DOCUMENT RESUME

ED 437 203 PS 028 195

TITLE	Gaining Ground: Hard Work and High Expectations for Kentucky Schools.
INSTITUTION	Prichard Committee for Academic Excellence, Lexington, KY.; Partnership for Kentucky School Reform, Lexington.; Kentucky Chamber of Commerce, Lexington.
SPONS AGENCY	Annie E. Casey Foundation, Baltimore, MD.
PUB DATE	1999-11-00
NOTE	142p.; A separately-published "Appendix" (88 pages) and "Executive Summary" (4 pages) are appended.
AVAILABLE FROM	Prichard Committee for Academic Excellence, P.O. Box 1658, Lexington, KY 40588. Tel: 800-928-2111 (Toll Free); Tel: 606-233-9849; Fax: 606-233-0760; e-mail: admin@prichardcommittee.org
PUB TYPE	Reports - Evaluative (142)
EDRS PRICE	MF01/PC06 Plus Postage.
DESCRIPTORS	*Academic Achievement; *Educational Change; Educational Quality; Elementary Secondary Education; Program Effectiveness; School Community Relationship; *State Programs; *State Standards; Student Evaluation; Teacher Qualifications
IDENTIFIERS	*Kentucky Education Reform Act 1990

ABSTRACT

In response to well-documented concerns over America's educational crisis, Kentucky initiated the nation's most sweeping set of educational reforms with the 1990 passage of the Kentucky Education Reform Act. This report examines the accomplishments of these reform efforts since 1990 and makes recommendations for future action. Following an introduction and executive summary, the report focuses on developing learning goals and presenting information on student progress, improving the quality of teaching, and engaging community support for public education. The report indicates that in the early grades, Kentucky students rank nationally among the top states in improvement, with test scores comparable to states that historically have been higher. However, minority students have not gained as much as white students, and students from Jefferson County and eastern and south central areas have not gained as much as those in other areas of the state. Boys have not improved as much as girls. Middle school results have been discouraging, with too little progress, despite above-average NAEP reading scores and increases in NAEP math scores. The report argues that more and faster progress is needed and will require more effective content instruction for all children. The report's recommendations to enhance the rate of improvement focus on improving reading instruction in the early grades and improving the quality of training available to current and future teachers. The report's appendix includes student assessment results for elementary, middle school, and high school students. (KB)

Gaining Ground

Hard Work and High Expectations for Kentucky Schools

The Prichard Committee for Academic Excellence

November 1999

Gaining Ground

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The Prichard Committee for Academic Excellence

In collaboration with:
The Partnership for Kentucky Schools
The Kentucky Chamber of Commerce
November 1999

Acknowledgements

A number of individuals and organizations assisted in the development of this report. The Prichard Committee for Academic Excellence expresses its appreciation to: Andy Downs, Kentucky Chamber of Commerce; Carolyn Witt Jones, Partnership for Kentucky Schools; Susan Perkins Weston, Kentucky Association of School Councils; Thomas G. Mortenson, Postsecondary Education Opportunity, Oskaloosa, Iowa; Kati Haycock, The Education Trust, Washington, D.C.; Dan Branham, Appalachia Educational Laboratory, Charleston, West Virginia; Andy Plattner, A+ Communications, Washington, D.C.; Diana J. Taylor, Frankfort; Edmon Design, Lexington; and the staff of the Kentucky Department of Education.

The printing and distribution of the report were made possible by a grant from The Annie E. Casey Foundation.

Cover photo:
Rick McComb, Kentucky Department of Education

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Preface

The Prichard Committee for Academic Excellence is an independent, nonpartisan group of citizens, parents, and business people. The committee's goal, established when its campaign began in 1980, is to promote vastly improved education for all Kentucky children and adults.

When the Kentucky Education Reform Act was passed in 1990, the committee continued its work on behalf of Kentucky schools, informing citizens and parents about changes, reporting on results, and suggesting new ways to improve schools. Above all, this group of mobilized citizens continued to demand high quality schools and solid academic achievement for all Kentucky children, no matter where they live or what their circumstances.

Given this background as passionate advocates, in this report we stand back and observe Kentucky schools with the same demanding eye we have applied since 1980. We look at what has been accomplished since 1990 and what more needs to be done.

We conclude that there is enough evidence of progress to call upon Kentuckians to re-energize themselves and recommit to the grand vision of educating all Kentucky children at high academic levels. Kentuckians deserve to celebrate their victories, but they also have to recommit if they want further progress.

Today's circumstances are vastly different from those of nine years ago. Kentucky is in the midst of implementing one of the most sweeping and demanding educational reform efforts ever attempted in the United States. This has been an almost overwhelming task for the educational community, the political and media establishments, and for parents, citizens, and business people. The changes demanded by the reforms stir the emotions and cause growing pains and discomfort. School reform — controversial and demanding — has been the dominant Kentucky event of the past decade.

There is much cause for celebrating what Kentuckians have done for themselves in their public schools. But despite impressive gains, much much more needs to be done. "We've pulled ourselves off the bottom," a friend says, "and we're struggling to get to the top."

About this report

This is a difficult report to write, and the reasons for that are themselves an interesting part of the story.

First, there is probably general agreement that the reform movement — including the historic Supreme Court decision of 1989 and subsequent passage and implementation of the Kentucky Education Reform Act — is one of the most important events in Kentucky history. The reform's implementation, as with others like it all over the nation, has generated strong emotions. No one who has been paying attention in Kentucky could fail to be moved by the struggle to improve one of the nation's weakest school systems. School reform is serious business, and it affects many people in serious ways.

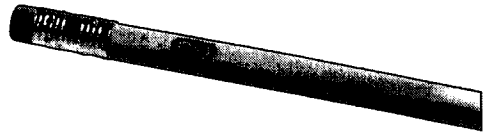
The special challenge of analyzing results today is knowing that our conclusions will influence what is done in the future. Research and analysis of school reform become part of school reform. How you view results influences those results. If reform is working, staying the course makes sense. If reform is not working, changing direction makes sense. As is usually the case in complex endeavors, the truth includes some of each.

Some people (particularly those who opposed school reform) see an advantage in proving that it is not working.

Other people (often deeply frustrated with their own inadequate schools) have reason to claim it's not producing results fast enough.

A third group (and we fall in this category) believes positive results are apparent but stronger academic progress and faster improvement is needed.

As volunteers deeply involved since 1980, the Prichard Committee believes:



"Kentucky has put in place the most radical set of school reforms in the nation. Unlike many states that have responded to well-documented concerns over America's educational crisis by instituting piecemeal changes, Kentucky has virtually started from scratch."

***Financial World*, May, 1992**

- the direction established by the Kentucky Education Reform Act is a grand vision
- that many years will be required to achieve our goals
- that needed adjustments have been made and should be made in the future, and
- abandoning the initial vision would be a disaster for Kentucky's children and all Kentuckians.

Our approach in this report follows from that perspective. We find much to encourage us, but also see the need for much more and faster progress toward educational excellence.

The **second** challenge is in reporting progress when 10 years of results simply do not exist. Although the reform did, indeed, become law 10 years ago this coming April, most reform elements have not been in place for 10 years. Far from it. The new tests were first administered in 1992. Primary schools were mandated seven years ago. Core content for teachers wasn't available until 1996. School councils weren't required in all schools until 1996. Help for poorly performing schools wasn't available until 1994. The first child who entered a primary school program under reform won't graduate until the year 2004. And on it goes.

Third, some information that we would like to see simply does not exist. For example, performance-based test scores that compare Kentucky to the nation did not exist until 1990, when the National Assessment of Educational Progress was first administered in the state. In addition, many indicators that are commonly used to describe a state's educational quality are, by their nature, available only after much time has passed, and the way some data is collected changes, making comparisons impossible. For example, the percentage of Kentucky high school graduates who go on to college — 53 percent now — cannot be compared to years before 1993 because students were counted differently.

Fourth, there's the matter of where we are in time. The Kentucky school reform plan was to reach goals in 20 or more years, and academic achievement goals for schools are to be met in 2014. Halfway through there is a natural tendency to ask, "Has it worked?" But that, in our view, is not a fair question. Instead, we should ask, "Is it working?" Kentuckians who promoted and supported reform in the 1980s believed then that transforming an educational system and raising the expectations of an entire population would take many years — a generation or more.

Fifth, there's the challenge of what to observe and report. Kentucky's reform has been seen as the nation's most sweeping. It has dozens of aspects and about 30 distinct reform elements ranging from preschool to increased school funding and teacher salaries to student testing to administrative reorganization to teaching practices to instructional technology and much more. "Many moving parts," a friend says.

So what should we report? We have chosen to be highly selective. This is not a comprehensive report. Others will catalogue everything that has been done and still others will offer detailed research. As concerned citizens, parents, and employers, however, we concentrate in this report on three topics that have concerned us most since we began in 1980:

- student learning and academic achievement,
- classroom instruction and quality teaching, and
- the condition of the larger population and community that in turn affects the quality of education.

We present here a concerned citizen's snapshot, not a rigorous evaluation, of a complex reform after a few years of implementation.

Robert F. Sexton
Executive Director

"Those are important lessons from an unlikely place."

***Business Week*, April, 1997**

Introduction & Executive Summary

"We have a lot of history."

A lot of the history we've had in Kentucky has been marked by a consistently poor performance in education. With a tired refrain of failure echoing through the decades, countless Kentuckians have strained against the bindings of ignorance to make a living, raise their children, and improve themselves and their state.

The pathetic condition of the state's schools was part of the public conversation for well over 100 years. Time and again, efforts to effect lasting, positive change ran into a seemingly insurmountable barrier of political and attitudinal resistance.

As if it were a virus intent on self-preservation, ignorance drained the state's leadership of the will and foresight to embrace and enact sweeping, systemic educational improvements.

By the 1980s, the evidence of this reality was coldly objective, if personally painful. Kentucky had "no place to go but up" said a national report. In 1983 Kentucky was described as a Third World country with the nation's most uneducated work force. And among the states, we ranked:

- 42nd in education spending per pupil,
- 42nd in high school graduation,
- 38th in teacher salaries,
- 41st in pupil-teacher ratio,
- 50th in adults with a high school diploma, and
- 49th in adults with a college degree.

