowing consumers to make more informed choices and legislators better decisions.

Data-driven accountability operates without formal incentives and sanctions and without specific goals schools are necessarily expected to attain. Problems arise with this method if the right data elements are not properly selected and widely publicized. Schools as cultures have never been particularly interested in data because they tend to be organized around the teacher-student relationship. The necessary cultural shift will require considerable energy and effort, since most school personnel have only rudimentary skills when it comes to data collection or interpretation. Further difficulties result if data are not truly easy to access and understand by the layperson. If educators are judged in areas where they are incapable of effecting improvement or if they truly do not have the resources or expertise necessary to improve in a particular area, no amount of data will make much difference. Privacy issues will always be a consideration in the construction of such databases, although there is no need for information on individual students for any of the current purposes of these state-level databases.

Whatever the limitations of this method, it is apparent that the technology revolution will drive ever-expanding access to ever-increasing amounts of data. Schools are currently among the last institutions in society to respond to this revolution and the new expectation that relevant information be readily available online to consumers and experts alike. School systems will not be able to avoid this expectation, nor do many wish to do so. The technical issues confronting schools as they attempt to install data systems are formidable. Most lack the technical competence to do so, nor can they afford the costs of developing such systems. The decentralized nature of American education also creates almost insurmountable obstacles when states do not take the lead to develop centralized data systems and each school district is left to fend for itself in developing sophisticated web-based data warehouses.

**INCENTIVE-DRIVEN ACCOUNTABILITY SYSTEMS**

Many educators and policymakers have pointed out that punishments are not the only way to get desired results. Incentives can also work to serve that
Incentive-driven accountability uses more than just educator motivation to achieve its goals. Incentives can have effects on those who achieve them and those who do not. The absence of receiving a reward can also serve to spur action to achieve the reward or recognition in the future. Incentives, then, create a more subtle but nevertheless potent pressure for schools to improve. Incentives-based systems can also create the circumstances under which schools staffs must work collaboratively, focus their efforts, and make necessary changes to gain the desired reward or recognition, thereby achieving many of the same goals sanction-driven accountability systems seek to achieve.

A number of states have experimented with incentives-driven accountability. Nine states offer incentives to school districts on the basis of performance. Seven states base incentives on both absolute and improved performance, one state bases them on improved performance and one state bases them on absolute performance. Four states use monetary incentives, four states use non-monetary incentives and one state uses both monetary and non-monetary incentives. Of the five states that use monetary incentives, four allow school districts to use incentives for bonuses, and one forbids this practice. Twenty states offer incentives to schools on the basis of performance.

**Literature Review**

Given the amount of time and energy devoted to developing and evaluating the effects of sanctions on schools, it is surprising to note the lack of attention to the role of incentives. Few evaluations have been conducted on this topic. Most of the studies are almost entirely descriptive of the incentive program and how it is administered. Some studies investigate the best ways to distribute funds (individuals, schools, teachers only, all staff, etc.) but few have attempted to determine the effects of incentives. Those that do, employ qualitative methodologies, specifically interviews of staff to determine their reactions to incentives. Often such studies are not focused specifically on incentives, but on effects of state testing and accountability policies. In these studies, educator reactions to incentives are often simply one issue among many that are being examined.

To summarize this research base, public recognition represented the most-frequently utilized incentive for meeting performance goals. Recognition ranged from award ceremonies at schools to recognizing students and educators at meetings for the State Board of Education or receptions at the governor’s mansion. Monetary incentives were not as prevalent, but did occur in several states. Incentives can target high performing or low performing schools. Low performing schools may qualify for additional assistance in the form of technical teams, additional funding, pilot programs or school improvement plans. High performing schools may receive public recognition, additional funding, or relief from regulatory control, although this is quite rare. Teacher and administrator reactions to incentives are decidedly mixed. Many appreciate receiving the recognition they believe they deserve, but far
fewer indicate that a monetary reward influenced or would seriously influence how they operated as a professional. When incentives were school-based, they resulted in more collaboration and interaction, particularly when the funds could only be used for school wide efforts, but were not as individually motivating. Individual incentives went against the egalitarian culture of many schools, although they do not seem to have pitted staff against one another.\textsuperscript{27}

\textbf{PROMISING PRACTICES}\textsuperscript{28}

\section*{California}

The state’s program for school-level incentives available for school-wide use is open to all schools with Academic Performance Index (API) scores. In 2001, the API must meet or exceed a 5 percent growth target, or have an API increase of 5 points whichever is greater. All subgroups must meet or exceed 80 percent of the school target or have an API increase of 4 points whichever is greater. Elementary and middle schools must have 95 percent Stanford 9 participation rate. High schools must have 90% Stanford 9 participation rate. The funds are intended for school-wide use. According to the State Board of Education criteria adopted on July 12, 2000, "use of funds at schools should be decided by existing site governance team/school wide council representing major stakeholders; ratified by the local school board."

\section*{Maryland}

The State Board, upon the recommendation of the State Superintendent of Schools, may make monetary or non-monetary incentives to schools, school systems, or both, that significantly close the achievement gap between subgroups or exceed their AYP in reading or in mathematics for 2 or more consecutive years and designate certain schools as distinguished schools that have made the greatest gains in closing the achievement gap or exceeding AYP.

\section*{Missouri}

The Missouri Department of Education is required to identify high-achieving schools as performance schools and specify the waivers of rule applicable to those schools.

\section*{Hawaii}

The state provides an incentive bonus equal to 10% of any non-state grant or subsidy that is awarded to a school or school teacher on a competitive basis provided that (1) Not more than $25,000 is credited to any one elementary, middle or high school per fiscal year; and (2) Not more than $37,500 may be credited to any one multi-level (high/elementary, middle/elementary, or
high/middle) school per fiscal year. The incentive bonus must be used for the purposes identified in the non-state grant or subsidy.

**Mississippi**

State law empowers and directs the State Board of Education to establish and implement an improving and high performing schools program for identifying and granting financial incentives to low performing schools that improve and to the highest performing schools in their classification. The program establishes criteria and authorizes salary payments to school personnel subject to specific appropriation by the legislature.

**PROS AND CONS OF THIS MECHANISM**

Incentives can be problematic from the point of view of policymakers who believe that schools are already being provided the resources they need to get the job done and should not receive additional resources simply for doing what they were expected to do in the first place. The most obvious inhibiting factor can be the cost of programs that provide monetary rewards. Another problem has been the difficulty of creating good cause-effect relationships between the desired student learning gains and the person or persons being rewarded.

In the final analysis, incentive programs may be a necessary component of a total set of accountability mechanisms, but no state has yet learned how to utilize incentives in ways that get anything like the same reaction as sanctions or the threat of them. This is not to say that incentive systems cannot be powerful policy tools, only that states have not necessarily learned how to utilize them in such a fashion to date.

**STANDARDS-DRIVEN ACCOUNTABILITY SYSTEMS**

Since the early 1990s, essentially all states have developed educational standards. These standards have defined the knowledge and skills students are expected to master at various grade levels in core academic subject areas. And while considerable variation exists among states in terms of the scope, depth, and breadth of their standards, all states utilize their standards in a variety of ways that influence local education practice.

Standards as an accountability measure take several basic forms. School districts are generally accountable to have implemented the standards and trained teachers in their use. Some states, such as Colorado, allow local districts to replace state standards with local standards, provided the local standards are at least as challenging as the state standards. Many states judge school-level performance (but not individual student performance) through standards-based assessments. These tests are designed to inform the state how well local schools are preparing students in relation to the state standards. Oregon is one of the states.
States where standards are used only to reference system performance may or may not expect all schools to meet a specified level of performance. Improvement is gauged in terms of learning gains over time or the absolute proportion of students meeting standard. When such targets exist, schools that do not reach expected performance may be subject to certain sanctions. Schools that exceed expectations occasionally receive incentives.

Standards-driven accountability is more assertive than data-driven accountability because school and school district performance is judged against the standards. The milder form of this method of accountability lets each district, and sometimes each school, set its own targets relative to the standards and even its own measurement system.

**LITERATURE REVIEW**

The central thesis of standards-based reform as described by Clune is that if states can create a high degree of alignment around new standards of learning, they can produce widespread and substantial gains in the quality of teaching and learning for all students throughout the entire school system. The dynamic policy components are standards, assessments, curriculum and instructional practices. Systemic change in these policy components will occur gradually over time and will require constant communication and adjustments. The degree to which standards-based policies will influence practice is determined in large measure by the strength of four attributes: clear definitions of authority between state and local levels; willingness by states to exercise power to bring about a measure of consistency in practices statewide; consistency in implementation of policy; and prescriptiveness or detailed guidance at a level that enables districts to know what to do, but not so detailed as to eliminate local capacity to adapt to local circumstances.

Rothman and others assert that standards-based systems succeed or fail based on the strength of how well the standards and assessments measure the associated student learning. Rothman emphasizes the essential role of alignment in a standards-based reform effort. Tests need to measure what the standards expect. Standards aligned with assessments send a clear message to students, teachers, and schools about what is a priority to learn.

Rothman highlights progress made by states between 1996 when only 15 states had standards in core subjects and 2000 when 49 states had such standards. This is quite rapid change within the education world. It is worth noting that standards are implemented with great variety from state to state, based on the degree of local control present in the state. States with strong local control cultures have attempted to allow local districts considerable latitude in the implementation of standards, while those with traditions of greater central control have operated from policy frameworks that required more uniform adoption and use of standards.

Cohen and Hill’s study of implementation of math standards in California identified the complexity of putting standards into place statewide when
significant differences existed among districts, due to the legacy of local control. The state cannot put standards into place without teacher cooperation and acquiescence, yet teachers must do more than simply acquiesce; they must become involved in actively constructing the meaning of standards and interpreting them in the context of their own classrooms.

**PROMISING PRACTICES**

**Washington**

Washington has a decade-long history developing and implementing its Essential Academic Learning Requirements (EALRs). These outline the content knowledge students are expected to master at each grade level in core academic areas of reading, writing, math, and science. The EALRs define benchmarks, or cumulative indicators, for grades 4, 7, and 10. They describe essential academic knowledge and skills in very broad terms in order to reserve flexibility and local control that allows each district to determine the specific learning expectations they wish to establish for students at grades other than those for which EALRs have been written. Content frameworks provide additional grade level guidance regarding the scope of a curriculum that aligns with the EALRs.

Recently, the state added Grade Level Expectations (GLEs), which provide specific learning standards for students in grades K–10 in order to clarify and present more detail regarding the skills and strategies all students need in order to demonstrate proficiency in each content area. Teams of Washington educators developed descriptions of what student learning associated with the GLE looks like in order to demonstrate proficiency. These “evidence of learning” statements help to translate the EALRs into language that allows classroom teachers to be more confident that what they are doing is consistent with student mastery of the EALRs. Washington’s EALRs have been thoroughly vetted and analyzed, including external reviews by Mid-continent Research for Education and Learning (McREL), and have been determined to be of high technical quality.

The EALRs form the framework for the Washington Assessment of Student Learning (WASL), which has been utilized exclusively as a low-stakes accountability measure, but will be required for high school graduation beginning with the class of 2008. This change in the purpose of the EALRs and WASL has resulted in educators and others viewing the EALRs and WASL with a much more critical eye. Once standards begin to have a consequence, they take on a different significance. Washington’s standards-based system is currently evolving and, in the process, its standards and assessments are coming under sharper scrutiny.

**Colorado**

Colorado has developed a set of content standards. However, local districts retain the right to use their own standards, provided they are certified as
being at least as challenging as the state standards. Recent legislation aligns
programs of instruction and assessment with content standards. The
Colorado Student Assessment Program (CSAP) tests students in English,
Math and Science.

According to Colorado School Law (CRS 22-7-609), schools rated
"unsatisfactory" develop an improvement plan for Colorado Department of
Education approval and assistance. To regain status, the school must make
AYP for two years in a row. Consistently low-performing schools eventually
will be converted to charter schools. Ultimately, the school has a three-year
period to overcome the "unsatisfactory" status. If the school is rated
"unsatisfactory" at the end of the third year, the state board shall recommend
that the school be converted to a charter school.

Nebraska

Nebraska is an example of a state that continues to emphasize local
control, even through its accountability system, which reports how well
students meet state standards in reading, writing and mathematics and on
the quality of the assessments used to measure learning. To meet state
accountability requirements, school districts and school buildings must have
Good, Very Good or Exemplary ratings. The accountability system does not
judge students, schools, or districts beyond these two measures. It is up to
local school districts to make determinations about what to do if performance
is not at whatever level is deemed acceptable locally.

Illinois

Illinois employs a complex set of assessments to ascertain student
performance in relation to state standards. The Illinois system is interesting,
in part, because it relies on a combination of state-developed tests (Prairie
State Achievement Exam in writing, science, and social sciences) and two
national tests (ACT and WorkKeys). This combination allows the state to
meet federal requirements for one accountability system while allowing
students to learn about their readiness for post-high school endeavors without
having their test scores tied to high school graduation.

Pros and Cons of Standards-Based Accountability

This method of accountability is higher stakes than a data-drive system
alone, but does not have individual-level effects for principals, teachers, or
students. Standards-based accountability systems create greater awareness
by schools of what they are expected to accomplish, and have more impact
when fall tied to student graduation or other comparably high stakes account
methods. These systems provide states a much better picture of how their
education systems are performing and whether they are improving.

Some argue that introducing state standards into schools, which are
supposed to be adapted to local needs, results in distorted teaching practices
and decreased teacher autonomy and creativity. Comparisons of schools are criticized for always being imperfect and somewhat unfair and arbitrary. Schools, it is argued, are not fundamentally competitive with one another, nor should they be. Each should be attempting to take students from where they are and teach them as much as possible. In practice, the problem has been that schools have tended to make assumptions about who is capable of learning and who is not, and have then adapted student-learning expectations accordingly. A standards-based system creates common comparisons that many educators find to be unfair or not representative of what their school is really about and how it helps students.

One finds little argument, however, with the observation that the introduction of standards and the ability to compare performance on common learning standards across schools within a state has created tremendous anxiety and a great deal of activity within schools. Evidence suggests that much, although by no means all, of this activity has led to reexamination of assumptions about learners and adaptation of instructional programs to meet the needs of students. Some educator responses have been productive and led to improvements in learning of content contained in the standards. Others have been less productive, resulting in teaching a narrowed curriculum through drill-and-kill exercises that alienate students or are ethically questionable behavior by educators intent on improving scores.

**CONSEQUENCE-DRIVEN ACCOUNTABILITY SYSTEMS**

A consequence-driven accountability system is the next step beyond a standards-based system. In contrast to a standards-based system where schools are expected and encouraged to implement standards and are monitored by the state, a consequence-driven system results in someone, be it student, teacher, principal, superintendent, or school board, being subject to some consequence if a specified performance level is not met. The measure of performance is always related to some form of state test.

While states commonly test at a number of grade levels, high school exit examinations are generally the most powerful element in a consequence-driven accountability system. Tests at other grade levels may result in student retention, but the denial of a diploma is the most extreme form of consequence for the individual student.

Results from tests in states with consequence-driven accountability systems also serve to generate data on system functioning in addition to individual student-level judgments. These data can be used to invoke consequences for schools buildings, principals, or school boards. The consequence is usually some form of state intervention into the affairs of the school or district. The most extreme form of intervention is state take-over. The use of state-imposed sanctions on schools is a second dimension of this form of accountability.
LITERATURE REVIEW

High School Exit Exams

Extensive research has been conducted on the effects of state exam systems and on the sanctions states have applied to schools.\textsuperscript{37} The methodologies for this research have been a combination of regression and correlational analyses. The results have often been contradictory and inconsistent, reflecting at least in part the recency of the phenomenon of consequence-based accountability and large-scale high-stakes testing. This emerging body of literature demonstrates that these accountability systems are heavily influenced by the context of the specific structure and culture of a state’s education system, the degree of crisis that exists with its worst schools, the power of a state’s teacher’s union, its mode of financing education, and the political makeup of the state legislature. These are all factors among many that define the context and that affect the ways in which consequence-based accountability is structured and the effects it has.\textsuperscript{38}

Given these caveats, some broad generalizations can be offered. Evidence exists that with adequate supports and the right policy context, exit exams probably have some positive effects on students’ motivation and achievement.\textsuperscript{39} The exams also exert an influence on curriculum and instruction at the school level. Students are affected differentially, as reflected in differing score patterns by race, ethnicity, and income. Negative effects of the tests include decreased student motivation for those students who believe they cannot pass the exam, a concomitant redirection of some students to toward the GED, and questionable policies regarding retention in some schools that hold back students in non-tested grades to improve school pass rates.\textsuperscript{40}

It is still too soon to make any definitive statements regarding the effects of these tests on student achievement. Few states are conducting the types of studies necessary to answer the question with any clarity. Furthermore, as noted above, the approaches to exit exam testing varies so much that extensive additional research is needed to generalize findings across states. Since exit exams are only one reform among many that states implement more or less at once, interaction effects among reforms are difficult to determine, and combinations of reform packages differ from state to state.\textsuperscript{41}

Recent studies are pointing toward the conclusion that exit exams are having positive effects on curriculum and instruction by motivating school districts to gear course content toward state standards, to align curriculum and instruction with standards, and to develop and implement remedial and other supports for students who fail exams or are likely to do so.\textsuperscript{42} The dark side of this phenomenon is that in some schools, teachers interpret preparation for exit exams as requiring a dramatic narrowing of the curriculum, and teach to the test content at the expense of more complete treatment of the subject, and, often with less emphasis on more complex thinking skills.
Amrien and Berliner compared state test scores to student performance on other tests, such as NAEP and ACT, and reached the conclusion that the gains on state high school exams do not transfer to other tests. They concluded that 88% of the states with exit exams have higher dropout rates. However, a reanalysis of the data suggests links between state that have high-stakes tests and student achievement gains on the National Assessment of Educational Progress (NAEP), although the findings are not sufficiently robust at this point to reach a definitive conclusion that testing policies are the direct cause of achievement gains.

The effects of exit exams on different student groups suggest that real issues exist related to English Language Learners and remedial students. These students may be placed into courses with less challenging and interesting content in an effort to enable them simply to pass the test. This may be particularly inappropriate for English language learners (ELLs) whose capabilities are fully equivalent to students in regular education classes. Equally troubling are research studies and press reports from various states indicating that some students are being held back in the grades right before the exit exam is given, often until they leave school.

At the same time, new evidence suggests that exit exams are having a motivating effect even on students who fail the tests. For many students, the tests seem to send a message that they need to take school more seriously and put in the effort necessary to master certain key knowledge and skills. The point at which the fear of failure stops becoming a motivator and begins to discourage students from even trying is being investigated as well, with some evidence that this effect exists for some students.

Currently 19 states have graduation tests, and five more are expected to come on-line by 2008. Heubert points out that between the early 1980s and the mid-1990s, the nature of exit testing has shifted from minimum competencies to tests that attempt to encompass the state standards.

Sanctions

In general most sanction practices identify a school as underperforming based upon state and national standards. The most common sanction is the requirement that the school prepare an improvement plan under the auspices of the state. Sanctions range from on site visits to reconstitution of schools. However, states typically follow a similar path regarding sanctions. Based on failure to meet standards or AYP, schools are publicly identified as underperforming schools. A plan of improvement is formed for each school, some by the schools themselves and some by outside parties. Development of improvement plans can include but are not limited to: evaluative teams formed by state educators, site and follow-up visits, written documentation, or money to be used toward the improvement plan. If an underperforming school does not meet standards after a set time period, the school may be subject to reconstitution, takeover, conversion to a charter school, or some other form of major change.
Thirty states sanction school districts on the basis of performance. Of these states, five do not sanction individual schools. Thirty-three states sanction schools on the basis of performance, seven of which do not sanction the district. The National Center for Educational Statistics reports that, as of 2002, two additional states, Arizona and Kentucky, were utilizing sanctions.48

Sanctions and assistance delivered to schools range in severity of action. A 2002 inventory of sanctions by NCES catalogue 12 states that provide written warnings, 26 provide technical assistance, 11 provide more funding, 31 require an improvement plan developed by the school, 21 require an improvement plan developed by an outside entity, 18 place schools on probation, 15 remove accreditation, 5 withhold funding, 19 reconstitute schools, 10 close schools, 17 take over low-performing school.

Some states offer assistance to low-performing and failing schools as an incentive for school improvement. Most often this comes in the form of specialty teams to provide direct assistance at the building level.

No Child Left Behind (NCLB)

The federal government passed in December 2001 and signed into law in January 2002 the No Child Left Behind Act. This law is perhaps the most far-reaching ever written in terms of its accountability requirements. The act is a large and complex piece of legislation. For the sake of brevity and simplicity, only the accountability portions that relate to schools are considered here.

Most important in the NCLB requirements is that each state develops a unitary accountability plan that applies to all schools within the state. In other words, a state cannot have one plan that applies to its Title I schools and another for the rest of its schools. That plan must utilize the federal progression of sanctions that are tied to improvements in test scores for all students in the school disaggregated by subgroup.

NCLB sets a high bar for states, with its requirement that all schools meet by 2014 the standards the state identifies and the federal government approves. All schools must then make “adequate yearly progress” (AYP) toward those goals. Schools that fail to make such progress are subject to the following levels of sanctioning:

- **Level 1.** Schools that fail to achieve AYP for two consecutive years are placed in “school improvement” status; they must develop a school improvement plan, be provided technical assistance from the district, and give students the option to transfer to another public school in the district.

- **Level 2.** Schools that fail to achieve AYP for three consecutive years remain in improvement status, but students now have the option of using their share of federal Title I funds to pay for “supplemental
education services,” which may be provided by state-approved private companies.

- **Level 3.** Schools that fail to achieve AYP for four consecutive years are placed in “corrective action”; public school choice and supplemental services remain, but the school must also make one fundamental change from a list of options, such as replacing staff, instituting a new curriculum, decreasing school management authority, appointing outside experts, etc.

- **Level 4.** Schools that fail to achieve AYP for five consecutive years are placed in “restructuring”; public school choice and supplemental services remain, but the school must plan for “alternative governance” and, after six consecutive years below AYP, be placed under alternative governance, such as reopening as a charter school, **contracting with a private management company, etc.**

The NCLB accountability requirements and graduated consequences raise the question of whether it is ultimately useful to consider accountability in a state context. One argument is that since states must apply their accountability system to all schools, the NCLB requirements will trump any state-specific models. While this is true to some degree, states still retain the option to utilize their own tests for other purposes and consequences, such as to determine high school graduation or promotion from grade to grade. State test results can also be utilized simply to provide information about school performance to the public, while the accountability provisions apply only to schools not meeting AYP requirements.

Research on NCLB has focused on projections of likely effects and descriptions of implementation, and analyses of costs. One such study concludes that states and school districts are trying hard to meet the requirements of the Act and agree with its goals. The law was having more significant effects on school districts in 2003. Schools in need of improvement, in particular, were beginning to receive additional assistance. The option for parents to enroll their children in another school was not being used widely. Tutoring services mandated by the law were being utilized more extensively. Meeting the highly qualified teacher and paraprofessional requirements is proving more difficult for states and school districts. The law has created fiscal issues nearly universally as states and school districts struggle to meet the requirements of the law with little existing capacity to do so.

