

POSSIBLE CAUSES OF AND SOLUTIONS FOR LOW ACHIEVEMENT

A REPORT PREPARED FOR

**THE KANSAS STATE BOARD OF
EDUCATION**

PLANNING AND RESEARCH

May 2000

PREFACE

School reform efforts were begun, in large part, because of concern about the number of low achievers in American schools, especially in poor and urban schools, and about the consequences resulting from low achievement. At a time of general prosperity in this country, individuals with limited literacy skills are losing ground financially and in their quality of life; and businesses are finding it difficult to find employees who can meet their job demands. Efforts to make schools more effective for low achievers began with challenging standards and assessments, holding schools accountable for educating all students to high levels, and holding students accountable for their own learning. According to *Quality Counts* (1999), forty-nine states have now adopted standards for at least one subject, and forty-one test their students' knowledge of those standards. Nineteen states require students to pass exams in order to graduate from high school, and seven others have plans to do so in the future. Thirty-two states have policies that reward schools for high performance and/or significant improvement and penalize schools for low performance and limited/no improvement. However, standards, assessments, rewards, and sanctions have not greatly improved the knowledge and skills of most low achievers.

There is disagreement about the best approach to use with low achievers, but most educators and policymakers agree that standards, assessments, and accountability systems are not enough. Schools that educate large numbers of low achievers need more resources and support than other schools, if they are to be effective. A comprehensive program that includes preschool and all-day kindergarten, extended learning opportunities for students who are experiencing learning difficulties, highly trained principals and teachers, continuous professional development, staff planning time, an engaging and challenging curriculum for all students, student and school recognition programs, a safe and pleasant environment, and parent/school partnerships seems to be the ideal. It is also important that schools ensure that every student has the opportunity to build a caring relationship with an adult at the school.

Kansas is focusing efforts on developing a comprehensive system for school improvement. Teacher certification, professional development, early childhood education, recognition programs for schools and students, support programs for schools that are experiencing difficulty educating all children to high levels, and extended learning opportunities are all being studied. Grants, such as the State Improvement Grant and the Reading Excellence Act Grant, have been obtained to assist with the efforts. New state standards and assessments are being put into place. And very importantly, the State Board and agency staff are looking at these initiatives in a holistic way so that they are more apt to blend into one coordinated system.

This study is a review of the literature concerning the characteristics of low achievers, school factors that interact with student characteristics and impact the likelihood of student academic success, and actions that Kansas and other states are taking to improve the achievement of students at risk of school failure. It is suggested that this be a first step in identifying solutions for low achievement in Kansas

schools. To assist with the coordination of efforts in Kansas education, the next steps in the research might be to ?

- Develop a database of the schoolwide reform models and other interventions in Kansas schools that includes --
 - Populations receiving the models or interventions,
 - Objectives the school hopes to meet through using the models or interventions,
 - Implementation problems and successes,
 - Number of years the models or interventions have been used, and
 - Evaluation information.
- Combine data from the above activity with data from the professional development and early childhood studies.
- Analyze achievement, attendance, graduation, and other data by factors in the combined database.
- Use the list in the "Schools That Work" section of this report to inform schools about best practice.
- Conduct interviews/surveys of school staff in the highest achieving schools, based on the list, to test the accuracy of the list and to develop a qualitative database that can be used to help other schools to improve.

TABLE OF CONTENTS

BACKGROUND 1

LEADERSHIP 2

CURRICULUM AND INSTRUCTION 2

ENVIRONMENT 3

FACULTY 3

PARENTS 3

ASSESSMENT 3

RISK FACTORS FOR LOW ACHIEVEMENT 3

GENERAL RISK FACTORS 3

LACK OF QUALITY PRESCHOOL/CHILD CARE 4

POOR READING SKILLS 5

POOR MATH SKILLS 6

ASSIGNMENT TO LOWER TRACKS AND LESS SKILLED TEACHERS 7

EFFECTIVE INSTRUCTION 8

EFFECTIVE PROGRAMS 10

SOME EFFECTIVE PROGRAMS USED IN KANSAS 13

EFFECTIVE SCHOOLS 15

DISTRICT, STATE, AND FEDERAL POLICIES 17

SUMMARY 20

POLICY IMPLICATIONS TABLE 22

APPENDIX A: SCHOOL REFORM MODELS 25

REFERENCES 31

BACKGROUND

Every human mind is a great slumbering power until awakened by a keen desire and by definite resolution to Do.

--Edgar F. Roberts

Education reform efforts are not new. For two decades, beginning in the 1960s, programs were implemented to assist subgroups of students, such as poor readers, migrant students, and students with emotional or cognitive problems. The success of these programs was limited; therefore, in the 1980s, policymakers began to shift their focus from fixing students to fixing schools, attempting to make schools more effective for all students. States mandated reforms, including new teacher standards, higher pay for teachers, and school report cards. Because they wanted evidence of school improvement, states also established assessment and accountability systems. Still, many children did not achieve at acceptable levels. It became apparent that it is not enough to have course and testing mandates, improvement in teaching and teacher education, or more challenging standards. Change must be more global, incorporating all aspects of schooling. In 1991, whole-school reform became a movement (Traub, 1999).

Whole-school reform is becoming more important for two reasons. First, the knowledge explosion and

the demand for new skills in a high-tech society mean that students must learn more than previous generations. Second, an increasing number of students are coming to school with poor health, inadequate English skills, and limited literacy skills, making this a more difficult generation to educate. Washington and Andrews (1999) give us the following look at the nation:

- By 2010, there will be 9 million immigrant children, representing over one-fifth of the school-age population.
- An eighth of the households are single mothers with children.
- Over 70 percent of school-age-children have working mothers.
- Children under 6 are more likely to be poor than any other age group of Americans.
- Over 20 percent of U.S. children are being raised below the poverty line, the highest of all NATO nations.
- 43 million Americans move every year, more than any other nation (and transiency is the greatest enemy of family stability).
- One out of ten households possess over 72 percent of the total net worth of the country.
- In the 1980s, the richest quintile of Americans gained 96 percent in wealth while the poorest quintile lost 9 percent.
- One-third of black men between the ages of 18 and 34 are in jail, are on parole, or have previously been in jail or on parole.
- One out of six Mexican Americans and one out of twelve blacks experience hunger.
- Access to information technology is changing the playing field for jobs, learning, and lifestyle.

The gap between the "haves" and "have nots" is widening. Quality education for all children is the key to ameliorating this problem. There is a widespread belief that educators now know what to do to help all students achieve; they simply lack the will to do it. In fact, there is a great deal of disagreement. Is the solution higher standards, universal preschool, charter schools, vouchers, an extended school year, more highly skilled teachers, a curriculum that concentrates on the basics, a curriculum based on exploratory learning, or a combination of several things? Although there are many unanswered questions, educators do agree that change can only happen when teachers, administrators, and parents believe in it and feel they have a part in it (Traub, 1999); and that the change must make what occurs in the classroom qualitatively different. The February 2, 2000, issue of *Education Week* contains an article by Boles and Troen. In the article, the authors relay a story about a séance to call up the ghost of John Dewey in order to ask him how to bring about real change in American schools.

"Do you want the realistic way, or the miraculous way?" Dewey asks.

"Well, the realistic way, of course," says the reformer.

"A million angels would come down from heaven and visit every classroom in America, wave their hands, and education reform would immediately become established," Dewey replies.

"Then what would be the miraculous way?" asks the puzzled reformer.

"Educators would do it themselves," explains Dewey.

The story is meant to illustrate how confusing and very difficult reform is. There are, however, reoccurring themes found in educational research on effective schools that can give some direction: quality leadership, enriched curriculum/instruction, positive environment, parent involvement, skilled faculty, and comprehensive assessment.

Leadership

The leadership personnel in effective schools use a high level of time and energy for school improvement. They ensure that the school has a comprehensive plan that aligns all aspects of the school's efforts. So that they can support their staff instructionally, they continuously study educational research and monitor/evaluate their own school's activities. In the area of staffing the school, leaders make careful selections, make professional development and teacher support a priority, develop school schedules that allow teachers to use time effectively, and find ways to provide teachers and support staff with needed resources. An important resource the leader makes available to the staff is one or more full-time instructional specialists who can provide classroom-level technical assistance to teachers.

Curriculum and Instruction

In an effective school, state and local standards are used to develop the curriculum. The curriculum includes clear expectations about what the students should know and be able to do. Instructional methods used are those shown, through research, to maximize learning. Instruction is sensitive to cultural differences, appropriately paced, and aligned with the curriculum. Learners are active rather than passive, involved with intellectual tasks such as solving problems and taking part in discussions. The teacher acts as a coach. Part of the coaching role is constantly evaluating student progress to assess the success of curriculum and instruction and making adjustments as needed. There is more concern with student mastery of objectives than with keeping a schedule. In other words, each student is given the time needed to master central learning skills.

Environment

The environment of an effective school is orderly, of course, but much more than order is needed. The effective school is one in which there is genuine respect for all those in the school community. Diversity is honored, and the school builds on the strengths of each student. There are adequate resources and maximum use of time for learning. Positive student performance is systematically and publicly recognized. Facilities are attractive and in good repair, demonstrating that the community values education.

Faculty

Effective schools have faculties that are committed to a shared mission, focused on achievement. There is collaboration and collegiality. The staff are well-trained and committed to their work. The professional development they participate in is high-quality, relevant, and continuous and is focused on changing instructional practices for the purpose of improving student learning. Their professional development usually takes place at the school site. Staff know how to modify teaching strategies according to student needs. These educators believe in change and feel they have a part in decision-making leading to change. They have high expectations for students and are not afraid of being evaluated, based on student achievement. They explain to students what is to be learned and why that content is important. Finally, they believe they can correct learning problems, and they tackle that responsibility instead of blaming students and families for low achievement in their classrooms.

Parents

In effective schools, parents receive instruction on ways to help their children learn. They are involved in school in areas that most directly affect student success. The parents believe in change and feel they have a part in it.

Assessment

Assessment, in effective schools, is a comprehensive system to monitor progress. The system is based on standards, and there are measurable goals of student performance and benchmarks for evaluating progress.

RISK FACTORS FOR LOW ACHIEVEMENT

Predicting which children will have difficulty in school is inexact. Since it is better to focus efforts on preventing learning difficulties than on trying to remediate them (Commission on Behavioral and Social Sciences and Education, 1998), the progress of all children should be closely monitored, with changes made to instruction as needed. Although it is important to monitor all children, research has identified factors that make some children more at-risk than others.

General Risk Factors

Research findings provided by the National Research Council (1998) show that student literacy problems occur disproportionately among certain groups of children, including those growing up in poverty, those with cognitive or physical deficits, those who attend schools with chronic school failure, those whose culture varies from that of the school's, and those who arrive at school speaking languages other than English. Underachievers tend to have poor basic skills, low academic self-concepts, poor auditory memory, and less than average school attendance rates. Many are visual learners, and almost all perform significantly better when they receive instruction that capitalizes on their learning style preferences (Delisle and Berger, 1990; Dunn et al., 1995; Dunn, 1988). Symptoms of potential learning problems, according to the 1999 edition of *Your Child's Learning*, include consistently incomplete work, lack of academic initiative, fear of working in areas of difficulty, depression, inability to function as a group member, and social/emotional problems. Children are at-risk of dropping out of school if they live in single-parent households, have parents or siblings who did not complete high school, or are home alone more than three hours a day (Dynarski and Gleason, 1999).