Our state was perceived — by Kentuckians and others — to be lodged squarely in the nation's cellar for academic performance. "We were drowning," said a Kentucky business leader.

Kentucky's high level of poverty — among the poorest states in the nation — presented a significant barrier to learning. The low educational levels of our adult citizens made teaching their children particularly challenging. Kentucky had further to go to catch up than almost every other state.

But the past decade has seen a significant shift in the reality for our schools as Kentuckians have done much more than just talk about preparing the state for the 21st century.

We have planned, enacted, and refined the most comprehensive reform of education in the state's history. We have discussed and debated, acted and reacted, argued and compromised.

In the process, we have fashioned a new path for Kentucky schools to follow, one that demands excellence, sets high academic standards, measures performance, and holds teachers, schools, and districts accountable for their success or failure. We are only part way down that path today.

Kentucky's commitment is to continuous improvement, to ensure that all students — gifted students and disabled students, students of different social and cultural backgrounds, at-risk and minority students, students of diverse ethnic heritage — never stop achieving at the highest levels.

Nowhere To Go But Up

"Education officials in Kentucky sometimes recall an image of a typical child in this state: A poor boy or girl born to parents who were dropouts. The child goes to a crumbling school run by a corrupt superintendent and an indifferent school board. The child works under well-intentioned but poorly trained and badly paid teachers, makes mediocre grades, passes from year to year, and fares poorly on achievement tests. After it all, the child graduates from high school. Maybe."

Quality Counts 1997

Education Levels of Kentuckians 25 and Older

	1980 National rank	1990 National rank	1998 National rank
% adults with high school diploma	53.1% 50	64.6% 50	77.9% 47
% adults with at least 4 years of college	11.1% 49	13.6% 49	20.1% 43

Source: KY Department of Education

"We have a lot of history. But we have a lot of future coming up, too."

Historian Laureate Thomas D. Clark

Looking back at the reform development

Much like the overnight acting sensation who in reality has played summer stock for years, Kentucky's new strategy for better schools emerged after decades of false starts and failed initiatives — failures that resulted from piecemeal proposals and limited political will.

But the process taught the state an important lesson. Its only hope for better schools was to be found in a comprehensive program of interconnected steps that would require an extended period of time and deep commitment to become reality.

As more and more Kentuckians recognized and acknowledged this fact, they became an army of reformers waiting for the event that would galvanize the state's political leaders.

That moment came in 1989 with a landmark Kentucky Supreme Court decision.

Four years earlier, 66 school districts sued the governor, legislature, superintendent of public instruction, and state school board, arguing that the way Kentucky financed schools was inadequate and inequitable. In response to the suit, the Supreme Court declared the state's entire system of common schools to be unconstitutional.

"Each child, every child, in this Commonwealth must be provided with an equal opportunity to have an adequate education," the court said in its opinion. "In other words, although by accident of birth and residence, a student lives in a poor, financially deprived area, he or she is still entitled to the educational opportunities that those children in the wealthier districts obtain."

The high court directed the General Assembly to recreate Kentucky's entire school system to ensure equal educational opportunities for all children.

The following months were filled with hope and hard work as the governor, legislators, education leaders, and citizen advocates developed a plan that touched virtually every aspect of elementary and secondary education in the state.

What distinguished Kentucky's reform plan was that it set very high expectations and provided the means— the policies, money, and other resources — that were needed to achieve them. Not only was there a vision that all Kentucky children could be taught, but the reform demanded changes across the educational domain. There was much to do after reform was passed — too much, many educators speculated.

The elements of the plan were interconnected, each of them addressing a specific area of need while supporting and strengthening the overall objective of improving the academic achievement of all students. This interconnectedness is key. No single part of Kentucky's school reforms is a stand-alone element. Much like the intricate workings of a clock, each piece is needed to ensure success.

- The fundamental belief that all children can learn, and nearly all at high levels, provided the foundation of the reforms. Designing schools and instruction so all students learn and measuring whether that happens was a fundamental change from the past. The days of just covering the textbook material were over; results were what counted now.
- Academic expectations reflecting high standards were created by Kentucky teachers, parents, and citizens to define what students should know and be able to do.
- A system of assessment and accountability was created to measure schools' progress in making sure all students meet high academic standards, to reward schools that improve, and to help schools that do not improve. Accountability was to be the big wheel that makes everything else turn.

E for Effort in Education: Kentucky

"Kentucky has the most broad-based and systemic legislative initiative in the recent history of education reform," says Mike Kirst, a professor of education at Stanford. 'They've got all the pieces under way to change the entire system, rather than tinkering with a few parts.'"

Financial World
May, 1992

"The state, with a concerted push from the business community, decided on a bold experiment rooted on a central premise: that equality in funding is vital, but cannot alone bring about quality in education."

***Congressional Quarterly*, February 26, 1998**

- Political and governance reforms targeted nepotism on local school boards and shifted authority at the state level from an elected superintendent of public instruction to an appointed education commissioner accountable to the Kentucky Board of Education.
- Decisions about running individual schools were pushed down to the school level through school-based councils. Councils were expected to redesign curriculum, instruction, and school organization so all children could meet academic expectations.
- Professional development funding was increased to help teachers improve their knowledge and skills.
- Taxes were raised and local tax collection strengthened to provide more money for schools.
- A new system of distributing public money was developed to help equalize funding among the state's poor and wealthy school districts.
- The state Department of Education was reorganized and a new legislative oversight agency — the Office of Education Accountability — was created.
- Major investments were made in technology to give students direct experience with computers and other high-tech equipment.
- Preschool programs were created for at-risk 4-year-olds and 3- and 4-year-olds with disabilities, and family resource and youth services centers were developed to connect students and their families with health, social, and community services.
- Opportunities for additional instruction were created for children that need it through extended school services programs. These were needed because meeting academic standards — not putting in a certain amount of time — became the goal for students.

"The systemic school reform movement — built on the foundation of higher standards, new assessments, and accountability for performance — is the overarching consensus strategy that engages the efforts of most reformers today...the notion of systemic change has become the consensus choice as the most promising reform strategy entering the new century."

Alan Stonecipher, American Council on Education, 1999

The Kentucky Education Reform Act was signed into law on April 11, 1990, and the challenges of transforming the state's system of schools have been with us ever since. As historian Thomas D. Clark said at the time, "It's one thing to pass legislation. It's another thing altogether to get it into the classrooms."

As they have from the beginning, Kentuckians are responding to the challenges with creative thinking, commitment, and countless hours of work. The results of that work are both positive and measurable at this interim stage in the school reform's evolution.

Signs of progress

Those whose time is consumed by direct involvement in the details sometimes don't have the luxury of stepping back to look at the new picture that is emerging of Kentucky's schools.

But that picture is attracting the attention of scholars, education policy experts, and other observers throughout the country. As a result, Kentucky's school reform arguably is one of the most studied education initiatives in the nation's history.

An indication of how others see the state was provided in 1997, when Kentucky's school reform was named the winner of the Innovations in American Government Award by Harvard University and the Ford Foundation. (And this in a state that an MIT professor had described a few years earlier as a Third World nation!) "Kentucky's Class Act" read the headline in *Business Week* magazine.

The national attention and scholarly studies, by Kentuckians and others, are important parts of the ongoing review of the state's school-improvement efforts.

But more telling — and more critical to the lives of our children — are the signs of progress that emerge when we look at where we started and where we are now.

The company we keep

Our elementary students are improving well compared to their counterparts in other states in reading, math, and writing test scores. Of particular significance is the company we now keep. Locked for years in the bottom tier with other low-performing states, the academic performance of Kentucky's students has moved the state up to the next level.

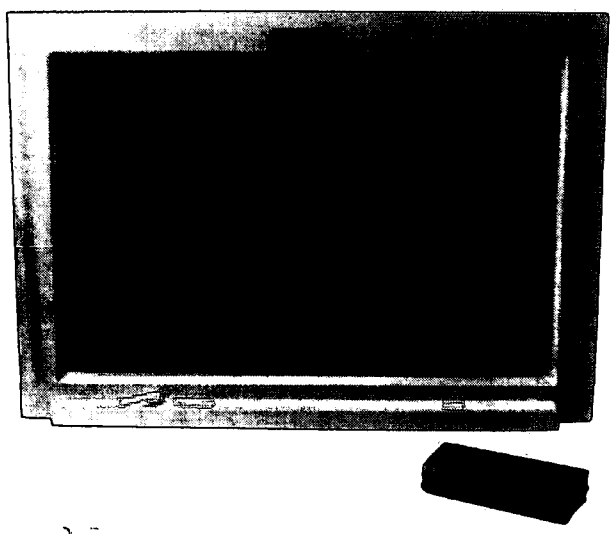
Our new neighbors now include states such as Michigan, Maryland, Virginia, and North Carolina. National test results in 1998, for example, showed only seven states with average scores that were significantly higher than Kentucky's in eighth-grade reading. The rate of improvement in our fourth graders' math scores between 1992 and 1996 was exceeded by only eight states. Similarly, only five states improved faster than our students did in eighth-grade math performance between 1990 and 1996. Kentucky was one of five states that improved significantly between 1992 and 1998 in fourth grade reading.

Other indicators

- The funding gap that for decades hampered the education of children in less-wealthy districts has been slashed, making Kentucky's funding more equitable than the national average.
- Among the states, we've moved from 42nd to 30th in education spending per pupil.
- Our pupil-teacher ratio and teacher salaries are 30th in the nation. We had been 41st and 38th, respectively, in those categories.
- The state's high school graduation rate has moved to a national ranking of 30, up from 42.
- More than three-fourths of our at-risk 4-year-olds are in preschool programs, and studies are showing the long-term benefits of their experiences.
- More students are taking challenging courses. State reports show that the number of students taking a rigorous, college-bound curriculum increased to 12,694 in 1999 from 8,087 in 1995.
- Many — but not enough — schools that serve students at very high levels of poverty have shown they can educate those students as well as schools with the most affluent students.