Since its accountability provisions are still being put in place, it is not possible to determine the effects on student learning or school operations, although all studies conclude that the law is resulting in a range of changes in educational practice, both intended and unintended.
PROMISING PRACTICES

California

California was among the first states to adopt standards, beginning with curriculum frameworks in the late 1980s. California’s history with standards has been turbulent and has illustrated the political complexities of reaching agreement on what it is students should know and be able to do. The state’s math standards are a particularly good example both of how to do and not to do standards development and implementation. Massell, Kirst, and Hoppe present a detailed description of the twisted trail of implementation, modification, and alteration that California standards followed. However, after more than a decade of controversy, California’s standards were often held up as a model for the nation.

After nearly a decade of state standards and curriculum frameworks that were at various times connected with and disconnected from state tests, the state in 1999 passed legislation enabling the California High School Exit Examination (CAHSEE). The intent was to ensure students were properly prepared by the time they left high school so that they could succeed in the world. The exam is standards-based and the state’s first exit exam. Beginning in the 2005-2006 school year, students must pass the exam in order to receive a diploma.

California is an example of best practice in the sense that it has sought to align its test with its standards and its larger school accountability system. Its state exam system was first utilized for school-level accountability, and has now been revamped to require passage for the high school diploma. The CAHSEE has now undergone several internal and external reviews to ensure content tested is consistent with content that would be taught under state standards. Making receipt of a high school diploma contingent on passing the exam helps ensure that students and teachers will take the exam seriously and that student performance on the exam is a fair indicator of student knowledge and skills tested. When no consequences are attached to high school-level exams, they are frequently ignored by the students who may be in the greatest need of improvement, while those who take the exams seriously are those who are already doing well. California’s dual-purpose exam addresses this issue.

Massachusetts

Consequence-based accountability in Massachusetts has been evolving since the 1993 passage of the Massachusetts Education Reform Act, which includes basic goals, assessments and an accountability system for the state. The law also increased education spending dramatically over the decade.

At the heart of the system is the Massachusetts Comprehensive Assessment of Academic Skills (MCAS), which was launched in 1998 and became a graduation requirement for the class of 2003. Students are also
tested in grades 3, 4, and 7. Before the MCAS, Massachusetts school districts had utilized a wide range of standardized tests, but these test results seemed not to have significant effects on schools, whose results remained remarkably constant from year to year. Now, results matter to students and, therefore, to schools.

Implementation of the graduation requirement has been the most contentious and powerful aspect of the Education Reform Act. The law was subject to legal challenges, and was upheld by the state supreme court, which found the accountability process to be fair.

Results from the graduating class of 2003 indicate that 95% of all students passed the English and math exams and graduated on time. Virtually all districts showed improvement on MCAS test scores and pass rates. Rates increase when retakes are factored in for students who took more than 4 years to graduate.

Illinois

While Illinois does not require passage of its state test to graduate, it does have a system of sanctions in place to address low-performing schools. This legislation allows the Chicago Public Schools to sanction its low-performing schools. The school district provides technical assistance to its low-performing schools, requires low-performing schools to create and implement an improvement plan and requires another entity, such as the school district, to create an improvement plan for low-performing schools. In addition, the school district has the authority to place a low-performing school on probation, reconstitute a low-performing school and close a low-performing school.54

New York

New York State has both exit exams and school-based sanctions in place. The state is complex, consisting of one very large urban area and the remainder composed of suburban and rural communities. Finding one system that works for the entire state has been challenging, since New York City tends to skew policies in directions related to its needs and problems.

The state has a long history of utilizing the New York State Regents Exams as a way for academically-inclined students and schools to demonstrate their competence and mastery of subjects associated with postsecondary education. However, beginning in 1996, the Board of Regents approved the use of the revised Regents Exams as part of new graduation requirements. Prior to 1996, the state required passage of the Regents Competency Tests for graduation, but these were designed as basic skills tests. The class of 2000 was the first graduating class that took the revised Regents Exams, but only in English. Beginning with the class of 2003, students will have to pass five Regents examinations (Comprehensive English, Global History and Geography, United States History and Government, and one of the following sciences: Physical Setting: Earth
science; Living Environment; Physical Setting: Chemistry; and Physical Setting: Physics). These are end-of-course exams, given upon completion of a course of study. During the 2002-2003, pass rates for first-time test takers were running in the mid-80% range on all tests.

The advantage of end-of-course exams is that all students have the opportunity to learn the tested content. Furthermore, end-of-course exams can be designed in a way to ensure high-quality content coverage and to encourage teaching that develops higher-order thinking. The exams can consist of complex tasks and prompts to which students must construct complex responses. New York teachers score each other’s exams, which also allows teachers to learn a great deal more about how well students in other schools are doing and in the process influences their own teaching.

In addition to state high school exit exams, New York has enacted legislation that allows the chancellor of the New York City Public Schools to sanction schools in the school district on the basis of performance. The chancellor may require that a low-performing school create and implement an improvement plan, may create an improvement plan for a low-performing school and has the authority to take over a low-performing school. 5

Arizona

Arizona is an example of a state that started with high standards and expectations for its consequence-based state testing system, but has been forced to confront the realities of the gap between state goals and student performance. In this sense, Arizona is perhaps less of a promising practice than an example of the complexity of implementing consequence-based accountability.

The initial intention was to implement the state test as a high school exit exam. However, when in 1999 the majority of students failed and a high proportion of students failed two years in a row, the state delayed implementation to 2005. 6

Arizona’s graduation test is the Arizona Instrument to Measure Standards (AIMS), which the state began administering in 1999 to students in the 10th grade. Initially, the exam was to begin taking effect as a graduation requirement for the class of 2001, but was postponed several times—first until 2002, and currently to the class of 2006.

In October 2002 14% or 227 schools were identified as underperforming. Due to pressures from constituents on issues of opportunity to learn, Arizona developed the AIMS – Equivalent Demonstration exam as an alternate assessment for students. The standard AIMS content has also been modified with a lowering of the passing score on the mathematics requirement. It was lowered to a more “moderate level.” 7
The Arizona experience is illustrative of the problems associated with setting high performance standards without a clear plan for how schools will raise scores to enable all students to achieve the desired performance levels. In the absence of such a plan and the resources necessary to achieve its goals, public outcry mounts, often led by educators, and pressure is applied to the state education department and the legislature to postpone the date when passing the test will be required for the diploma or lowering the standard students are expected to meet. Test requirements alone do not seem to be capable of transforming education absent major systems redesign efforts.

**PROS AND CONS OF THIS MECHANISM**

Consequence-driven accountability has a certain appeal because it goes the furthest toward creating cause-and-effect relationships between governmental policy and educational performance. Legislators in many states tend to favor strategies that leapfrog local school boards and affect students directly and teaching staff indirectly. The theory is that since schools receive state monies, they should, in the final analysis, be accountable to the state.

As noted in the research, this mechanism creates a range of reactions in schools, some desirable from the state’s point of view, some not. Because consequences befall individual students, the general public is much more interested in such systems, as opposed to standards-driven accountability.

The challenges such systems face are numerous. The tests must measure the right things at a reasonable level of challenge. If standards are set too low, students are not challenged, and instruction in schools is not affected. If standards are set too high, many students fail, and public pressure to eliminate the test increases. Schools may also fail to change much under the belief that they can do little to improve pass rates. Rarely, if ever, are the results of the exit exam utilized by higher education or the business world, meaning that a tremendous amount of effort is devoted to a measure that references only itself and does not connect to subsequent opportunities.

**ACCOUNTABILITY IN THE OREGON CONTEXT**

Oregon, like all states, has a well-developed regulatory framework for its school system. This framework has been continuously expanded, particularly over the past 15 years, and contains elements of many, but not all, of the types of accountability mechanisms described in this chapter.

Historically, Oregon was a very strong local control state until it shifted almost overnight to a strong central control state in 1990-91 as a result of Measure 5, the Oregon Educational Act for the 21st Century, and funding equalization legislation passed soon thereafter. In an instant, state government in Oregon had undertaken responsibility to fund public education, determine its goals, and measure its progress.
The tensions between local and central control have resulted in an accountability system that is most similar to what is described as a standards-driven model in this chapter. Recently, accountability in Oregon has also begun to assume elements of the data-driven model as well. What have been lacking are any aspects of the consequence-driven and incentive-driven models.

While Oregon has in place a wide variety of mechanisms to control or guide local schools, these are not knitted into a coherent system that either results in consistent achievement of state goals or the kinds of divergent local practices that result in new models of best practices for implementation statewide. Furthermore, the movement of funding responsibility to the state level has left local districts unable at times to generate resources necessary to achieve state or local goals and has caused the state to be confronted by an unrelenting and unsustainable demand on the general fund. Although this topic is taken up in greater depth in the chapter on fiscal issues, it is mentioned here to establish that accountability is dependent to some degree on the capability of local schools and districts to achieve mandated state goals or performance targets and that adequate fiscal resources eventually become an issue in attaining high levels of student achievement locally. Simply setting high goals and holding schools accountable will not necessarily produce desired results if the match between goal attainment and resource requirements is not highly calibrated.

**DATA-DRIVEN ACCOUNTABILITY IN OREGON**

Oregon’s accountability system as currently structured can best be characterized as a data-driven system. Recall that such a system has few incentives or sanctions and is based on the premise that by providing information, the education system is stimulated to improve. Although Oregon has standards and an extensive state assessment system at grades 3, 5, 8, and 10, and a state report card, it does not have a set of performance levels individual schools or school districts must meet in order to be rewarded or to avoid a particular sanction. While the state education department does require districts (not schools) to submit improvement plans, it does not reject such plans based on their content or proposed activities. The assumption is that local school boards should be responsible for school improvement, and the state’s role should remain limited to providing data to help districts determine what needs improvement.

State report cards have upped the ante on public reporting by creating requirements that districts and schools share certain performance information with constituents annually. Some of the information is longitudinal in nature, allowing judgments about improvement over time, and other data presents comparisons between the local district and school and all schools in the state.

The Database Initiative (DBI) is the state’s attempt to create a system whereby performance can be compared among schools. The DBI is a logical extension of an accountability philosophy based on data because it does allow
comparisons to all schools in the state or comparable schools. When it was created, the DBI was among the leaders in the nation as an online source of information on school performance. It has languished since its initial inception and now lags far behind the more sophisticated and user-friendly systems appearing throughout the nation. The state continues to make incremental progress developing and standardizing data sources, such as information on dropouts, but is not guided by a larger vision of a data system that is employed to bring about sustained improvement in educational attainment and to hold schools accountable for such improvement.

**STATE REPORT CARDS**

Oregon is one of 36 states providing data to the public on school and district performance in compliance with NCLB. The standardized format of the report card generated by the Superintendent of Public Instruction includes Annual Yearly Progress (AYP) designations for all Oregon schools and districts, assessment results by student groups, accountability results by student group, class size, progress toward achieving the education benchmarks established by the Oregon Progress Board, and staffing.

The Report Card also has a section where schools may add local information relevant to the specific school such as honors, school improvement plans, or a letter from the superintendent. According to the Oregon Department of Education, the purpose of the Oregon Report Card is to monitor trends among school districts and Oregon’s progress toward achieving its goals, and “to communicate information to parents about school progress and achievement while meeting the legislative expectation for school and district accountability.”

The Oregon Report Card rating system credits schools for improving student performance on statewide assessments, attendance, and for decreasing the dropout rate. Because the Oregon Accountability System is a continuous improvement model, student growth is expected, and schools are expected to continuously update their school improvement plans. For example, state goals for next year include reducing the drop out rate to 0% by 2004-2005 and graduation rates to 100% by the 2004-05 school year.

School performance reports generated by the Superintendent of Public Instruction include data on attendance rates, enrollment in English as a Second Language courses, school safety (expulsions involving weapon possession), numbers meeting or exceeding CIM standards, drop-out rates, volunteer hours, classes taught by teachers out of area certification, school staff by category.

**DATABASE INITIATIVE (DBI)**

The Database Initiative, or DBI as it is commonly known, is a state-level data system initiated at the behest of the 1997 Oregon Legislature. The DBI was authorized by House Bill 3636, which directed the Oregon Department of
Education (ODE) to update the K-12 school budget and accounting system to produce comparable spending information for schools and districts. The Department of Education was authorized to collect standardized data at the district/school level and develop means for electronic transmission and reporting. One of the key purposes was to create a tool that allowed policymakers to base school funding decisions on reliable, comparable data on spending, resource allocation, and student performance. The project was designed and piloted during the 1997-98 biennium and implemented statewide in 1999. Since that time, it has been used as a means to judge how well individual districts or schools are doing relative to the rest of the state or a select comparator group.

When the DBI was established, the state set a series of goals for it. According to information available from the Oregon Department of Education, the DBI was designed to serve as a Web based resource geared for public access on tax dollar allocation for education. Once the state had standardized and prescribed common definitions for expenditures and a uniform chart of accounts, the DBI created the capability for reporting and comparing district and school fiscal expenditures. The presence of both fiscal and program data allowed local educators and others to relate expenditures to achievement of academic content standards. The goal was to utilize better data already present in ODE, collect new data in standardized fashion, and create a policy tool that would identify connections between expenditures and student achievement.

The DBI was seen as a key element in a data-driven accountability system where educators, legislators, and community members would all have access to the same data when making decisions or discussing fiscal issues. It has served that purpose to some degree, but has perhaps not reached its full potential because development work has not continued in a fashion designed to update the user interface, increase functionality, and expand the amount and kinds of data contained in the DBI. It also suffers from anonymity in the eyes of the general public, few of whom have ever accessed it and among many educators at the school level who are equally unaware of its existence or, if they are aware of it, have never employed it in making fiscal decisions.

**QUALITY EDUCATION MODEL**

The Quality Education Model (QEM) was developed over a period of several years and was introduced to the Oregon Legislature in March 1999. Its goal was to utilize data made available by the DBI to begin to make the connections between expenditures and student performance envisioned by the designers of the DBI.

The QEM’s use of “prototype schools” that model both the educational programs and expenditures helps draw connections between the two. By detailing the educational programs at the prototype schools, their costs, and the likely degree of learning that will occur, the QEM draws a picture of how funds are being spent and what is being achieved as a result. Because it is a
model, all of the variables in it can be changed. Funding can be increased or decreased. Educational programs can be added or subtracted. Variables such as class size or time spent on professional development can be increased or decreased. The resulting effect on student learning can be gauged.\(^{62}\)

The QEM has been an additional tool for organizing and publicizing data on the state of Oregon’s public schools. Educators, school site council and school board members, state education officials, representatives of the business community, and state legislators have all used the model as a tool to understand better the quality of education in Oregon and the relationship between funding and student performance.

**BUSINESS COMMUNITY CONTRIBUTIONS TO A DATA-DRIVEN SYSTEM**

Oregon has an activist business community that has authored reports with comprehensive summaries of data that reflects the functioning and effectiveness of Oregon’s schools.\(^{63}\) Most notable is the Oregon Business Plan 2004,\(^{64}\) a comprehensive document on state policy in a number of areas, education being among them. The plan contains a competitive index that ranks Oregon’s schools on a national level, and places them 30th in reading proficiency and 23rd in math proficiency for 4th & 8th grade reading scores. The Oregon Business Plan recommendations link the successful educational system, as measured by student performance, with a thriving economy. Its four major education-related recommendations are:

- Accelerate implementation of Oregon’s state-of-the-art educational assessment and information management tools.
- Accelerate statewide efforts to have all students meet high standards, to close the achievement gap, and to reduce the dropout rate in every district in Oregon.
- Improve the systems that deliver K-12 public education (funding and governance) to increase accountability and positive outcomes for students.
- Equip Oregonians to play a role in creating a first-rate education system by increasing understanding, building connections, and inspiring action.

The business community is also engaged in the legislative process each session, where a number of groups representing business present a range of proposals designed to improve education, or lend their support or mount opposition to specific education-related pieces of legislation. The business community’s interest in education policy in Oregon is not limited strictly to fiscal issues, but spans a broad range of policy topics. The connection between business success and educational excellence is stressed frequently.
STATE ACCOUNTABILITY MECHANISMS

Oregon’s legislature has passed many laws that regulate public schools. These laws cover a wide array of situations and circumstances. Many of those mentioned relate to fiscal accountability, student health and safety, and specific functions such as pupil transportation and school lunch programs, for example. Rather than try to recount each and every instance of government regulation, this section summarizes several that are most closely related to educational accountability while acknowledging that many regulations not discussed here can affect aspects of educational accountability.

Also not mentioned in detail in this section are state regulatory mechanisms that affect teacher and administrator licensure. Although state regulatory policy in this area is extensive and influential, the topic is discussed in greater depth elsewhere in the Staff Quality chapter. For the purposes of this section, it is sufficient to acknowledge that licensure requirements represent an additional area of state regulatory activity with substantial effects on schooling and student learning and additional untapped potential to influence educational improvement statewide.

State Academic Content Standards and Assessments

Perhaps the single most important piece of education legislation related to accountability has been the Oregon Educational Act for the 21st century, which was passed in the 1991-92 session. The law contains the basis for the standards and assessments upon which much of Oregon’s data-driven accountability is based. The law established for the first time the right and ability of the state to compare performances across districts on the same tests and against the same academic standards. The law established the Certificate of Initial Mastery and the Certificate of Advanced Mastery, both of which continue to exert influence on the high school program, and now, increasingly, on the relationship between high school and college.

Both the CIM and CAM continue to be updated and modified. Most recently, H.B. 2744, passed by the 2003 legislature, which limited the subjects required for a CIM to English (reading and writing), math and science, and removed the requirement that the arts, second language, physical education and the social sciences be incorporated as mandatory subjects for the CIM. The bill also postponed mandatory implementation of the CAM for four years until 2008.

The Certificate of Advanced Mastery (CAM) now includes demonstration of skills through an education plan in which the student identifies personal and career interests, tentative educational and career goals and post high school next steps (i.e. college, workforce, military, apprenticeship, other), sets goals to prepare for transitions to next steps, and designs, monitors and adjusts a course of study that meets the student’s interests and goals. Work-based learning experiences, including apprenticeships and youth apprenticeship programs could be developed in partnership with the business community.
Local School Boards and School-Site Councils

The governance of Oregon schools includes a school-based component in addition to local school boards. The Oregon Educational Act for the 21st Century also include provisions for local site councils, which each school has been required to have in place since 1995. The legislative intent in establishing these 21st Century Schools Councils was to support implementation of the reform legislation, to have the councils oversee school improvement plans at the school level, to encourage new initiatives in school-based management and the assessment of educational progress, to provide new and expanded career opportunities for teachers, and to facilitate efforts to restructure the school workplace to provide educators with greater responsibility while increasing their accountability. Specific duties included:

- The development of plans to improve the professional growth of the school’s staff.
- The improvement of the school’s instructional program.
- The development and coordination of plans for the implementation of programs under this chapter at the school.
- The administration of grants-in-aid for the professional development of teachers and classified district employees.

These school site councils are a potential tool for enhanced school accountability, particularly if they are provided better data upon which to compare local school performance to others in the state. Few, however, have fully taken up the four responsibilities outlined above. Many have devolved into extensions of the local Parent-Teachers Organization or have become engaged in “administrivia” that prevents them from focusing on their core mission. Evidence suggests that schools that are adapting the most successfully to reform requirements and showing the most consistent improvements in student learning utilize these councils more effectively than those that do not. If these councils can be invigorated to assume a greater leadership role around issues of student learning, they could conceivably help schools be more accountable for continuous improvement tied to state targets.

Sanctions and Incentive Programs

Oregon has few sanctions in its accountability system currently. In theory, the state superintendent can withhold 5% of a district’s general fund budget if the district fails to comply with the requirements of the Oregon Educational Act for the 21st Century, but this provision has never been executed in the 13 years since the Act’s passage, although districts at times have been less than forthcoming in their response to the Act’s requirements. The State Board of Education has limited powers of review over a range of aspects of school functioning, but very limited authority to apply any sort of sanction that would affect a school or district directly based on some aspect of performance.
Oregon ORS 329.830 established incentive rewards targeting teachers in successful schools. The program has never been implemented. However, its provisions include minimum rewards for teachers of $1000 to be used for classroom enhancement or professional development. When establishing the criteria for the rewards, the state board of education must take into account the results from the statewide assessment system, the achievement of measurable academic goals from school improvement plans, and criteria relating to improvement in student learning. The voluntary application to the ODE Successful Schools Program would include a copy of the school improvement plan, reporting on statewide assessment results, and measurable achievement of academic goals from the school improvement plan.

**Current School Improvement Process**

The heart of Oregon’s school accountability system currently is the Consolidated District Improvement Plan (CDIP). OAR 581-022-0606 outlines the required content of District Improvement Plans, that are largely self-evaluations that must include information on district demographics, student performance, student access and utilization of educational opportunities, staff characteristics, progress toward the implementation of the Certificate of Advanced Mastery, and Title Program data where applicable.

Additional aspects of the CDIP, as outlined in the ODE District Improvement Plan Quality Review Scoring Guide has several other requirements. Districts must involve representatives from the demographic groups of the district school population to participate in the development of local district goals and plans to achieve those goals. Improvement goal(s) must address the most critical student needs. All goals must be measurable. The CDIP must describe local efforts to achieve efficiencies and make better use of resources. Programs and policies to achieve a safe educational environment must be described. Short-term and long-term staff development activities for district and school employees are to be identified in the plan. Districts must spell out how activities relate to goals, when they occur, who is responsible, and how the process is monitored. An annual report to the community must include test results and progress on the improvement plan. Copies of the school and district improvement plans must be available to the public.

The CDIP requirements have much to recommend them. They present a complete framework for developing and monitoring an improvement process. They are, however, ultimately still a process, not a result. The school district is free to select whatever goals it wishes as well as to define the progress it chooses to make in the plan. If a district fails to achieve the goals in its plan, it can simply restate them a second time and resubmit the plan. The state has no mechanism to enforce accountability for results beyond the process itself. Technical assistance can only be provided by the state if requested by the local district. Perhaps most importantly, it is a district, not a school, plan. Most evidence suggests that improvement planning must be done at the school level, but the CDIP aggregates planning to the district level, where differences and variation among schools can be more easily overlooked or glossed over.
Nowhere in the CDIP is there a means to ensure local goals align with state goals. For this reason, it appears unlikely that the state will ever have any real leverage to achieve any statewide goals. In this environment, the federal accountability requirements become the drivers for district actions. The state’s attempt to create a data-driven, largely voluntary accountability system with reference to standards but no performance goals is trumped by a federal system that is highly prescriptive regarding the specific goals to be set, the means to measure them, and the timeline for their achievement. The future of Oregon’s data-driven accountability system within this larger policy context is at best murky.

POLICY OPTIONS

Policy options related to this large and complex topic are of necessity more general and emphasize the system nature of any policy or solution that may be attempted. Several of the policies highlight the need to consider carefully a number of possible options for system redesign rather than settling on one means exclusively and perhaps prematurely. The recommendations in their entirety do encompass a very wide scope. If pursued, they would lead in the direction of system-level and systemic changes in the ways in which Oregon approaches regulatory accountability as well as how it governs its schools and develops policy for them.

- **Explore strategies for balancing the state accountability system among data-driven, incentives-driven, standards-driven, and consequence-driven mechanisms.** (Innovative Practice) As noted in this chapter, Oregon’s accountability system relies almost entirely on data to motivate schools to improve. The state does have academic standards that inform the accountability process, but the state has not adopted formal goals toward which schools should strive and against which they can be judged, although federal NCLB requirements may render this point moot. The state’s nationally-recognized assessment system has no consequence attached to it, ensuring that only those students and schools that choose to take it seriously make the types of changes necessary to improve student scores consistently.