More than half of the schools with chronic failure are in urban areas; four in ten have minority enrollments that exceed 90 percent; 75 percent are high-poverty schools where the majority of students qualify for free lunches; most have younger and less qualified teachers and high teacher turnover; and most lack resources, such as well-stocked libraries and up-to-date technology. Connections with parents are often non-existent or hostile and absenteeism and delinquency are high. In urban schools that enroll high percentages of students who live in poverty, two-thirds or more of students fail to reach even the basic level on national tests (National Education Summit, 1999).

Lack of Quality Preschool/Child Care

Pre-kindergarten experiences can explain some of the achievement gap. The findings from three years of observation data in Lawrence, Kansas, showed that, by age three, children have established schemas for incorporating new and more complex experiences, for categorizing new information, and for thinking about their experiences. Differences in the amount of experiences children from welfare, average working-class, and professional families encountered were consistent during all years of the observation and indicated that, by age 4, an average child in a professional family has accumulated experience with almost 45 million words, an average child in a working-class family has accumulated experience with 26 million words, and an average child in a welfare family has accumulated experience with 13 million words. Also, by age 4, the average child in a welfare family has had 144,000 fewer encouragements and 84,000 more discouragements of his or her behavior than the average child in a working-class family

(Hart and Risley, 1995). Results of a study by Van Horn (1999) indicated that some children come to school with as little as 300 hours of "early language experience," while others come to school with as many as 3,000. This includes being read to, playing with magnetic alphabet letters, talking with adults, having books in the home, hearing nursery rhymes, and watching educational TV. Since children learn new skills and knowledge by building on what they know, children from enriched environments are able to add skills and knowledge more quickly than children from less enriched environments. The result is an achievement gap that increases through successive years of schooling (*Raising Student Achievement*, 1997). Although preschool experiences could make up some of the difference and help prepare children in poor communities succeed in school, low-income children are about half as likely as other children to attend preschool (White, 1999; *Turning Around Low-Performing Schools*, 1998).

Most parents want to do what is best for their children; however, they have learned how to be parents from their parents. When their parenting practices socialize children in a way that is consistent with the culture of schools, the children have a much greater chance of doing well in school. Otherwise, parents may need assistance to ready their children for a successful school experience. For example, when the ways of communicating meaning are similar at home and in school, children's transitions are fairly easy. When the language and culture of the home and school are not congruent, parents and schools must work together to help children maintain their home culture while acquiring skills needed to participate in and share the culture of the school (Peisner-Feinberg et al., 1999; Neuman, Copple, and Bredekamp, 1999). This parent-school collaboration works best when it is begun as early as preschool.

Approximately 68 percent of 3-year-olds, 78 percent of 4-year-olds, and 84 percent of 5-year-olds are receiving some type of child care on a regular basis. Studies have shown that children who attend high quality child care centers perform better on measures of both cognitive skills and social skills in child care and through the transition into school. The quality of child care continues to affect children's development at least through kindergarten and in many cases through the end of second grade. Children who are at risk of not doing well in school are more sensitive to the negative effects of poor quality child care and receive more benefits from high quality child care. Yet, these are the children most likely to be in preschools that score low on quality ratings (Moore, 1999; Peisner-Feinberg et al., 1999).

Quality preschools use developmentally appropriate experiences and teaching to support literacy learning; and they use assessments that allow teachers to monitor and document children's progress over time. They make use of preschoolers' interests to develop in them pleasure in learning and self-confidence in their ability to master progressively more challenging tasks (Schweinhart, 1988). Instruction in quality programs is customized to meet individual children's strengths and needs. Family literacy and other parent partnership programs play a major part in ensuring that a program meets high quality standards, and noneducational needs of the families are addressed. Teachers are trained in early childhood education and receive continuous staff development (Neuman, Copple, and Bredekamp, 1999; Schweinhart, 1988). Unfortunately, only about 20 percent of child care centers are rated good or excellent (Neuman, Copple, and Bredekamp, 1999).

Poor Reading Skills

Reading skills are acquired by children who have normal or above language skills, experiences in early childhood that foster motivation and expose the children to literacy, opportunities to learn letters and to recognize the internal structure of spoken words, and opportunities to attend schools that provide effective reading instruction and reading practice. If a child lacks any of the above factors, he/she has increased possibilities of delayed or impeded reading. The association of poor reading outcomes with poverty and minority status reflects the fact that many poor/minority children do not receive one or more of these factors. Once behind, the children may require accommodations with reading for the rest of their lives (National Research Council, 1998). Research shows that beginning readers need to experience

a very high rate of success (90 to 95 percent) to persist at the task of learning to read (Neuman, Copple, and Bredekamp, 1999). By the time children reach second grade, they have built up personal histories of successes and failures that play a major part in forming their reading self-concept; and by the end of third grade, the children's reading difficulties are extremely resistant to correction (Burns, Griffin, and Snow, 1998; Felton and Pepper, 1995; Good, Simmons, and Smith, 1998). Retention in grade, instead of fixing the problem, gives a strong message to a student that he/she is not capable of achieving (Roderick, 1995). In a recent study in Chicago, there was an 87 percent chance that children who were behind in reading at the end of the third grade would never make up the deficiency (Riley, 1999). Slavin, Madden and Wasik (1996) found that very few children who are reading adequately in the early grades are retained, assigned to special education, or given long-term remedial assistance. To lessen frustration for children and remediation efforts for adults, it is extremely important to prevent early reading failure.

In order to see themselves as capable readers, young children must have opportunities to construct their own knowledge, under the guidance of supportive, interested, and well-trained adults (Neuman, Copple, and Bredekamp, 1999). Instead, some children lack reading readiness from home and suffer from discouragement in the classroom. There are low literacy expectations, limited resources, and differential instructional practices for these children (Riley, 1999). This is true, especially, for children with the following risk factors: attend chronically low-achieving schools, have low English proficiency, are unfamiliar with the standard English dialect, belong to a cultural group with a different view of literacy, have cognitive or physical deficits, or are poor or live in poor communities. As many as four in ten children in America have literacy problems. For them, quality preschool environments and quality primary grade instruction can make the difference between success or failure as readers (Burns, Griffin, and Snow, 1998).

Poor Math Skills

The component skills and pieces of number knowledge that children must have if they are to succeed in formal mathematics instruction are known. Many of the components can and should be acquired before first grade. It is possible to explicitly teach the skills to at-risk children in their preschool careers so that they can benefit from formal mathematics instruction (Bruer, 1997). The preschool instruction must be followed by quality primary and secondary instruction.

Results of the Third International Mathematics and Science Study (TIMSS) make clear the need for action to improve mathematics and science education prior to eighth grade.

The 1995 results show U.S. fourth grade students above the international average in both science and mathematics. In science, U.S. students were outperformed only by students in Korea. However, the eighth grade results were barely above the international average in science, and they were below the international average in mathematics (*An Action Strategy for Improving Achievement in Mathematics and Science*, 1998).

Eighth grade achievement lays the foundation for algebra, geometry, data analysis, and other skills that open the door for college degrees and occupations in math and science areas. Students from disadvantaged backgrounds often have the least preparation to succeed in upper level math courses. A focus on mathematics in Grades 5-8 is of particular importance to the futures of these disadvantaged students. Exemplary schools serving poor and minority students have proven that effective teachers and an enriched curriculum can make it possible for these children to succeed (*An Action Strategy for Improving Achievement in Mathematics and Science*, 1998).

Assignment to Lower Tracks and Less Skilled Teachers

It is common for schools to deal with children who are not achieving at grade level by retaining them in grade, placing them in transition rooms, enrolling them in remedial or special education classrooms, or placing them in the bottom track. All of these solutions to the problem of low achievement increase the likelihood that the children will never achieve at high levels or graduate from high school. Instead of receiving increased amounts of high-quality instruction, low achieving students often receive instruction that is broken down into short, disjointed segments that do not correspond well to the children's educational needs. They often receive a reading curricula that is limited and indicates low expectations for their performance. Methods include rote, drill and practice instruction that focus on skill deficiencies and are neither interesting nor engaging (Knapp and Needels, 1990). At-risk children have the least tolerance for fragmentation of instruction across their school day and often receive the most. After years of experience with the usual alternatives for low achievers, it seems apparent that the children's achievement levels don't improve by receiving double the amount of ineffective instruction (Neufeld, 1990).

Fully certified teachers have a statistically significant and positive impact on student achievement (Darling-Hammond, 1999). Haycock (1998) believes that the achievement gap between poor/minority children and other children would disappear if schools assigned their best teachers to the students who most need them. Yet, low-income students, urban students, and students of color are more likely than other students to be taught by teachers without a college major in the subject they teach or by teachers without a license (Haycock, 1998; *Turning Around Low-Performing Schools*, 1998; Bradley, 1999). Nationally, about 18 percent of high school science teachers and 28 percent of high school math teachers (25 percent across all secondary subject areas) have neither a major or minor in those subjects (1999 National Education Summit; Bradley, 2000). In schools with high numbers of low-income students, 50 percent of the math and science teachers do not have a major or minor in their teaching area (Jackson, 1999). Across all grade levels, those most likely to be teaching out-of-field are beginning teachers, teachers in high poverty and small schools, and teachers assigned to teach middle school and lower track students (Bradley, 2000).

In order to become highly successful with all students, teachers need appropriate professional development and readily-available technical assistance (*Raising Student Achievement*, 1997). At present, only 36 percent of teachers report they feel well prepared to teach to high standards. In addition, many are in front of classrooms of children that they are poorly trained to teach because of lack of professional training in dealing with diversity (Phillips & Crowell, 1994; Kameenui, 1999). Although a student's success in reading hinges on learning to read well by the end of third grade, most elementary teachers have little formal training in how children learn to read (Manzo and Sack, 1997). Less than half of the current teachers report feeling well prepared to implement state or district standards and new methods of teaching, and 60 percent have participated in no more than eight hours of training on delivering standards-based instruction in the previous year (1999 National Education Summit).

Teachers tend to expect more of children whom they see achieving, so it is important that teachers have the skills and knowledge to help diverse students be more successful (August and Hakuta, 1998). Delisle and Berger (1990) state that student underachievement is a behavior and can change over time. The behavior will not change, however, without excellent instruction, the best intervention for remediation of any learning difficulty (Riley, 1999; Haycock, 1998), and teachers who believe that these students can become high achievers.

EFFECTIVE INSTRUCTION

In order to excel, a school must have a core of experienced and caring teachers who are able to establish close personal relationships with students, other staff members, and parents. The Rand Corporation study of innovative school practices identified years ago that personal relationships among professionals

and between professionals and others have the greatest direct influence on successful and lasting changes in education (Nathan and Myatt, 2000). In addition teachers must be skilled. Sanders' research in Tennessee indicates that more can be done to improve education by improving the effectiveness of teachers than by any other single factor; and that teacher effects are additive and cumulative over grade levels. The average score of students who received a three-year sequence of highly effective teachers, in the Sanders' research, was about 50 percentile points higher in 5th-grade math achievement than the average score of students who received a three-year sequence of the least effective teachers (Wright, et al., 1997). Poor teachers had negative effects on the achievement of students at every achievement level. Class size and other contextual variables appeared minor, when compared to differences in teacher effectiveness. The same was true in studies conducted in Dallas and Boston. In a study of alternative schools, choosing teachers who were both demanding and caring proved to be more important than curriculum in helping students finish school (Dynarski and Gleason, 1999). The combination of skill and positive relationships creates an atmosphere in which both staff and students can thrive. In light of these insights from teacher effectiveness research, it is surprising that many of the new school reform models are reverting to a teacher as factory worker mindset (French, 2000) instead of teacher as a caring expert.