One researcher has pointed out that Kentucky, given all the fits and starts of school reform, has done an amazing job of getting the infrastructure of reform in place. That is not to say, of course, that it is exactly as it needs to be.

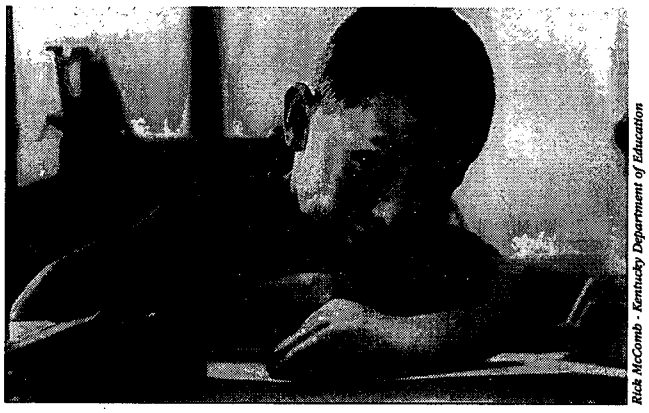
On the other hand, those elements of reform, such as the preschool program, that require the least improvement in teaching practice, were implemented most easily and receive the most universal praise. The challenge now lies in sustaining the commitment for the hardest part of the work — improving teaching in all classrooms.



"But we have a lot of future coming up, too."

Kentucky's commitment must be to continuous improvement for students and schools — a real-world requirement that schools continuously improve and all students achieve at higher levels. This is a new and different concept for schools, as it has been for businesses. But no matter how difficult, it is critical for the quality of our schools and for student achievement. Essential to ensuring the success of our efforts is finding out which programs and policies work and which ones fall short of helping students learn.

Improving schools is a task that never will be complete. So this report should be considered more of a springboard



Rick McComb - Kentucky Department of Education

to the next decade than a thorough look at the one nearing its close. We are approaching an important checkpoint as we enter a new century. Kentucky must plan, thoughtfully and deliberately, how it will move ahead to build on and improve the program of innovation, equity, and excellence for the education of Kentucky's students.

With that objective in mind, this report takes a constructively critical look at the results to date of the Kentucky Education Reform Act of 1990, recognizing both progress and weaknesses. Compared to the years before 1990, measures now exist to tell us if progress is being made — a significant and often ignored result of reform.

This report also makes recommendations that address significant challenges facing our schools. We, and others, have been studying the changes in Kentucky's schools since 1990, and we have published dozens of reports and recommendations for adjustments along the way. We do not repeat those here.

Our general observation at this interim point is that, overall, Kentucky's schools have made gains, but the progress isn't enough. Many schools have made strong improvement, but not enough schools have made enough improvement. Too many have improved too slowly or hardly at all. But there is ample proof that reform can work. This proof is found in schools that have made measurable progress — particularly those whose students are economically disadvantaged and among the most difficult to teach because of the circumstances of their lives.

If we look for broad signs of progress, we see:

- Many teachers have seized the opportunity to improve their teaching practices, to make their classrooms exciting and vibrant places for children. We can celebrate what one researcher calls their "spirit of innovation."
- The idea that meeting high academic standards is the way things are done in Kentucky schools has been accepted in many places.
- The public has generally accepted the value of increased investment in education — including that resulting from improved property tax collections — to get better results.
- In most schools there is planning to improve student achievement. "Achievement is the topic of discussion," says a teacher, "not who will buy the crayons."

"Kentucky serves as a good example of the time and persistence required to make lasting improvements in education. Perhaps no education initiatives have been more watched and studied than the sweeping education reforms adopted in Kentucky in 1990. Implementing these reforms has taken years, and state leaders have shown the will to stay the course with the reforms while making adjustments as needed. In some cases it has taken several years after a policy's adoption for measurable improvements to begin to show. But Kentucky is seeing results."

Education Benchmarks 1998
Southern Regional Education Board

- ☐ The Supreme Court's view that a "child's right to an adequate education is a fundamental one under our Constitution" has been incorporated into the thinking of and accepted in principle by those with influence over education policy.
- ☐ The idea that the entire education system — not just one piece or program — must be changed in a comprehensive way has been accepted.
- ☐ The largest portion of the education community has accepted reform as inevitable and desirable. When asked: "Would you return to the old ways?," most educators say no.
- ☐ There is general acceptance of changes in state governance, such as the employment of a professional commissioner of education. Efforts to eliminate nepotism and inappropriate political practices have been accepted.
- ☐ Student achievement has improved.
- ☐ The principle that schools and teachers should be held accountable and responsible for the quality of their teaching and other educational practices has generally been accepted.

On the other hand, we still have a long way to go:

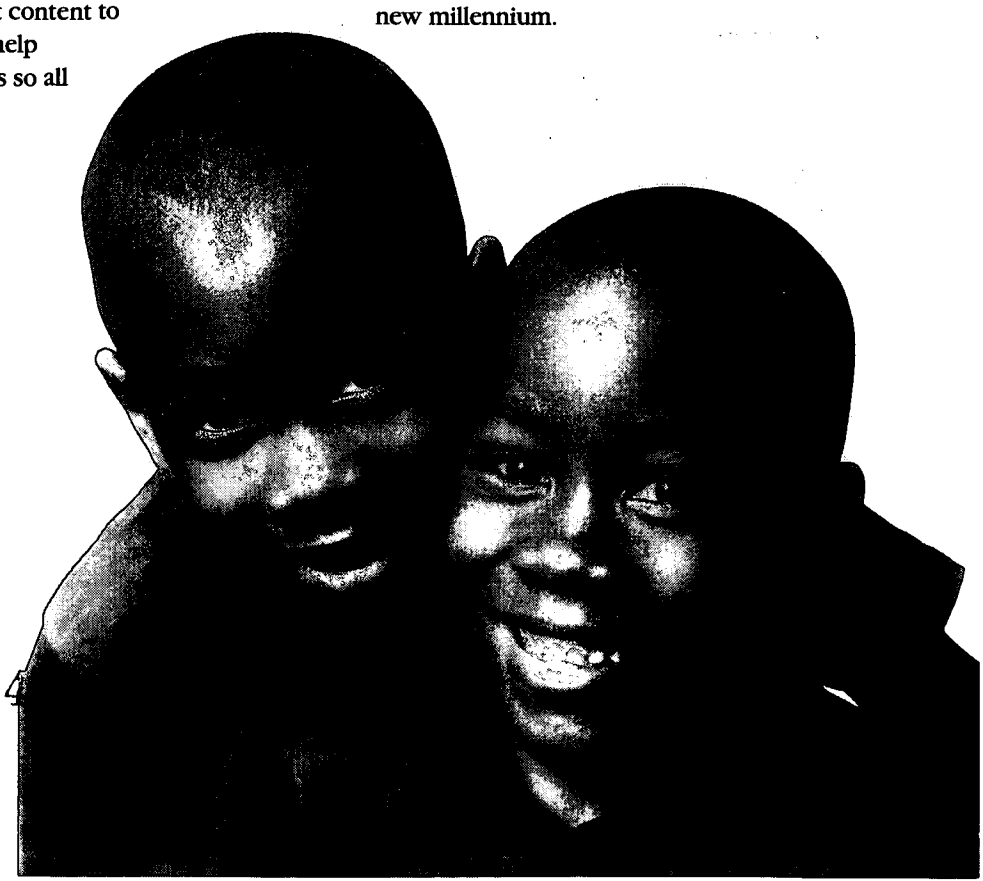
- ☐ There is not yet a mindset that recognizes continuous improvement as the focus of schools and professional educators. Too many educators say, and believe, "We've done all we can do."
- ☐ The most visible results of reform have not required changes in teaching practices and have been, so far, the easiest to accomplish, even though they represent great progress for Kentucky schools. We now need to look for more demonstrated progress at the classroom and child level.
- ☐ Teachers know less than policymakers thought they did about how to improve their teaching and need more effective training and leadership.
- ☐ Too few educators can explain how their classroom teaching practice affects results or suggest ways to improve this practice. Programs that help teachers constantly improve their skills and knowledge are not commonly available or fully effective.
- ☐ There is a lack of adequate academic gain among students from the poorest regions, minority students, and the schools serving them.
- ☐ Investments in salaries and certain support areas have not increased enough in recent years.
- ☐ Postsecondary education is not yet a fully effective partner in improving schools or preparing teachers.
- ☐ Too few families and parents are engaged as full partners in the education of their children, and the idea of broad community responsibility for educating all children has not become part of most communities' behavior.
- ☐ Too many school councils have not recognized their independence or the expectation that they will redesign curriculum and improve teaching to increase student learning.

Need for improvement

To accelerate the improvement of all schools, we believe three areas require special attention in the next stage of the process, and our recommendations focus on those areas:

- Reading instruction must improve in the early grades so all children enter middle school able to read and understand the work at that level. There also must be reading instruction in middle schools for those who arrive unprepared. Accelerated reading improvement will move everything else along. Failure to teach every child to read, on the other hand, will block academic progress in our middle and high schools.
- Kentucky must vastly improve the quality of training available to current teachers and the preparation that new teachers receive in college. Every Kentucky student deserves a well-prepared teacher. School officials must see that teachers have mastered the academic content that students are expected to master. It is also imperative that our teachers know how to teach that content to students at all academic levels. We must help teachers improve their teaching practices so all children can learn.
- Kentucky's vision for its schools puts heavier responsibilities on citizens, parents, and business leaders. To meet these responsibilities, citizens and communities must renew and expand their commitment to schools, recruit new allies, demand improved academic achievement, and recognize that educators are not solely responsible for quality education. Of particular importance is community support for early childhood initiatives. We applaud the work of the Governor's Task Force on Early Childhood and are hopeful that its recommendations will be approved and funded.