This is particularly true at the secondary level, where few, if any, high schools receive an exemplary rating on the state report card each year. The association of consequence and reward with the assessments seems to be a logical next step, if the state wishes to utilize a wider array of accountability mechanisms to motivate continued improvement. Therefore, the state should work to strengthen all four types of accountability. The following policy option addresses the creation of a more comprehensive, robust data system that would enhance this core accountability strategy. Data-driven accountability would continue to be the centerpiece of the Oregon model, but the quality, extent, and usability of data would be dramatically improved.
The performance levels and goals necessary to defining better the standards-based component of accountability can be generated through an enhanced version of the Quality Education Model. This enhanced version will have the capacity to forecast with greater precision the student performance that can be expected at different funding levels. This can then lead to the establishment of more specific targets schools are expected to meet in relation to state standards. Similarly, the academic standards for exiting high school and entering college can be fully articulated, which allows for the realization of truly seamless transition between secondary and postsecondary education.

Consequence-based accountability can be addressed by creating more reasons for students to do well on state assessments and for educators to adapt schooling so that such increases in performance take place. One place to begin would be to connect tenth-grade CIM assessments and the 12th grade Certificate of Advanced Mastery with college admission, placement, and credit policies at Oregon public universities. The policy framework for such connections already exists, and considerable piloting and research has already been conducted, including studies of the relationship between CIM scores and first-year college grades, and the mapping of state content standards and CIM assessments onto the Oregon University System's Proficiency-based Admission Standards System (PASS).

One consequence for low scores could be a requirement to enroll in remedial courses before being granted access to the general education college curriculum. High scores could enable students to receive preference for scholarships and financial aid. These are mild incentives and consequences, compared to more powerful mechanisms, such as linking scores to the high school diploma or college admission. These milder forms may help motivate high school students to prepare in earnest for state assessments and encourage high schools to add or adapt programs to improve student achievement relative to state standards.

Additionally, college credit and placement into entry-level community college and state university courses could be predicated on performance on CIM and CAM measures. The OUS PASS assessment system is already designed to articulate with CIM and CAM, allowing the creation of a seamless transition relatively quickly, easily, and inexpensively.

- **Examine the efficacy of the Certificates of Initial and Advanced Mastery as policy tools to bring about improved student achievement and fundamental redesign of high school educational programs.** The CIM has been in place since the late 1990s. The CAM, although still not officially implemented, has been well defined and in place on a voluntary basis in a number of Oregon high schools. These programs have never been put to the test of whether they achieve their intended goals, which were to enable Oregon’s students to be the best educated in the nation and the best
prepared workforce in the world. If the CIM and CAM have problems, it is time to determine if they should continue in their current configurations, be modified, or be abandoned, perhaps in favor of some different mechanism that might better achieve the ambitious goals laid out in the 1991 Oregon Educational Act for the 21st Century.

It seems unlikely that the CIM and CAM will ever affect more than a minority of students without some form of consequence or opportunity associated with them. One option would be to make the CIM mandatory for high school graduation. This would have the effect of motivating students in particular to take seriously its requirements, which would help support high schools that were redesigning their programs to enable all students to reach the standards contained in the CIM. Another option is to leave the CIM as a voluntary certificate, but attach incentives such as a state-sponsored college scholarship to passage. The state of Georgia, for example, through its Hope Scholarship program has awarded tuition scholarships to students who achieve a B grade point average throughout high school. Passage of the CIM might be similarly linked to a reduction in tuition at in-state postsecondary institutions.

The CAM could be linked more directly to entry into the work world and into postsecondary education. CAM requires the creation of collections of evidence that demonstrate student mastery of academic and work readiness standards. These collections could be required for entry into postsecondary education or could be widely adopted by employers as a supplemental job application requirement.

Another alternative would be to simply eliminate the certificates altogether and go back to a high school diploma awarded entirely on local criteria and standards, consistent with state law. The drawback would be that there would be no meaningful way to compare or judge how well students were being prepared locally.

An additional possibility would be some new system as a replacement for CIM testing. One example of this is end-of-course testing. Under such a model, the state would develop tests that would have to be given at the end of certain courses that all high schools would be expected to take and that were deemed critical to a quality education. Students would not be allowed to graduate without passing these courses and could also place into higher college courses if they scored well enough. One advantage of this approach is that these tests encourage high-quality teaching in specific courses instead of diffusing responsibility across multiple courses in ways with which high schools seem to have difficulty coping. Alternatively, these tests could be implemented strictly as a school-level form of accountability with no consequence for students, but this would simply duplicate many of the same issues that exist for the CIM currently in terms of students being motivated to perform well on the test.
Whatever the finding and recommendation, a great deal of public education needs to occur for these certificates to be widely understood and accepted by the public. If the state chooses to retain them, a large-scale, ongoing informational campaign will be necessary to ensure that parents are exposed to information about the CIM and CAM from the time their children enter kindergarten until they enter high school and that employers are continually reminded about what it means for a student to have earned a CIM or CAM. This information should help students, parents and employers to understand the purpose and importance of the certificates, the ways in which to prepare to attain them, and the consequences of not attaining them.

- **Create a comprehensive data system that enables each level of educational governance to judge the value it is adding to student learning and that helps schools to identify changes necessary to support continuous school improvement.**

  (Innovative Practice) The most important single component for accountability is information on performance. Schools can neither focus their efforts properly nor be judged fairly without data on how well they are achieving key education goals defined by the state and by local districts. It is virtually to have true accountability without open, accurate information that is available to and understood by constituencies with a stake in public education. A comprehensive system of data also helps hold the entire system, from policy makers to parents, more accountable for their actions.

  Numerous organizations and several states are creating or have created state-level or multi-state databases that allow school-level reports and comparisons. The theory of action underlying these projects is that schools will be more capable and more motivated to improve if information on their performance is widely available to policymakers and the public. While a data system alone does not compel or guarantee improvement, it does greatly enhance the potential for it to occur.

  Data systems generally include test results disaggregated by student subgroup, attendance reports, and fiscal data that allow determination of the relationship between funds allocation and results achieved. More sophisticated systems provide “value-added” analyses of the gains in student learning that are attained versus those that might be expected. The capacity for data systems to incorporate additional elements is limited only by the ability of schools to collect reliable information on important aspects of schooling.

  If the data system can be designed and implemented in a manner that makes it easily accessible to all interested parties, it can be used by them to judge the effectiveness and efficiency of the public education system generally and individual schools specifically. This permits parents who are members of school site councils, for example, to raise issues and ask intelligent questions. Comparative data helps principals
who wish to alert their teachers to deficiencies or weaknesses in the school’s instructional program absent from other schools with similar student profiles. School board members can review district performance more conveniently than in the past and request explanations from the superintendent of areas where performance is not improving or where specific groups of students are performing less well. Legislators would be able to debate funding and goals for education with common, objective data to underpin arguments and refute ideological assertions. Newspapers would be able to call up performance data with ease when investigating different aspects of the school system’s performance.

- **Develop enhanced capacity at the local and state levels to support school-based improvement for those schools that fail to meet state standards and to make adequate yearly progress.** (Innovative Practice) Educational improvement in Oregon, as noted earlier, is largely a voluntary process. School districts and individual schools may choose to improve or not. If schools do not improve, the state has no formal mechanism to intervene, even in support of improvement. Federal requirements will begin to phase in and affect progressively greater numbers of schools, but the state has no structure in place currently to respond to this looming challenge. The Oregon model is to expect local school districts to undertake improvement voluntarily. This is an interesting philosophy, since it raises the question of why a district has not improved its schools previously, if such a need is found to exist, and why it will now be able to do so, having not done so or been able to do so in the past.

Clearly, some form of organized state support to help schools improve will come into being within the next several years. The general structure and nature of a support system is outlined previously in the section describing regular school improvement visits by external teams as a part of general efforts by the state to support sustained school improvement.

However, this structure would be adapted for schools that demonstrate consistent inability to improve. The emphasis would not be on punishment, but on diagnosis. Support would include comprehensive analyses of the causes of failure to improve and technical assistance on how to redesign the school to begin to improve. The support would extend to central office staff and school board members to ensure they were capable of managing a comprehensive improvement process. Analysis of district and school resource allocation policies and practices would be one dimension of a more comprehensive profiling process that would involve gauging a range of activities and factors within the school and surrounding community, all demonstrated to be associated with improved student learning, to determine the degree to which these indicators were present. When they were found to be absent or
wanting, the team would develop a specific plan to bring about improvements in these areas.

The district would be obliged to provide the resources necessary to implement the plan. The goal would be to create greater local capacity to manage an improvement process by identifying necessary data systems to diagnose problems and track progress, providing focused technical assistance in areas where specific skill development was necessary, and overseeing the creation of a comprehensive, multi-year improvement strategy that was judged likely to result in identified increases in student learning.

• Develop a comprehensive plan for redesigning educational governance in Oregon so that state and local goals can be achieved effectively through mutual partnership. (Innovative Practice) Oregon’s educational governance system is over 125 years old. Little has changed since its original design was put into place in the late 1800s. The connections within the executive branch and between the state and local levels are particularly tenuous and confused.

The governor develops the budget for all of state government, but the education budget, which now comprises over half the general fund, is developed in the Department of Education, which is run by an elected officer who is not even a member of the governor’s cabinet and who could be in competition or conflict with the governor. The state board of education is appointed by the governor, but can consist of appointees from several different administrations. The superintendent may or may not choose to work well or closely with the state board of education. This lack of alignment within the executive branch makes it more difficult for the education budget and education policy making to move smoothly to and through the legislative process.

Many strategies for revising educational governance in Oregon may need to be considered. For example, one approach to strengthening the connection between the governor and state superintendent would be for the superintendent to be appointed, rather than elected. The State Board of Education would be responsible for selecting the superintendent, but the governor would retain veto rights over the appointment. The superintendent would be a member of the governor’s cabinet. Budget development would occur in closer coordination with the rest of state government. The State Board of Education members would continue to be appointed on staggered terms so that its composition tended to reflect more than one administration.

While Oregonians cherish their ability to elect directly those who govern them, in this case, the elective process may not result in greater citizen control over educational governance. As the system currently functions, the state superintendent has limited direct power and
authority. The budget that ODE submits to the governor is still subject to revision by the governor’s office before it reaches the legislature and to further revision by the legislature. The State Board of Education is responsible for rule making, which the superintendent and ODE are then responsible to implement. The current system of fragmented governance and direct election of the superintendent contributes little to the ability of citizens to affect state education policy through the electoral process.

An appointed position would contribute to the professionalization of the office and could result in state superintendents who were well versed in education based on experiences they gained before taking office. Such individuals would not have to learn about schools on the job as many recent superintendents have had to do during their first term in office. Furthermore, a state superintendent could be selected based on demonstrated ability to bring about improvement in schools and school districts. This set of skills could be utilized by an appointed superintendent to organize ODE into a resource for school improvement statewide to a more significant degree than it is currently and could help local boards devise solutions that would help specific schools that local boards had been unable to improve.

An example of a change in governance at the postsecondary level that would go hand-in-hand with any changes affecting K-12 education would be to remove the community college system from the responsibility of the State Board of Education and transfer responsibility to the State Board of Higher Education. This would allow the K-12 board to focus exclusively on the needs of elementary and secondary education in the state.

At the same time, the State Board of Higher Education could develop comprehensive, coherent policy for the entire postsecondary system. The emphasis of such policy would be to enable postsecondary education to adapt rapidly to student need and state priorities while maximizing “seamlessness,” the ability to allow properly qualified students to move from one system to another with minimal disruption, expense, or difficulty.

The Joint Boards of Education could be revived and reinvigorated. Its primary mission would be to make substantive policy that would promote better connections between the K-12 and postsecondary systems. Such policy would specifically be designed to enable students to make the transition from high school to postsecondary learning more smoothly and successfully. In order to ensure that the Joint Boards could achieve their goals, the state budget would contain funds specifically earmarked for K-16 initiatives and programs, and these funds would only be expended by the Joint Boards of Education.
An additional aspect of how governance might be rethought is the relationship between Education Service Districts (ESDs) and their current clients, local districts, on one hand, and the state on the other hand. ESD governance would become a collaborative state-local venture. Greater coordination between the state and local levels could potentially be achieved by changing the role of education service districts to that of intermediary agencies between the state and local schools. Under such an approach, ESDs would provide technical assistance for school improvement via a direct contract from the state. The ESDs would be reconfigured to provide technical assistance, professional development, and policy implementation assistance to school districts and individual schools within defined service areas. Many current ESD functions would be put out to contract, allowing regional or even state-level service agreements to emerge. This arrangement would encourage some degree of competition and specialization among regional service providers to offer specialized services to school districts.

Finally, and perhaps most importantly, the role of the local board of education needs to be explored and defined more clearly. How can boards be constituted so that they can best facilitate school improvement in the context of local values and wishes? How can they manage the budget process in ways that support local priorities but also lead to improved student achievement? What are the limits of local board authority? What should happen when a local school fails to improve continuously? Are there any duties from which local boards should be freed in order to focus more fully on managing local schools for improvement in a manner consistent with the local context?

One way to rethink the role of local boards of education would be to make them much more directly responsible for school improvement. Each board would be required to adopt formal improvement goals for each school in its district. Those goals would have to connect with state and federal goals. If a school failed to meet its goals, the state would hold the local board accountable. Boards would then review school improvement plans at regular intervals and, if a school failed to achieve its board-approved improvement goals, issue a public report specifying the reasons the goals were not met and the steps being taken to ensure that goals were met subsequently. The state could choose to provide training to board members to ensure they were capable of overseeing school improvement processes. If progress still was not forthcoming, the state could dispatch an agent to work directly with the board, assisting with school improvement planning processes and making binding recommendations for policy changes. The agent would work to help the board process and respond to diagnostic data generated through the process described in the previous policy option.

To move the discussion of these complex and profoundly important issues forward requires careful thought and analysis over an extended
period of time. A blue ribbon commission could be established and charged with recommending changes in the structure of Oregon educational governance. These recommendations could enumerate specifically the roles and responsibilities that should be attached to each level in the governance system and all constituent groups associated with education. The final report of this commission would contain in it a redefinition of the role of and expectations for local school boards designed to revitalize their role in educational policy and governance. Additionally, the report would outline the best means to achieve a comprehensive governance structure for Oregon education and the changes that would be necessary to implement such a structure.

- **Consider the development of greater independent state education policy analysis capacity** (Innovative Practice) Currently, Oregon has little to no institutional capacity to analyze education policy and generate policy options and recommendations. The range of reports that the Chalkboard Project felt necessary to frame the process of reengaging the public in the consideration of educational policy issues illustrates the gaps that exist. The state should undertake to develop ongoing policy analysis capacity, perhaps through a public-private partnership. The purpose of this policy analysis capacity would be to continuously identify emerging policy issues and formulate solution sets that help frame problems better for policy makers and practitioners alike. This policy analysis capacity could be put to good use analyzing and interpreting the more extensive data that would be generated from the comprehensive data system contained in an earlier policy option, as one example.

The reports and scenarios that resulted from an expanded policy analysis capacity would be utilized to help improve the quality of discussion about education policy issues, particularly in the year between legislative sessions. The goal would be to create more discussion and reflection before the legislative session convened. The results from these off-year discussions and debates would be fed into the legislative process to help inform decision-making and into the educational governance system to encourage better policy development at the state and local levels.

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6 ibid


10 ibid


12 Retrieved from http://nclb.ees.org/nclb

13 ibid.


18 Retrieved from JFKT website: http://www.just4kids.org


Retrieved from http://ilrc.ode.state.oh.us/

Retrieved from http://www.battelleforkids.com/b4k/rt/about

Retrieved from http://www.ade.state.az.us/sais/


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Retrieved from Colorado Department of Education http://reportcard.cde.state.co.us/reportcard/CommandHandler.jsp


54 Education Commission of the States, State Notes: Rewards and Sanctions for School Districts and Schools, August 2002, table 5.


57 IBID and Arizona State Board of education http://www.ade.state.az.us

58 Retrieved from reportcard.ode.state.or.us/background.htm


60 Oregon Consolidated State Application, September 1, 2003 submission


65 See: House Bill 2744 [OAR 581-022-1110 & 581-022-1120].

66 See OAR 581-022-1120.

67 See: ORS 329.915.

68 See: ORS 329.704.


INTRODUCTION

Part Two of this report examined the evidence on proven and promising practices assuming no major change in the K-12 system’s administrative structure. We concluded that educational practices, backed by rigorous research, were limited and may include class size reductions in the early grades, one-on-one tutoring for young children, and high quality preschool.

Researchers offer two explanations for the generally recognized shortage of definitive proven practices. Some argue the educators have not invested the time and resources necessary to evaluate the wide range of interventions and suggest that, with more careful implementation and observation, the list of best practices will expand over time. Others are more pessimistic and essentially conclude best practices are hard to find because there may be none. This group believes individual student learning processes and teaching styles are so diverse that policymakers will rarely, if ever, find single policies, or even groups of policies, that are worthy of wide-scale implementation. Rather than increasing resources or regulatory accountability (discussed in the preceding chapter) within the current system, these researchers believe policymakers should strengthen the incentives in the K-12 system through implementation of market-oriented reforms based on models that give students and parents more choice in their educational options. By moving to common choice-based models and exposing schools to more competitive pressure, teachers and principals will have strong incentives to quickly identify and implement the inherently complex mix of instructional practices and organizational structures that work best for their unique student populations.

This chapter is a critical review of the economic theory and empirical evidence that underlie proposals for market-based reforms. This introductory section continues with a brief discussion of the range of market-based options available through K-12 system and then turns to a discussion of the economic theory supporting market reform. Next, we review the empirical evidence on the relationship between market-based educational policies and student achievement, and in a final section, we discuss a range of policy options available to Oregon policymakers to inject more incentives and choice into the existing educational system.

RANGE OF MARKET-RELATED OPTIONS

Before detailing the theory and empirical evidence on educational markets, this section provides an overview of the range of policy options that compose market-based reforms. Historically, public schools were rigid in their enrollment policies. Based on a student’s residential location, a school district
assigned a student to a neighborhood school, and alternative educational options were extremely limited. Parents could increase their choice by either relocating to another neighborhood or enrolling their child in a private school. During the past two decades, the range of educational options available to children in publicly provided schools has expanded somewhat. Public school districts have created magnet schools with specialty programs and have allowed parents to request transfers out of neighborhood schools. During the past decade, states have authorized the creation of charter schools that are largely self-governing and open to students across a geographic area. Finally, Milwaukee, Cleveland, and the State of Florida have experimented with targeted voucher programs, which provide public funding directly to students who can then purchase educational services from public, non-profit, or private schools.

The National Working Commission on Choice in K-12 Education developed an eight-stage continuum of choice policies. Essentially, each stage moves toward an increasingly competitive market model.

1. All students assigned to schools by the district—no choice
2. District allows some families to choose district-run alternatives or magnet schools
3. District allows families to choose among all district-run schools
4. District also allows families to choose some district-authorized schools operated by independent parties (charters)
5. Families may choose among district-run and chartered schools and also schools chartered by other governmental entities
6. Families may choose among many publicly funded schools, all of which are operated by independent parties (charter schools)
7. Families receive vouchers but must use them only in approved schools that must employ admissions lotteries and accept vouchers as full payment of tuition
8. Families receive vouchers that they may use in any school, while schools set their own admissions and tuition policies

Absent from the continuum are home schooling options, which serve a small but growing share of the nation’s school children. When viewed in this broad context, we find Oregon schools have already adopted market-based solutions to some degree. Relative to other states, Oregon receives a moderately high ranking from the Manhattan Institute. The pro-market think tank publishes the Education Freedom Index, which measures degrees of school choice across the United States. On the most recent Index, Oregon ranked 16th nationally due, in part, to the flexibility of its charter school law. Signed into law in 1999 by then-governor John Kitzhaber, Senate Bill 100 entitled willing and able groups to propose and, with approval, establish
charter schools in the state of Oregon. This charter law provides an effective mechanism for groups seeking to establish alternatives to traditional public education. While generally permissive, the law has resulted in only 0.2 percent of Oregon students attending charter schools in 2002.

Choices are also available within the traditional public school framework. Portland Public Schools’ choice policy allows parents to request a transfer to any district-operated school. Relative to the no-choice model, Portland’s policy places pressure on neighborhood schools to demonstrate strong performance and retain their enrollment base. However, transfers to highest performing schools are limited by a lack of classroom capacity. In short, the district has yet to implement policies that allow a significant capital or classroom supply-response by highly requested schools. The Eugene 4J district has a similarly structured system, and as a result, the highly regarded South Eugene High School enrolls more than 1,800 (roughly one-third) students from outside its established enrollment boundaries.

Voucher programs, which round out the choice continuum, are relatively rare in Oregon. The Cascade Policy Institute supervises a privately funded voucher program, *The Children’s Scholarship Fund*, which provides scholarships to low-income children to attend private schools in the Portland area.

**ECONOMIC THEORY SUPPORTING MARKET REFORMS**

**THE CASE AGAINST CENTRALLY PLANNED SCHOOLS**

Debates over modern education reforms often center around how to improve our educational outcomes within the current system. Proponents of market- (or incentive-based) reform argue that focusing only on reforms inside the current system ignores lessons from both history and economics – that centralized systems and government protected enterprises cannot efficiently and effectively provide services with the quality, quantity, and diversity demanded by a broad and ever changing population.

Market reformers argue that centrally planned schools lack the ability to flexibly respond to differences between regional populations and individual student bodies. A central bureaucracy, at the state- or school district-level, prescribing the same organizational structure and educational offerings exist in all schools, tends toward *one-size-fits-all* solutions that may work for some students and teachers but are ineffective for many others. In their view, centralized decision-making is inherently inefficient given the manifold needs of student bodies and the myriad resources that exist within a single district, let alone across an entire state.

Market reformers point to a lack of information as the key flaw in the centralized administrative system. Central decision-makers, removed from classroom teachers, school staff, and students, cannot quickly and effectively
respond to new information – information on what organizational structures and instructional techniques are proving most effective, on what parents desire for their children’s education, or what new skills are necessary in a highly dynamic, global economy. Complicating this issue, and exacerbating the inadequacy of central planners to cope with it, is that this information is far from uniform in content, is not universal in scope, and is constantly changing as well. While schools may want to try different instructional methods they believe will improve student performance, regulations governing curriculum and staffing effectively blocks their efforts to innovate. Parents in dissimilar regions or circumstances may desire educational offerings better tailored to serve their children’s needs, but again, they run into central prescription over what and how schools offer their content.

ADVANTAGES OF MARKET-BASED SYSTEMS

Economic theory suggests the market holds several advantages over centrally planned systems particularly pertinent to our current educational landscape. In the market system, the goal is set and incentives are created to entice individuals and organizations to pursue the goal, but no single method of achieving that goal is prescribed. Independent agents—teachers, principals, superintendents, students, and parents—autonomously pursue that goal according to their own individual abilities and strengths. This negates the necessity of knowing some a priori “best practice” for achieving the goal, which, even if it existed, may not be appropriate for all students or teachers. Indeed, the fact that debates still rage over the “best way” to education children after centuries of practice and research is compelling evidence that no one—including and perhaps especially government—knows this “best way”.