Good teachers improve their teaching skills throughout their careers and use their skills to overcome the obstacles that make children susceptible to failure (Snow, Burns, and Griffin, 1998). Research points out the qualities of these good teachers. They use state standards to design curriculum and instruction and to assess student work; increase instructional time in reading and math in order to help students meet standards; implement comprehensive systems to monitor student progress; provide extra support to students who need it; and involve parents in helping students meet standards. State standards are not a universal presence in day-to-day classroom practice, but they are in top performing classrooms (Barth et al., 1999). Effective teachers allow more time for student discussion of subject matter and spend little time with low-level instruction. They incorporate findings of research into practice, such as the research that shows a negative relationship between the routine assignment of ditto sheets and students' test scores and a positive relationship between increased student discussion and students' test scores (Education Trust, 1998). They extend school learning and academic values into the home through working as partners with parents (August and Hakuta, 1998). Effective teachers make sure students are engaged in learning, work hard to meet individual student learning needs, and allow all students to build confidence through experiencing success (*Breaking Ranks*, 1996). More than at any time in the past, effective teachers are adaptable and flexible (Riley, 2000). Taylor and Bullard's (1995) research points out additional descriptors of effective teachers. They --

- Help students feel some control within the school's social environment.
- Care and are committed to each student's achievement.
- Believe each student can improve.
- Remain constantly aware of pupil progress in relation to objectives.

In high schools, teachers ensure that all students take demanding courses, since the most significant factor in determining whether students will earn a bachelor's degree is participation in rigorous academic courses in high school (Barth et al., 1999). Because technology can narrow the gap separating those from different socioeconomic backgrounds (can provide opportunities to access extensive library collections, visit museums), effective teachers make extensive use of technology. They also find and create networks that can provide support and resources to students and themselves (1999 National Education Summit).

Education Trust administered a survey to 1,200 schools that had been identified by states as their top scoring and/or most improving schools with poverty levels over 50 percent. Many of the 366 schools in 21 states that responded to the survey had students who came to school with little or no English; yet, many of these schools produced results that exceed the best efforts of suburban schools. The schools did

not share an instructional technique, textbook, or curriculum, but one dominant theme did emerge from the survey. Staff in these schools were unusually focused on high academic expectations for their students. They maximized the time spent on teaching and learning the core academic subjects and developing higher order skills and took time to understand new standards and to develop strategies for teaching them to poor and minority students (Barth et al., 1999).

What do schools and districts do to enable teachers to be more effective? For one thing, they keep the number of students assigned to a teacher group small. According to the Coalition of Essential Schools, students should be known well and instruction personalized, so a total student load in secondary school should be eighty or fewer students. In these small learning communities, teachers are generalists rather than specialists. Teaching and learning are organized so that students are active rather than passive learners. The school models democratic practices, honors diversity, and builds on the strengths of its community (McDonald, 1999).

In addition, effective schools make quality professional development available to teachers. There is adequate funding to support professional development, and the training is focused on changing instructional practice. The professional development is intensive and sustained, aligned with standards and assessment, flexible, and accessible (Raham, 1999). It is able to fundamentally change how teachers prepare, conduct, and assess their classes (Bauer et al., 1999). Effective teachers are skilled in a number of areas, including explaining the purpose of activities, cognitive modeling, scaffolding, active learning, and post-performance guided reflection. They give themselves permission to teach less material in greater depth, making sure they teach the most important material for their students' success in further schooling and in life (Brophy, 1990). High performing schools help teachers gain these skills by spending 8-10 percent of their budgets on professional development. Consequences of not making staff development a priority include a high teacher attrition rate. One in five teachers leave the profession in the first three years due to lack of training and support (McREL, 1999).

EFFECTIVE Programs

When a program is effective, it produces the desired results or outcomes. According to Lezotte (1990), in schools there are two basic questions about effectiveness: Effective at what and effective for whom? Many schools are adopting programs that researchers have called effective. Factors that the researchers have used to evaluate the programs include ?

- The program has demonstrated a capacity for replication in at least 50 schools or has served 3,000 or more students (Wang, Haertel, and Walberg, 1993).
- The program has helped students acquire the skills and/or knowledge they need to successfully perform to high academic standards (*Raising Student Achievement*, 1997).
- The program has consistently proven to be effective in significantly raising the academic achievement levels of at-risk students in low-performing schools, based on independent evaluations (Pogrow, 1998; *Raising Student Achievement*, 1997).
- Professional development, materials, and ongoing implementation support are available for the program, either through the program's developer, independent contractors, or dissemination networks established by schools already using the program (Pogrow, 1998; *Raising Student Achievement*, 1997).
- The program has an advanced curricular approach as well as a focus on other areas (i.e., focus on building parental/community involvement) (Pogrow, 1998).
- The program is either schoolwide or curricular and has compared favorably to other programs of the same type (Pogrow, 1998).
- The program offers learning acceleration rather than the largely remedial or supplemental programs that have not worked for 80-85 percent of Title I and LD students after the third grade

(Pogrow, 1998).

Replicability information is especially important in determining how effective a program may be for a school. School staff must determine if the goals of the program match the goals of their school (effective at what?). The staff must also decide if results from previous studies can generalize to their school population (effective for whom?). For example, many programs succeed in a small, focused pilot school but fail in a large district school. These programs may be worthwhile, but they do not translate well to all schools (Nathan and Myatt, 2000).

Another reason for program failure is poor implementation. Several prerequisites are needed for a successful implementation, many of which are overlooked when a school rushes to select and implement a model to satisfy a grant or other funding requirement (Bullard and Taylor, 1994; Levine and Cooper, 1990; Levine and Lezotte, 1990; Stringfield, Milsap, Scott, and Herman, 1966; Taylor and Bullard, 1993). The prerequisites are --

- A vast majority of staff (usually 80 percent) voluntarily choosing to adopt the program.
- Massive staff development conducted primarily at participating school sites.
- One or more full- or largely-full-time instructional specialists who provide classroom-level technical assistance/coaching to teachers.
- Regular monitoring of students and the program to evaluate level of success at each stage of the implementation process.
- Detailed information about results of the implementation available to staff and time set aside for staff to analyze data and make adjustments.
- Parents/community members acting as important resources in the program.
- A network of users for support.
- District willingness to give the school sufficient time (multiple years) to integrate the model and begin showing changes in achievement and behavior.

In other words, effective programs will not be sustained in a general school setting if they are adopted and implemented before an assessment is conducted of the fit between the program and the school and before a continuous monitoring system is established to provide important and timely information on the effectiveness of the intervention; or if they are adopted with little support and for the short- instead of long-term (Kameenui, 1999; Marble and Stephens, 1999).

The table in Appendix A lists school reform models that have met researchers' criteria for effective/exemplary programs. The information in the table comes from the *Catalog of School Reform Models: First Edition*, 1998; *Addendum to the Catalog of School Reform Models*, 1998; *Raising Student Achievement*, 1997; Traub, 1999; and *Seven Promising Reading and English Language Arts Programs*, 1999. One can see from the table that Traub (1999) was right when he stated that the assumptions of different models differ profoundly, due to different understandings of the problems of low-achieving schools. Some models are very specific, leaving little room for innovation. The assumption is that teachers need a step-by-step, cookbook approach to follow in order to be effective. A negative consequence of these models can be staff resistance. Other models are so loose that they give teachers little assistance with change. The assumption is that staff will know what to do once they know the philosophy of the model. Negative consequences of these models can be staff confusion and frustration, resulting in the staff reverting back to the comfort of their prior behaviors. Although there can be negative consequences with any of the models, all have been used with success in a number of schools: schools for which the fit was correct and the implementation thoughtful.

There are numerous exemplary mathematics and reading programs that, because of their more limited focus, were not listed in the table. Some of the mathematics programs included in the *Catalog of School*

Reform Models: First Edition are described below.

- Cognitive Tutor Algebra, a full-year, first-year algebra course that integrates technology in its instructional design to provide each student with an individualized coach or tutor;
- College Preparatory Mathematics, a four-year secondary school curriculum that integrates algebra and geometry content with conceptual understanding and problem-solving skills;

- Connected Mathematics (Michigan State University), a mathematics curriculum for middle school students that is designed to foster knowledge and skill in using the

vocabulary, forms of representation, materials, tools, techniques, and intellectual methods of the discipline of mathematics;

- Core-Plus Mathematics Project, a four-year high school curriculum developed with funds from the National Science Foundation that features interweaving the strands in algebra and functions, statistics and probability, geometry, trigonometry, and discrete mathematics; and
- Interactive Mathematics Program, a four-year high school core mathematics curriculum intended to replace the traditional Algebra 1, Geometry, Algebra 2, Trig/PreCalculus sequence and make high-level mathematics more accessible to students with varied backgrounds and abilities (developed by Diane Resek, Dan Fendel, Sherry Fraser, and Lynne Alper).

The American Federation of Teachers used four criteria to identify exemplary reading programs: the program helps all students acquire the skills/knowledge needed to perform to high standards; the program, through independent evaluation, has proven to be effective in raising the academic achievement levels of "at risk" students; the program has been effectively implemented in multiple sites; and professional development, materials, and ongoing implementation support are available for the program. The reading programs meeting these criteria include --

- Cooperative Integrated Reading and Composition, developed at Johns Hopkins University to improve the reading, writing, and comprehension achievement of students in grades 2-6;
- Exemplary Center for Reading Instruction, developed in the 1960s by former Utah school district administrator Ethna Reid to train K-12 teachers to use a teacher-directed approach to reading instruction, to effectively schedule class time, and to diagnose and correct reading problems;
- Junior Great Books, developed in the 1960s by the Chicago-based Great Books Foundation to help K-12 students develop the skills, habits, and attitudes of successful readers;

- Early Steps, recently developed by Darrell Morris, professor at Appalachian State University, as a tutoring program, based on a balanced approach to the teaching of reading, for first grade students at risk of reading failure;
- Lindamood-Bell, developed by Charles and Patricia Lindamood and Nanci Bell in the 1960s and designed to work with students from kindergarten through adulthood whose reading problems are caused/worsened by unreliable auditory perceptions;

- Multicultural Reading and Thinking, developed in the 1980s by the Arkansas Department of Education to teach students in grades 3-8 to improve their reading, writing, and thinking skills through reflective reading and supplying evidence for their opinions; and
- Open Court Collections for Young Scholars, a commercially published elementary school reading and writing program that includes systematic direct instruction in phonemic awareness and

phonics, grade-appropriate decodable text, and interesting literature collections.