Hard work has become a habit for the thousands of Kentuckians whose lives are dedicated to educating Kentucky's children. It's time for a renewed commitment. The results we see so far show that progress is possible. They also show how hard it is and how far we have to go. That hard work must continue, and our thinking must get even smarter, if we are to assure a bright future for the generations of Kentuckians who will reach adulthood in the new millennium.



Learners & Learning

Kentucky's redesign of its education system in 1990 did more than update and reform existing practices and programs.

The most revolutionary — and most challenging — aspect of the state's revamped educational system is its relentless focus on academic results. Kentucky has redefined what constitutes a quality education — making student learning and performance the highest priorities while retaining such traditional indicators as teacher-pupil ratio and per-pupil spending.

Instead of basing its measurements on what goes in to the school system, Kentucky now determines its progress on the basis of what comes out of the system: evidence of what students have learned.

Equally revolutionary is that in Kentucky, school policy and teaching must now reflect the fundamental belief that:

All children can learn and nearly all at high levels.

It is impossible to overstate the importance of this goal for schools when it is tied to measuring results and accountability.

Setting Standards

The foundation of Kentucky's achievement-oriented system is academic standards, established in the law as learning goals that identify what students should know and be able to do. The goals were developed by citizens, educators, and business leaders in a process that involved public hearings, surveys, and focus groups. As a result, they are Kentucky standards — defining the expectations that Kentuckians have for the academic performance of their children.

These goals are supported by academic expectations that more clearly define the skills and knowledge students should develop in reaching these goals.

Assessing Performance

High academic standards are a critical requirement for increasing results for students and creating high-performing schools. Frequently in the past, a successful school year was one in which a teacher managed to cover all the material included in a textbook. Standards-based education shifts the focus to students' academic results. But it is important to remember that standards alone are of limited value if there is

Kentucky's Six Learning Goals

Goal 1: *Students are able to use basic communication and mathematics skills for purposes and situations they will encounter throughout their lives.*

Goal 2: *Students shall develop their abilities to apply core concepts and principles from mathematics, the sciences, the arts, the humanities, social studies, and practical living studies to situations they will encounter throughout their lives.*

Goal 3: *Students shall develop their abilities to become self-sufficient individuals.*

Goal 4: *Students shall develop their abilities to become responsible members of a family, work group, or community, including demonstrating effectiveness in community service.*

Goal 5: *Students shall develop their abilities to think and solve problems in school situations and in a variety of situations they will encounter in life.*

Goal 6: *Students shall develop their abilities to connect and integrate experiences and new knowledge from all subject matter fields with what they have previously learned and build on past learning experiences to acquire new information through various media sources.*

"Clear, intelligible standards are a pillar of higher achievement. Aligned with appropriate assessments, they can help us realize the dream of learning for all."

"Realizing the Promise of Standards-Based Education"
Educational Leadership

no way to determine whether students are meeting them and if teachers cannot teach so that students meet the standards.

Kentucky recognized this reality in developing its new educational system and created tools for measuring the academic performance of students and schools.

This statewide test, or assessment, gives Kentuckians an objective source of information about what kind of progress their children are making in school. It measures performance two ways: to gauge Kentucky students' achievement against the state's rigorous academic standards and to compare Kentucky students with others in the nation.

The test results also provide a way to hold schools accountable for student progress and to help teachers recognize areas that need improvement.

Academic Results

What is enough academic progress? We won't be happy until every child is learning to his or her full potential. But that isn't happening anywhere in America, and it never has. As a result, a more reasoned goal is to move toward that point with the hope of getting there and making every effort to do so. We look at Kentucky's results from that perspective.

Students' scores are reported in four categories reflecting levels of academic performance: distinguished, proficient, apprentice, or novice. The state's goal is for proficient to be the average level of student performance in all schools by 2014. Average, under Kentucky's system, means scoring 100 points on a scale of 0-140.

This is a very ambitious goal, one that reflects Kentucky's commitment to demanding academic standards. Evidence of this is provided by student test scores that, although showing definite progress since testing began in 1992, reveal how far our schools have to go before they reach the state's goal.

The following analysis was prepared by Susan Perkins Weston. Her complete report can be found in the appendix.

Percent of Students Scoring Proficient or Distinguished (Meeting State Standards)

Elementary School Students			
Subject	1993	1998	Change
Reading	8	33	+25
Mathematics	7	20	+13
Science	2	8	+6
Social Studies	8	15	+7
Arts & Humanities	1	3	+2
Practical/Vocational	2	6	+4
	1995	1998	Change
Writing Portfolio	19	21	+2
Writing Prompt	3	5	+2

Middle School Students			
Subject	1993	1998	Change
Reading	11	15	+4
Mathematics	16	31	+15
Science	2	1	-1
Social Studies	10	12	+2
Arts & Humanities	6	6	0
Practical/Vocational	4	7	+3
	1995	1998	Change
Writing Portfolio	15	13	-2
Writing Prompt	4	7	+3

High School Students			
Subject	1993	1998	Change
Reading	4	28	+24
Mathematics	13	27	+14
Science	4	13	+9
Social Studies	6	29	+23
Arts & Humanities	2	4	+2
Practical/Vocational	2	6	+4
	1995	1998	Change
Writing Portfolio	23	22	-1
Writing Prompt	2	23	+21

Source: Susan Perkins Weston

"In the past decade, the push for academic content and performance standards has become the most important and most enduring change to impact schools. The development of standards and the early stages of implementation happened in nearly every state and in more districts than one can count."

Christopher T. Cross, President, Council for Basic Education
"The Standards Wars: Some Lessons Learned"

Students' test results for 1993 through 1998 revealed:

- Strong mathematics progress at all levels.
- Reading was a standout subject, with elementary schools lifting their overall score by 26 points.
- Social studies and reading progress as high school standouts.
- The need for stronger middle school progress, especially in science.
- The need to improve performance on the writing portfolio.

The test results show significant gaps between the performance levels of white and African-American students.

Certain elements of Kentucky's educational system, such as family resource centers, have increased student achievement at poor schools, according to Alice Presson, a research director for the Southern Regional Education Board in Atlanta. "In Kentucky, special things are happening that aren't going on in the rest of the South."

Lexington Herald-Leader
April 7, 1999

- In middle school, a majority of African-American students scored at the novice level in every middle school subject except reading.
- In math, a majority of African-American students are novices at every level. The novice rate is 27 percent higher for African-Americans than for whites in elementary school, 27 percent higher in middle school, and 22 percent higher in high school.
- In middle school science, 74 percent of African-American students are novices compared to 44 percent of white students.
- Only in elementary and middle school reading is the gap less than 10 percent.

"The joke for us always was 'thank God for Mississippi,' because Mississippi always ranked behind Kentucky (on national standards)," Scott County High School Principal Gregory Figgs said. 'There are still people in Kentucky kicking and screaming, and if it wasn't for accountability, (change) wouldn't happen.'"

Congressional Quarterly
February 26, 1998

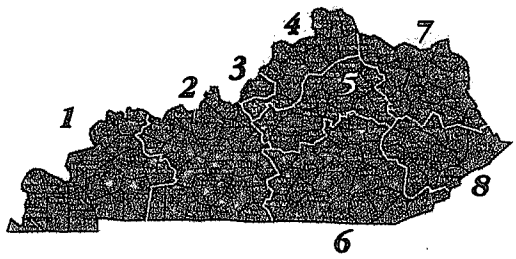
Kentucky's New System of Assessment

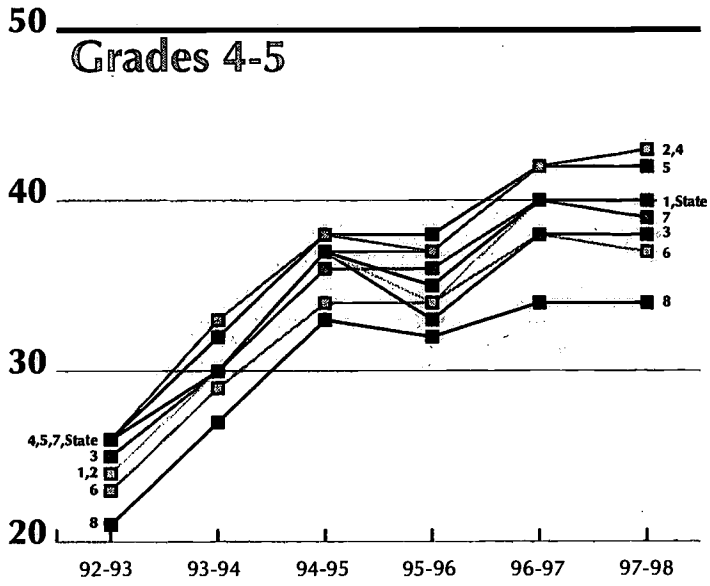
Students' academic performance — and how well they are meeting our academic standards — is assessed through the Kentucky Core Content Test. Students are tested on how well they are learning the basics of math, science, reading, writing, and other subjects and on how well they can apply what they learn to everyday life. Kentucky students also take a national basic skills test and are assessed on the quality of the writing portfolios they develop throughout the school year.

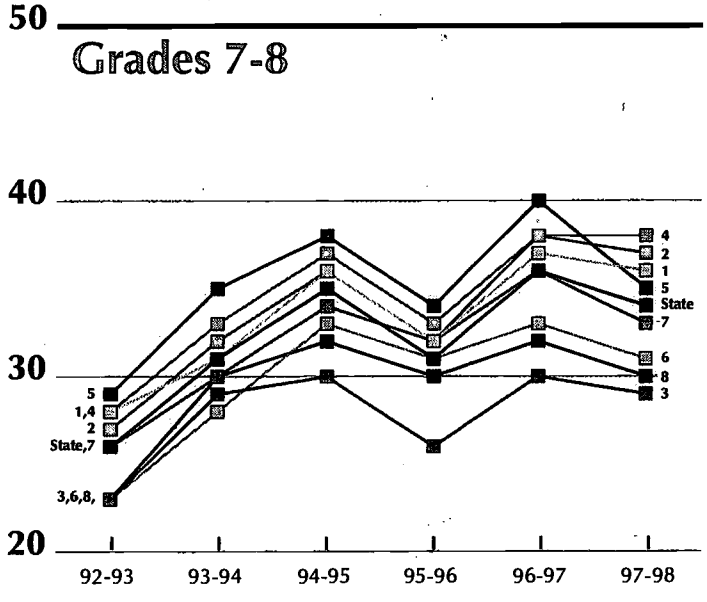
The core content test is part of the Commonwealth Accountability Testing System. CATS was developed in 1998 at the direction of the Kentucky General Assembly to replace the Kentucky Instructional Results Information System (KIRIS), the initial assessment and accountability system adopted under education reform. The change came in response to concerns expressed by educators, parents, and researchers.