Where centralized systems struggle to identify effective practices because information is widely scattered or undiscovered, market systems resolve both of these issues. For one, individual school-based educators acting autonomously can respond much more rapidly and effectively to information than a school board member, superintendent, or state legislator. In the market, when agents acquire some new knowledge that enhances their ability to achieve the goal, they have the power to immediately incorporate that knowledge into their pursuit of the goal. Market-based reforms provide teachers and principals more authority to remove elements that they find are hindering their pursuit of improving educational achievement. The combined effect is that in the market, individuals are constantly refining their process to make it more efficient and effective, discarding or reconstructing underperforming components and adopting more effective methods for achieving the goal.

Secondly, the market includes an excellent mechanism for discovering unknown information and potential: entrepreneurship. In the market, agents who discover productive information are rewarded by the system, because the same incentives that cause agents to pursue the goal in the first place drive them to find new ways to achieve it better, faster, and cheaper.
In an open-ended world, market reformers believe no one can say for certain what are the best practices for the future. Market-based reforms create an incentive structure that would encourage entrepreneurial teachers and principals to unearth new methods, guaranteeing that they will constantly endeavor to find new and better practices for providing their products. Centralized systems lack the ability to motivate their agents to innovate, because there is no incentive structure that rewards the discovery of new and improved methods.

In short, reformers argue the market system is inherently better equipped to effectively and efficiently provide public education than a centralized structure. The population of parents and students is simply too diverse for one prescribed method of educational instruction and organization. Critical information is too widely dispersed for an inflexible central bureaucracy to respond to a changing educational landscape. Conversely, the market is an institution with a long and proven history of adequately serving diverse populations, as well as facilitating the use of existing information and discovery of new processes. By reforming our education system to engage the powerful market forces that create efficient and accountable institutions—specifically ones that attract rather than compel parents to place their children in their care—market reformers believe we can deliver the high quality, cost-effective education that parents and taxpayers demand.

**RISKS OF MARKET-BASED SYSTEMS IN EDUCATION**

Critics of market-oriented education reforms that expand parental choice point to several concerns about the nature of market interactions as a reason to either proceed with caution or to prevent incorporating market elements in education altogether. They argue market-based reforms in education can produce adverse consequences for “non-choosing” families, foster segregation, and generally weaken civic cohesion.

**CONSEQUENCES FOR NON-CHOOSERS**

Markets work only if consumers have ready access to good information. Given that education has been provided publicly for the better part of the last 150 years, critics of market-based reforms argue that schools are ill prepared to furnish the necessary information required to make good school choices. Moreover, they believe that even if schools were well practiced at providing information, in the short-run many parents would have little practice using it. Sub-par information and poorly prepared consumers, critics argue, would generate a group of “non-choosers” who would passively leave their students in local public schools while their peers choose other public or private alternatives. As a consequence, the children of “non-choosers” would be left in poorly funded schools with inferior teachers.

Standard economic theory suggests poorly performing schools will rapidly adopt improvement measures and strengthen school quality for the non-choosers; however, critics of market-based reforms argue that standard theory may not apply because parents’ perceptions of school quality are based
on the socioeconomic composition of the enrolled students. Consequently, they believe schools serving large shares of low-income and low-performing students have an inherent disadvantage when placed in competition with schools in affluent areas.

Moving beyond theory, the evidence from the field on the consequences for non-choosers is inconclusive. Some states have elected to hold existing schools financially harmless when students leave for nearby charter schools or private alternatives. For some schools, the departure of a group of students has essentially relieved an overcrowding situation and resulted in a net increase in spending per student. Hoxby (2003) concluded that test scores increased in existing public schools located near newly opened charter schools in Michigan, Minnesota, and Arizona.

However, New Zealand, which transferred authority for its schools from the Department of Education to school-level boards (similar to U.S. charter schools), saw numerous schools struggle to maintain students and ended up with concentrations of dysfunctional and high cost students. The disparity between high and low performing schools widened in part because once newly formed self-governing schools reached capacity, they were not required to accept additional students. In short, many low-income students remained in substandard schools with no good alternatives, and the state had little option but continue running the schools.

Policy options exist to mitigate the potential harm to non-choosers. Public schools in districts offering school choice have developed several strategies for convincing parents to “choose” public education: in Milwaukee, public schools promised parents individual tutors if a child is not reading at grade level by third grade; in Florida, public schools have added teachers, reduced class sizes, and offered after-school and weekend tutoring at schools affected by the state’s choice program; one Florida superintendent has even made the public promise to take a five percent pay cut if any of his schools are deemed failing.

**SEGREGATION**

The next criticism is that school choice will lead to segregation, or stratification by socioeconomic status, ethnicity, or other factors. Again, the evidence is inconclusive.

The current structure of our public education system includes incentives that create largely racially homogeneous schools that are already stratified by socioeconomic status. Because a student’s school, in most cases, is determined by their residence, a given school’s composition will reflect the neighborhood’s composition. And because poor families lack the economic resources to move to affluent neighborhoods, schools have already stratified themselves by socioeconomic status. This same system has also stymied the progress of school integration, because minority families are disproportionately those in poverty. Consider that it is far easier for a poor parent with a voucher to send a child to a better school that might be located in an affluent neighborhood than for that same parent to buy a home there.
Given the structure of the current public education system, which largely permits racial and socio-economic segregation in most urban schools, choice plans are unlikely to make segregation worse.

Evidence from Cleveland’s voucher experiment supports this point and notes 20 percent of voucher recipients attend private schools that resemble the racial composition of the Cleveland metropolitan area, while only 5.2 percent of children in public schools are in similarly integrated schools. Also, 60.7 percent of public school students in the Cleveland metropolitan area attend schools that have either more than 90 percent white enrollment or fewer than 10 percent white enrollment.9

Again policymakers have the ability to mitigate this potential problem by designing a choice program that requires all schools to have fair admissions processes (lotteries when capacity is limited, for one example) and creates entities to aggressively investigate discrimination claims by students and their families—just as we do in the housing, employment, and lending markets throughout our country.

CIVIC COHESION

One of the last frequently encountered concerns is that choice programs cannot effectively instill the democratic values and civic cohesion that our current system does.

Some evidence exists that students outside the public education system – private school students and home schoolers – are more civically engaged than their public school peers. Limited research into the matter suggests that private school pupils and home school students are more likely to engage in civic activities like volunteering within the community, participate in public speaking, and write letters on public issues to their elected officials. Home schoolers in particular have a more intimate knowledge of a responsible citizen’s duties, given the long legal battle they and their parents have fought, and continue to fight, to maintain their right to home education.

REVIEW OF THE LITERATURE: MARKET-BASED REFORMS AND STUDENT ACHIEVEMENT

A large volume of research studies the various effects of school choice programs in practice throughout the entire world. Unfortunately, the research generally lacks statistically conclusive results and is plagued by ideologues on both sides of the school choice debate employing selective interpretation of identical data sets, hoping to come up with a definitive argument for their position. The result is a collection of literature that frequently attempts to pass off narrow analysis as cause for a course of action when in fact, no researcher to date has a broad, statistically sound, and definitive study linking choice options to improved student achievement, or conversely, showing that expanding choice verifiably harms students participating in these programs—or students remaining in affected public
schools. The debate largely revolves around pro-choice advocates asserting improved student outcomes and anti-choice opponents attempting to refute their claims. Interestingly, there is little research outstanding that actually focuses on trying to prove that choice programs harm students involved; most centers on attempting to deflate or disprove the promised benefits of choice, rather than trying to prove choice has a malignant effect.

The balance of this section reviews empirical results from research on the myriad choice programs currently in practice both domestically and abroad.

INTERNATIONAL EVIDENCE

School choice programs have existed in the international community for decades—in some countries, for more than a century. Their long experience with school choice environments provides some insight into the long-term systemic effects of adopting a system that enhances parental sovereignty. As mentioned above, there is no currently available research that conclusively links improved student outcomes to increased freedom of choice; however, the experience of many countries abroad can teach American education reformers much about what choice programs might offer in practice.

SWEDEN

Sweden is one of only two countries that employ a universal voucher system to provide public education at the national level. This means that any parent in Sweden can choose their child’s school, public or private, and have government resources follow their decision. Sweden transformed its publicly funded education system into one offering parents significant freedom of choice in the early 1990’s with sweeping education reforms. The reforms were thorough: they altered school financing to fund schools on a per-pupil basis; independent schools were guaranteed per-pupil funding by the state (85 percent of the local state cost of educating a student); parents, teachers, non-profits, and for-profit organizations were empowered to establish schools in their municipality; traditional municipal schools were given significant autonomy over their instructional practices, organizational management, and resource allocation (including hiring, firing, and compensation of employees); lastly, parents were given the freedom to choose any public or independent school and have the funds assigned to their child transferred to the school of their choice.

The Swedish experience is worth examination for several reasons. First, in practice for over a decade now, studies of the Swedish system are starting to produce some meaningful results about what we can expect from an empowered universal voucher program. Second, there has been an excellent supply response, with both the number of independent schools and their share of the student population increasing dramatically during the program’s existence. Third, the reforms have been radical, and enacted in a country with a robust public sector.
The reforms have proved strong enough to engender a significant response from the private sector for increased education options. As a result of the program, the number of Swedish students attending independent schools has quadrupled, and the number of independent schools in operation has more than quintupled.\textsuperscript{10} In 1992-93, there were 106 independent primary and lower secondary schools and a mere 16 upper secondary schools; by 2001-02, those numbers were 488 and 149 respectively. Student enrollment in independent schools has grown at roughly 10 percent \textit{per year} for more than 10 years.

Nationwide student enrollment in independent schools remains low relative to some other countries—roughly four percent for primary and 5.6 percent for upper secondary schools. However, the average masks large local differences in various communities’ desires for education provision. Out of Sweden’s 289 municipalities, 74 have zero independent schools, while many others have a considerable share of students choosing independent providers—the municipality of Danderyd has a national high of 32.1 percent in independent secondary schools. At current growth rates, it is projected that some municipalities will see their share of students enrolled in independently operated schools rise to 50 percent within the next few years.\textsuperscript{11}

The characteristics of Sweden’s population of independent schools allay some fears commonly held about school behavior in a voucher system. Choice opponents worry that private schools in a voucher system will serve only the most affluent neighborhoods with students from stable, well-educated, high-income families. In Sweden, this is not the case. Independent schools have been established in all regions of the country, including rural, suburban, and urban areas. A Friedman Foundation study of Sweden’s voucher system reports, “Three of Sweden’s northern-most municipalities, at or above the Arctic Circle in the rural and sparsely populated County of Norrbotten, are among the municipalities with the largest share of students in independent schools, close to 10 percent.”\textsuperscript{12} Additionally, the fourth largest share of independent students is in a primarily rural, working-class community, and the sixth largest share is in a region of Stockholm characterized by high unemployment and serious social problems, where a large proportion of foreign nationals reside. The independent school system has not tailored itself toward exclusively providing for well-to-do families.

Allaying another concern, religious institutions did not dominate the rise of Sweden’s independent school system, despite the fact that virtually any group who wishes can start a school based on their instructional beliefs. Religious schools represent only a small – 14 percent – and dwindling share of all Swedish independent schools. The vast majority of independent school growth is responding to the demands of mainstream parents. The two largest shares of independent schools belong to general curriculum and special pedagogy institutions. This reflects Swedish parents expressing their desire for mainstream, but independently operated, schools as well as an increase in their demand for schools specializing in specific academic fields or instructional methodologies. Interestingly, in a country characterized by the broad, expansive duties of the state, corporations are actually the most
common form of school ownership. Corporations, which are allowed to yield a profit, operate some 30 percent of independent schools; some firms run many schools under their single “brand-name” and are rapidly expanding their educational offering to new communities.

Sweden’s endeavor provides an argument for the theoretical assertion that school choice engenders competition, which improves the educational outcomes at traditional public schools. The authors of the Friedman Foundation study reviewed data from 28,000 ninth grade pupils at both independent and municipal schools, examining the effect of competition on student achievement in public schools. The researchers controlled for typical factors pertinent to education studies: family education and income, immigrant status, school size and financial resources (measured in spending per pupil), as well as a mechanism for possible differences between metropolitan and rural areas. To quote the authors, “None of our results indicated that the competition from independent schools had a damaging effect on municipal schools. To the contrary, we found support for our conclusion that the municipal school improves through competition. In all cases, the results in the municipal schools were better the larger the share of pupils attending independent schools. For more than half of the result measurements, the effect was statistically significant.”

In Sweden, the two main teachers unions on the whole support the present system, and union teachers hold positions in both the public and independent school sector. In a survey of teachers who left their municipal schools for the independent sector, more than 70 percent replied that working conditions were better in the independent schools, and over half said they were much better, despite the fact that many replied that the pace of work was as fast or faster than at their municipal school position. Respondents cited many reasons for their increased morale, principally that teachers in independent schools had more control over their own work, received more encouragement, and that independent schools had better management, and paid more attention to teacher initiatives. Additionally, a majority of teachers replied that parent teacher contact was both stronger and more positive in independent schools.

While definitive impacts on student achievement are lacking, the Swedish experience suggests that school choice can function without ruining the traditional public education or dividing the country along socioeconomic, racial, or ethnic lines.
Chile

Chile’s universal voucher program predates Sweden’s. Chile reformed its largely centralized education system in 1980 by introducing universal vouchers for primary and secondary education. Examining Chile’s current education system allows us to view a more matured choice program, one with a 20-plus year history. The Chilean education system is now comprised of three parts: traditional public (municipal) schools funded on a per-pupil basis, privately operated schools also receiving public per-pupil funds (hereafter called “voucher” schools), and privately operated schools receiving private funds via tuition payments from parents (“private” schools). Parents make the ultimate decision about which school their child will attend, with two of their three choices being publicly funded by the government.

Like Sweden, Chile also experienced a strong supply response from independent school providers. Today, 57 percent of students choose a municipal school, while roughly 39.5 percent attend voucher schools, and 3.5 percent of parents choose to pay tuition for private education. Voucher schools, while offering a full range of educational options, primarily fall into two categories: religious (predominantly Catholic) and for-profit (for-profits account for approximately two-thirds of all voucher schools). For-profit voucher schools expanded rapidly in Chilean cities after the voucher program’s establishment, accounting for much of the country’s 23 percentage-point increase in private enrollment after the 1980 reforms.

Much of the confusion, or perhaps ambivalence, over the effects of school choice is rooted in traditional statistical studies of the Chilean voucher system. For many years, studies reported that the effects of school choice on student achievement in Chile were insubstantial. Numerous researchers found that the data reported only marginal differences between voucher schools’ and municipal schools’ performance; the Catholic voucher schools performed slightly higher than public schools, the for-profits slightly lower than public schools – and that private schools continued to outperform both municipal and voucher schools. The difference between the voucher schools and municipal schools was minor, and researchers drew different conclusions about the causes for the variation in performance.

Students at for-profits typically scored slightly lower than municipal school children. This was largely explained by the fact that the for-profit voucher schools on average spent less per-pupil than the municipal schools (mainly by paying teachers less). Despite the lower attainment, some researchers argue these schools are nonetheless cost-effective, in the sense that they get slightly less student achievement but spend less to attain that level of performance. Conversely, Catholic voucher schools scored slightly higher than municipal schools by spending more per-pupil than the municipalities, assisted by subsidies from the parish as well as having better facilities—also largely donated.

These results—that on the whole voucher schools did not outperform traditional municipal schools—caused many researchers to conclude that the universal voucher system in Chile had failed to deliver its promise of
improved student performance. This conclusion should be tempered for two reasons. First, this analysis misses a major point about school choice systems: that when given the autonomy and time to adjust to competition, traditional public schools will raise their performance to match that of independently operated schools. The lack of disparity in performance— which from an equity and educational standpoint could be an argument for choice rather than against it— could quite possibly be explained by the systematic competitive pressure forcing all schools to an elevated, but horizontally comparable, level of performance. To the author’s knowledge, no studies exist that examine the rate of growth in Chilean student achievement before and after the reforms, which would be the true measure of how effective their program has been for improving the entire education system. A study with conclusive findings on this topic may help prove or disprove the actual system-level effects of a universal voucher program.

Secondly, the traditional statistical methods used in these studies are likely to be biased because they do not account for an important fact: that the school a parent chooses is not just a function of whether or not school choice exists in law, but what schools are effectively available to them for geographic or financial reasons. A relatively new study uses more sophisticated statistical methods to first estimate the available options for a family choosing their child’s school, and then subsequently examines student achievement within the context of the effectively available level of choice. This analysis reaches different conclusions than the traditional studies in this field of research.

The more sophisticated statistical analysis found that gains from attending a voucher school more than doubled compared to the traditional statistical studies of student performance in voucher schools. While this result could be reinforced by other studies finding it appropriate to draw similar conclusions, its addition to the field by itself is still noteworthy. It provides a wider lens to view the effects of Chile’s voucher system after more than 20 years of operation.

These findings increase the number of possible interpretations of Chile’s program: 1) one may still believe that the traditional studies are more accurate and that universal vouchers and an independent education sector have only marginally impacted student achievement; 2) that even if the traditional studies are right, that they miss the point that after functioning for over 20 years, a national universal voucher program has lead to a system level improvement in education with comparable performance in municipal and voucher schools; or 3) that the newer study more accurately measures the effects of school choice on student performance and that when school availability is considered, students choosing voucher schools outperform traditional municipal school students.

The new study uncovered another important result, particularly significant given our nation’s interest in closing the achievement gap. Under the newer statistical model of student achievement, the impact of parental education on a given student’s achievement decreased by 29 percent for the
father’s education and 32 percent for the mother’s, compared to the 
traditional statistical studies. If a universal voucher program can reduce 
the link between parents’ level of education and their child’s achievement, 
then this is indeed a victory for the cause of equality in education. If 
subsequent studies can conclusively prove this effect, then policymakers can 
be assured that a universal voucher program would effectively serve the goal 
of equity in education by allowing children of all family backgrounds to 
receive a better education.

The one negative effect—negative in the sense that one grouped gained 
less than another, even though gains were positive for both—was that the 
benefits from attending a voucher or private school were larger for males in 
the sample than for females. The implication may be that the educational 
gender gap is widening in Chile although there is no solid rationale as to why 
a voucher program would cause such an effect.

The Chilean model is subject to interpretation. Many studies report only 
marginal effects of Chile’s voucher program on student performance; 
however, a recent study suggests promising results from adopting a universal 
choice program, particularly toward narrowing the achievement gap by 
 deemphasizing the effect of parental education level on student achievement.

**Canada**

Canada’s individual provinces employ a wide variety of school choice 
options. The Canadian experience should be of particular interest to domestic 
reformers, as our education systems share many demographic, historical, and 
institutional similarities. The most striking difference between the two 
systems appears on international measures of student performance, where 
Canada clearly surpasses the United States.

Canadian school districts employ a wide variety of choice models across 
the country. Individual provinces have created different plans that increase 
parental sovereignty according to their own unique populations and vision for 
education. Three of Canada’s provinces provide full and equal funding to 
Catholic schools, five subsidize independent schools on a per-pupil grant 
system, one is embarking on a new tax credit plan for parents paying tuition 
at private schools, and another even provides some public funds for parents 
choosing to home school.

Alberta, Saskatchewan, and Ontario—which represent 51 percent of 
Canada’s population—all provide full and equal funding to Catholic schools 
compared to the now-secular (but once Protestant) public school system. This 
condition is actually enshrined in their constitution as a means of protecting 
religious freedom. These provinces provide equal funding to secular and 
sectarian (predominantly Catholic, though a scattering of Protestant) schools 
through a per-pupil grant system.

Alberta offers parents a variety of educational options. In addition to 
funding religious schools on an equal basis—which serve nearly a quarter of
all students in the province—Alberta also has a 40-year history of public support for independent schools. The government provides qualifying independent schools with a per-pupil grant, adjusted for special needs, equivalent to roughly 60 percent of the public school per-pupil spending allotment. It does not require that schools take the fee as full payment, or that they meet operating cost restrictions, enhancing the value of this “voucher” to independent schools since they do not fear accepting it will invite burdensome regulation. Alberta is the one province that also offers support to parents preferring to home school. Independent schools may receive special funds to assist with the supervision of home schooled students, and home schooling families are eligible to receive funds equal to 16 percent of per-student spending in the public schools. Additionally, Alberta is the only Canadian province to enact charter school legislation.

Like Alberta, Ontario funds Catholic schools on an equal basis with regular public schools. Although the province does not directly support independent schools, administratively it is quite permissive, in the sense that the province does not require independent school proprietors to obtain government permission or licensing to operate an educational institution. Instead of directly funding independent schools, Ontario is choosing a different path to support parents’ right to choose alternative education options for their children. A refundable tax credit program for parents choosing fee-paying schools will provide dollar-for-dollar tax relief for an amount equal to half of all tuition payments, capped at C$3500 after its five-year phase-in. This allows parents to directly purchase the education they believe best serves their child and have the government support their right to choose through tax refunds.

British Columbia and Quebec are two other Canadian provinces that financially support independent schools. British Columbia designed an interesting “tier” system for supporting independent schools. Schools accepting a greater amount of regulation, like being required to hire all certified teachers for example, receive a larger public subsidy; schools desiring no government regulation are allowed to operate completely autonomously without receiving any public funds. Additionally, the government rewards independent schools that are cost-effective, raising the subsidy if a school’s per-student operating costs are below the public district’s. The independent share of total school enrollment rose to 8.5 percent in 1999-2000.

Quebec also financially supports independent schools, providing per-pupil subsidies equal to 55 percent of public spending at the elementary level and 60 percent for secondary schools. It also provides additional supplemental resources for transportation, IT investments, students with special needs, and other eligible expenditures. In 1997, Quebec switched from a denominational education system based on Catholic and Protestant districts to a linguistically based system reflecting the desires of the province’s predominantly French-speaking citizens. This move effectively established French and English school boards responsible for providing their own language-based education within their jurisdictions.
While these are not all the Canadian provinces that support parental choice in education through government subsidies, they represent the various forms that school choice programs can take in practice. Local legislators can learn an important lesson from the Canadian example, that different regions can design choice programs that best fit their own needs and wishes for public education in their community.

The major reason that the Canadian experience bears study by domestic reformers is that Canadian students strongly outperform their American peers on international measures of student achievement. The Program for International Student Assessment (PISA) developed by the Organization for Economic Cooperation and Development (OECD) is the most recent international student evaluation, testing 15-year olds in 32 countries (31 responded with appropriate data) in reading, math, and science. The PISA results are notable. Out of 31 countries, Canadian students ranked 2nd in reading, and 5th in both math and science. Some provinces’ individual performance was comparable to the best nations in the world. The United States, by comparison, ranked 15th in reading, 20th in math, and 14th in science.21 The statistics, while impressive, fall short of conclusive evidence that choice leads to greater student achievement.

One of the major contributing factors to Canada’s strong performance—particularly relevant to the American goal of closing the achievement gap—is how its students “at the bottom” performed.22 The major finding that supports this assumption is that the correlation between socioeconomic status and student achievement is weaker in Canada than it is in the United States.23 That means that a student’s socioeconomic status in Canada has a smaller impact on their level of educational achievement than in the US. Moreover, within the individual Canadian provinces that provide funding to independent schools, researchers find an even weaker link between socioeconomic status and student achievement. Put simply, this evidence suggests that Canada may have a systemic advantage over the United States for educating economically disadvantaged students, and Canada’s choice policy may contribute to that advantage.