Other research-based reading programs mentioned frequently in the literature include --

- Breakthrough to Literacy, an early literacy process (pre-K through first grade) that combines interactive software, print materials, take-home materials, and staff development to provide individualized reading instruction for each student every day;
- Carbo Reading Styles Program, developed in 1975 by Marie Carbo to increase student literacy through matching instruction to a student's learning style and interests;
- First Steps, an early reading intervention program for primary students that borrows heavily from Reading Recovery;
- Strategic Teaching and Reading Project, developed by North Central Regional Educational Laboratory to improve student reading comprehension through helping teachers translate research into instructional practice; and
- Individualized Prescriptive Management System for Underachievers in Reading (IPIMS), an organizational structure and management system developed in New York State for setting up and running a supplemental reading center in secondary schools.

Some Effective Programs Used in Kansas

Kansas Title I schoolwide programs use a number of programs and interventions to improve achievement. Besides the ones listed in Table 1, forty-two schools use a strong phonics program, two use cooperative learning techniques, five use cooperative teaching, and several have developed local programs. In Kansas schoolwide programs, KALL is the most popular model. KALL stands for Kansas Accelerated Literacy Learning and was developed by Diane Nielsen at the University of Kansas. The primary purpose of KALL is to provide reading intervention for first graders who are at-risk of failing to learn to read.

The West Bourbon Elementary School in Kansas used its Title I funds for instructional support staff to assist students who fell below the mastery level. Victor Ornelas Elementary School, also in Kansas, analyzed pre- and posttest data by subjects and adjusted its teaching strategies to meet students' specific learning needs (Barth et al., 1999).

The schoolwide programs also find ways to give students more learning time. Table 2 shows that nearly one-third of the schools offer extended-day kindergarten and 17 percent offer summer school. In a number of studies, allowing teachers more time with students has proven to be successful in raising achievement. One-third of the schoolwide programs use techniques like looping and blocking larger segments of time for instruction to give teachers and students more time together.

Table 1: Models/Interventions Used by Title I Schoolwide Programs

Intervention	Frequency	Percent of Programs
Boys' Town Model	5	3%
Comer	4	2%
First Things First	9	6%
KALL	24	15%
Reading Recovery	9	6%
Success for All	13	8%

Table 2: Methods of Giving Students More Time To Learn

Ways of Extending Time	Frequency	Percent
Extended-Day Kindergarten	50	31%
Extended-Day	18	11%
Summer School	27	17%
Transition First	2	1%

The Federal Comprehensive School Reform Demonstration (CSR D) legislation encourages schools to implement research-based programs to assist with the school's reform efforts. The CSR D grant recipients in Kansas selected the research-based programs shown in Table 3. Success for All was the most frequently selected program.

Table 3: Models Selected for Comprehensive School Reform Demonstration Program

Success for All	9 schools
Math Wings/Roots & Wings	2 schools
Lightspan	1 school
Basic Schools	1 school
First Things First	2 schools
Learning Network Literacy Learning Model	1 school

There are numerous other examples of school reform initiatives in Kansas. Descriptions of a few of them follow.

The Dodge-Edison Elementary School in Wichita, Kansas, operates under contract with Chris Whittle's Edison Project and serves 640 students in kindergarten through fifth grade. Over 40 percent of the school's student population is minority. Characteristics of the school include reliance and persistent focus on standards and clear goals established by the schools; daily presence of a principal working to keep the focus; teachers who are committed to making sure they teach all children, and that these children learn the school's high standards; and teacher teamwork.

Twenty-six elementary schools in Wichita are utilizing AmeriCorps/VISTA volunteers through the "Wichita Reads" project. The \$655,000 grant, administered through McREL, will pay for volunteers to work one-on-one with pre-kindergarten through third-grade students on reading.

After an unacceptable number of Topeka Unified School District's students scored in the unsatisfactory range on the statewide reading assessment, the district targeted reading with an ambitious plan to reduce class size and prevent social promotion by adding an additional 23 teachers and hiring more after-school and summer tutors to help struggling readers.

Walton Elementary School (in Newton Unified School District) students are learning the meaning of success through a new reading program aimed at keeping children from falling through the cracks to

illiteracy. Success for All, which was implemented this year, provides students with 90 minutes of teacher-directed reading instruction each day. A student who is in second grade but reads at a fourth-grade level is combined with other students -- some who may be in fifth grade, for example -- who are reading at the same level. The use of all classroom teachers and a special education teacher as reading instructors during the 90-minute period reduces the size of the reading classes, which allows for more "teacher time" per student.

EFFECTIVE SCHOOLS

There are many characteristics of effective schools. The list below includes the most frequently mentioned.

- Broad standards, not standardization, developed by and for teachers, students, state/national groups, and parents (Rizzo, 2000; French, 2000).
- Clear academic mission, goals, and objectives for student achievement and behavior, with support and time students need to meet them (Wang et al., 1993; *Seven Promising Reading and English Language Arts Programs*, 1999; Stiggins, 1999; *Breaking Ranks*, 1996).
- Commitment from the district to provide adequate time and resources for bringing about change (Wang et al., 1993).
- Strong curriculum that is challenging, engaging, and meaningful to students; values depth over breadth; is the same for all students; and is aligned with standards and assessments (Talley, 1999; Wang et al., 1993; *Seven Promising Reading and English Language Arts Programs*, 1999; *Breaking Ranks*, 1996).
- Technical assistance, including development of a core group of master teachers for the building who can assist new and less effective teachers; and release time for a change coordinator (Talley, 1999; Wang et al., 1993).
- A focus on smallness (class size and school size), to encourage caring relationships (Talley, 1999; Wang et al., 1993; *Seven Promising Reading and English Language Arts Programs*, 1999; *Breaking Ranks*, 1996).
- Parental outreach and community building, since thirty years of research has shown that when families and community members are involved in education, students learn more and schools improve (*Turning Around Low-Performing Schools*, 1998; Susan Talley, 1999; Wang et al., 1993; *Breaking Ranks*, 1996).
- A multileveled assessment system that is focused on improving student achievement (French, 2000).
- A school accountability system; consequences for schools if they do not improve at a satisfactory rate in three to four years (Wang et al., 1993; French, 2000).
- Incentives that reward students for working hard and meeting the standards (Wang et al., 1993).
- Data available to staff for measuring results and making program adjustment decisions; high-quality classroom assessments that pinpoint what needs to be re-taught; effective communication with students about their progress (Wang et al., 1993; Stiggins, 1999).
- Commitment to the professionalism of teachers (French, 2000).
- A supportive and collegial atmosphere (Wang et al., 1993).

- Effective teachers recruited and retained and teaching in their field of training (Wang et al., 1993).
- Strong instructional leaders recruited for administration positions and willing to be held accountable for results (Wang et al., 1993; *Breaking Ranks*, 1996).
- Sustained staff development that gives building staff instruction in decision-making and finding solutions and then includes them in the decision-making process; focuses on curriculum and instruction; and is adequately funded (Talley, 1999; Wang et al., 1993; *Seven Promising Reading and English Language Arts Programs*, 1999; *Breaking Ranks*, 1996).
- Time for school staff to meet and plan (Wang et al., 1993).

- An atmosphere that encourages risk-taking, setting lofty vision, and experimenting (French, 2000).
- Educational strategies for student learning, developed and articulated at the school level, and the resources to implement the strategies (Rizzo, 2000).

- Social skills development and an orderly and disciplined learning environment (Wang et al., 1993; Talley, 1999).
- Creative scheduling to allow teachers to have students for longer periods of time (i.e., block scheduling, looping) (Talley, 1999; Wang et al., 1993; *Breaking Ranks*, 1996).
- Innovative use of technology for instruction (Talley, 1999; Wang et al., 1993; *Breaking Ranks*, 1996).
- Summer school, after-school programs, and other extended learning opportunities to enable all students to participate in regular classes offering rigorous standards-based curriculum (Talley, 1999; Wang et al., 1993).
- Facilities that are in good condition to show students and staff that education is valued in the community (*Breaking Ranks*, 1996).

In a study of nine high achieving urban elementary schools that serve children of color in poor communities, the following common elements were found. School leaders in high achieving schools identified and pursued an important, visible, yet attainable first goal. They focused on the attainment of this first goal, achieved success, and then used their success to move toward more ambitious goals. School leaders encouraged children to be responsible for their own behavior and created an environment in which students were likely to behave well. They brought about school improvement through joint planning, spending more time helping teachers with instructional issues, and decreasing the number of distractions from teaching and learning. School leaders got the resources and training that teachers needed to get their students to achieve at high levels and helped teachers become committed to improving the achievement of their students. Finally, leaders made efforts to win the confidence and respect of the parents in their communities (*Hope for Urban Education*, 1999).

When states and districts ignore these criteria, there are negative impacts. In a 1996 study, most of the low-performing schools sampled had inadequate facilities, books, and supplies; overcrowded classrooms; poorly trained teachers; limited access to technology; poor relationships with parents and the community; high absenteeism and delinquency; and thinly stretched resources to meet student needs. The average scores in reading and math for 9-year-olds in these schools lagged 37 points and 21 points, respectively, behind the average scores in other schools with similar student populations (*Turning Around Low-Performing Schools*, 1998). The results of these studies support many of the criteria in the previous list.

DISTRICT, STATE, AND FEDERAL POLICIES

Derrick Jackson (1999) reasons that policymakers have every right to want evidence of better goal setting, rational program choices to attain those goals, and documented program results. However, they must also be willing to be held accountable for providing equitable resources to schools. There must be equity in such things as quality of teachers, opportunity to learn, and class size before everyone can be held to the same standards of achievement. To promote equity in opportunity to learn, Waco, Texas and Chicago, Illinois have provided summer school for students who do not receive a certain score on state or norm-referenced exams (*Quality Counts*, 1999). South Carolina has said that it will assist troubled districts by doing the following: lower K-3 class sizes to a maximum of fifteen pupils; send exemplary teachers and principals to needy schools; and pay the salary and an annual bonus of about \$17,000 for three years for "teacher on-site specialists" to work in troubled schools. Each "impaired district" can have up to five such teachers. California has summer school and tutoring, and Florida joined the growing list of states offering teachers an incentive to become certified by the National Board for Professional Teaching Standards. Educators who acquire national certification will receive a raise equal to 10 percent of the average salary for Florida teachers for the life of the certificate. Since 1997, North Carolina has offered a 12 percent pay raise for the certification and now has the highest number of board-certified teachers (*Quality Counts*, 1999).

In addition to policies that support equity, states, as part of school accountability, are beginning to develop reward and sanction policies for schools, based on the academic performance of students in the school. For example, in North Carolina, each school's performance is evaluated according to its own previous performance and statewide average test scores. Schools are publicly labeled "exemplary," "meets expectations," "adequate performance," or "low performance." Bonuses are given to teachers if their school exceeds expectations in achievement. If the school fails to meet the expected growth standard, there are mandated assistance teams, removal of staff who are unwilling to change, and competency tests for teachers (*Quality Counts*, 1999).

There are also reward and sanction policies for students. Currently, nineteen states require students to pass exams in order to graduate from high school, and seven others have plans to do so in the future. Several states have passed legislation to retain students who do not receive a certain score on a state test, even though there is abundant evidence that shows that retention does not work (*Quality Counts*, 1999).

Policies can affect classroom practices in both positive and negative ways. Rothstein (1999) writes, "When schools and students are accountable only for higher scores on assessments, teachers tend to emphasize more easily testable skills. To find time to drill on basic skills, the Academy of Communications and Technology in Chicago eliminated student discussions and debates on social issues. Disadvantaged youth at Charlestown High in Boston must eliminate an elective, like fine arts and gym, to schedule extra drills in math and English. An elementary school in Waterford, VA, cut back music assemblies and dropped plans for environmental studies because they don't help increase passing rates on state exams. Since there are no standardized tests for tolerance, health, and conflict resolution, they are often sacrificed in attempts to raise math and English scores."