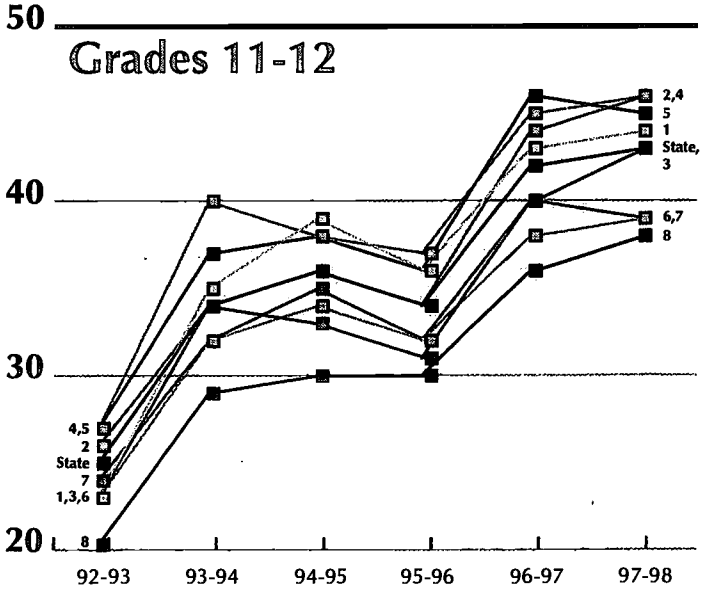
Academic Index by Region
1992-93 - 1997-98

Test results in academic subjects on KIRIS tests



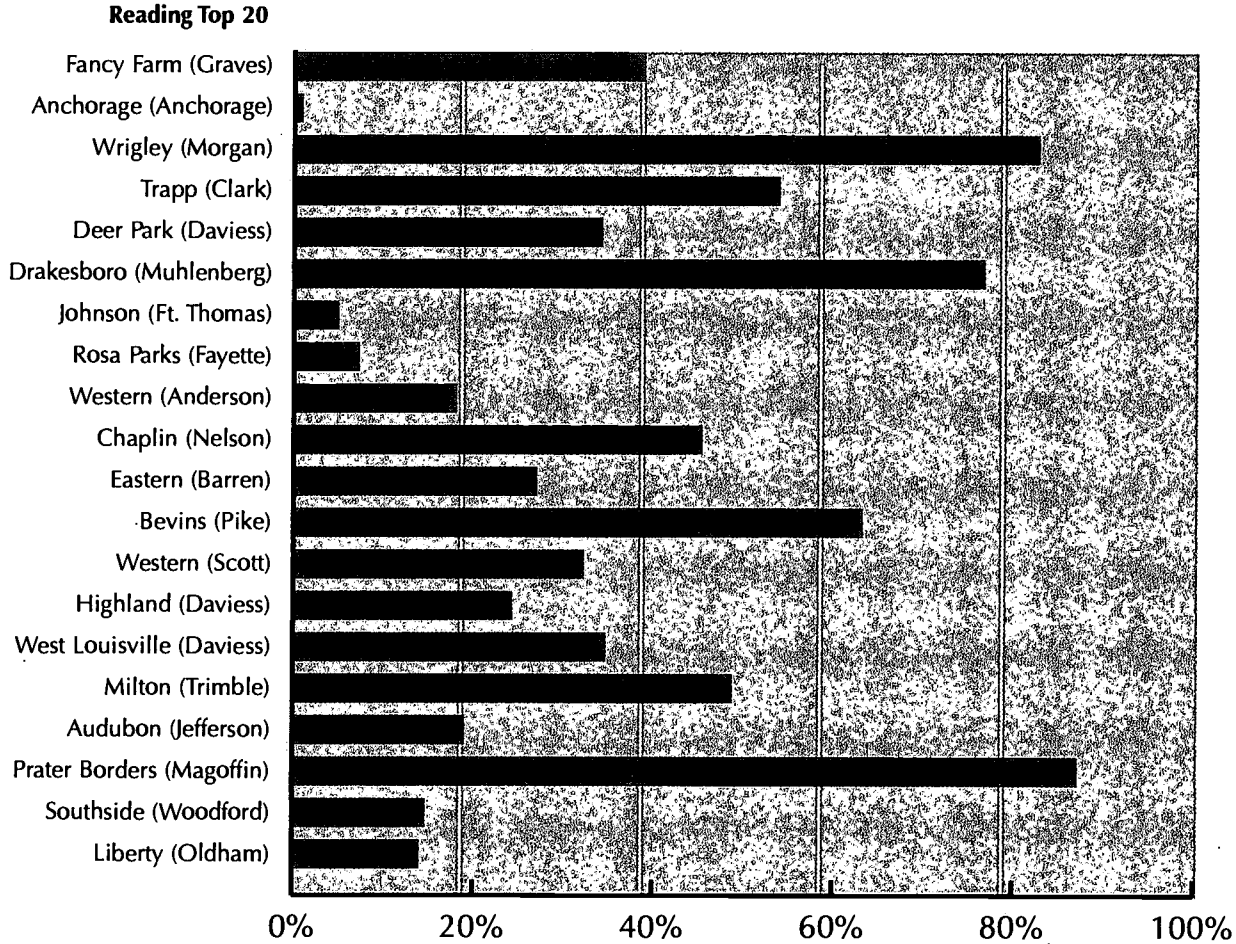






Source: University of Kentucky Appalachian Center

Who Excels In Elementary School Reading?
Percent of Students Receiving Free and Reduced Price Lunches at the Elementary Schools with the Top 20 KIRIS Scores in Reading, 1998



Source: Susan Perkins Weston

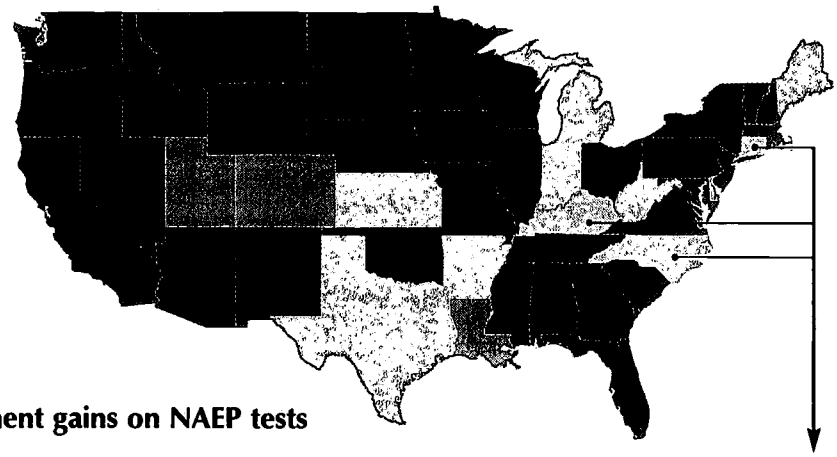
The lowest performance levels were recorded by students with disabilities. Kentucky is unusual among states because it holds schools accountable for the performance of these students.

- A majority of elementary school students with disabilities remains at the novice level in every subject except reading, science and writing portfolios.
- A majority of middle school students with disabilities remains at the novice level in every subject except reading.
- A majority of high school students with disabilities remains at the novice level in every subject except science.

A detailed analysis of the test results is included in the appendix to this report.

Regional variations also continue to be a problem. Illustrated graphically, progress is evident in the academic index of schools statewide. A closer inspection, however, shows the consistently strongest performance is in central, northern, and near-western Kentucky and the weakest is in Jefferson County and the southeastern part of the state. The slowest increases were in areas with the largest portions of students from impoverished families.

But the 1998 results also had another story to tell, one that many observers found particularly significant. A few of Kentucky's poorest schools recorded some of the highest scores — evidence that it is possible for schools to help children successfully overcome the greatest obstacles to learning. These schools are exceptions, but as exceptions they show that schools with poor children can do well.



States with significant achievement gains on NAEP tests

- States that have not participated in NAEP or have not shown significant progress on NAEP assessments
- States that have shown statistically significant progress on the NAEP grade 8 mathematics assessment, 1992-1996 (AR, DE, HI, IN, ME, MI, NE, RI, TX, WV)
- States that have shown statistically significant progress on the NAEP grade 4 reading assessment, 1992-1998 (CO, LA, UT)
- States that have shown statistically significant progress on both the NAEP grade 4 reading assessment and grade 8 mathematics assessment (CT, KY, NC)

Source: National Center for Education Statistics, *1999 National Education Summit Briefing Book*

A National Measure

In addition to administering its own test, Kentucky participates in the National Assessment for Educational Progress, or NAEP, frequently described as the nation's report card. NAEP tracks the achievement of the country's fourth-, eighth-, and twelfth-grade students over time in certain subjects.

An analysis of Kentucky's latest NAEP results shows:

- Overall, we have passed the national average for reading, and we're closing in for math and science.
- Kentucky's scores in reading and math have increased significantly compared to other states.
- In several areas Kentucky's scores compare well to those in states such as Maryland, North Carolina, Virginia, Minnesota, and Michigan.

Fourth Grade Reading

- Our fourth grade average reading score rose five points between 1992 and 1998. Only Connecticut improved faster, and only Colorado, North Carolina, and Mississippi moved as fast.
- Our 1998 average score exceeded the national average, by 218 to 215.
- Only eight states had 1998 average scores that were significantly higher than ours: Connecticut, Iowa, Kansas, Maine, Massachusetts, Montana, New Hampshire, and Wisconsin.