OTHER INTERNATIONAL EXAMPLES

Sweden, Chile, and Canada are only a few of the many nations around the world that employ school choice. This section’s focus on these three countries reflects the availability of quality research on their education systems, as well as that research’s ability to impart valuable lessons to the current American debate over the course of education reform. New Zealand, Denmark, and the Netherlands are just three other countries that use various means to assist parents choosing alternatives to public education.

The Netherlands

The Netherlands’ long tradition of freedom in education dates back to the country’s 1848 Constitution. In order to protect the freedom and respect the
individuality of its citizens, the Dutch constitution enshrined three major freedoms for the people regarding education:

1. *Freedom to establish schools*- anyone who can develop and found a school is entitled to do so.

2. *Freedom of conviction*- an individual school’s mission is allowed to reflect any educational, religious, or political ideology regardless of others’ beliefs.

3. *Freedom of organization*- control over school management and instructional methods is reserved to the individual schools.

These stipulations laid the foundation for the vibrant, diverse independent school system that exists in the Netherlands today. The catalyst for the Dutch system’s fundamental transformation was the 1917 constitutional amendment that guaranteed equal government funding for both public and independent schools. For more than 80 years, Dutch parents have enjoyed a substantial amount of educational freedom, and as a result, the Netherlands’ independent school sector has flourished. Today, around 70 percent of all primary and secondary school students are enrolled at independent schools.

The rise of the Netherlands’ independent school system illustrates the level of diversity and specialization that can be achieved when the government provides equal opportunities for public and private school providers. For example, Dutch parents whose children suffer from learning disabilities have over 650 special education schools to choose from, each with instructional programs specifically designed to more effectively educate students with special needs. At the secondary level, although only 1.6 percent of the total student body are special needs students, over 14 percent of all secondary schools exclusively serve children with disabilities.

Like Canadian students, Dutch pupils significantly outperform their American peers on international measures of student achievement. The 1999 Trends in International Mathematics and Science Study (TIMSS) compared the performance of students from 38 different countries in the fields of math and science. The Netherlands ranked 6th and 7th in science and math respectively, while the US placed 18th and 19th by comparison. Countries that ranked above the Netherlands included perennially high-performing nations such as Japan, Korea, and Singapore, whereas the United States’ performance ranked below countries like Slovenia, Bulgaria, and the Czech Republic.

A measurable portion of the Netherlands’ high achievement can be attributed to the greater share of its students that perform at higher levels. The Dutch system provides an instructive example for American education reformers concerned about the number of US students at the bottom level of performance. On the math component of the 1999 TIMSS, the Netherlands and the United States had a reasonably similar number of students performing in the top 10 percent, at 14 and 9 percent respectively. However,
45 percent of Dutch students perform in the upper quartile, compared to only 28 percent of American students. While 81 percent of Dutch students achieve scores above the international median, only 61 percent of American students do so. The share of US students that perform in the bottom quartile triples the share of Dutch students, at 12 and 4 percent respectively. Put simply, the Netherlands’ education system—characterized by private supply, diversity, and customization—has produced significantly fewer underachievers than the United States.

An additional noteworthy point is that the predominantly private Dutch education system is able to provide greater student achievement with fewer financial resources. OECD data on adjusted per-student spending in 2000 shows that the Netherlands spent on average 38 percent less per-pupil at the primary level than the US ($4325 vs. $6995) and 33 percent less at the secondary level ($5912 vs. $8833). The Netherlands’ education system, where nearly 80 percent of all public expenditures on education are made in the private sector, is demonstrably more efficient than the US; Dutch students significantly outperform their American peers, despite the fact that Dutch per-pupil spending is over a third less than per-student spending in the United States.

**Denmark**

Denmark is another country that allows parents and students to select the public or private education provider of their choice. Independent schools in Denmark receive per-pupil grants from the government equal to 80 percent of per-student expenditures in state schools, plus a capital allowance and grants for special needs students. The actual subsidy is determined by several factors, including the size of the school, the age distribution of its students, as well as the age of its teachers. Additionally, the government requires independent schools to charge a parental fee, something long accepted in the country as a family’s responsibility in their child’s education, in order to ensure that families have a vested interest even beyond their child’s well being when choosing an appropriate school.

The educational offerings in Denmark’s private school sector have enticed many Danish parents to enroll their children at an independent school. The share of students at independent schools grew from 8 percent in 1982-83 to almost 13 percent today. Private school enrollment has risen by 12.6 percent over the last decade; state school enrollment rose 0.4 percent over the same period.

Similar to the Netherlands, Denmark’s support of independent schools has produced a diverse range of pedagogical offerings. Danish independent schools span a broad range of educational ideologies, but can largely be categorized into the five most popular types: *lilleskoler* or “little schools” tend to emphasize group work and individual responsibility; *realskoler* provide academically rigorous programs in a disciplined environment that frequently emphasize reading, languages, and science; religious schools, which like the Danish people are nominally Christian, often involve few or no formal
religious practices and are commonly characterized by their traditional values and familial atmosphere; *friskole* or “free schools” follow the instructional beliefs of a famous Danish education reformer, focusing on individual growth, oral traditions, and relationships between individuals; lastly German minority schools exist largely for the German minority in the Jutland region, but are open to all Danish families who want their children to grow up in a multi-cultural environment.\(^\text{27}\)

The Danish government sees many advantages from including private providers in the nation’s education system. In the view of Denmark’s Ministry of Education, the benefits to the entire system include:

1. Institutions are increasingly becoming more demand-driven and result-oriented.
2. Institutions are behaving in a more economically rational manner.
3. Demographic changes are automatically reflected in government expenditures.
4. Great administrative simplification in relation to the large number of institutions.
5. Improved collaboration and coordination amongst intuitions.\(^\text{28}\)

The point on simplifying the administrative process should be of particular note to Oregon education reformers, as this state has one of the highest non-teacher staff to student ratios in the country. The 67,000 students in the Danish independent school sector require only five administrators at the Ministry of Education.\(^\text{29}\)

One major impediment in the Danish system’s design continues to restrict the operational flexibility of independent schools—and thus, limits the number of potential new providers. Although independent schools are allowed to make their own staffing allocation decisions, Danish teacher salaries and pay schedules are still dictated by the central government. According to the Chairman of the Independent Compulsory School Association, this seemingly minor restriction effectively means that schools have little control over as much as 63 percent of their budget.\(^\text{30}\) A limitation like this can greatly reduce the amount of potential independent school providers; amending this facet of the Danish system might allow innovative new schools to explore unique educational models and organizational strategies for improving student performance and satisfying parents’ desires.

### Other International Models

There are many other examples of countries with their own unique arrangement for supporting parental choice in education. New Zealand offers a per-pupil subsidy to independent schools equal to 30 percent of the per-student state cost of primary education and 40 percent to secondary schools. Australia similarly provides some public support to its independent school

A look at the international community shows us that school choice programs exist in myriad forms, under a variety of governments, serving an extremely diverse student body. Domestic education reformers can look to the international example set by countries like Sweden, Chile, Canada, and many others, to see that school choice programs offer a safe, equitable, and high-quality avenue for education reform.

U.S. EVIDENCE

In the last ten years, school choice has expanded in the United States; 41 states have enacted charter legislation\(^1\), many created magnet schools as a tax-funded alternative to traditional public education, others established tax incentives for parents choosing private education, and three states\(^2\) implemented publicly funded education vouchers. Given our nation’s relatively short experience with publicly funded school choice programs, the body of domestic research has even less to offer in terms of definitive, quantifiable results than the international studies. Still, this section examines some of the more ambitious reforms some regions have adopted as a new way to offer education.

VOUCHER PROGRAMS

Milwaukee

Perhaps the most well known, or at least most frequently studied, school choice program in the United States is the Milwaukee Parental Choice Program. Established in 1990 by Mayor John Norquist, the means-tested voucher program targeted one Wisconsin’s neediest student populations by providing low-income families in Milwaukee’s urban public school district with government funds for enrollment at the eligible private school of their choice.

The program has changed quite a bit since it was first established 14 years ago; many important alterations were made in 1995, though some required several years to take effect. At its outset, the program placed many limitations on both the number of students and the character of the schools that were eligible to participate. The income eligibility requirement remained unchanged: families at or below 1.75 times the national poverty level with a child in the Milwaukee Public Schools (MPS) district can apply for a voucher to attend private school. The original cap on student participation was at 1 percent, or roughly 1,000 children. Since then, this limit has been expanded to 15 percent, approximately 15,000 children; in 2002-03, over 11,000 students received state-funded education vouchers. Additionally, the limitation on the share of voucher students in a private school was raised from 50 percent to 100 percent.
A major contributing factor to the program’s growth was the 1998 resolution of the court battle that finally allowed religious institutions to participate in the program. After a three year appeal process, the Wisconsin Supreme Court announced its ruling: public funds that ended up in parochial schools as a result of parents exercising their right to choose their child’s education did not constitute government support of religion and hence, the participation of religious schools in the program did not violate the Wisconsin State or US constitutions; the United States Supreme Court declined to review the state court’s ruling, effectively letting their decision in favor of school choice stand. Including parochial schools vastly expanded the number of educational options voucher parents could choose for their children, and as a result, the program experienced significant growth in the aftermath of the court’s decision.

Eligible private schools are subject to some conditions for their participation. Schools must accept students based only on the information present in their application; schools are not allowed to discriminate based on race, gender, socioeconomic status, religion, or academic achievement. To ensure equality, when student demand exceeds a participating school’s current capacity, enrollment is determined by random lottery, with preference given to voucher students attempting to return to the same school they attended the previous year. Parochial schools must allow voucher students to “opt out” of religious instruction if they have a written note from their parent or guardian. Additionally, private schools must accept the voucher as full payment of a student’s tuition and cannot charge families additional fees for enrollment. The voucher is currently worth roughly half the amount of state public school per-pupil spending in the Milwaukee district, or approximately $5,000.

Although the 1995 amendments greatly expanded the power and scope of the program, they had one seriously damaging effect. The reforms removed the stipulation that provided funding for, and mandated the existence of, continuous evaluation of the program. This is particularly troublesome, considering the program did not really begin to attract large school and family participation until after the 1998 decision that included parochial schools in the program. While many private studies have examined the program’s effects on student achievement since the decision, without the state mandate to obtain necessary data for its own studies, the quality of recent research findings is the subject of much skepticism and debate.

Informal evidence suggests that the Milwaukee voucher program has had a positive effect on the MPS community. Several anecdotes describe deeply affected public schools responding well to competition by hiring new teachers, reducing class sizes, offering individual tutors to struggling students, and implementing new strategies to raise student achievement. Parental satisfaction and involvement among voucher parents is reported as substantially higher than their public school counterparts.

Empirical evidence on the results of school choice in Milwaukee is relatively thin, and much of the literature focuses on disproving the rest of it.
A joint Harvard/University of Houston study conducted by Jay P. Greene, Paul E. Peterson, and Jiangtao Du with Leesa Boeger and Curtis L. Frazier concluded that students awarded vouchers outperformed the rejected applicants remaining in MPS in both math and reading measurements, the effect being larger for math achievement, and that the disparity widens with the amount of time voucher students remain in private schools. A study performed by Cecilia Rouse concluded that math score gains were higher in the voucher group, but that reading score gains were comparable between the two groups. However, critics of these findings, notably John Witte, claim that the data examined were plagued with missing scores, selection biases, etc. and that the sample was too corrupt to draw statistically significant results. Several competing studies report no conclusive improvement of voucher students relative to their public school peers.

While empirical evidence has not yet conclusively proved a positive effect on student achievement from the Milwaukee Parental Choice Program, anecdotal evidence describes that the program is well-received by the community. The program has transcended many barriers since its inception, expanding the number of students eligible to participate and the number of schools they can choose to attend. Parental satisfaction is much higher among voucher parents, and increasing parental involvement is considered one of the most important factors to improving our education system.

### Table 3-1: Summary of Milwaukee Voucher Research

<table>
<thead>
<tr>
<th>Researchers</th>
<th>Results</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paul Peterson</td>
<td>• Math scores 5% and 12% higher for third and fourth year voucher students, respectively.</td>
</tr>
<tr>
<td>Jay P. Greene</td>
<td>• Reading scores 3% and 5% higher for third and fourth year voucher students, respectively.</td>
</tr>
<tr>
<td>Jiantao Du</td>
<td></td>
</tr>
<tr>
<td>Harvard/University of Houston</td>
<td></td>
</tr>
<tr>
<td>Cecilia Rouse</td>
<td>• Math scores up 1.5%-2.3% per year on Iowa Test of Basic Skills.</td>
</tr>
<tr>
<td>Princeton University</td>
<td></td>
</tr>
<tr>
<td>John Witte</td>
<td>• Measurable increase in parent satisfaction.</td>
</tr>
<tr>
<td>University of Wisconsin, Madison</td>
<td>• Increase in parental involvement.</td>
</tr>
<tr>
<td></td>
<td>• No increase in academic scores.</td>
</tr>
</tbody>
</table>

Source: The Friedman Foundation

### Cleveland

Following Milwaukee’s example, the City of Cleveland approved targeted choice legislation in 1995, making educational vouchers available to low-income families in Cleveland’s public schools. The Cleveland Scholarship and Tutoring Program was designed to assist poor families seeking private alternatives for their children’s education.

The program’s first year in effect was 1996-97; almost 2,000 children from low-income families received vouchers to attend the private school of their choice—by 1999-2000, this number was more than 4,000. The voucher remunerates parents for either 75 or 90 percent of tuition costs depending on the family’s income level, capped at $2,250. While this amount is relatively small compared to the state cost of educating a child, the effective purchasing
power of the voucher is slightly augmented by the program’s stipulation that participating schools will accept $2,500 as full payment for a voucher student, limiting the financial liability incurred by participating families. Vouchers are awarded randomly to applicants based on income eligibility requirements: three-fourths of the vouchers go to families at or below the federal poverty line and the remaining fourth go to families at or below 200 percent of the poverty level.

In Cleveland, a legal battle brought some measure of final resolution on the constitutional questions about school choice. The program as first designed allowed parents to choose a secular or parochial private school where they could enroll their child with a state-funded voucher. In 1999, the Ohio State Supreme Court struck down the program on a legal technicality, but strongly argued that the program did not violate the establishment clause in the First Amendment, and encouraged legislators to amend the program to rectify the one technical flaw. Once reinstated, another appeal, this one in a federal district court, confined the program; the federal judge ruled that the choice program could continue during the appeal process, provided that no students tried to redeem their voucher at a religious institution.

In 2002 the United States Supreme Court made its first ruling on the constitutionality of state voucher programs. In a 5-4 decision, the Supreme Court ruled in favor of school choice, asserting that public funds spent at religious institutions as a result of parents choosing the best education for their child did not violate the establishment clause of the First Amendment; moreover, they stated that the voucher program was constitutional because it served a secular purpose, educating Cleveland students, and did not have the “primary effect” of advancing religion, nor was it likely to cause “excessive entanglement” between church and state.

Like Milwaukee, informal evidence from the Cleveland voucher program suggests that it is well received by the community. In fact, “76 percent of Wisconsin and Ohio taxpayers favored extending each state’s urban pilot program; 83 percent wanted religious schools to participate; and 53 percent believed all children, not only those who are poor, should be able to receive vouchers.” Unlike Milwaukee, the Cleveland experience has not produced any anecdotes about a positive organizational response from affected public schools. This is largely because the design of Cleveland’s program nullifies any competitive pressure faced by public schools. Cleveland public schools receive the same amount of funding regardless of how many eligible voucher students choose to leave for private alternatives.

The empirical results of the voucher program’s effect on student achievement varies from one researcher to another, but remain modestly positive across several studies. One study by Paul Peterson, Jay P. Greene, and William G. Howell conducted for Harvard University concluded that Cleveland voucher students attending private schools for at least two years rose 7 percentage points above the national average in reading and 15 points higher in math, despite the fact that this program is for disadvantaged
students who typically perform well-below the national average. Another researcher, Kim Metcalf, performing a study for Indiana University\textsuperscript{35} found statistically significant increases in two of five cognitive areas studied (language and science) but did not find an overall statistically significant improvement in student outcomes. Both studies, however, reported substantially increased parental perceptions, satisfaction, and involvement among participating families.

Another important finding from the Cleveland voucher program suggests positive results for our nation’s goal of desegregating education. The Cleveland voucher program provides low-income families—many of whom are African-American—with the opportunity to send their child to a private school, an opportunity they would not have without government support. Another study by Greene\textsuperscript{36} concluded that providing black students in Cleveland with the opportunity to attend private schools furthered the goal of integration because private schools were more racially heterogeneous than Cleveland public schools. Greene found that almost 20 percent of voucher recipients attended private schools with a racial composition that resembled Cleveland’s metropolitan racial composition compared to only 5.2 percent of public schools that were similarly integrated. Additionally, more than 60 percent of public school students attend schools that are either almost entirely white or entirely minority, while only 50 percent of voucher students are in comparably segregated schools.

Like most other school choice programs, the Cleveland Scholarship and Tutoring Program has not yet produced definitive links between expanded freedom of choice and improved student outcomes. Like studies of other programs, though, examinations of Cleveland’s targeted voucher system suggest solid increases in parental satisfaction and involvement, and an avenue to support our goal of equality in education by allowing more students to attend desegregated schools.

Table 3-2: Summary of Cleveland Voucher Program Research

<table>
<thead>
<tr>
<th>Researchers</th>
<th>Results</th>
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</thead>
<tbody>
<tr>
<td>Paul Peterson</td>
<td>After two years, voucher students in Cleveland’s private schools scored 7 percentage points higher than the national average in reading and 15 points higher in math.</td>
</tr>
<tr>
<td>Jay P. Greene</td>
<td></td>
</tr>
<tr>
<td>William G. Howell</td>
<td></td>
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<tr>
<td>Harvard University</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Parent satisfaction is very high.</td>
</tr>
<tr>
<td>Kim Metcalf</td>
<td>Parental perceptions of and satisfaction with children’s schools &quot;substantially improved.&quot;</td>
</tr>
<tr>
<td>Indiana University</td>
<td>&quot;Statistically significant&quot; increases in two of five areas (language and science).</td>
</tr>
<tr>
<td></td>
<td>No overall statistically significant gains in student performance.</td>
</tr>
</tbody>
</table>

Source: The Friedman Foundation
Florida

Florida is the most recent state to enact a school choice voucher plan. Florida actually has two voucher programs; the lesser known is the Florida McKay Scholarship Program, which offers every disabled student in the state, regardless of family income level, a fully funded voucher equivalent to the amount spent on special needs students in the public schools for these children to attend the public or private school of their choice.

The more frequently recognized Florida voucher program, passed in 1999, is the state’s A+ Opportunity Scholarship Program. Like other school choice plans, this program is designed to serve a disadvantaged student body. Florida’s “failing school” voucher plan has attracted much attention in recent media coverage of education reform, both for its interesting new design—it does not restrict student eligibility by income—and because it runs parallel to the education reforms outlined by the No Child Left Behind Act.

Florida’s opportunity scholarship plan provides a state-funded voucher to every student attending a public school that receives a failing grade from the state government in any two years in a four year period. This program is equitable, in the sense that it serves a disadvantaged student body but without discriminating by income. The voucher is worth the full amount of state per-pupil spending, adjusted for special needs, and can be redeemed at the public, secular private, or religious school of students’ choice.

Ongoing legal challenges persist in Florida’s fifth year of offering publicly funded vouchers. The first dispute questioned whether the Florida constitution allowed public money to be spent at any private school, secular or sectarian. The Florida Supreme Court ruled on this case in 2001, asserting that public money spent at private schools did not violate the state’s constitution. Voucher opponents next made the more specific challenge that including parochial schools in the program breached the establishment clause of the First Amendment. On August 5, 2002, several weeks after the United States Supreme Court ruled in favor of allowing religious schools to participate in Cleveland’s voucher program, a Florida state court struck down its own state’s voucher plan, citing that the Florida constitution did not allow public funds to directly or indirectly support religious purposes. The decision is currently still under appeal to higher courts, but it should be noted that the judge ruling against the program has allowed the program to continue operating, with parochial schools included, while the decision is being reviewed.

Empirical evidence from Florida on the effects of competition in the public schools is, again, mixed. The Manhattan Institute commissioned a study of the performance on Florida public schools that were failing, or to various degrees, were on the threshold of failing. In the authors’ own words: “Florida’s low-performing schools are improving in direct proportion to the challenge they face from voucher competition. These improvements are real, not the result of test gaming, demographic shifts, or the statistical phenomenon of ‘regression to the mean’. This is one conclusion in the field
that finds a definitively positive impact from vouchers on public school performance.

Subsequent studies responding to those findings found that the performance gains in failing schools were statistically similar those seen roughly six years ago when Florida first adopted its original school-grading program—one that did not include a voucher provision. Similarly, other researchers compared the Florida results to achievement gains in Texas and North Carolina; both states have a program for publicly assessing schools but neither employ vouchers as a sanction for failing schools. These studies also found that gains in low-performing schools in the two states resembled those in Florida’s A+ program. Their findings caused these researchers to conclude that vouchers were probably not the source of improvement observed in low-performing Florida schools; the more likely possible causes were a desire to avoid the stigma of failure, or a statistical phenomenon called “regression to the mean” that states that extreme scores are likely to trend toward the average over time. Because school assessment programs without voucher provisions caused the comparable levels of improvement in low-performing schools, these researchers did not conclude that the presence of vouchers significantly improved school performance.

Of the 61,000 students who could become eligible for scholarships next year if their schools fail to improve, 85 percent are minority students. Additionally, Florida’s experience seems to be deflating the “creaming” fear with data on the voucher program showing that the population of students exercising their voucher held similar ratios of low- and high-performing pupils to the group that was eligible for vouchers but chose to remain in their local public school.

In addition to its two voucher programs, the state also enacted a tax-credit plan that provides refunds of up to $5 million for corporate donations to private organizations who redistribute the funds in the form of vouchers to income-eligible families.
Table 3-3: Summary of Florida Voucher Program Research

<table>
<thead>
<tr>
<th>Research</th>
<th>Results</th>
</tr>
</thead>
</table>
| **Jay P. Greene**  
**Marcus Winters**  
*The Manhattan Institute* | • Reports that failing schools threatened by vouchers improve faster than adequately performing schools.  
• Effect is largest in schools already deemed failing and receiving vouchers, and shrinks as schools’ performance gets farther away from the state threshold of failure.  
• Results are statistically significant. |
| **Doug Harris**  
*Economic Policy Institute* | • Florida A+ program achievement results similar to previously enacted state-wide school assessment program.  
• Introduction of vouchers not likely a statistically significant cause of increased school performance. |
| **Amanda Brownson**  
*Charles A. Dana Center, The University of Texas, Austin* | • Florida voucher program results similar to a Texas program for state-wide assessment of schools without a voucher provision.  
• Vouchers not likely a statistically significant source of school improvement in Florida. |
| **Helen F. Ladd**  
**Elizabeth J. Glennie**  
*Sanford Institute of Public Policy, Duke University* | • Florida voucher program results similar to a North Carolina school-grading program without a voucher provision.  
• Vouchers not likely a statistically significant source of gains in failing public school performance. |

Source: Economic Policy Institute

Other U.S. voucher programs

These publicly funded voucher programs represent only a few of the more ambitious school choice reforms spreading through most American states’ education systems. Many other states employ various means to increase the amount of educational options available to parents. Maine and Vermont have the two oldest publicly funded voucher programs in the country. Both these states have sparsely populated rural areas that cannot fiscally support a government-provided school; since 1909 in Maine, and 1869 in Vermont, these states have both provided publicly-funded education vouchers allowing students in these rural areas to choose a private school provider when public schools are not available—in Vermont, students are even allowed to spend their voucher outside the state.