Evaluators in North Carolina reported the following impacts of the state's accountability program:

- Time spent on reading, math, and writing increased. There was a narrowing of the curriculum to subjects and types of knowledge measured by state tests.
- Teachers estimated that students spent 20 percent of their time studying for end-of-grade tests.
- Practice tests were used.
- Sixty-one percent of the teachers felt students were more anxious; 49 percent felt students loved learning less.
- Among teachers, 77 percent felt morale was lower than before the program, 76 percent believed the program would not improve education quality, 76 percent felt their jobs were more stressful,

and over 50 percent said they would consider changing schools if theirs were designated as low performing (Jones et al.).

Too often, standards and high-stakes tests are used by states rather than policies that can create conditions that enable schools and students to be successful. A number of researchers and policymakers have identified the steps state education agencies can take to avoid some of the problems. The steps are -

- Issue report cards for each school to the public (Snow, Burns, and Griffin, 1998).
- Use clear, well-understood criteria for identifying schools that are failing; make sure that multiple criteria are used (*Raising Student Achievement*, 1997; Stringfield, in press; Riley, 2000).
- Explain to failing schools the reasons they are failing and help them develop solutions; assign the highest quality staff to the poorest schools (*Raising Student Achievement*, 1997; Riley, 2000).
- Give schools time (3 years or longer) to make change an ingrained part of the culture and to show improvement (Taylor and Bullard, 1995; McREL, 1999; Bauer, Cody, and Oescher, 1999).
- Recognize and reward highly successful schools and intervene in low-performing schools with extra help and resources; emphasize improvement rather than failure (Silver, 1998; Snow, Burns, and Griffin, 1998; National Education Summit, 1999; Riley, 2000).
- Be prepared to restructure/reconstitute schools or give parents/students other options (National Education Summit, 1999; *Turning Around Low-Performing Schools*, 1998).
- Expand public school choice and charter schools and give all schools substantial flexibility, freedom, and control over personnel and resources; then hold them accountable for results (National Education Summit, 1999; Rizzo, 2000; French, 2000).
- Instruct school staff on the use of a range of data ? such as parent and student satisfaction levels, attendance rates, level of community involvement, behavior ratings, and assessment results ? for developing plans and measuring progress; provide them with better data (Raham, 1999; Snow, Burns, and Griffin, 1998).
- Develop competitive salary structures to attract and retain the best-qualified teachers and school leaders, with differentiated responsibilities and pay for teacher leaders, and pay for both skills and performance (National Education Summit, 1999; Riley, 2000).
- Make teaching a year-round profession, with the extra time used for intensive professional development, giving low achieving students the extra help they need, and giving teachers time to work together on curriculum and instruction (Riley, 2000).
- Ensure that every school has in place challenging and realistic curriculum and professional development programs aligned with state standards and tests; target professional development resources on programs that give teachers the content knowledge and skills to teach to higher standards, and school leaders the skills to improve instruction and manage organizational change; provide funding for professional development initiatives that increase the knowledge and skills of all teachers to improve student reading skills (National Education Summit, 1999; *Hope for Urban Education*, 1999; The Kansas Learning First Alliance, 2000; Riley, 2000).
- Require schools or districts to develop professional development plans (Silver, 1998; Snow, Burns, and Griffin, 1998).
- Strengthen the entry and exit requirements of teacher-preparation programs and require them to demonstrate that graduates are prepared to teach to the state's academic standards and are technologically literate (National Education Summit, 1999).
- Increase number and quality of reading courses in teacher education programs (Snow, Burns, and Griffin, 1998).
- Review teacher preparation programs to assure that course offerings and graduation requirements match state goals (Snow, Burns, and Griffin, 1998).

- Create partnerships with universities, colleges, and/or regional service centers to offer teacher professional development (Snow, Burns, and Griffin, 1998).
- Provide training to help teachers use new or current reading assessments to identify student reading levels, diagnose potential difficulties, and determine appropriate reading strategies; provide guidelines for selecting assessments (Snow, Burns, and Griffin, 1998).
- Provide resources for increasing the quantity of time made available for instruction and relationship building (i.e., smaller classes, smaller schools), (*Hope for Urban Education*, 1999; Riley, 2000).
- Strengthen legislation and provide technical assistance to increase parental involvement at school; provide funding for a statewide initiative to provide training to parents and daycare providers in teaching literacy skills to young children (*Hope for Urban Education*, 1999; The Kansas Learning First Alliance, 2000; Riley, 2000).
- Conduct research to learn how school districts can better support the improvement of teaching and learning in high-poverty schools (*Hope for Urban Education*, 1999).
- Provide improvement grants and other funds for schools, especially schools with large numbers of low-performing students, to adopt reading, math, and whole school programs and approaches that research has shown to be effective (Snow, Burns, and Griffin, 1998; The Kansas Learning First Alliance, 2000).
- Help create networks of like-minded schools that are committed to working together on whole-school reform (Rizzo, 2000).
- Require/encourage intensive reading instruction and interventions for students who do not meet reading standards; require schools to develop individual reading plans for students who fail to meet grade-level standards; make possible extended-day and year programs, tutoring, and other extra help for students at risk of not meeting promotion or graduation standards before holding them back or denying them diplomas (National Education Summit, 1999; Riley, 2000; Snow, Burns, and Griffin, 1998).
- Impose consequences for students who do not meet standards and rewards for those who do; phase in promotion standards sensibly and provide students multiple opportunities to demonstrate competence (Snow, Burns, and Griffin, 1998; National Education Summit, 1999; Riley, 2000).

According to research and policy groups, the federal education agency must also play a part in improving education for all children. It needs to devote its influence and resources to the following tasks:

- Infuse the tenets of comprehensive school reform into other federal education programs (principles of reform rather than on the adoption of models of reform); continue offering programs such as schoolwide Title I, Comprehensive School Reform Demonstration Program, Educational Opportunity Zones, American Reads Challenge, 21st Century Community Learning Centers, and Reading Excellence Act grants (*Hope for Urban Education*, 1999; *Turning Around Low-Performing Schools*, 1998).
- Make a serious national commitment to improved mathematics learning by all students (Silver, 1998).
- Strengthen legislation and provide technical assistance and resources to encourage schools to (1) increase parental involvement at school, (2) provide true professional development opportunities, and (3) increase the quantity of time made available for instruction (*Hope for Urban Education*, 1999).
- Conduct research to learn how school districts can better support the improvement of teaching and learning in high-poverty schools (*Hope for Urban Education*, 1999).

The four themes of the 1999 ESEA reauthorization proposal are (1) a firm commitment to high standards in every classroom; (2) improvement of teacher and principal quality to ensure quality instruction for all children; (3) strengthened accountability for results coupled with flexibility; and (4) the guarantee of safe, healthy, disciplined, and drug-free school environments where all children feel connected, motivated, and challenged to learn and where parents are welcomed and involved. The Comprehensive School Reform Demonstration (CSRD) Project, the new Title I legislation, and the Reading Excellence Act send a clear message that -- in order to have effective, lasting reform -- new initiatives must become an integral part of the business of the school (Zimmerman, 1998) and must include high standards, accountability, flexibility, parent involvement, strong staff development, and an environment conducive to learning. The federal research agenda will focus on showing the results of these changes in federal policy.

SUMMARY

Due to the rising demand for literacy skills, including technological literacy, low achievement creates a greater negative impact on individuals and communities than ever before. The gap in earnings and quality of life between individuals with low literacy versus high literacy skills has been increasing dramatically since the 1980s. A number of potential solutions have been put into place in an attempt to close the gap, but many have only aggravated the problem. In the name of remediation, schools have exposed disadvantaged children to a watered down, fragmented curriculum and made it clear to these students that there are low expectations for their academic success (Riley, 2000). In addition, the parents of these disadvantaged students have often been excluded from their children's education. Recently, promotion and graduation policies have been passed without sufficiently long timelines or enough support system funding to ensure that disadvantaged children have the opportunity to learn what is required to pass and/or graduate. State and district standards have not always been helpful, either. In some cases, teachers use standards as they would a list, checking off items they have already covered instead of significantly changing their classroom practice in order to teach all children. These teachers believe that there is very little they can do to change the achievement potential of their students (Consortium for Policy Research in Education Research for Action, 1997).

Schoolwide reform models have improved disadvantaged student achievement in many schools, but some models have reverted to the teacher as factory worker, assembly-line model, producing disgruntled teachers and students who become memorizers of knowledge instead of lifelong learners. Other models are so loose that implementation suffers and the models are often dropped due to lack of direction and frustration.

Many learning problems can be avoided or resolved in the early years of childhood, when quality preschools are accessible to disadvantaged children. Unfortunately, disadvantaged children are less likely than other children to be placed in quality preschools. Effective teachers can significantly reduce the learning gap among student groups, but disadvantaged students are the students most likely to be taught by novice teachers and teachers teaching outside of their field of certification. Exposure to a rigorous and engaging curriculum can prepare students for success in postsecondary education and in life, but disadvantaged children often receive an inferior curriculum. Language-rich home, daycare, and preschool environments are important, but, by school age, disadvantaged children have accumulated less than a tenth of the hours of early language experiences as advantaged children. Resources count, including manageable class size, a sufficient quantity of high-quality instructional materials, good school libraries, and pleasant physical environments. These resources are seldom found in the schools teaching high percentages of poor students.

Educators, business leaders, legislators, and other policymakers are beginning to create partnerships, strengthen legislation, and focus resources to meet the challenges of educating low-achieving students.

Hopefully, they are on the brink of bringing about real change in American schools the "miraculous way."

This literature search has identified factors that can hinder or enhance learning. The following Policy Implications Table lists several topics highlighted in the report, an explanation of why each topic is important, current Kansas State Board and State Department of Education initiatives in the topic area, and possible next steps/actions to be taken. It is meant to be a vehicle to initiate discussion and planning on how to more effectively educate the low achieving student.