(Following their release, a question was raised about the improvement in Kentucky's and other states' NAEP fourth grade reading scores because, following NAEP guidelines, more students with disabilities were excluded from the 1998 test than had been in 1992. The National Center for Education Statistics concluded in September, 1999, that this condition did not affect the results and Kentucky students had, in fact, made the significant improvement that was originally reported.)

Fourth Grade Mathematics

- Our fourth grade average mathematics score went up five points between 1992 and 1996. Only eight states improved faster.
- In 1996, we were just two points behind the national average, compared to a four-point gap in 1992, and the gap was no longer statistically significant.

"I have never seen students produce the kind of writing that our students are producing right now in every school," says Ms. Kay Freeland, superintendent of Rowan County. "It is far better than when many of us were in the classroom, and it is all a result of teamwork and staff development and planning."

Quality Counts 1997

Eighth Grade Reading

- Our 1998 average score exceeded the national average by 262 to 261.
- Only seven states had 1998 average scores that were significantly higher than ours: Connecticut, Kansas, Maine, Massachusetts, Minnesota, Montana, and Virginia.

Eighth Grade Mathematics

- Our eighth grade average mathematics score went up 10 points between 1990 and 1996. Only five states improved faster.
- In 1996, we were four points behind the national average, closing in from a five-point gap in 1990.

A complete report on Kentucky's NAEP scores can be found in the appendix.

Observations

Have Kentucky's academic gains been enough? Are we on the right track?

In the early grades, national comparisons show Kentucky students doing quite well, ranking among the top states in improvement. Our test scores are now comparable to those from states that historically have been higher — such as Michigan, North Carolina, Virginia, and Maryland.

On Kentucky's own tests, improvements appear for every grade at every level, with the strongest gains in the early grades and, to a lesser degree, in high schools. Equal gains have not occurred in all schools, however. Minority children have not gained as much as white students. Students from some districts, notably Jefferson County and eastern and

High School Novice Percentages for Kentucky's Male and Female Students

Students	Reading	Science	Writing Prompt	Writing Portfolio	Math	Social Studies	Arts & Humanities	Practical/Voc.
Female	9	7	15	18	29	17	56	47
Male	23	9	33	33	35	31	60	62
Gap	14	2	18	15	6	14	15	15

Middle School Novice Percentages for Kentucky's Male and Female Students

Students	Reading	Science	Writing Prompt	Writing Portfolio	Math	Social Studies	Arts & Humanities	Practical/Voc.
Female	3	43	34	40	30	31	45	56
Male	8	51	57	57	37	38	61	71
Gap	5	8	23	17	7	7	16	15

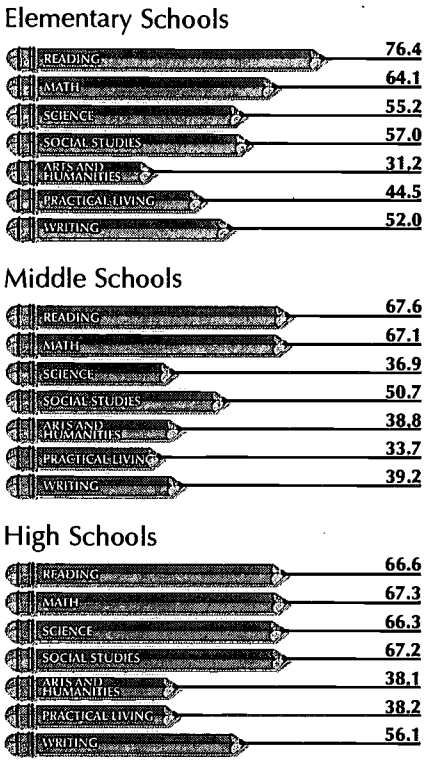
Elementary Novice Percentages for Kentucky's Male and Female Students

Students	Reading	Science	Writing Prompt	Writing Portfolio	Math	Social Studies	Arts & Humanities	Practical/Voc.
Female	3	20	43	19	26	25	63	34
Male	5	21	58	27	29	34	73	42
Gap	2	1	15	8	3	9	10	8

Source: Susan Perkins Weston, 1998 data

1999 Test Scores

These are the average scores of Kentucky students on the new CATS proficiency test, which uses a 140-point scale. The state expects all schools to average a score of 100 by 2014.



Source: *The Courier-Journal*, September 17, 1999

Starting a New Trend

1999 marked the first year for Kentucky's revamped assessment system. The test Kentucky students took that year differed from the one that had been in place since 1992. As a result, year-to-year comparisons could not be made between the old and new test scores. However, student scores on the new assessment — known as the Kentucky Core Content Test — showed that many schools are in a position to meet the state's academic-performance goals.

Average core content test scores are based on a 0-140-point scale. The state's goal is for schools' average scores to reach 100 by 2014.

south-central Kentucky, have not gained as much as other areas. Boys' scores have not improved as much as girls'.

Middle school results almost universally are discouraging with far too little progress. This is true despite the above-average NAEP reading scores and the increases in NAEP math scores.

On balance, there has been substantial progress. But it has not been enough. More and faster progress is needed, and it must occur in all schools.

Some school officials have argued that a majority of Kentucky schools cannot meet the learning goals established for 2014. We strongly disagree with the premise behind this forecast — that schools cannot change enough over the next 15 years to reach all children with high quality teaching for results.

We agree with observers that some portion of the early progress resulted from improved test-taking skills and instructional practices that are most evident on examinations. On the other hand, test-taking skills cannot explain either the NAEP gains or the improving math and reading scores among our youngest students. This progress is real.

The increased rate of progress that is needed will require more effective content instruction for all children and

High School Novice Percentages for Kentucky's White and African-American Students

Students	Reading	Science	Writing Prompt	Writing Portfolio	Math	Social Studies	Arts & Humanities	Practical/Voc.
White	15	7	22	23	30	22	51	53
African-American.	26	20	35	45	52	40	63	66
Gap	11	13	13	22	22	18	12	13

Middle School Novice Percentages for Kentucky's White and African-American Students

Students	Reading	Science	Writing Prompt	Writing Portfolio	Math	Social Studies	Arts & Humanities	Practical/Voc.
White	5	44	44	47	31	32	52	62
African-American	12	74	61	70	58	59	67	76
Gap	7	30	17	23	27	27	15	14

Elementary School Novice Percentages for Kentucky's White and African-American Students

Students	Reading	Science	Writing Prompt	Writing Portfolio	Math	Social Studies	Arts & Humanities	Practical/Voc.
White	4	18	49	21	25	28	67	37
African-American	8	39	64	39	52	47	78	48
Gap	4	21	15	18	27	19	11	11

Source: Susan Perkins Weston, 1998 data

teaching practices that improve more than they have to ensure that each child learns at a higher level. Indeed, if our schools continue to improve only at the rate they've recorded thus far, many of them will fail to reach the state's academic goals by the target year of 2014.

We believe, however, that there are several ways to pick up the pace of improvement. We stress only two of these in our recommendations.

- Reading instruction must improve in the early grades so all children enter middle school able to read and understand the work at that level. There also must be reading instruction in middle schools for those who arrive unprepared. Accelerated reading improvement will move everything else along. Failure to teach every child to read, on the other hand, will block academic progress in our middle and high schools.
- Kentucky must vastly improve the quality of training available to current teachers and the preparation that new teachers receive in college. Every Kentucky student deserves a well-prepared teacher. School officials must see that teachers have mastered the academic content that students are expected to master and that teachers know how to teach that content to students at all academic levels. We must help teachers improve their teaching practice so all children learn.

Our proposals are outlined in detail in the closing chapter and appendix of this report.

College-Going Rate

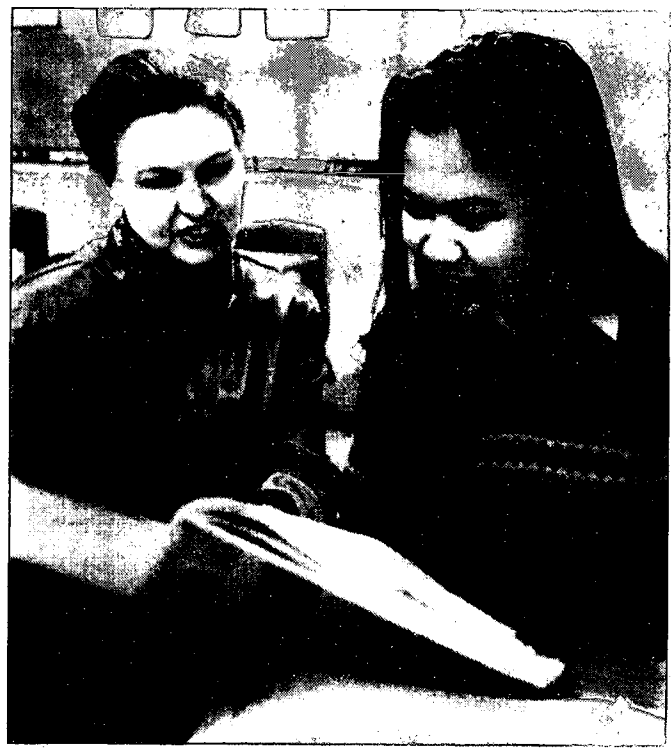
Year	College in KY	College non-KY	Total
1993	44.1%	5.7%	49.8%
1994	43.8%	6.2%	50.0%
1995	43.6%	6.3%	49.9%
1996	44.4%	6.5%	50.9%
1997	44.4%	6.6%	51.0%
1998	46.3%	6.8%	53.1%

Sources: KY Dept. of Education, Council on Postsecondary Education

Kentucky ACT Scores

Year	Total Tested	Percent of Graduates	Composite Score
1990	24,942	62%	19.9
1991	23,795	60%	20.0
1992	23,490	62%	20.0
1993	24,715	63%	20.1
1994	24,752	63%	20.1
1995	26,291	63%	20.1
1996	25,895	62%	20.1
1997	27,447	65%	20.1
1998	28,210	67%	20.2
1999	28,745	68%	20.1

Source: KY Department of Education
1999 average national composite score was 21.0.