Charter Schools

Since Minnesota enacted the nation’s first charter school legislation in 1991, some 41 states and the District of Columbia have established charter school laws to increase the number of options available to parents within the public education system. Today, roughly 2,700 charter schools serve over half a million American students. The volume of research has expanded with the growth of charter school legislation, studying the various effects of charters on academic achievement, charter student demographics, and how competition affects traditional public schools located near functioning charter schools.

Unfortunately, the very causes that motivate communities to establish charter schools confound researchers’ ability to draw statistically significant conclusions about charter schools’ performance. In many instances, the low performance of charter schools can be attributed to the fact these schools
were created to serve particularly disadvantaged students in districts with poor public schools; conversely, the sometimes-high performance of charters can be explained by their establishment in communities with many parents focused on creating high-quality educational options for their children. The result is that it is not yet possible to draw broad and meaningful conclusions about the effects of charter school proliferation, however, examining the performance of charter schools over the last few years allows reformers to at least form some context in which to discuss their impact on American education.

The body of research suggests that charters as a whole perform below average compared to public schools, but that their performance is improving over time. The 2003 Brown Center Report on American Education studied the academic performance (compared to traditional public schools) of charters in ten states from with developed charter school programs from 2000-02. Because each state measures the achievement of its students with their own unique tests, the Brown Center applied a statistical method to normalize the results so cross-state comparisons could be made. A z-score measures a given school's performance relative to the average level of school performance within its own state. By definition, the average school's z-score is 0.00; a negative score indicates how far below average a school’s performance is, measured in standard deviation units, and similarly, a positive z-score shows how far above average. Using z-scores allowed the Brown Center study to examine the overall performance of charter schools compared to the average traditional public school.

The study finds that charter school performance remains below that of public schools, but that charters are raising their achievement each year. The analysis shows that charters as a whole performed .53 standard deviations below traditional public schools in 2000, and that by 2002, they performed only .31 standard deviations below average. The growth in performance was statistically significant. For reference, a school performing .53 standard deviations below average would be around the 30th percentile and one .31 standard deviations below average in the 38th percentile. Additionally, the data showed that over the three years studied, charters established by education management organizations (EMO's) improved their performance significantly more than non-EMO charters, although their level of performance remained below that of both non-EMO charters and public schools.

Other researchers found that in Texas, charter school performance is not significantly different from public school performance after an initial start-up period. Additionally, they discovered that the disparity in charter school performance within the state was similar to the variation in traditional public school quality. Their most interesting finding was that parents in the charter sector seemed much more sensitive to educational quality as a reason for changing their child’s school. The authors state, “[this is] consistent with the notion that the introduction of charter schools substantially reduces the transactions costs of switching schools.”
Charter school research remains limited by the difficulty of separating causality from correlation in the complex educational process. Many demographic and institutional reasons may explain the disparity in charter school performance. Studies show that on average, charters perform below traditional public schools. However, their recent growth, both in measures of performance and simply in number, suggests that parents are responding to the availability of alternatives to public education.

**Table 3-4: Summary of Charter School Achievement**

(scores expressed as adjusted z-scores)

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Regular Public Schools</strong></td>
<td>0.01</td>
<td>0.01</td>
<td>0.01</td>
<td>0.00</td>
</tr>
<tr>
<td>(N=26,614)</td>
<td>(.01)</td>
<td>(.01)</td>
<td>(.01)</td>
<td>(.01)</td>
</tr>
<tr>
<td><strong>All Charters</strong></td>
<td>-0.53*</td>
<td>-0.40*</td>
<td>-0.31*</td>
<td>+0.22*</td>
</tr>
<tr>
<td>(N=569)</td>
<td>(.05)</td>
<td>(.05)</td>
<td>(.05)</td>
<td>(.05)</td>
</tr>
<tr>
<td><strong>EMO Charters</strong></td>
<td>-1.00*</td>
<td>-0.69*</td>
<td>-0.58*</td>
<td>+0.41*</td>
</tr>
<tr>
<td>(N=90)</td>
<td>(.10)</td>
<td>(.09)</td>
<td>(.08)</td>
<td>(.08)</td>
</tr>
<tr>
<td><strong>Non-EMO Charters</strong></td>
<td>-0.44*</td>
<td>-0.35*</td>
<td>-0.26*</td>
<td>+0.18*</td>
</tr>
<tr>
<td>(N=479)</td>
<td>(.06)</td>
<td>(.06)</td>
<td>(.05)</td>
<td>(.05)</td>
</tr>
</tbody>
</table>

* Results are statistically significant at the .05 level.

NOTE: Z-scores are adjusted for poverty and racial composition. Standard errors are in parentheses.

Source: The Brown Center Report on American Education

**OPEN ENROLLMENT**

Open enrollment policies provide a mechanism for parents to seek an alternative public school to their residentially zoned neighborhood school. Many states prefer these “choice” programs because they are politically feasible because they do not disrupt the current status and governance structure of the education system. Table 3-5 shows 13 states operate statewide, inter-district open enrollment while 31 other state, including Oregon, offer limited open enrollment. The results from these open enrollment programs are mixed, with some states perceiving beneficial outcomes whereas others report little change.

Minnesota established the first statewide inter-district open enrollment program in 1988\(^4\). Under the Minnesota law, which became mandatory for all districts in 1991, students may apply to enroll in any public school located outside their resident district. Applications to enroll in a non-resident district may be denied only if space is unavailable. During 1988-2001, the number of student participating in open enrollment increased from 140 to 28,077 (or about 3 percent of Minnesota’s 851,382 in 2001). As with other choice-related programs, research has yet to establish a definitive link between open enrollment and a change in student achievement; however, through a random sample survey, Minnesota principals perceived that open enrollment stimulated improvements to school curriculum, promoted greater parental involvement, and increased the ethnic and cultural diversity of schools\(^43\).
Open enrollment has proven increasingly popular with Minnesota’s public with the share expressing support for cross-district choice increasing from 33 percent in 1985 to 88 percent in 1994\(^4\).

Table 3-5: Status of Public School Open Enrollment Programs, 2003

<table>
<thead>
<tr>
<th>State</th>
<th>Open Enrollment Program Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alabama</td>
<td>no program</td>
</tr>
<tr>
<td>Alaska</td>
<td>no program</td>
</tr>
<tr>
<td>Arizona</td>
<td>statewide</td>
</tr>
<tr>
<td>Arkansas</td>
<td>statewide</td>
</tr>
<tr>
<td>California</td>
<td>limited</td>
</tr>
<tr>
<td>Colorado</td>
<td>statewide</td>
</tr>
<tr>
<td>Connecticut</td>
<td>limited</td>
</tr>
<tr>
<td>Delaware</td>
<td>statewide</td>
</tr>
<tr>
<td>District of Columbia</td>
<td>no program</td>
</tr>
<tr>
<td>Florida</td>
<td>limited</td>
</tr>
<tr>
<td>Georgia</td>
<td>statewide</td>
</tr>
<tr>
<td>Hawaii</td>
<td>limited</td>
</tr>
<tr>
<td>Idaho</td>
<td>limited</td>
</tr>
<tr>
<td>Illinois</td>
<td>limited</td>
</tr>
<tr>
<td>Indiana</td>
<td>limited</td>
</tr>
<tr>
<td>Iowa</td>
<td>statewide</td>
</tr>
<tr>
<td>Kansas</td>
<td>limited</td>
</tr>
<tr>
<td>Kentucky</td>
<td>no program</td>
</tr>
<tr>
<td>Louisiana</td>
<td>limited</td>
</tr>
<tr>
<td>Maine</td>
<td>limited</td>
</tr>
<tr>
<td>Maryland</td>
<td>no program</td>
</tr>
<tr>
<td>Massachusetts</td>
<td>limited</td>
</tr>
<tr>
<td>Michigan</td>
<td>limited</td>
</tr>
<tr>
<td>Minnesota</td>
<td>statewide</td>
</tr>
<tr>
<td>Mississippi</td>
<td>limited</td>
</tr>
<tr>
<td>Missouri</td>
<td>limited</td>
</tr>
<tr>
<td>Montana</td>
<td>statewide</td>
</tr>
<tr>
<td>Nebraska</td>
<td>statewide</td>
</tr>
<tr>
<td>Nevada</td>
<td>limited</td>
</tr>
<tr>
<td>New Hampshire</td>
<td>limited</td>
</tr>
<tr>
<td>New Jersey</td>
<td>limited</td>
</tr>
<tr>
<td>New Mexico</td>
<td>limited</td>
</tr>
<tr>
<td>New York</td>
<td>limited</td>
</tr>
<tr>
<td>North Carolina</td>
<td>no program</td>
</tr>
<tr>
<td>North Dakota</td>
<td>limited</td>
</tr>
<tr>
<td>Ohio</td>
<td>limited</td>
</tr>
<tr>
<td>Oklahoma</td>
<td>statewide</td>
</tr>
<tr>
<td>Oregon</td>
<td>limited</td>
</tr>
<tr>
<td>Pennsylvania</td>
<td>limited</td>
</tr>
<tr>
<td>Rhode Island</td>
<td>limited</td>
</tr>
<tr>
<td>South Carolina</td>
<td>limited</td>
</tr>
<tr>
<td>South Dakota</td>
<td>statewide</td>
</tr>
<tr>
<td>Tennessee</td>
<td>limited</td>
</tr>
<tr>
<td>Texas</td>
<td>limited</td>
</tr>
<tr>
<td>Utah</td>
<td>statewide</td>
</tr>
<tr>
<td>Vermont</td>
<td>limited</td>
</tr>
<tr>
<td>Virginia</td>
<td>no program</td>
</tr>
<tr>
<td>Washington</td>
<td>statewide</td>
</tr>
<tr>
<td>West Virginia</td>
<td>limited</td>
</tr>
<tr>
<td>Wisconsin</td>
<td>statewide</td>
</tr>
<tr>
<td>Wyoming</td>
<td>limited</td>
</tr>
</tbody>
</table>

Source: Education Week

Massachusetts and Texas both believe open enrollment has improved their public education systems. The Pioneer Institute in Boston\(^5\) reports,
“Overall, this [review] confirms that the Massachusetts school choice programs continue to benefit many while harming few. Further, those [schools] that experience a negative impact appear to be modifying their programs in order to stem or reverse losses, a highly desirable consequence.” In 1998-99, more than 7,000 students—the majority of them high school students—attended a school outside the district of their residence. Participation remains low in part because individual districts each year must vote on whether they will allow students to enter their district schools; only one-third of all districts in the state opt to receive students.

The Houston Independent School District touts itself as a model for large urban school districts seeking methods to improve their student outcomes. Houston allows a large measure of intra-district choice to its students; almost one-third, roughly 70,000 of the 212,099 district students, have selected a public school other than their residentially-zoned school. Additionally, approximately 2,600 students from outside the district attend Houston public schools.

However, states like Ohio and California are less impressed with their open enrollment policies. Despite the fact that 57 percent of Ohio’s districts participate in the inter-district choice program, only 1 percent of the student population actually exercises their right to select a school outside their district. In California, almost half (46 percent) of districts are exempt from having to take part in the program. The participating districts cite many problems caused by ineffective program design—no provisions were made for the state to assist highly-demanded schools with expanding their capacity. Of the open enrollment districts responding to a state survey, 92 percent reported space as a major impediment to accepting transfer students. In addition to parental involvement being negligible, the survey showed that districts commit few if any resources to evaluating the efficacy of the open enrollment program. As a result, the program largely operates in ignorance of its own performance, let alone its potential capabilities.

Limited research, however, does indicate that increasing the ease with which parents can select schools for their children outside their local district may have a positive effect on student outcomes. As mentioned, Massachusetts found that public schools losing the most students after a few years found ways to entice parents back, although no formal examinations of student performance were made. In a broader study of states’ education systems, Harvard economist Caroline Hoxby found that a greater number of smaller, more concentrated school districts in a given geographical area produces a small, but statistically significant increase in student performance, as well as a reduction in the average per-pupil cost of education.

Columbia University researchers Peter Cookson Jr. and Sonali Shroff conclude that there is little compelling evidence directly linking open-enrollment programs with higher student achievement or school improvement but argue the programs can have beneficial effects on education opportunity. They find “children’s opportunities are influenced by the
neighborhood their parents choose to live in, or are forced to live in, and by the quality of schools in that neighborhood. Choice does provide exit from these controlling circumstances and, to that degree, provides opportunities that might not otherwise exist for some children.”

POLICY OPTIONS

For decades, a variety of school choice programs have existed in many countries throughout the world, and recently, several regions within the United States have begun experimenting with increasing their choice options. Empirical research on the effect of school choice on student achievement – as well as other social concerns like equality and civic cohesion – is often inconclusive and even less frequently based on truly scientific experimentation. However, economic theory and some literature benefits from injecting some measures of choice into our current education system. Additionally, careful policy design by legislators and community members can mitigate the common concerns pertinent to incorporating market forces into our public education system.

Oregon’s parents already have some measure of school choice. Intra-district transfers like those in Portland and Eugene and our state’s existing charter legislation provide some mechanisms for parents seeking alternatives to their local district schools. Market-based reforms show potential to produce higher-performing, cost-effective institutions by engaging potent market forces such as competition, specialization, dynamic adjustment, self-regulating exchange, and consumer choice.

Below we list a range of policy options available to policymakers interested in increasing choice in Oregon schools. The policy options, which are based on strong theoretical evidence, are arranged from those that essentially maintain the current administrative structure to those that move more fully embrace market interventions.

• Develop dual-enrollment, postsecondary options, college-in-the-high-school programs statewide with the goal of accelerating student learning to allow students to graduate from high school sooner and begin accumulating college credit earlier. Currently in Oregon, there are no state-level policies designed to create systematic opportunities for students to move through the high school curriculum and begin college-level instruction when they are ready. Such acceleration and additional learning options for students who have mastered the state standards or who demonstrate unique talents or capabilities and wish to continue their learning beyond that available at their local school are currently available in many other states. To achieve this goal in Oregon would require a state policy obligating each high school to develop a coordinated program of accelerated learning with one or more local community college and four-year institution. For this program to operate in a cost-effective fashion, funding would need to follow the student. In this way, K-12 education costs could be
reduced as students took less than 4 years to complete high school. Because per-pupil costs in entry-level undergraduate courses are far below those incurred for high school courses or Advanced Placement classes, it would be more efficient to connect high schools more directly with postsecondary institutions rather than attempting to offer elements of a college education in high school, or, worse yet, make students take high school classes when they are ready for more substantial challenges.

• **Expand choice with the public-school system and establish regional or statewide open enrollment.** Existing *intra*-district transfer programs offered in Portland, Eugene, and other districts across the state provide parents and children increased flexibility in selecting publicly provided educational programs. Oregon’s equalized per-student funding would permit metropolitan districts to expand *inter*-district options, which are more liberally used in Colorado, Iowa, Minnesota, Nebraska, Oklahoma, and a number of other states. Regional or statewide inter-district transfers would extend the boundaries of available choices for students and parents. An existing Oregon state law provides some mechanism for inter-district transfers; however, this law is not very well known by Oregon parents and as a consequence is not frequently used in practice as a means of selecting a child’s school. State campaigns to advertise and expand this means of school choice may result in more parents actively investigating which public school might serve their child best. This could be an important step toward acclimating parents to the role of responsible education consumers, facilitating any further market-based reforms the state may wish to undertake at a later date.

Reform of capital and transportation cost allocation would be key policy considerations. Unlike K-12 operational expenditures, which are essentially distributed at the state level, local school districts still collect and appropriate their own capital resources. If an inter-district transfer policy resulted in sizable shifts in students, regional partners would need to consider how to finance additional classroom supply in the net receiving districts. Transportation is an additional key consideration. Absent transportation subsidies or special transit arrangements, an inter-district transfer policy would be less useful to low-income students.

• **Amend Oregon’s charter school laws to foster the development of new charter schools.** At least two amendments to Oregon’s charter law have the potential of fostering the creation of additional schools. First, Oregon should revisit the policy governing per-student payments received by charter schools. Currently, elementary-level charter schools only receive 80 percent of the per-student allotment given to traditional public schools in the district, and secondary level receive 95 percent of the district per-pupil allotment. Policymakers justified providing schools with less than
full funding to reimburse the district for transportation costs, because charters are not obligated to provide transportation for all their students. However, individual charters themselves must defray many real estate costs not charged to traditional public school budgets; in light of this, current funding levels for secondary charters may be appropriate, but funding for primary charter schools appears low. Second, the state could establish an additional category of charter school sponsors. Currently, charter school organizers must first apply to the district in which they intend to operate and, if denied, can appeal to the State Board of Education. An alternative system could establish additional sponsors including neighboring public school districts, community colleges, or universities. Third, artificial barriers to utilization of idle public school facilities by charter schools could be removed. A major concern in expanding charter schools by the existing bureaucracy is the putative impact on the cost of public schools, including the development of idle capacity in school facilities. This concern could be ameliorated if conventional public and charter schools could be co-located in public facilities.

- **Pilot targeted voucher programs for low-income students in metropolitan areas.** The relationship between vouchers and student achievement is unclear. Like a host of other educational interventions, vouchers show some promise. Demonstration projects would be most suitable in urban areas with concentrated populations and a variety of education options. By targeting the vouchers to low-income students, the state would avoid providing a windfall to middle- and upper-income parents who would send their children to private schools with or without the voucher.
ENDNOTES

1 See, for example, Mishel, Lawrence and Richard Rothstein, eds. 2002. The Class Size Debate. Economic Policy Institute. Washington, DC.


5 In private industry, the goal is profits. In education, the goal is improving student performance.

6 Indeed, education reform would hardly be such a difficult issue if it were easy to discover a single successful method for educating every student in every school.


9 http://www.friedmanfoundation.org/schoolchoice/index.html#5


12 Bergström and Sandström, Ibid.

13 Bergström and Sandström, Ibid.

14 http://www.aera.net/pubs/er/arts/29-07/carnoy06.htm

15 Ibid

16 Most studies reporting these findings used Ordinary Least-Squares (OLS) statistical regression estimates, which under a variety of circumstances, can produce biased results if the models are not properly designed.


18 The process described above, where an econometrician attempts to unbias his estimates by first using a regular regression to estimate an endogenous choice variable within the model, is known as Two-Stage Least-Squares (TSLS).

It is taken for granted in modern discourse that the separation of church and state exists to protect government from the influence of religion. While this is indeed crucial in a free society, it seems largely forgotten that for a long time—and today still—separation of church and state was necessary to protect religion from government persecution. This particular legal provision dates back to the British conquest over French forces in the 17th century; as a means of accommodating the incumbent French population, the British offered legal protection and equal status for a French Catholic public education system. This was later codified in their constitution when Ontario, Quebec, New Brunswick, and Nova Scotia banded together in Confederation in 1867.


One of the interesting results from the PISA data is that the scores of high performing students vary far less across countries than do those of low achieving students. The informal implication is that superb students can “shine through” in almost any education system, but some systems do a much better job of educating difficult or disadvantaged students. As such, a given’s country’s average score can be greatly affected by the width and depth of its achievement gap.

Ibid, 10.


Per-student spending is converted to US dollars, then adjusted for Purchasing Power Parity (PPP) and full-time equivalents.

“The Case for School Choice: Denmark” The Fraser Institute.
http://oldfraser.lexi.net/publications/critical_issues/1999/school_choice/section_05.html


“The Case for School Choice: Denmark” Ibid.

“The Case for School Choice: Denmark” Ibid.


A fourth state, Colorado, attempted to institute a voucher program; despite successfully passing the necessary legislation, this program disintegrated under political opposition and legal embattlement before it ever came into effect. Additionally, two other states, Maine and Vermont, have “voucher” programs for students in sparse rural areas, but these programs have existed for many decades, and did not undergo any significant changes in the last ten years.

http://www.friedmanfoundation.org/schoolchoice/index.html#66


Ironically, this decision came just shortly after a July 18, 2002 U.S. Circuit Court (Ninth District) ruling that struck down a provision in Washington state’s college scholarship program that prevented students wishing to study theology from receiving state funds, arguing that it was unnecessarily discriminatory and prejudicial to exclude theology students from a program whose intent was to benefit all students seeking financial aid for college education.


Ironically, this decision came just shortly after a July 18, 2002 U.S. Circuit Court (Ninth District) ruling that struck down a provision in Washington state’s college scholarship program that prevented students wishing to study theology from receiving state funds, arguing that it was unnecessarily discriminatory and prejudicial to exclude theology students from a program whose intent was to benefit all students seeking financial aid for college education.


“Standard deviation unit” is an unfortunately awkward term. Think of it as a way to measure how far away a school’s performance is from the average, given how wide the total disparity is in the entire population of a state’s schools.


As reported in Boyd et. al. (2002), pp. 30-31

Boyd et. al. (2002), page 20


Kenneth Nyberg and Jesus M. Garcia, “Open Enrollment in California’s K-12 Public Schools” January 1997.

INTRODUCTION

In the early 1900s, the current single-salary schedule for teacher pay was established and relied entirely upon on a teacher’s tenure and education level. Since then, researchers have generally concluded that neither experience nor the attainment of a Master’s degree is a strong predictor of teacher quality. In short, research finds experience may matter in the early years of a teacher’s career, but its importance weakens over time: the average teacher’s skills may increase measurably between the first and second year but considerably less so between the tenth and eleventh. Moreover, the attainment of a Master’s degree may correlate with higher student achievement for certain subjects (e.g., mathematics), but when measured across all teachers and all types of degrees, the average Master’s degree shows little correlation to student achievement. Given these findings, a number of school districts have attempted to move away from the common tenure/degree based pay structure to a variety of alternative compensation methods.

Teacher compensation reform has the potential to align educational resources with the goal of improved student performance. Reformed compensation packages can attract and retain high quality teachers, prompt the development of best practice skills and knowledge, and define and maintain a desired organizational culture. These elements act in concert to improve teacher quality and student achievement.

Early reform efforts focused on merit pay and career ladders. Merit pay systems typically distributed a fixed pool of awards based on subjective reviews by supervisors or peers. The programs lacked success due to competition among teachers, unclear definitions of excellent performance, and unstable funding. Career ladder programs provided leadership positions to teachers who surpassed certain standards. Like merit pay, these programs ultimately proved neither lasting nor effective: they too suffered from unstable funding and insufficient assessment systems that teachers viewed as arbitrary and untrustworthy.

More recently, many school districts and states have undertaken teacher compensation reforms of a new sort. These efforts, which focus on paying teachers for what they know and do, suffer some of the same weaknesses as merit pay and career ladders. Nonetheless, these new developments appear to be longer lasting and more closely aligned with the standards-based reform movement.