POLICY IMPLICATIONS TABLE

Policy Area	Why Important	Current Initiatives	Possible Action
<p>1. Expanded early childhood learning opportunities for children and their families and programs that include preschool and all-day kindergarten</p>	<p>Some children come to school with as little as 300 hours of "early language experience" while others come with as many as 3,000. Low income children are about half as likely as other children to attend preschool, and the preschools that low income children do attend are unlikely to be rated as good or excellent. Because children learn new skills and knowledge by building on what they know, and because there is such a discrepancy between lower and higher income preschool groups in opportunity to learn, there is an achievement gap when children begin kindergarten.</p>	<p>a. 4-Year-Old At-Risk Program</p> <p>b. Early childhood certification</p> <p>c. Intra- and interagency early childhood committees</p> <p>d. Parents As Teachers</p> <p>e. Even Start and Migrant Even Start</p> <p>f. Early Childhood Special Education</p> <p>g. Early childhood research projects</p>	<p>a. Provide all 4-year-olds who may be at risk of school failure with a quality preschool program</p> <p>b. Provide Parents As Teachers to families until a child's 4th birthday</p> <p>c. Provide kindergartners with extended learning opportunities, especially if they are at risk of school failure</p> <p>d. Work with other stakeholders to define school readiness and to identify the indicators of readiness</p>
<p>2. Challenging standards and curriculum for all children</p>	<p>Low achieving students often receive instruction that is broken down into short, disjointed segments that do not correspond well to the children's educational needs. The curriculum they receive is less challenging and engaging than the curriculum for high achievers; and these students often lose ground through successive years of schooling. In classrooms that have been successful in educating all students, state standards are a universal presence in day-to-</p>	<p>a. Challenging state standards in core subject areas</p> <p>b. Inclusion of teachers in the development of standards and assessments</p> <p>c. Development of curriculum models</p> <p>d. Support of Reading Recovery and other models</p>	<p>a. Make professional development and technical assistance related to teaching to the standards priorities when allocating resources</p> <p>b. Help each district put into place a challenging and engaging curriculum that is aligned with the state standards</p> <p>c. Provide districts with information about research-based programs that have been effective with a broad</p>

	<p>day instruction and little time is spent with low-level instruction. In top scoring and/or most improving schools, teachers take the time to understand new standards and to develop strategies for teaching them to all students, including low achievers.</p>		<p>range of students</p> <p>d. Create a database of research-based programs, locations where each is being used, and results Kansas districts are seeing since program implementation</p>
<p>3. Appropriate measurement of standards to guide improvement efforts</p>	<p>A good assessment system uses multiple measures and is focused on improving student achievement. Data from each measure are used only for the purposes for which they were collected. Data that teachers need in order to improve their instruction is readily available for teacher use. Since teachers tend to emphasize what is measured, good assessments measure important skills.</p>	<p>a. State assessments that measure state standards</p> <p>b. Optional performance assessments from CETE</p> <p>c. Use of assessment experts to review assessments</p> <p>d. Second grade reading diagnostic</p> <p>e. Expectation, through QPA, that districts will use multiple assessments to look at student achievement</p>	<p>a. Offer workshops on assessment issues as well as on interpreting and using data from state assessments to improve instruction</p> <p>b. Offer workshops on teacher use of informal assessments to diagnose potential problems and to measure growth</p>
<p>4. Accountability system including student and school recognition programs.</p>	<p>Accountability should be bi-directional. Therefore, an accountability system should include information about a school's support systems and resources as well as information about a school's results. Examples of support system information are availability of technology, extent of professional development opportunities, and the degree of commitment from the state and district to school improvement. Examples of data to measure school results are student attendance, achievement, and discipline data. In the case of school accountability, the system should clearly define the consequences for schools, teachers, and students if they do not improve and the incentives for them if they do, taking into account equity of</p>	<p>a. School and district report cards</p> <p>b. Reward systems for students and schools, such as the Exceptional Student and School Performance and the Reading Excellence Recognition Programs</p> <p>c. Early Warning System</p> <p>d. QPA study</p> <p>e. Kansas Governor's Academy</p> <p>f. Reading Excellence Act grant and resulting research</p> <p>g. Charter Schools and</p>	<p>a. Offer failing schools additional resources and technical assistance</p> <p>b. Assign mentor administrators/teachers to failing schools</p> <p>c. Continue to publicly recognize successful schools and students</p> <p>d. If a school does not improve in a reasonable length of time (3-4 years), be prepared to restructure/reconstitute school</p> <p>e. Require intensive instruction and/or extended learning opportunities for students who fail to meet grade-level standards</p>

	resources.	resulting research h. HOST and other extended learning opportunity programs	
5. Increased parent and community involvement in education in building caring relationships and a safe environment.	In top scoring and/or most improving schools, parent and community involvement is focused in areas that most directly affect student achievement. Parents are true partners in their children's education.	a. Site councils b. Parent representation on state committees c. Board and KSDE representation on stakeholder committees d. Even Start, Parents As Teachers, and other programs that enable parents to participate more fully in their children's education e. School safety hotline	a. Support initiatives and legislation that provide training, in the area of literacy development, to parents and daycare providers b. Continue to be represented on committees that deal with children and family issues
6. Investment in principals, teachers, and teaching	The achievement gap between poor/minority children and other children might be significantly reduced if the best teachers are assigned to the students who most need them. Poor teachers have negative effects on the achievement of students at every achievement level. The effects of class size and other contextual variables are minor in comparison to the effects of differences in teacher effectiveness. Good teachers need to constantly improve their skills through such things as classes, workshops, reading and conducting research, & committee participation.	a. New licensure system b. Professional development study c. Results-based staff development plans d. Supply and demand study e. Study of reasons certificated teachers & administrators leave or do not enter the education profession f. Preservice classes in reading g. Increased emphasis in preservice programs on working with diverse student populations h. Principal leadership academy	a. Support legislation that can help attract/retain best teachers b. Use results of the professional development study to improve the quality of professional development c. provide staff planning time d. Continue to work with teacher training institutions to strengthen preservice education e. Work with other policy makers to increase educator salary and benefits f. Provide incentives that encourage the best educators to work with the lowest achieving students g. Hold teachers accountable for results of their teaching h. Expand opportunities for

			leadership training
--	--	--	---------------------

APPENDIX A
SCHOOL REFORM MODELS

School Reform Models

Program	Developer	Primary Goal	Main Features	Results	Grades/ Costs
Accelerated Schools Project	Henry Levin, Stanford Univ.	Bring children in at-risk situations at least to grade level by the end of sixth grade	<ul style="list-style-type: none"> -gifted-and-talented instruction for all students -students as active subjects in their learning rather than passive objects -participatory process for whole school transformation -unity of purpose, empowerment plus responsibility, and building on strengths -challenging process that requires considerable time and energy for 3-5 years 	improvements in student achievement in many accelerated schools, based on evidence drawn from small-scale evaluations and case studies; starting large-scale evaluation	K-8/ \$27,000 first year
America's Choice School Design	National Center on Education and the Economy	Enable all students to reach internationally benchmarked standards	<ul style="list-style-type: none"> -performance standards and reference examinations -a "thinking" curriculum to allow application of learning to complex, real-world problems -focus on literacy in reading, writing, and mathematics in early years and on a demanding academic core intended to get all students ready for college at high school level 	substantial gains in student achievement on local assessments and on the America's Choice Reference exam in inner-city, rural, and suburban schools	K-12/ \$190,000 first year
ATLAS Communities	Coalition of Essential Schools, Education Development Center, Project Zero, School	Develop preK-12 pathways organized around a common framework to improve learning outcomes for all students	<ul style="list-style-type: none"> -preK-12 pathways -development of coherent K-12 educational programs for every student -authentic curriculum, instruction, and assessment 	consistent improvement on standardized tests and statewide performance assessments in pathways that have worked with ATLAS for at least three years	PreK-12/ \$50,000 per school (an ATLAS Community pathway typically consists of a minimum of

	Develop-ment		-whole-faculty study groups -school/pathway planning and management teams		three schools (1 elem., 1 MS, 1 HS)
Audrey Cohen College: Purpose-Centered Education	Audrey Cohen College	Develop scholarship and leadership abilities using knowledge and skills to benefit students? community and larger world	-student learning focused on complex and meaningful purposes -students use what they learn to reach specific goals -individual or group projects that serve the community -24 purposes: one for each semester at each grade level -students take dimension classes instead of classes separated by subject area	trends in standardized test scores show an overall improvement	K-12/ decreases each year: \$50,000 in year 1 to about \$15,000 in year 4

Program	Developer	Primary Goal	Main Features	Results	Grades/ Costs
Coalition of Essential Schools	Ted Sizer, Brown University	Help create schools where students learn to use their minds well	-set of common principles upon which schools base practice instead of a curriculum -personal engagement with own learning -learning in teams as much as singly -paying attention to child's learning style -mastery of a few essential subjects and skills -interconnections among disciplines -passing to next level upon showing mastery; graduation by exhibition -sense of community; breaking up of schools into smaller houses -school goals that apply to all students -student as worker and teacher as coach	some extraordinary schools, which are used as exemplars for other schools; little evidence of improved test scores overall	K-12/NA
Community for Learning	Margaret Wang, Temple Univ.	Achieve social and academic success for students by linking schools with community institutions	-collaboration with homes, libraries, museums, and other places where students can learn -coordinated health and human services delivery component -site-specific implementation design	student achievement in program schools has improved faster than in district schools and control schools	K-12/ varying costs; generally \$30,000 yr 1, \$15,000 yr 2, \$10,000 yr 3

			-Adaptive Learning Environments Model of instruction		
Community Learning Centers	Wayne Jennings, Designs for Learning	Dramatically increase the achievement of all learners	<ul style="list-style-type: none"> -powerful learning experiences within and beyond school walls for real world application -active learning environments (i.e., media centers, production studios, discovery centers, community-based learning) -personal learning plan for each student -integrated social services -decentralized decision making 	no achievement results yet; positive results on attendance and parental satisfaction	PreK-Adult/ initial start- up costs of \$50,000 - \$60,000; then same amount as other schools, since fewer licensed teachers & more aides are used
Co-NECT Schools	BBN Corporation	Improve achievement in core subjects	<ul style="list-style-type: none"> -design-based assistance for comprehensive school reform -customized on-line/on-site training and personal support -national "critical friends" program -leadership processes for whole-school technology integration 	gains on standardized test scores	K-12/ for a faculty of 30, \$50,000 yr 1, \$45,000 yr 2, and \$40,000 yr 3
Cooperative Integrated Reading and Comp. (CIRC)		Improve reading and writing skills	<ul style="list-style-type: none"> -teachers' manuals - two days of professional development plus follow-up support -technical assistance 	greatest reading & writing gains shown for bilingual, special education, and the lowest-performing regular education students	2-6/ \$240 per class in first year and \$100 per class for subsequent years for materials; \$800 per day for each trainer

Program	Developer	Primary Goal	Main Features	Results	Grades/ Costs
Core Knowledge	E.D. Hirsch, Jr.	Help students establish a strong foundation of core knowledge so they can develop higher levels of learning	<ul style="list-style-type: none"> -sequential program of specific grade-by-grade topics for core subjects, leading to a "culturally literate" and educated individual -rest of curriculum (approximately half) left to schools to design -attempt to narrow gap between "haves" and "have nots;" teaches disadvantaged children such things as words, phrases, and associations that other children learn in the normal course of daily life -inservice presentations and professional development workshops available 	single school quantitative and qualitative data demonstrate improved student achievement and equity--specifically for students in low-performing schools; large-scale longitudinal study is underway	Pre-K-8/ \$56,000 first year
Direct Instruction	Siegfried Engelmann	Improve academic performance so that by fifth grade students are at least 1 1/2 years beyond	-field tested reading, language arts, and math curricula	numerous large-and small-scale evaluations have found significant positive effects on	Pre-K-6/ \$244,000 first year

		grade level	<ul style="list-style-type: none"> -highly scripted instructional strategies -extensive training (vital) -teachers present lessons clearly, rule out likely misinterpretations, and facilitate generalizations -coaches periodically monitor each classroom and give support to teachers -features fast-paced teacher-directed instruction and flexible achievement level grouping of students -proceeds from axiom that student will construct generalizations from specific examples - students will learn concepts being presented if they are presented in a consistent way with one-and-only-one interpretation; designers of curriculum provide intellectual energy, not teachers 	<p>student achievement in reading, language arts, and/or mathematics;</p> <p>positive results are long-lasting, with more students from this schoolwide program graduating from college</p>	
Edison Project	Chris Whittle and Edison Project design team	Create innovative schools that operate at current public school spending levels and provide all students with academically excellent education rooted in democratic values	<ul style="list-style-type: none"> -contacts with school districts or charter schools -schools within schools -challenging curriculum (traditional and non-traditional approaches) -instruction tailored to meet individual students' needs -emphasis on computer technology -fosters an appreciation of the arts, a commitment to health & fitness, an understanding of right and wrong, and a desire to participate responsibly in a democratic society -focus on forging strong ties inside the school, promoting ethical behavior, increasing parental involvement, and expanding the use of technology -curriculum consists largely of a series of well-regarded, off-the-shelf packages 	some Edison schools are outperforming control schools in reading; high rates of parent and student satisfaction	K-12/same per-pupil operating revenue as is spent on other students in the district; Edison pays up-front costs