Rick McComb - Kentucky Department of Education

Tools for Learning

School Funding

Mobile homes converted to classrooms where students couldn't see the chalkboard....Leaky roofs bringing rainy days indoors....Broken boiler systems keeping classrooms too cold for learning....Library shelves empty of books and learning opportunities.

The physical manifestations of Kentucky's under-funded school systems were more than aesthetically displeasing. They were very real barriers to learning and academic achievement. They also represented a fundamental inequity. Children in counties with more upper-income residents didn't encounter such nonacademic obstacles every day.

The question of equity prompted the landmark legal case that resulted in a new school system for Kentucky, one that reflected a new state policy of adequate funding for all schools.

"We had an abysmal situation in many school districts and didn't see any light at the end of the tunnel," says Kern Alexander, a school-finance expert who drafted the first legal complaint for Kentucky school superintendents, led a commission that suggested changes to the Supreme Court, and now is president of Murray State University. "A lot of states have shocking poverty. Kentucky hadn't cornered the market, but Kentucky had a poor picture."

Quality Counts 1997

As Kentucky redesigned its system, equity in funding was addressed by a new formula called SEEK, for Support Education Excellence in Kentucky, that replaced the old Minimum Foundation Program.

Under the old program, all districts were to receive comparable funding from the state based on student attendance and teacher experience and certification, but the program was never fully funded. Differences in the amount contributed to schools from local sources created a wide range in the amount of money the districts could, and did, allocate for each student's education. Because of the limited tax base in some districts and a state-imposed cap on property tax rates, some school boards had no means to increase funding to the level of more property-wealthy districts.

Under this system, it was common for some districts to have in excess of 50 percent more funding per student than other districts. Even so, all Kentucky schools operated well below the national average in per-student spending.

SEEK represented a radical departure from the old approach.

The new formula adjusted what the state allocated to local school districts based on the revenue generated locally through property or special taxes set by local school boards. Districts were required to meet certain revenue-raising requirements. But those with small tax bases and limited property values received state funds to offset their below-average capacity to generate funds.

As a result of the new formula, equity among districts in Kentucky now exceeds the national average. According to

Kentucky Private School Enrollment

	Fall 1989	Fall 1991	Fall 1993	Fall 1995	Fall 1997	Percent change 89-97
KY Enrollment	68,540	65,990	58,058	67,181	70,731	+3.2%
US Enrollment	4,834,733	4,889,545	4,836,442	5,032,200	5,076,119	+5.0%

Source: National Center for Education Statistics

Education Week, Kentucky has a relative inequity in spending per student among districts of only 13 percent — better than the national average of 23.1 percent.

Adequacy of funding also was required by Kentucky's new system.

One way to determine adequacy is to look at spending per student. For years prior to 1990, Kentucky was among the lowest-ranking states in spending per student. It now ranks 30th in the nation. According to the National Center for Education Statistics, per-pupil spending (state, local and federal funds) increased from $3,745 in 1989-90 to $5,929 in 1996-97.

"Simply comparing Kentucky to the national average, in 1989-90 Kentucky's spending was 75 percent of the national average while in 1997-98 Kentucky's spending was at 85 percent of the national average," noted Dr. John Augenblick of Denver, Colorado, a consultant who helped design the state's new financing system.

State funding for Kentucky's schools increased more than 60 percent from 1989-1990 to 1997-1998, according to the Kentucky Office of Education Accountability. Local support jumped almost 109 percent during that period.

The combined state and local financial commitment increased about 73 percent between 1989-90 and 1997-98, according to Augenblick, far greater than the rate of inflation. The growth in local support was the greatest among the least wealthy districts, he noted, "indicating that one of the objectives of the new system is being accomplished."

Technology

"Kentucky has what many people consider a model infrastructure in place." That conclusion by *Education Week's Technology Counts '99* study reflects the state's national leadership position in education technology. Kentucky was ranked No. 1 nationally in several areas focusing on students' access to computers.

hood conditions later — in unemployment, welfare and health costs, high school dropouts, crime and poverty, remedial education in high schools and colleges, and many other ways. It is time to invest in our children before their problems have reached the crisis level."

The Path to a Larger Life: Creating Kentucky's Education Future
The Prichard Committee for Academic Excellence, 1985

Fund raising by school children is not unusual in Kentucky. Statewide, high school and elementary students raised more than $68 million in the 1987-88 school year, according to audits by the state Department of Education.

***Lexington Herald-Leader*, November 16, 1989**

The state's financial investment in technology earned the state a 6th-place national ranking in *The State New Economy Index*, a July 1999 publication of the Progressive Policy Institute.

Since adopting a master plan to put technology to work for instruction, Kentucky has invested more than $325 million in state and local money in the Kentucky Education Technology System. Approximately $130 million in new funds was dedicated to technology in 1998-99 and up to an additional $74 million is anticipated in 1999-2000.

What this means for learners and learning, based on August 1999 information is:

- one high-performance computer for every 7.8 students,
- one high-performance computer for every 1.8 teachers,
- Internet access for 96% of schools,
- 709 schools with home pages,
- 1,307 (of a total 1,371) schools using e-mail, and
- 15,300 (of a total 38,356) classrooms with telephones. An estimated 85% to 90% of classrooms should have telephones by the 2000-2001 school year.

But the challenge of using technology to its full potential to improve student learning is still ahead of us.

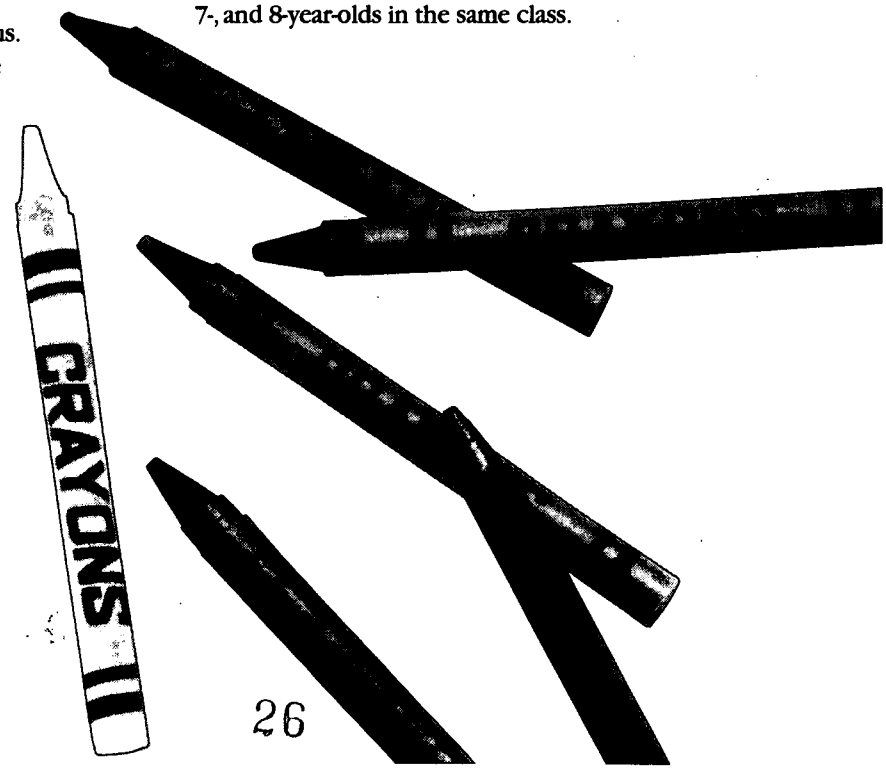
Although teachers' attitudes toward technology are positive, many still need more training in using it effectively as a learning tool. Kentucky teachers received an average of 8.1 hours in technology training in 1997-98. The national average was 12.8 hours. In addition, nearly half of the state's new teachers say they feel, at best, only moderately prepared to work with technology in the classroom. Those already teaching, however, overwhelmingly (76%) view technology as a powerful tool for helping them improve student learning, according to a state survey.

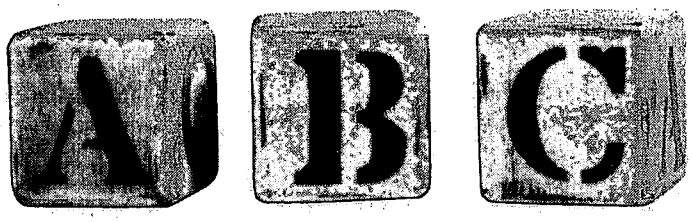
Primary Program

Kentucky's ungraded primary program covers the period beginning with a child's initial enrollment in school and ending when he or she is ready to enter the fourth grade. During this time — usually four years — children may learn at the level that best suits them individually. Schools are given considerable flexibility in the way they structure the primary program. One component of the primary program addressed multi-age grouping, an approach being implemented in a variety of ways by schools.

A June 1999 survey by the state Department of Education included 94 percent of the 754 schools with primary-age students. According to the survey findings:

- The most common arrangement is dual-age groupings, which could mean 6- and 7- or 7- and 8-year-olds, that include 5-year-olds part of the time.
- The second most common arrangement is dual-age groupings and separate classes for 5-year-olds.
- About one-fifth of the schools with primary-age students teach the students in single-age groups.
- The least common arrangement is to include all 5-, 6-, 7-, and 8-year-olds in the same class.





Extended School Services

To give every student every possible opportunity to learn, Kentucky's educational system includes extended school services.

These services are designed to give students who need it additional time to meet the state's learning goals. Local districts receive state grants for the services, and school-based councils design the curriculum and help decide how the programs will be structured. State department reports indicate that students receiving extended services make academic progress. However, more information is needed before a determination can be made on whether extended hours are as productive as they could — and should — be.

- Students who received additional instruction during the 1997-98 school year: 156,665.
- Students served in 1998 summer school programs: 41,432.

Preschool Programs

Another critical part of Kentucky's education fabric is a preschool program for at-risk 4-year-olds and 3- and 4-year-old children with disabilities.