An investigation of teacher compensation reform does not necessarily reflect on the quality of the current teaching corps. In fact, available data
suggest that Oregon’s teachers are well qualified relative to their peers nationwide. As required through the federal *No Child Left Behind Act*, states measure and report the percentage of “highly qualified” teachers in the K-12 system overall and in high poverty areas. In Oregon, the State deems teachers “highly qualified” if they are fully licensed in Oregon, hold at least a bachelor’s degree, meet state requirements to demonstrate mastery of subject knowledge, and are assigned to classes that match their academic certification. Oregon estimated the share of highly qualified teachers for the first time in 2002-03 and concluded that 82 percent of all classes were taught by highly qualified teachers. Moreover, surveys completed by principals throughout the State in 2000 showed that 92 percent of elementary schools, 94 percent of middle schools, and 91 percent of high schools rated their newly licensed teachers as very well prepared or fairly well prepared.

Those who favor reform would argue that a change to the compensation system would better align teachers’ activities with existing state standards and support a more equitable compensation package even when teaching staff are already well qualified.

**REVIEW OF THE LITERATURE**

Recently, school districts have turned to Knowledge- and Skills-Based Pay (KSBP), School-Based Performance Awards (SBPA), or a combination of the two. Each provides a bonus or salary upgrade for improved student achievement, the development of knowledge and skills, or willingness to teach hard-to-serve populations or fill hard-to-staff positions. Evidence linking the pay policies to student achievement is limited, but researchers have established a possible relationship between achievement and the SBPA system operating in Dallas, Texas. Overall, KSBP programs are too new and rare to have an established research base. In the remainder of this section, we review the typical frameworks and award levels used by the two systems.

**KNOWLEDGE AND SKILLS BASED PAY (KSBP)**

KSBP pay systems assume that school managers who can identify certain teaching skills, behaviors, or levels certification that are correlated with higher student achievement can improve the quality of their teaching staff by paying more for those skills, behaviors, and levels of certification. Researchers have made some progress in this area; for example, Darling-Hammond (2000) found that levels of teacher preparation and certification status correlate strongly with achievement even controlling for poverty and language status. Goldhaber and Anthony (2004) discovered that teachers certified through National Board for Professional Teaching Standards were more effective in improving student achievement in math and reading, particularly for younger students and students in poverty. Other studies (Sanders, 1999; Archer, 1999) have found that teachers are the most important factor in a student’s achievement, regardless of other student characteristics—for example, race/ethnicity and socio-economic status—that we typically view as significant determinants of performance.
Unfortunately, few believe that this kind of degree significantly contributes to effective teaching. Similarly, degrees in specific subject areas (Education Commission of the States, 2003) are only moderately supported as determinants of student achievement.

**FRAMEWORK**

While these systems take many forms, KSBP systems typically provide bonuses and salary increases based on demonstrated skills in one or more of the following four areas:

- **Expertise in content, curriculum, and instruction.** Teachers begin their career with a provisional license and accumulate professional development units, earn bonuses or pay upgrades, and ultimately obtain certification by the Interstate New Teacher Assessment and Support Consortium or the National Board for Professional Teaching Standards.

- **Curriculum development, guidance counseling, student advising, and parental outreach.**

- **Site-based management.** Teachers demonstrate ability to run meetings, plan strategically, and evaluate programs.

- **Involvement in professional communities and activities.**

**ASSESSMENT METHODS**

The assessment method—a technique that governs who gets bonuses and when—has traditionally been a point of contention among teachers. Historical reforms largely failed because teachers considered the assessment systems arbitrary and untrustworthy. In an ideal KSBP system, administrators assess teachers on demonstrated performance—as opposed to credits and degrees—and consider classroom observations and portfolios. Assessments developed external to the school system—PRAXIS III, Danielson’s Framework for Teaching, or the National Board of Professional Teaching Standards—are generally the most valid and reliable, and internal input can be used to modify the assessments based on local conditions. Nonetheless, the assessments should be continually and carefully evaluated for validity and reliability—are they measuring the right things and do they continue to do so over time and across teachers?

**BONUS LEVELS**

Earnings bonuses and pay upgrades under a KSBP program require considerable effort on the part of teachers. Experts therefore recommend that awards be large enough to attract teachers’ attention and to be perceived as commensurate with the effort required. Researchers from the Consortium for Policy Research in Education (CPRE) recently reviewed seven functioning KSBP systems and concluded that only three offered sufficient awards. The systems determine the size of bonuses based on the percentage of base salary
in the existing schedule that a new teacher could eventually earn. In the three programs that offered “sufficient” rewards, bonuses totaled 50 percent to 60 percent of base pay.

Researchers report KSBP programs are generally less attractive to senior teachers. For long-tenured staff, the additional salary or feared drop in salary does not appear to be worth the effort of program participation. Consequently, six of the seven sites CPRE studied kept a seniority-based element in their salary schedule; however, some districts capped the experience-based pay progression at a lower number of years (that is, they reduced the number of steps in their wage scale). Finally, many sites allowed senior teachers to opt-out of the KSBP system but made participation mandatory for new teachers.

KSBP programs offer a number of options. For example, a district can replace, supplement, or modify the traditional teacher pay schedule. Of the three KSBP programs with substantial rewards, only one, Cincinnati, completely replaced its previous pay schedule. However, all districts did not change the financial reward for having a Master’s degree in Education. For reasons like these, KSBP promoters want assessment based on actual performance, not degrees.

Cost data on KSBP systems are limited. In theory, a district could design a revised salary structure with no net increase in salaries. In these relatively new programs, net new expenditures on salaries have ranged from 0.2 percent to 3.8 percent of payroll; long-run costs, however, are expected to be higher. In addition to salary costs, districts incur an administrative cost associated with teacher assessments. In Cincinnati, for example, the district hired eight full-time teachers to perform classroom observations at an annual cost of $500,000.

**SCHOOL BASED PERFORMANCE AWARDS (SBPA)**

Implemented more widely than KSBP, School Based Performance Awards (SBPA) pay bonuses at the school-level. SBPA supporters argue that school-level awards for teachers foster collaboration and dissemination of best practices. SBPA systems measure student performance, achievement, and participation (e.g. attendance or dropout rates), and reward schools that exceed performance targets or show substantial improvement. These systems give local schools discretion in spending their awards and some pay bonuses to individual teachers and staff; others fund school-wide initiatives.

**FRAMEWORK**

Performance criteria and a method for calculating changes in performance are key to an SBPA program. States and local districts employing SBPA programs use state and locally designed tests. Most districts emphasize standard achievement measures; however, some assign a weight (usually 20 percent or less) to participation factors like attendance or dropout rates. Calculations of improvement or decline in test scores are much more
complex. States and local districts employ one or more of the following three approaches:

- **Comparison to standard.** This method measures the share of students who meet a predetermined, fixed level of performance. The approach, in its most basic form, does not account for differences in the socio-economic backgrounds of the student population.

- **Improvement to standard.** School officials typically view this improvement-based method as more fair than an absolute standard because the approach provides an achievable goal for historically low performing schools. By contrast, the method may put consistently high performing schools—with less room for improvement—at a disadvantage.

- **Value-added.** Through this method, administrators use a given year’s score to predict the following year’s scores. They then compare actual scores in the second year to the predicted or expected scores and distribute awards based on the degree to which a school exceeded expectations. Administrators working in schools with historically low student achievement favor the system because it rewards the value added to the struggling population even when most students fail to meet established standards. The method requires relatively frequent testing to gauge value added and uses complex statistical techniques to predict performance.

These methods can be used alone or can be combined in a hybrid model. For instance, some districts combine the comparison to standard and improvement to standard methods and award a school for either the share of students meeting a standard or a demonstrated improvement in that share.

**SETTING ACHIEVEMENT TARGETS**

Supervising agencies use a variety of methods to develop achievement targets. Targets must be seen as obtainable but also high enough to allow for noticeable improvement. The reasoning behind an established achievement level often includes historic achievement trends, possibly political or external considerations, and resources available to support the efforts to improve student achievement. A timeframe for achievement needs to be set—often according to a strategic plan, long-term time frame, or even year-to-year—so that a “floating” target can reflect an expectation that high performance needs to be maintained. Different targets can also be set different groups of students. For example, Charlotte, North Carolina set higher targets for African-American students because the achievement gap between them and other students was so large, and administrators believed a lower target would suggest a lack of commitment to closing the achievement gap.
**AWARD RECIPIENTS AND LEVELS**

Awards can be directed to teachers, teachers and selected staff, or to the school. In some cases, school officials have allowed staff to influence the uses of the award on year-to-year basis. North Carolina uses this sort of hybrid approach and shares the award with certified staff.

As with KSBP systems, awards must be sufficiently large to motivate school personnel. Based on reviews of similarly structured private sector programs, SBPA designers recommend the awards should carry an average after tax value of $2000 and should run no lower than $1,000.

Historically, SBPA programs have struggled to maintain year-to-year funding. Well-designed state level SBPA programs establish a trust fund that secure stable funding for some number of years to ensure the program’s ongoing incentive effect.

To estimate the program’s anticipated total cost, administrators can review historical performance of schools and estimate how quickly individual schools can and will respond to the performance incentives. If the schools outperform expectations, SBPA designers recommend increasing the total award pool—as opposed to reducing individual awards—to maintain a fixed pool amount.

**PROMISING PRACTICES**

Below, we discuss the limited experience with KSBP models in four Oregon school districts. We then turn to a brief description of Denver’s proposed ProComp system, which draws on both KSBP and SBPA features.

**OREGON**

In Oregon, the Sweet Home, Gresham-Barlow, Eagle Point, and Central Linn school districts have adopted features of the KSPB compensation system and link salaries and bonuses to NBPTS certification and the willingness to work in hard-to-place positions.

- **Sweet Home.** The District’s union contract specifies a one-time $10,000 bonus for NBPTS certification. Since its inception, one teacher has received the certification, two are working on it, and two have dropped out of the program. When someone does receive the certification, Ford Family Foundation provides a $2500 bonus to a school project important to the teacher. This district has other incentives for working in a hard-to-serve school or with special education students. The school district either forgives or reduces a teacher’s school loans for working in a hard-to-serve area and provides an annual stipend of up to $3,000 for working with special education students. The district is considering bonuses for speech and language therapists.8
• **Gresham Barlow.** The District links NBPTS certification to movement along the existing step-based salary schedule. Teachers were initially opposed the program but later cooperated. The district provides mentors to assist teachers working toward the certification. More than 20 teachers have obtained certification in the district.  

• **Eagle Point.** The District’s program originally provided a $1,450 salary increase, which is more generous than the typical $10,000 one-time bonus award for such certification. Because of cost considerations, the district lowered the award to a one-time $1,000 stipend. Since the program’s inception, about 10 district teachers have obtained certification.

• **Central Linn.** The District links salaries to NBPTS certification as well as ability to teach in subject areas with a shortage of applicants.

**DENVER**

The Denver Public Schools and the Denver Classroom Teachers Association recently agreed to a comprehensive overhaul of the District’s compensation system. Implementation of the proposed system, called *ProComp*, is contingent upon voter approval of a $25 million annual property tax increase. The revenues will support a trust fund that will finance the program’s ongoing operations.

If approved, the new system would consist of the four major components and nine individual elements summarized in Table 11.1.

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<tr>
<th>Table 11.1: Components and Elements of Denver’s <em>ProComp</em> System</th>
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<tr>
<td><strong>Knowledge and Skills</strong></td>
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<tr>
<td>Professional Development Unit</td>
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<td>Graduate Degree/National Certificate</td>
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<td>Tuition Reimbursement</td>
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<td><strong>Professional Evaluation</strong></td>
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<td>Unsatisfactory Performance</td>
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<td><strong>Market Incentives</strong></td>
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<td>Hard to Staff Position</td>
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<td>Hard to Serve School</td>
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<td><strong>Student Growth</strong></td>
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<td>Annual Objectives</td>
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<tr>
<td>Colorado Student Assessment (CSAP)</td>
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<tr>
<td>Distinguished School</td>
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Source: www.denverteachercompensation.org

Through the knowledge and skill component, teachers would receive (2 percent) salary increases for documented completion of professional development units and a 9 percent increase for the acquisition of graduate degrees or national teaching certificates. In addition, the district would
establish a one-time $1,000 account for tuition reimbursement for each teacher in the district.

Under the professional evaluation component, the district would continue its periodic review of teaching performance. A teacher routinely considered “satisfactory” would receive a 3 percent salary increase once every three years. “Unsatisfactory” assessments would delay salary increases.

Through so-called market incentives, teachers would receive bonuses for teaching in hard-to-serve schools or hard-to-staff positions. Unlike the salary increases described above, the bonuses would not be considered part of a teacher’s salary for the purpose of calculating a pension.

Finally, through the student growth component, teachers’ annual salaries would be increased—a 1 percent increase plus a 1 percent bonus—for having met annual student-based objectives developed in collaboration with the principal and demonstrating sustained improvement in their student’s CSAP scores (worth a 3 percent salary increase). Moreover, drawing from the SBPA concept, teachers would receive a 2 percent bonus if they taught in a district-recognized “Distinguished School”.

The ProComp system would be voluntary for existing teachers and mandatory for new hires. The existing salary system would remain in place until the last current employee retires, terminates employment with the district, or switches to the ProComp system.

**POLICY OPTION**

By the State’s account, Oregon’s teachers are well qualified relative to their peers in other states. Moreover, surveyed principals report incoming teachers are strongly qualified and have been improving in recent years. While most state- and school-level administrators appear satisfied with the teachers they have, those proposing compensation reform would argue that quality could improve even more with better alignment between compensation and State standards. If such an alignment proves attractive, Oregon policymakers could encourage districts to experiment with SPBA, KSBP systems, or both.

- **Encourage district-level pilots of alternative compensation systems that reward schools and/or individual teachers for demonstrated effectiveness in improving student learning.** (Innovative Practice) Oregon districts should revisit the purpose and goals of their step-and-increment salary schedules, which are tied to experience and attainment of graduate degrees. While experience is linked to quality and student achievement, learning gains related to experience tend to level off after the first five years. Attainment of a Master’s degree shows a correlation to teaching quality primarily when the degree focuses on content knowledge in specific subjects in the higher-grade levels (e.g., mathematics, science). We have outlined a number of policy options in Chapter 3 of this report that—if
adopted—show potential to strengthen the link between Master’s degrees and teacher quality. As a complement to Chapter 3’s policies, the State could encourage pilots of two alternative pay and reward systems that decrease the existing emphasis of degrees and experience: and School-Based Performance Awards (SBPA) and Knowledge- and Skills-Based Pay (KSBP).

SBPA systems have been implemented more often than KSBP, but the two systems can and do coexist. In this approach, the State would identify targeted measures of achievement- and participation-oriented student performance, and if targets are met, the entire school would receive a bonus award. Usually, everyone in a school—professional and classified staff members—is eligible. Successful SBPA systems are clear about the performance that is most valued (e.g., student achievement, student and teacher attendance, parent satisfaction) and base the performance standard for each school on improvement over some historic base.

KSBP systems reward individual teachers based on increased knowledge and skill in areas associated with improvements in student learning for all children, particularly those for whom an achievement gap exists. In an ideal KSBP system, teachers are assessed on actual demonstrated performance documented through classroom observation and portfolios. The skills should be clear, specific, and measurable and described in written form with clear standards. Evaluation systems could be designed locally and could use the standards of the International New Teacher Assessment and Support Consortium (INTASC), PRAXIS III, and the National Board for Professional Teaching Standards (NBPTS). The programs are difficult to devise and implement and therefore less feasible than SBPA programs in the near term. However, to support longer-term implementation, the state in collaboration with teachers and administrators could begin developing data information systems and measures that would support teacher-level assessments. Once developed, districts could track the measures for a number of years before they link them to compensation. By doing so, pilot districts would avoid implementation of inequitable measures.

Finally, in exploring alternatives, local districts and the state should keep an eye on emerging the ProComp system in Denver as well as established systems in Minneapolis and North Carolina. While most newly implemented systems have net additional costs, these programs can be theoretically budget-neutral. Note, however, that holding total salaries constant creates winners and losers.


4 Oregon School Principals' Study 2000: Teacher Preparation and Shortages


Part IV

Conclusion
PURPOSE OF THE REPORT

This report is the second in a series of research reports produced for The Chalkboard Project, an effort sponsored by five Oregon foundations to share best practices, broaden perspectives, and unite the citizens of Oregon in the goal of a superior public education system. A predecessor to this report described the existing conditions of Oregon’s K-12 system, but stopped short of offering solutions.

This report moves from describing problems to exploring policies that schools might employ to solve them. Our goal is to identify a wide range of proven and promising policies that can form the foundation for The Chalkboard Project’s engagement process with Oregonians.

The report’s two parts critically assess the theories and empirical evidence underlying two—sometimes competing—philosophies about how best to improve school quality:

- Resource and input-based strategies
- Regulatory and incentive-based strategies.

Part II, Improving Quality: Evidence on Resource- and Input-Based Policies and Student Achievement (Chapters 2 through 8), examines the range of policies advanced by those who favor resource- or input-based strategies. Part III, Strengthening Accountability: Evidence on Regulatory and Market-Based Strategies to Improve Student Achievement reviews the theory and findings on regulatory and incentive-based reforms.

GENERAL FINDINGS

In light of K-12 education’s well-documented link to economic productivity, the number of practices proven through rigorous research is surprisingly limited. Oregonians in search of iron-clad links between specific education practices and student achievement will be disappointed. Education policy experts offer competing reasons for the scarcity of proven practices.

Some argue that schools and states simply have not invested the resources necessary to carefully implement and evaluate their interventions. Controlled experiments, which offer the strongest evidence on a program’s true impacts, are relatively rare in the education field. True experiments are expensive, but once federal, state, and local governments invest in them, some argue the list of proven practices will grow. The difficulty is that few parents are willing to allow their children to participate in educational “experiments.” Few parents want their children in the control group when other children are receiving a
more effective treatment, and few want their children in the experimental group when it has not been thoroughly proven. The ethics of experimental research designs is yet to be fully resolved for educational settings.

The fact that states and localities tend to implement multiple reforms simultaneously additionally confounds the search for effective practices. While indicators of success may improve after the implementation of an omnibus reform, policymakers are unclear which aspect of the reform, if any, affected the performance.

Others are less sanguine about the possibility of ever finding proven or best practices. They contend that the complex process of education does not lend itself to one-size-fits-all approaches. They argue that the tremendous diversity of student learning abilities and teaching styles will continually frustrate efforts to find policies or instructional practices worthy of implementation on a wide scale.

The limitations inherent in “proving” beyond a doubt the effectiveness of specific educational practices do not necessarily mean that nothing is known about effective methods and strategies. However, much of what is known is at the level of what we have labeled as “promising practice” or “sound theory.” Programs and methods in these categories have ample evidence of positive effects, but have not been verified via experimental research.

We have found a wide array of promising and innovative programs operating in thousands of districts across the country. In this report, we attempt to shine light on a range of the programs that appear most likely to bring about the greatest improvements at the most reasonable costs. However, given the number and diversity of these programs, the list in this report, or any report, will be admittedly selective.

**RESOURCE- AND INPUT-BASED STRATEGIES**

Part II reviewed an array of educational practices that could be implemented with limited changes to or modifications of the existing education delivery structure. To date, the academic literature on resource or input-based strategies generally supports the theory that the earlier the interventions take place in a child’s life, the higher the likelihood that the intervention will have a positive impact on student achievement. Scanning the research results in three resource-based policies—all focused on younger children—demonstrating the strongest research findings:

- Targeted class size reductions in kindergarten and first grade,
- One-on-one tutoring for young students (3rd grade and under) falling behind in reading, and
- High quality preschool programs.
While most education researchers would agree that each of these areas has been proven in multiple settings, they also urge caution because the body of high quality research is still relatively limited. Justification for class size reductions, the highest profile resource-based solution, rests largely on the results of a single experiment conducted in Tennessee for a limited number of early grades almost two decades ago. While the evidence continues to mount in favor of reading tutoring for K-3 students, the programs are expensive and less is known about cost-effective methods of program delivery. And finally, the Perry Preschool experiment is frequently cited as support for additional investments in high quality preschool. While the program’s evaluation shows striking long-term impacts on cognitive achievement, employment rates, wages, criminal behavior, these impressive findings are offset by the evaluation’s small sample size (123 children) and its perceived relevance—the children participated in the program 40 years ago.

Should the state or individual districts decide to move forward on any of these initiatives, they should do so carefully and strategically with the goal of learning from their investments.

In addition to these research-supported practices, an array of promising and innovative practices either lack an equivalent level of evidence or are simply too new to have demonstrated results. Small high schools, school academies, corporate internship programs, theme schools, technology integration strategies, and a host of other practices reviewed in this report all show potential and are worthy of controlled experimentation and testing by interested schools. Below we summarize our key findings from the seven topical chapters in Part II of the report.

CHAPTER 2: CLASS SIZE

While the research community has spent considerable time and effort analyzing class size policies, they have not definitively accepted or rejected small classes as a cost-effective policy to improve student achievement. The findings for Tennessee’s Project STAR while impressive and far more rigorous than evidence on most education reforms, speak to a single approach implemented on an experimental basis. After Project STAR, the balance of the literature, all non-experimental, is cloudy at best.

The literature suggests policies have the highest likelihood to generate achievement gains at the K-1 level. Moreover, within those grades, students from low-income families appear to benefit more than students from middle- and upper-income families. Therefore, a phased-in strategy could start small, with schools in low-income areas and progress gradually to higher income areas as financial resources, the supply of qualified teachers, and facilities allow. Given that so many unknowns about

Class Size Policy Option:

- Target investments on any class size reductions on Grades K-1 but permit flexibility to test other models in the early grades.
class size persist, policymakers should permit flexibility and allow localities to explore best practices.

CHAPTER 3: STAFF QUALITY

Research is unambiguous that a good teacher can make a profound difference on a student’s achievement. In a recent survey, Oregon principals expressed general satisfaction with teaching quality and indicated that their new hires are particularly strong. Moreover, the Oregon Department of Education deemed 82 percent of teachers “highly qualified” under a reporting definition required by the federal No Child Left Behind Act. Despite what appears to be a generally solid teaching corps, school districts are looking for ways to further strengthen and support staff performance.

In addition to testing alternative staff compensation models—discussed in Part III of this report—Oregon should overhaul teacher licensing requirements to send a consistent message about the knowledge that is important for prospective teachers to learn and the skills that are important for them to master.

Staff Quality Policy Options:

- Overhaul teacher licensing requirements to send a consistent message about the knowledge that is important for prospective teachers to learn and the skills that are important for them to master.
- Institute high-quality teacher mentoring programs geared toward environments where teacher turnover is highest or where teacher shortages exist.
- Develop principal licensing standards that require candidates to demonstrate the ability to successfully lead school-wide instructional learning as well as to implement meaningful school improvement efforts.
- Create a statewide administrator leadership academy that offers intensive, focused training that enables competent administrators to become outstanding instructional leaders.
- Create “Professional Development Schools.”
- Institute higher expectations for teacher professional development statewide.
- Evaluate both teacher evaluation and dismissal procedures to allow school districts to remove those teachers that are truly unable to help students learn.

...
the student teaching process based on how long it takes the student-teacher to master the skills; and 5) require secondary school teachers to show content-based continuing education in their subject area.

Staff quality initiatives should also extend to principals and administrators to ensure they can effectively lead schools and districts in ways that foster student achievement.