Program	Developer	Primary Goal	Main Features	Results	Grades/ Costs
Exemplary Center for Reading Instruction		Increase student reading skills	<ul style="list-style-type: none"> -21 instructional texts for training and subsequent reference - student skills mastery tests, and a folder with record forms for each student 	medium to large effect size gains in reading comprehension and vocabulary	1-12/ under \$7,000 start-up and minimal recurring costs

			- five-day seminar for teachers plus site visits by ECRI staff		
High Schools That Work	Southern Regional Education Board in Atlanta	Increase the achievement of career-bound students by blending the content of traditional college prep studies with quality vocational and technical studies	<ul style="list-style-type: none"> -upgraded academic core -common planning time for teachers to integrate instruction -higher standards/expectations -provides a framework, technical assistance, and support network to help schools make the necessary changes in curricula, scheduling, resource allocation, and professional development -more active engagement in learning on the part of students and a structured system to provide the extra assistance and support that students need 	significant improvement in reading and math scores in NAEP; when all components are implemented faithfully, scores approach those achieved by the nation college-bound students	9-12/ \$25,000 - \$30,000 per year for 3 yrs
High/Scope Primary Grades Approach to Education	David Weikart	Provide children with effective, developmentally sound learning experiences in all curriculum areas and be sensitive to their backgrounds, strengths, and interests	<ul style="list-style-type: none"> -small group instruction -active learning -learning centers -observational and portfolio assessment -manipulative materials -technology integration 	students in program often have significantly higher scores on standardized achievement tests	K-3/a typical cost for three year total implementation would be \$57,148
Higher Order Thinking Skills (HOTS)	Stanley Pogrow	Increase student achievement through active engaged learning of meaningful material	<ul style="list-style-type: none"> -detailed and concrete curricular and instructional materials -pull out of low achievers for supplementary instruction 		
Modern Red School-house	Hudson Institute	Combine the rigor and values of little red schoolhouse with latest classroom innovations	<ul style="list-style-type: none"> -challenging curriculum -emphasis on character -integral role of technology -high standards for all -individual education compact for each student -instructional methodologies and time spent on lessons vary by individual child 	test scores have increased at multiple sites	K-12/costs range from \$55,000 to \$380,000 depending on size of school and existing equipment
Paideia	Mortimer Adler	Prepare each student for earning a living, being a citizen of this country and the world, and pursuing lifelong learning	<ul style="list-style-type: none"> -Socratic seminars -didactic instruction -one-on-one coaching 	increased writing and other scores for students in selected schools; reports from teachers of improved critical thinking skills	K-12/\$50,000 - \$70,000 yr 1; \$40,000-\$50,000 yr 2; \$30,000 - \$40,000 yr 3
Roots & Wings	Robert Slavin & Nancy	Guarantee that every child will progress successfully	-research-based curricula	students have outperformed student in	K-6/About \$70,000 per year

	Madden	through elementary school	<ul style="list-style-type: none"> -one-to-one tutoring -family support team -cooperative learning -on-site facilitator -building advisory teams -builds on Success for All Program 	control schools	
Program	Developer	Primary Goal	Main Features	Results	Grades/Costs
Reading Recovery	Marie Clay	Help children who are experiencing early reading difficulties	<ul style="list-style-type: none"> -intensive, short-term, one-to-one tutoring for the lowest achieving children - teacher kept "running records" of what child says or does -assessments of print concepts, word recognition, independent reading level, ability to record dictated sentences, and composition skills 	in an Australian study and in follow-up studies in the United States, by grades 5 & 6, Reading Recovery students were distributed across the same score range as the general school population	1/ high cost
School Development Program	James Comer	Mobilize entire community of adult caretakers to support students' holistic development to bring about academic success	<ul style="list-style-type: none"> -three teams (school planning and management, student and staff support, and parent) -three operations (comprehensive school plan, staff development plan, monitoring and assessment) -three guiding principles (no-fault, consensus, collaboration) -parents welcomed into school and students often out in larger world -organized around a certain idea of human relationships rather than an intellectual program 	student achievement in many schools has risen significantly, often outpacing districtwide achievement or achievement in control schools	K-12/ \$45,000 first year
Success for All	Robert Slavin and Nancy Madden	Ensure that all children learn to read (preferably, before learning deficits are already well established and are extremely difficult to remediate)	<ul style="list-style-type: none"> -schoolwide reading curriculum -cooperative learning -grouping by reading level -tutoring for students in need of extra assistance by reading specialists or Title I/special education teachers or by paraprofessionals under the guidance of one of above -family support team -lesson plans, teacher manuals, specific instructional guidance for each part of the curriculum, professional development for teachers, and training for principal and program facilitator -facilitator who is released from teaching duties to oversee the details of 	<p>higher reading test scores, especially for students in the bottom quartile</p> <p>(effect sizes of +.34 to +.82 in reading and +.51 to +4.22 in word attack)</p>	PreK-6/ \$270,000 first year

			implementation		
Help One Student to Succeed (HOST)	Bill Gibbons	Improve the performance of low-achieving students through individualized instruction	<ul style="list-style-type: none"> -structured mentoring programs that involve community volunteers -individualized learning plans -periodic review of newly gained skills -computer database of resources and instructional strategies -availability of trainers, follow-up coaching, networking opportunities, and implementation review 	improvement in test scores across hundreds of schools	K-12/ \$29,000 per program year 1, \$8,900 year 2, \$6,900 year 3; Whole School Performance Model \$39,000 in year 1
Lightspan Achieve Now	Lightspan Partnership	Increase time-on-task, promote family involvement in homework, facilitate mastery learning and teaching	<ul style="list-style-type: none"> -standards-based learning games that support retention and encourage practice for mastery -family involvement -continuous professional development for staff and workshops for families -increased student engagement in learning and time-on-task -trainers, coaching, & implementation review 	longitudinal study is underway; individual schools have reported significant gains	K-6/For 520 students, lease/purchase plan for three years would be \$75,000 to \$140,000, depending on model

REFERENCES

"A Little Something Extra," *Quality Counts '99* report, *Education Week*, Volume XVIII, Number 17, January 11, 1999.

American Federation of Teachers. *Building on the Best, Learning from What Works: Five Promising Remedial Reading Intervention Programs*, July 1999.

_____. *Building on the Best, Learning from What Works: Seven Promising Reading and English Language Arts Programs*, July 1999.

_____. *Preventing Reading Failure*. Halcyon House Books, 1999.

_____. *Raising Student Achievement: A Resource Guide for Redesigning Low-Performing Schools*. (Item No. 370) Washington, D.C., 1997.

August, D., & K. Hakuta, eds. "Educating Language Minority Children." Committee on Developing a Research Agenda on the Education of Limited-English-Proficient and Bilingual Students, Commission on Behavioral and Social Sciences and Education, National Research Council. Institute of Medicine, 1998.

Barth, P., K. Haycock, H. Jackson, K. Mora, P. Ruiz, S. Robinson, & A. Wilkins, eds. *Dispelling the Myth: High Poverty Schools Exceeding Expectations*. Washington, D.C.: Report of the

Education Trust in Cooperation with the Council of Chief State School Officers and partially funded by the U.S. Department of Education, 1999.

Bauer, S.C., C. Cody, & J. Oescher. *Evaluating Systemic Reform: Analyzing Capacity and Achievement*. A paper presented at the annual meeting of the American Educational Research Association. Montreal, Canada, 1999.

Beaton, A. E., I.V.S. Mullis, M.O. Martin, E.J. Gonzalez, D.L. Kelly, & T.A. Smith. *Mathematics achievement in the middle school years: IEA's Third International Mathematics and Science Study*. Chestnut Hill, MA: Center for the Study of Testing, Evaluation, and Educational Policy. Boston College, 1996.

Boles, Katherine & Vivian Troen. "America's New Teachers: How Good, and for How Long?" *Education Week*, February 2, 2000.

Bradley, A. "The Gatekeeping Challenge." *Education Week*, Volume XIX, Number 18, January 2000.

_____. "Quality Crisis Seen in California Teaching Ranks." *Education Week*, Volume XIX, Number 15, December 1999.

Breaking Ranks: Changing An American Institution. Reston, VA: National Association of Secondary School Principals, 1996.

Brophy, J. "Effective Schooling for Disadvantaged Students." *Better Schooling*, 1990.

Bruer, J. "Education and the Brain: A Bridge Too Far." *Educational Researcher*, Vol. 26, No. 8, 1997.

Burns, M.S., P. Griffin, & C. Snow, eds. *Starting Out Right: A Guide to Promoting Children's Reading Success*. Committee on Prevention of Reading Difficulties in Young Children, National Research Council, 1998.

Carnine, D. "Instructional design in mathematics for students with learning disabilities."

Journal of Learning Disabilities, Volume 30, 1997.

Clay, Marie. *An Observation Survey of Early Literacy Achievement*. ISBN: 0435087630, 1997.

Comer, James P., Michael Ben-Avie, Norris M. Haynes, & Edward T. Joyner. *Child by Child: The Comer Process for Change in Education*. Teachers College Press, 1999.

Commission on Behavioral and Social Sciences and Education (CBSSE). *Preventing Reading Difficulties in Young Children*. National Academy Press, 1998.

Coulter, Gail, Dr. Bonnie Grossen, & Barbara Ruggles. "Reading Recovery: An Evaluation of Benefits and Costs." National Right to Read Foundation.

Darling-Hammond, L. *Teacher Quality and Student Achievement: A Review of State Policy Evidence*. Seattle, WA: Center for the Study of Teaching and Policy, University of Washington,

1999.

Deal, Terrence E. *The Culture of Schools*. Association for Supervision and Curriculum Development, ED 278 154, 1989.

Delisle, James R. & Sandra L. Berger. *Underachieving Gifted Students*. ERIC EC Digest #E478, 1990.

Deno, S. L. "The nature and development of curriculum-based measurement." *Preventing School Failure*, 36(2), 5-10, 1992.

Department of Education. *An Action Strategy for Improving Achievement in Mathematics and Science*, Washington, D.C.: U.S. Department of Education, February 1998.

_____. *Educational Excellence for All Children Act of 1999: Fact Sheet*. Washington, D.C.: U.S. Department of Education, 1999.

_____. *Turning Around Low-Performing Schools: A Guide for State and Local Leaders*. Washington, D.C.: U.S. Department of Education, 1998.