CHAPTER 4: FACILITIES, SCHOOL SIZE

A reliance on large schools and consolidation continues in Oregon despite a growing research base that supports the education of children in small schools. The research base linking small schools to student achievement is not as robust as for other resource-based strategies like targeted class size reductions or one-on-one tutoring. Moreover, small school strategies can be expensive and much needs to be learned about their cost-effectiveness relative to other interventions. Nonetheless, the emerging research suggests local school districts and the State should pursue policies to foster experimentation with small learning communities where research shows the greatest positive effects on achievement.

To do so, the State could use incentives to encourage the creation of small schools and carefully evaluate the results of the conversion of large schools to small learning environments. The start-up capital, assistance and oversight resources found in the Oregon Small Schools Initiative exemplify the kind of encouragement needed to develop small learning communities. To keep costs down, the school districts should target development of small learning communities on schools with concentrated populations of poor and minority students where research shows the positive effects on achievement. Finally, the school districts should experiment with schools-within-schools concepts, which have been used in Chicago, New York City, Philadelphia and are being introduced to Portland.

Facilities Policy Options:

- Use incentives to encourage the creation of small schools and carefully evaluate the results of the conversion of large schools to small learning environments.
- Focus development of small learning communities on schools with concentrated populations of poor and minority students.
- Encourage Schools-within-Schools.
- Identify and remove obstacles in law and/or policy that serve as disincentives for the creation of small learning communities.
- Develop a detailed inventory of Oregon school facilities, their condition, the likely costs needed to replace or remodel the facility, and the date such replacement or remodeling will likely be necessary. In addition, projections of needs for new schools to cope with student growth should be developed.
CHAPTER 5: INSTRUCTIONAL PRACTICES

Improving teacher instructional practices is a potentially cost-effective means to bring about gains in student learning. However, the research base on which practices are demonstrably and consistently most effective for all students is notoriously thin. While some methods work for some students some of the time, few meet a more universal standard.

Targeted one-on-one tutoring, focused on K-3 students demonstrating reading deficiencies, is one area with solid research-backed results. Some of these programs are whole-school reforms with tutoring strategies as a centerpiece; others focus almost entirely on tutoring alone. Some combine tutoring with small-group and whole-group instruction. These programs’ per-student costs can be high, and evidence about how well the programs can be replicated and maintained is still emerging. Therefore, the state should encourage cautious experimentation with these approaches and others that might meet the same criteria applied to these. With the limited evidence at hand, experiments should target those students who have the greatest need and show the highest likelihood of benefiting from the programs.

Instructional Practices Policy Options:

• Encourage Oregon schools to adopt targeted one-on-one tutoring for K-3 students demonstrating reading deficiencies.

• Require, as a condition of the state school improvement process, that schools conduct a systematic process to validate empirically the effectiveness of their instructional programs in reading, writing, mathematics, and science.

• Enhance the capability of teachers in the state to acquire the skills necessary to implement more effective instructional practices.

• Expect Oregon teachers and schools to use data on student learning to inform instruction.

• Utilize technology much more extensively for instruction.

• Examine the feasibility of re-establishing magnet arts schools.

• Develop pilot school that connect curricular and extracurricular programs directly.

• Develop a common statewide format for Individual Development Plans that would be completed for each student and would identify the educational activities and opportunities to be made available to the student in relation to the student’s needs and interests, consistent with state and federal education goals.

• ODE should establish the means by which the physical well being of students in the state is ascertained. Such information should be included in school report cards.
In addition to a renewed focus on tutoring, schools—as a condition of the state school improvement process—should conduct a systematic process to empirically validate the effectiveness of their instructional programs in reading, writing, mathematics, and science. Currently, schools have no requirement to demonstrate that any instructional program employed is effective in any systematic fashion—either through external evidence or internal program evaluation.

**CHAPTER 6: SPECIAL EDUCATION**

Special education instruction constitutes an important and ever-increasing component of every school in the state. Unfortunately, little if any evidence of systematic evaluation of special education programs can be found. While specific treatments are tested experimentally in controlled settings with small numbers of students, few are ever evaluated in real-world situations across multiple classrooms and schools. The net effect is that it is very difficult to determine how well special education programs are working and if the number of students with special education labels meeting state standards is greater than, about equal to, or less than might reasonably be expected. In short, Oregon could pursue a two-pronged approach.

First, the state should establish a process to better define students within the special education area. Special education experts would be assembled and charged with developing a set of systematic diagnostic criteria used when making special education placements. The criteria would be specific to each disability category included in special education and would also address students with multiple conditions. The net effect of this policy would be to decrease unnecessary, inaccurate, and inappropriate special education placements and to allow special education programs to be targeted more specifically on students who could truly benefit from carefully-designed programs related to their handicapping condition.

Second, the state should systematically investigate the performance of special education students across schools in an attempt to uncover best practices. The Oregon Department of Education should collect systematic data to identify programs that appeared to out-perform comparator programs. As a part of a revised school improvement process, schools would be judged on the degree to which their special education programs were using effective techniques.
CHAPTER 7: READINESS TO LEARN

A growing body of research has built a persuasive case that high-quality early childhood education can improve K-12 achievement and attendance, increase economic productivity and reduce criminal behavior in the long run. Moreover, programs have shown a rare ability to close the achievement gap between advantaged and disadvantaged children.

Like targeted class size and tutoring interventions, high quality, early childhood education is one of a very few areas with research rigorous enough to support a case for significant public investment. That said, much remains to be learned about how best to cost-effectively replicate proven programs. With the dual goals of experimentation and cost-effectiveness in mind, the State could provide highly targeted support to low-income students to allow them to attend state-accredited preschool programs organized around developing key readiness to learn skills. The State should incorporate strategies of the National Research Council to help identify existing effective programs and foster the development of new ones. State support carefully targeted to the young children most likely to benefit from such programs could yield significant benefits and reduce educational costs for those students for years to come.

Other promising strategies include developing a research-validated screening program for all incoming kindergarteners that determines their readiness to learn; establishing a set of content and assessment standards for preschool and kindergarten entry; and requiring early education teachers to hold bachelor’s degrees with a specialty in early childhood development.

Readiness Policy Options:

• Provide highly targeted support for low-income students to allow them to attend a state-accredited preschool program that is organized around developing key readiness to learn skills.

• Develop and implement a statewide, research-validated screening program for all incoming kindergarteners that systematically determines their readiness to learn, and create an individual development plan in which parents play a role equal to the school in bringing the student to a level necessary to succeed in school.

• Establish and uniformly apply a set of content and assessment standards for preschool and kindergarten entry.

• Require early education teachers to have a bachelor’s degree with a specialty in early childhood development.

• Pilot a subsidy-based full-day kindergarten program to determine if it would be cost-effective, if implemented statewide.
CHAPTER 8: STUDENT AND PARENT INVOLVEMENT

Student attendance and parental involvement are two issues worthy of special focus. Our predecessor report, *The Condition of Oregon K-12 Education*, found Oregon school officials are much more likely to express concern about absenteeism than officials in other states. Parental involvement in schools is a closely related issue. Research shows a high correlation between parental involvement and attendance rates, as well as other measures of achievement and homework. A recent survey of school officials suggests involvement by Oregon’s parents falls roughly in the middle of the pack nationally but lags well behind involvement reported by school officials in the Northeast and Midwest.

While academics have demonstrated the importance of both attendance and parental involvement to achievement, no rigorous research has established precisely which practices improve either factor. To battle chronic absenteeism, some states and localities have created truancy abatement centers that may serve as appropriate models in some Oregon communities. Moreover, attendance is a key quality indicator in federal- and state-standards-based reforms. The State could align its fiscal policy with the standards-based reform by tying district funding to student attendance rather than enrollment. The additional fiscal incentive would stimulate local efforts to identify best practices.

To boost parental involvement, schools have tried an array of outreach methods ranging from providing on-site services (family literacy nights) to highly flexible schedules for teacher-parent conferences, but research on their effectiveness is only anecdotal. In the absence of demonstrated best practices, we recommend the development of parental involvement standards, developed by individual schools and shared statewide. Having established the standards for satisfactory involvement, schools would periodically report to parents whether their involvement met the standards.

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<th>Student/Parent Involvement Policy Options:</th>
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<tr>
<td>• Select a common method for recording student attendance.</td>
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<td>• Fund school districts based on student attendance rather than enrollment.</td>
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<td>• Direct ODE to require each school district to adopt a civility plan.</td>
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<tr>
<td>• Develop and disseminate school-level standards of satisfactory parental involvement and hold parents accountable.</td>
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<td>• Hold schools accountable and report publicly parental involvement based on school-level standards.</td>
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<td>• Document best practices and incentives that improve parental involvement.</td>
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REGULATORY- AND INCENTIVE-BASED REFORMS

As with many of the resource- and input-based reforms, we find limited definitive evidence that the implementation of either regulatory- or market-based accountability systems has markedly improved student achievement. The evidence on the effects of regulatory reforms on student achievement is sparse and largely correlative. While one researcher linked strong accountability systems with progress on NAEP tests, another pair of researchers reached the opposite conclusion with the same data. States tend to implement regulatory accountability systems simultaneously with a host of other reforms and herein frustrate attempts to link any subsequent change in student achievement to a single aspect of the regulatory reform.

The volume of studies on market-based reforms is sizable and growing. The evidence on vouchers suggests that vouchers attenuate the achievement gap for some low-income children in Milwaukee and Cleveland. However, the effects are modest, and different researchers examining identical data often reach contradictory conclusions. The experience with U.S. charter schools is still relatively new, and recent analyses show charter students typically score lower than their public schools peers on standardized tests. The lower scores observed in charter schools could be the result of poor performing schools or simply the consequence of poorer performing students systematically selecting charter schools. Finally, the currently debated alternative methods to pay teachers are new, rare, and still unproven.

Should Oregonians move forward with any of the policy options described in Part III of this report, they would do so based largely on the strength of their supporting theories, as well as evidence from outside this country. Below we summarize our key findings from the three topical chapters in Part III of the report.

CHAPTER 9: REGULATORY ACCOUNTABILITY

Although Oregon has standards and a nationally recognized state assessment system, Oregon does not have set expectations for the performance levels individual schools or school districts must meet in order to be rewarded or to avoid sanctions. With no consequence associated with its extensive assessment system, only students and educators who choose to take assessment scores seriously make the types of changes necessary to improve student performance consistently.

An enhanced data-driven accountability system would continue to be the centerpiece of the Oregon model, but the quality, extent, and usability of the information would be dramatically improved through the creation of a comprehensive data system. As envisioned, a comprehensive data system would consist of data elements that were directly or indirectly related to student learning. These include test results (disaggregated by student subgroup), attendance reports, educational practices and organizational processes, and fiscal data. The goal is to create an easily accessible system to
judge the effectiveness and efficiency of the public education system generally and of individual schools specifically.

In addition, the state would take the next logical step and create more reasons for students and educators to care about the results of existing state assessments. One possible place to begin would be to connect 10th-grade Certificate of Initial Mastery (CIM) assessments and the 12th grade Certificate of Advanced Mastery (CAM) with college admission, placement, and credit policies at Oregon public universities. Consequences for low scores could include enrollment in remedial courses before being granted access to the general education college curriculum. Rewards could include scholarships and college credit for specified state assessment scores and CAM results. Placement into entry-level community college and state university courses would be predicated on performance on CIM and CAM measures.

Additionally and closely related, the consequences associated with the CIM and CAM need to be carefully examined to determine the utility and value of these certificates as a means of accountability. Should either be required for graduation, for example, or should state financial aid for college be pegged to their attainment? How should the considerable effort and expense devoted to these certificates be utilized in ways that help achieve state education goals?

As federal accountability requirements begin to phase in, the state’s accountability system will need to be modified to support the types of continuous improvement mandated by federal law. Federal requirements will begin to phase in and affect progressively greater numbers of schools, but the state has no structure in place currently to respond to this looming challenge.

Regulatory Policy Options:

- Explore strategies for balancing the state accountability system among data-driven, incentive-driven, standards-driven, and consequence-driven mechanisms.
- Examine the efficacy of the Certificates of Initial and Advanced Mastery as policy tools to bring about improved student achievement and fundamental redesign of high school educational programs.
- Create a comprehensive data system that enables each level of educational governance to judge the value it is adding to student learning and that helps schools to identify changes necessary to support continuous school improvement.
- Develop enhanced capacity at the local and state levels to support school-based improvement for those schools that fail to meet state standards and to make adequate yearly progress.
- Develop a comprehensive plan for redesigning educational governance in Oregon so that state and local goals can be achieved effectively through mutual partnership.
- Consider the development of greater independent state education policy analysis capacity.

As federal accountability requirements begin to phase in, the state’s accountability system will need to be modified to support the types of continuous improvement mandated by federal law. Federal requirements will begin to phase in and affect progressively greater numbers of schools, but the state has no structure in place currently to respond to this looming challenge.
Some form of organized state support to help schools improve will come into being within the next several years. The emphasis should not be on punishment, but on diagnosis. Support would include comprehensive analyses of the causes of failure to improve and technical assistance on how to redesign the school to begin to improve and would extend to central office staff and school board members to ensure they were capable of managing a comprehensive improvement process.

Finally, the work undertaken by the Chalkboard Project to analyze educational policy and present policy options could be continued if the state enters into a partnership with funders and educational organizations to provide support for ongoing policy analysis capability that would result in new policy issues being investigated and new policy options being formulated and debated before legislative action was taken. This proactive approach to policy development could lead to more thoughtful and successful education policy in the future.

CHAPTER 10: MARKET-BASED REFORMS

During the past two decades, the range of educational options available to children in publicly provided schools has expanded. Public school districts have created magnet schools with specialty programs and have offered open enrollment, which allows parents to request transfers out of neighborhood schools. States have authorized the creation of charter schools that are largely self-governing and open to students across a geographic area. Finally, a number of cities across the United States have experimented with targeted voucher programs, which provide public funding directly to students who can then purchase educational services from public, non-profit, or private schools.

Without definitive domestic evidence linking these reforms to achievement, policymakers interested in advancing these ideas must turn to the strength of the theories that underlie these innovative practices. For the market-based policies outlined in this report, the underlying economic theory is straightforward: incentives work. Market-based reforms show potential to produce higher-performing, cost-effective institutions by engaging potent market forces such as competition, specialization, dynamic adjustment, self-regulating exchange, and consumer

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<th>Market-based Policy Options:</th>
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<td>• Develop dual-enrollment, postsecondary options, college-in-the-high-school programs statewide with the goal of accelerating student learning to allow students to graduate from high school sooner and begin accumulating college credit earlier.</td>
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<tr>
<td>• Expand choice with the public-school system and establish regional or statewide open enrollment.</td>
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<td>• Amend Oregon’s charter school laws to foster the development of new charter schools.</td>
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<tr>
<td>• Pilot targeted voucher programs for low-income students in metropolitan areas.</td>
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choice. The American post-secondary education system—characterized by private supply and parental choice—is the envy of the international community. Put simply, incentive-based systems work well in virtually all other endeavors, and there is reason to believe they would perform well in primary and secondary education.

Policymakers need to be careful in their designs of market-based programs and ensure that alternative education options—public or private—are held to the same academic and fiscal accountability standards that apply to traditional public schools. The benefits of school choice will hinge on the existence of effective markets, and markets require good information. Schools have only recently started developing and disseminating indicators of quality. Moreover, because markets have been largely absent from the education area, parents will need to learn how to use school information to make choices that best serve their child’s interest. Finally, programs must carefully monitor and address any adverse consequences for non-choosers who either lack access to information or fail to act on it when presented to them.

The range of options available to Oregon’s policymakers is broad and includes developing dual-enrollment, postsecondary options, college-in-the-high-school programs; expanding choice with the public-school system and encouraging inter-district transfer programs; amending Oregon’s charter school laws to foster the development of new charter schools; and piloting targeted voucher programs for low-income students in metropolitan areas.

CHAPTER 11: TEACHER COMPENSATION REFORM

Education research has generally concluded that neither experience nor the attainment of a Master’s degree is a reliable predictor of teacher quality. Experience may matter in the early years of a teacher’s career, but its importance weakens over time: Attainment of a Master’s degree may correlate with higher student achievement for certain subjects (e.g., mathematics), but when measured across all teachers and all types of degrees, the average Master’s degree shows little correlation to student achievement. We have outlined a number of policy options in Chapter 3 of this report that—if adopted—show potential to strengthen the link between Master's degrees and teacher quality. As a complement to Chapter 3’s policies, the State could encourage pilots of two alternative pay and reward systems that decrease the existing emphasis of degrees and experience: Knowledge- and Skills-Based Pay (KSBP) and School-Based Performance Awards (SBPA).

KSBP systems reward individual teachers based on increased knowledge and skill in areas associated with improvements in student learning for all

Teacher Compensation Policy Option:

- Encourage district-level pilots of alternative compensation systems that reward schools and/or individual teachers for demonstrated effectiveness in improving student learning.
children, particularly those for whom an achievement gap exists. In an ideal KSBP system, teachers are assessed on actual demonstrated performance documented through classroom observation and portfolios. Through SBPA systems, the State would identify achievement targets and reward entire schools if a school meets or exceeds its targets.

Compensation reform shows potential to align educational resources with the goal of improved student performance. Reformed compensation packages can attract and retain high quality teachers, prompt the development of best practice skills and knowledge, and define and maintain a desired organizational culture. These elements act in concert to improve teacher quality and student achievement. While evidence linking pay policies to student achievement is limited, researchers have established a possible relationship between achievement and the SBPA system operating in Dallas, Texas. KSBP programs are too new and rare to have an established research base.

In exploring alternatives, local districts and the state should keep an eye on the emerging ProComp system in Denver as well as established systems in Minneapolis and North Carolina. While most newly implemented systems have net additional costs, these programs can be theoretically budget-neutral. Note, however, that holding total salaries constant creates winners and losers.

OPTIONS FOR OREGON

The often-polarized debate between the resource- and incentive-based solutions persists for a reason; namely, neither side holds the definitive, objective evidence that their approach—or any component of their approach—has consistently produced measurable gains in student achievement in the United States. If one approach had emerged as the clear preference, local districts and states would have increasingly moved in that direction.

The absence of a conclusively proven “best way” does not mean Oregon education should wait on the sidelines while other states blaze the trail in pursuit of better schools for their children. It may be impossible to answer all the questions about a given reform’s long-term effects, but the sooner the state starts exploring innovative new programs, the sooner Oregon’s children may receive an improved education, one in which each student is able to learn and develop as much as possible.

In deciding how to proceed, Oregonians will have to weigh their educational investments not only against each other but also against their other public investments in transportation, public safety, and health care. Near-term education investments will be made in an atmosphere of increasing fiscal pressure as an aging population adds to the cost of state-funded health care and social services. Contributing to fiscal tension is a statewide electorate that has shown little interest recently in increasing taxes at the state level, although many communities have funded local option
education levies and have voted for bond measures to improve or construct schools. Oregonians are not opposed to funding public services. They do demand, however, that they know where their money is going and that it is being spent wisely. This is more difficult to prove at the state level, where taxpayers can’t see the results or benefits of a tax increase as readily as they can locally.

With that larger context in mind, Oregon’s education reformers need to be strategic in their allocation of scarce resources and must be committed to demonstrating both the need for new resources and the ability to use resources in the most cost-beneficial fashion possible. Below, we outline some principles that could lead to better educational policy making. While we mention a number of policies below, the purpose here is not to advocate for those particular policies, but rather to highlight options available to Oregonians as they engage in a discussion of the future of the state’s education system.

- **Look for cost-neutral policies that show potential to do more with less.** A number of policies outlined in this report have strong foundations but simply have not been tried and tested. Moreover, some of these theoretically appealing policies cost money while others do not. Interdistrict open enrollment and dual-enrollment policies are two examples of policies that would further strengthen the internal incentives for strong performance but would not require new resources to implement. Cost-neutrality should not be equated with effect-neutrality. New policies of this nature will have numerous effects, intended and unintended, and the state will have to monitor these closely to ensure unintended consequences do not outweigh desired results.

- **Identify and couple complementary policies.** Looking across the ranges of policies discussed in the report, it is clear that some work well together—and to some degree—depend on one another. For example, a comprehensive data system based on student-level data provides a rich array of information on school and individual teacher performance. The creation of the data system would be a natural—perhaps necessary—complement to or prerequisite for many of the reforms discussed in the market-based chapter in this report because well-functioning markets require that consumers have equal access to high-quality, objective information.

- **Be mindful of competing policies.** Some policies directly compete with one another for limited school resources and, if implemented together, escalate the cost of each. Full-day kindergarten and small kindergarten class sizes are a prime example. While Oregonians may decide both policies are worth the investment, in the near term, they should recognize that—from a cost perspective—the whole is greater than the sum of its parts.

- **Be able to take the long view.** The kindergarten and preschool policies are only two examples of policies that will take a number of years to yield tangible results. Since the first time students are
tested in Oregon is third grade, it is possible that a preschool program in which three-year-olds participate would be in place for six years before effects on reading scores are observed. This does not mean that interim evaluation is not possible or desirable, simply that many metrics of achievement require multiple years to show the effects of some of the research-validated methods identified in these reports.

- **When, and if, new resources materialize—through savings or taxpayer willingness to spend more—implement proven practices with an eye on the bottom line.** K-1 class size reductions, one-on-one tutoring for young at-risk readers, and quality pre-K programs all show potential to improve student achievement. Despite their somewhat stronger research base, policymakers must continue to be vigilant in the implementation process to ensure adoption of any of these policies is carefully executed and does not simultaneously undercut other aspects of school quality. In short, California’s apparently ill-fated implementation of class size reductions, which—by most accounts—lowered teacher quality, should serve as sobering lesson to Oregonians and their policymakers. If the highest priority policies can be identified beforehand, this will prove useful if and when the day arrives when the state is looking to invest additional funds in education as opposed to simply increasing the education budget. The Quality Education Commission is charged with this task, and the results from this work can help inform the Commission, which may develop a priority list for future funding of educational policy recommendations.

- **Try variations on a policy theme.** The lack of a definitive list of proven practices is a license for wise, well-considered exploration. Again, learning from California’s mistakes, any investments in class size reductions in the early grades should not be limited to a single approach. While K-1 class size reduction strategies show the highest likelihood to produce a return on investment, local districts could try reductions in other early grades (2-3), provide relief and support to classes taught by inexperienced teachers, or target high-poverty classrooms, for example. The goal is to avoid rigid one-size-fits-all prescriptions, such as all classes being required to have fewer than a specified number of students.

- **Learn from the investments.** While the package of policies advanced through education reform will be critical, of almost equal importance is the development of process by which Oregon schools can learn from their investments. State and local governments—perhaps in conjunction with foundations and other non-public partners—should establish requirements for rigorous evaluation designs that must be developed before funds are released to school districts for particular programs. Useful evaluations—that demonstrate a definitive link between a practice and an educational outcome—are expensive and difficult to implement. Developing good evaluations will require districts to implement practices more
strategically—in isolation from other reforms—so they can demonstrate the effectiveness of a specific intervention. The high cost of rigorous evaluations may also mean, in the short-term, that districts have to either divert some dollars from the classroom to research or learn to work more collaboratively to share evaluation costs more broadly across districts. While the cost of rigorous evaluation—in dollars and time—is high, the weak evaluation alternative will leave Oregon without evidence that new investments in education lead to improvements in student learning. If this is the case, it will be difficult to demonstrate to Oregon taxpayers that any new investment was justified. Evaluation and research must become embedded in district and school culture and in the policy process for the public to consider increased or even constant funding of schools.