Desimone, L., D. Engstrom, & M. Finn-Stevenson. *Whole School Reform: A Two-Year Study of the Impact of a School Management and Services Model on Teachers, Parents and Students*. Paper presented at American Education Research Association Conference. Montreal, Canada, 1999.

Dunn, Rita. *How to Implement and Supervise a Learning Style Program*. Association for Supervision and Curriculum Development, 1996.

Dyer, Philip C. "Reading Recovery: A Cost-Effectiveness and Educational Outcomes Analysis." *ERS Spectrum*, 10(1), 10-19. [EJ 442 889], 1992.

Dynarski, M. & P. Gleason. *How Can We Help? Lessons from Federal Dropout Prevention Programs*. Princeton, NJ: Mathematics Policy Research, Inc., 1999.

Felton, R. H., & P.P. Pepper. "Early identification and intervention of phonological deficits in kindergarten and early elementary children at risk for reading disability." *School Psychology Review*, 24, 405-414, 1995.

French, D. "The State's Role in Shaping a Progressive Vision of Public Education." *Creating New Schools: How Small Schools Are Changing American Education*. New York: Teachers College, Columbia University, 2000.

Good, III. R., D. Simmons, & S. Smith. "Effective academic interventions in the United States: Evaluating and enhancing the acquisition of early reading skills." *School Psychology Review*, 27 (1), 740-753, 1998.

Grant, J., I. Richardson, & C. Rosten. "In the Loop." *The School Administrator*. January 2000.

Groff, Patrick. "Observations on Reading Recovery," *Reading Recovery*. National Right to Read Foundation.

Hart, B. & T. Risley. *Meaningful Differences in the Everyday Experience of Young American Children*. Baltimore, MD: Paul Brooks Publishing Co., 1995.

Haycock, K. "Good Teaching Matters...A Lot." *Thinking K-16*, Vol. 3, Issue 2. Washington, D.C.: The Education Trust. Summer 1998.

_____. "Good Teaching Matters: How Well-Qualified Teachers Can Close the Gap." *Thinking K-16*, Vol. 3, Issue 2. Washington, D.C.: The Education Trust. Summer 1998.

"Helping Students Who Still Do Not Meet the Standards." *Taking Responsibility for Ending Social Promotion: A Guide for Educators and State and Local Leaders*. Education Government Publications. May 1999.

Hope for Urban Education: A Study of Nine High-Performing, High-Poverty, Urban Elementary Schools. Austin, TX: Charles A. Dana Center at the University of Texas, 1999.

Jackson, Derrick. "The Real Meaning of Failure on the MCAS Tests." *Boston Globe*, December 17, 1999.

Jencks, C. & M. Phillips. "The Black-White Test Score Gap: Why It Must Be Closed and Why It Can Be." *The American Prospect*. September-October 1998.

Jones, G., B. Jones, B. Hardin, L. Chapman, M. Davis, & T. Yarbrough. "The Impact of High Stakes Testing on Teachers and Students in North Carolina." *Phi Delta Kappan*, November 1999.

Kameenui, E. J., & D.W. Carnine. "Effective teaching strategies that accommodate diverse learners." Columbus, OH: Merrill, Prentice Hall, 1998.

Kaminski, R. A., & R. H. Good, III. "Toward a technology for assessing basic early literacy skills." *School Psychology Review*, 25(2), 215-227, 1996.

The Kansas Learning First Alliance. "Reading Position Paper," 2000.

Knapp, M. & R. Needels. "Review of Research on Curriculum and Instruction in Literacy." *Better Schooling*, 1990.

Levine, D. & L. Lezotte. *Unusually Effective Schools: A Review and Analysis of Research and Practice*. Madison, WI: National Center for Effective Schools, 1990.

Lipson, M., J. Mosenthal, J. Mikkelsen, B. Russ, & S. Sortino. Creating contexts for early literacy development: A study of schools where students succeed. Unpublished manuscript, 1999.

Manzo, Kathleen Kennedy & Joette L. Sack. "Teacher Training Seen Key to Improving Reading in Early Grades," *Education Week*, February 1997.

Marble, K. & J. Stephens. Scale-up Strategy of a National School Reform and its Evaluation Design: Satellite Centers of the Accelerated Schools Project. Paper presented at the American Educational Research Association annual meeting. Montreal, Canada: April 19-23, 1999.

Marzano, Robert, Diane Paynter, John Kendall & Debra Pickering. "Literacy Plus: An Integrated

Approach to Teaching Reading, Writing, Vocabulary, and Reasoning." Zaner-Bloser Educational Publisher, 1999.

McDonald, Joseph P., Thomas Hatch, Edward Kirby, Nancy Ames, Norris M. Haynes, & Edward T. Joyner. "School Reform Behind the Scenes." Teachers College Press, 1999.

Mid-Continent Regional Educational Laboratory. *Noteworthy Perspectives on Comprehensive School Reform*. Aurora, CO: Mid-continent Regional Educational Laboratory. Summer 1999.

National Education Association. "Reconstituting Low-Performing Schools and the Role of the Union in School Improvement," *Trends, Issues in Urban Education*. Volume No. 7, November 1998.

Nathan, L. & L. Myatt. "A Journey Toward Autonomy." *Creating New Schools: How Small Schools Are Changing American Education*. New York: Teachers College, Columbia University, 2000.

Neufeld, B. "Classroom Management and Instructional Strategies for the Disadvantaged Learner: Some Thoughts about the Nature of the Problem." *Better Schooling*, 1990.

Neuman, S., C. Copple, & S. Bredekamp. *Learning to Read and Write: Developmentally Appropriate Practices for Young Children*. Washington, D.C.: National Association for the Education of Young Children, 1999.

Northwest Regional Educational Laboratory. *Catalog of School Reform Models, First Edition*. March 1998.

_____. *Addendum to the Catalog of School Reform Models*. November 1998.

Panel, Gay Zu, et al. "Comparing Instructional Models for the Literacy Education of High-Risk First Grades." *Reading Research Quarterly*, 29(1), 8-39. [EJ 475 731], 1994.

Peisner-Feinberg, E., R. Clifford, M. Culkin, C. Howes & S.L. Kagan. *The Children of the Cost, Quality, and Outcomes Study Go to School: Executive Summary*. Washington, D.C.: National Institute on Early Childhood Development and Education, the Office of Educational Research and Improvement, the U.S. Department of Education, June 1999.

Phillips, D. & N.A. Crowell, eds. *Cultural Diversity and Early Education*. Washington, D.C.: National Academy Press, 1994.

Pogrow, S. "What Is An Exemplary Program, and Why Should Anyone Care? A Reaction to Slavin and Klein." *Educational Researcher*. Volume 27, No. 7, 1998.

Pollock, John S. "Reading Recovery Program 1992-93. Elementary and Secondary Education Act-Chapter 1. Final Evaluation Report." Columbus Public Schools, Ohio. Department of Program Evaluation. [ED 376 437], 1994.

Porter, A. "Good Teaching of Worthwhile Mathematics to Disadvantaged Students." *Better Schooling*, 1990.

Pressley, Michael. "Reading Instruction that Works: The Case for Balanced Teaching." The Guilford Press, New York/London, 1998.

Raham, H. Linking Assessment and School Success. Paper presented to the American Education Research Association. Montreal, Canada, 1999.

Riley, R. "The Challenge of Improving Reading." *Education Notes*, Volume 1, No 2. Providence, RI: The Education Alliance, November 1999.

_____. "Seventh Annual State of American Education Address: Setting New Expectations," February 2000.

_____. Statement by U.S. Secretary of Education Richard W. Riley regarding National Research Council Report on Preventing Reading Difficulties in Young Children, 1998.

Rizzo, J. "School Reform: A System's Approach." *Creating New Schools: How Small Schools Are Changing American Education*. New York: Teachers College, Columbia University, 2000.

Roderick, M. "Grade Retention and School Dropout: Policy Debate and Research Questions." *Research Bulletin*, No. 15, December 1995.

Rothstein, R. "Lessons: Emphasis on Scores Comes At a Price." *The New York Times*, November 24, 1999.

Schwartz, R., P. Moore, M. Schmidt, M. A. Doyle, J. Gaffney & J. Neal. Executive Summary of Research on Reading Recovery. *Reading Recovery*. National Right to Read Foundation, 1996.

Schweinhart, L. *A School Administrator's Guide to Early Childhood Programs*. Ypsilanti, MI: High/Scope Press, 1988.

Sherk, J.K. *Degrees of Reading Power Materials Matching: Adjusting the System*. Kansas City, MO: University of Missouri at Kansas City.

Shinn, M. Instructional Decision Making Using Curriculum-Based Measurement. Unpublished workshop materials, 1997.

Silver, Edward A. Improving Mathematics in Middle School: Lessons from TIMSS and Related Research. School of Education and LRDC. University of Pittsburgh. 1998.

Simmons, D. C., & E. J. Kameenui. What Reading Research Tells Us About Children With Diverse Learning Needs: Bases and Basics. Mahwah, NJ: Lawrence Erlbaum Associates, Inc., In Press.

Slavin, Robert. "Far and Wide: Developing and Disseminating Research-Based Programs." *American Educator*, Vol. 22, No. 3, 1998.

Smith, Carl B. *What Makes Our Kids Underachievers?* Indiana University School of Education, May 24, 1996.

Snow, C., M. S. Burns & P. Griffin, eds. *Preventing Reading Difficulties in Young Children*.

Committee on the Prevention of Reading Difficulties in Young Children. National Research Council, 1998.

Stiggins, R. "Assessment, Student Confidence, and School Success." *Phi Delta Kappan*, Vol. 81, No. 3, 1999.

Stringfield, S. "Underlying the chaos: Factors explaining exemplary U.S. elementary schools and the case for high reliability organizations." T. Townsend (ed.), *Restructuring and quality: Problems and possibilities for tomorrow's schools*. London: Routledge, In Press.

Sugai, G., & R. Horner. "Discipline and behavioral support: Preferred processes and practices." *Effective School Practices*. In Press.

Talley, S. "Perspectives: What Does It Take to Reform a Low-Performing School?" *At-Risk to Excellence*. Spring 1999.

Taylor, B. & P. Bullard. *The Revolution Revisited: Effective Schools and Systemic Reform*. Bloomington, IN: The Phi Delta Kappa Educational Foundation, 1995.

The Education Trust. *Analysis of NAEP 1996 Math Survey Tables*. Washington D.C.: Education Watch, 1998.

Traub, J. *Better by Design? A Consumer's Guide to Schoolwide Reform*. The Thomas B. Fordham Foundation, 1999.

"Turning up the Heat," *Quality Counts '99* report. *Education Week*, Volume XVIII, Number 17, January 11, 1999.

Van Horn, R. "Inner-City Schools: A Multiple-Variable Discussion." *Phi Delta Kappan*, Volume 81, Number 4, December 1999.

Wang, M.C., G. D. Haertel, & H. J. Walberg. *Achieving Student Success: A Handbook of Widely Implemented Research-Based Educational Reform Models*. Philadelphia, PA: Laboratory for Student Success, Temple University Center for Research in Human Development and Education, 1993.

Washington, V. & J.D. Andrews, eds. *Children of 2010*. Washington, D.C.: NAEYC, 1999.

Zimmerman, T. "Comprehensive School Reform Catching On." *State Education Leader*, Volume 16, No. 3. Education Commission of the States, Fall 1998.