The number of eligible children served under the program increased from 14,019 in 1990-91 to 30,501 in 1997-98. Recent reports reveal that 77 percent of Kentucky's at-risk 4-year-olds and 98 percent of 3- and 4-year-olds with disabilities are now participating in preschool.

Research also is documenting the positive effects of this early intervention, effects that remain with the children throughout their first years of elementary school.

"Children make significant progress in their overall development, social skills, and early literacy during the year they are in the Kentucky Preschool Program. The gains that participants make during their preschool experience persist so that preschool program participants do as well as their classmates from higher income families throughout their primary school career."

"Differential Effects of the Kentucky Preschool Program"
Kentucky Preschool Evaluation Project,
University of Kentucky

Teachers & Teaching

More than any other professional group, Kentucky teachers have been responsible for guiding our children and schools through the educational improvement process of the last decade. As we look back at the years since reform was enacted, issues of teacher quality are therefore paramount.

They have been asked to adjust their thinking, teaching styles, and classroom techniques to ensure the academic progress of all students. Many of Kentucky's teachers have responded with energy and creative thinking.

"Teachers across Kentucky have been working hard for almost a decade to translate the demands of education reform into instructional practices that increase student learning," notes Jane L. David, director of the Bay Area Research Group in Palo Alto, California. "To make these changes, teachers have had to develop their own curricula — with little guidance in the early years.... It is far more difficult to plan a lesson that engages students in interesting and challenging activities designed to teach important ideas than to lecture from a textbook."

More than any other factor, the public believes teacher quality is of critical importance to the academic success of students. The area has drawn a great deal of attention in recent months in Kentucky. A legislative task force recently released the framework of a proposal for professional improvements that the 2000 General Assembly is expected to consider. And earlier in the summer, the Prichard Committee previewed its recommendations on improving teacher quality — the result of a year-long study — in *Teaching for Kentucky's Future.*

Rick McComb - Kentucky Department of Education

"Teacher quality is the neglected child of school reform in Kentucky," the committee said. "Failure to deal with it will mean failure to achieve the grand vision established for this Commonwealth in 1990 — reaching each and every child with high quality education regardless of where they live."

The committee's recommendations are included in the final chapter and appendix of this report.

The time and resources committed to developing strategies for improving teacher quality clearly indicate its priority status.

Some of the financial challenges of the teaching profession in Kentucky are being addressed through salary increases and more funding for schools, although much remains to be done if teacher salaries are to be competitive with other professions.

A number of factors contribute to quality teaching — preparation, professional development, retention, incentives — and these are the areas that must improve if we are to continue to move toward academic excellence.

High priorities

A fall 1998 poll by Louis Harris asked the public to identify their educational priorities.

90% selected ensuring a well-qualified teacher in every classroom.

77% cited a challenging curriculum.

71% chose strict discipline.

56% chose reduced class size.

Compensation

Teacher salaries have shown growth since Kentucky began its school-improvement initiative in 1990, moving the state from a 38th place national ranking in 1989-90 to 30th in 1996-97, according to the National Education Association. The increase is a direct result of the state's commitment to enhancing teacher compensation as part of its reform plan, and most gains occurred between 1990 and 1992. Larger increases were seen in areas of Kentucky where funding was equalized by the new SEEK formula.

Teacher salaries in Kentucky range from $42,000 to $43,000 for those with the most experience and highest ranking to between $24,000 and $30,000 for teachers who are early in their careers. (Source: *Kentucky's Teachers: Charting a Course for KERA's Second Decade.*)

Average Teacher Salaries, Selected Years

Year	KY Average	US Average	KY as % of US
1989-90	26,292	31,367	83.8
1990-91	29,115	33,114	88.0
1991-92	30,869	34,063	90.6
1992-93	31,115	35,029	88.8
1993-94	31,625	35,819	88.3
1994-95	32,434	36,933	87.8
1995-96	32,934	37,560*	87.7
1996-97	33,797	38,509*	87.8

Sources: Kentucky Department of Education; *Digest of Education Statistics, 1997* (Washington, DC: National Center For Education Statistics, 1998) from *Kentucky's Teachers: Charting a Course for KERA's Second Decade*
*Estimates

Preparation

Professional Standards

Twenty-six of Kentucky's colleges and universities have teacher education programs that prepare most of the state's new teachers. The majority of new teachers — nearly 80 percent — are educated at the state's eight public universities with the rest coming from independent colleges or schools in other states.

Under Kentucky's education reforms, these institutions are changing their preparation programs to meet standards originally adopted in 1993 and revised in 1994 by the state Education Professional Standards Board. These standards identify what new teachers should know and be able to do — much as the state's academic standards establish expectations for student performance.

Cumulative Effects of Teacher Quality on Fifth Grade Math Scores in Tennessee

Students with 3* very ineffective *teachers in successive years: 29% gain

Students with 3* very effective *teachers in successive years: 83% gain

William L. Sanders and Joan C. Rivers in *Results*, National Staff Development Council, March 1999

Education students prepared in standards-based programs must demonstrate to their colleges' satisfaction that they possess a certain level of skill and knowledge before they will be permitted to graduate and enter the teaching profession. There are, however, no consequences for colleges and universities if large numbers of their students fail to meet these standards. Much remains to be done to improve teacher preparation.

"Responsibility for improving the schools was placed squarely on the shoulders of teachers and principals. Responsibility for making sure they were making progress remained in the state capital."

Financial World, May, 1992

Too many Kentucky students receive instruction from teachers who have not studied the subjects they are teaching. As explained in *Kentucky's Teachers: Charting a Course for KERA's Second Decade:*

> "The logic here is rather straightforward. It is assumed that to teach an academic discipline well, an individual must have studied that topic at a level more than one or two steps beyond what must be taught. A relatively simple benchmark for how much study is enough has for years been studied at the level of at least a college minor."

Rick McComb - Kentucky Department of Education

National Test Scores

All prospective teachers are required to take a national examination, known as Praxis, that measures their knowledge of specific subjects as well as their general knowledge and communications skills. Their performance must exceed a state-established passing score before they may begin teaching, and middle and high school teachers must be certified in the subjects they will teach.

Most graduates of Kentucky's teacher education programs pass the tests, but the failure rate varies according to subject. In 1996-97, for example, no one failed the examinations on health education, mathematics, and technology education, but 62 percent failed physics, 31.25 percent failed social studies, and 22.45 percent failed the chemistry content knowledge exam. (Passing scores vary according to subject.)

Overall, prospective Kentucky teachers scored at or above the national median in only 13 of the 40 tested categories in 1996-97, according to the Office of Teacher Education and Certification.

New passing scores will take effect in Kentucky in January 2000, reflecting tougher requirements established by the Education Professional Standards Board. The scores will move Kentucky closer to the national median.

Percent of public high school teachers with less than a minor in the field they teach, 1993-94

	Math	Science	Social Studies	English	Foreign Lang.	Voc Ed	Arts/ Music	Phys. Ed	Life Science	Phys. Science	History
KY	28.3	15.9	17.0	27.2	—	21.7	18.5	—	—	40.1	30.9
U.S.	28.1	18.2	17.8	21.5	13.7	18.0	20.4	14.6	31.2	54.7	51.8
Contiguous States	25.7	19.2	19.6	20	10.7	17.2	24.4	11.9	37.9	50.4	61.1

Source: *Kentucky's Teachers: Charting a Course for KERA's Second Decade*

Alternative Certification

Allowing people with a variety of life experiences to become teachers without years of formal training is the objective of Kentucky's alternative certification program. There are several possible avenues an individual may use to become an elementary or secondary teacher with alternative certification. For example, a college faculty member or someone with exceptional work experience could begin a second career as a high school teacher, or a district could hire someone as a part-time teacher and provide training and support as they work to become certified in elementary or secondary education.

Since 1990, 104 teachers have been certified through the local training program; 30 college faculty members have been certified since 1996; and 19 people have entered the teaching profession through exceptional work experience. These numbers are lower than the Kentucky General Assembly expected when alternative certification was enacted.

More technology training needed

Kentucky schools have one computer for every 1.9 teachers, but teacher education and training in technology is considered a weak area. Kentucky teachers attended an average 8.1 hours of technology training during fiscal year 1999. The national average was 12.8 hours. In a 1998 survey of new teachers, 26% said they received moderate, poor, or no preparation in using technology, and 48% said they were poorly prepared to integrate technology into the classroom.

Kentucky PRAXIS II Results, 10-1-96 through 9-30-97

Subject Area	KY Passing Score	KY Median	National Median	% of KY Failures
Education in Elementary Schools*	510	630	630	1.03%
Elementary Education	143	178	179	0.00%
Early Childhood Education*	480	630	650	1.40%
English Language and Literature*	510	520	590	30.77%
English Language, Literature & Composition	138	175	177	1.28%
English Language: Lit Comp Essays	135	153	160	5.60%
Technology Education	570	605	660	0.00%
Mathematics*	500	620	600	0.00%
Math Content Knowledge	141	142	137	42.18%
Math Proofs, Models, etc.	141	155	160	20.45%
Social Studies*	500	545	600	31.25%
Social Studies: Content Knowledge	146	162	168	12.05%
Social Studies: Interpretation of Materials	150	161	166	14.90%
Physical Education*	548	625	620	12.50%
Physical Education: Content Knowledge	152	155	154	35.66%
Physical Education: Movement Forms	135	152	153	3.31%
Business Education	570	630	630	5.63%
Music Education	519	620	620	3.19%
Home Economics Education	540	600	650	10.53%
Art Education*	510	630	620	10.00%
French	510	575	610	11.11%
German	490	515	590	**
Spanish: Content Knowledge	145	163	176	17.78%
Spanish: Productive Language Skills	156	146	173	59.52%
Biology: Content Knowledge, Part 1	139	165	167	1.12%
Biology: Content Essays	139	146	151	20.88%
Chemistry: Content Knowledge	144	151	150	22.45%
Physics: Content Knowledge	141	139	122	61.90%
Library Media Specialist	590	670	670	3.03%
Speech Language Pathology	450	660	670	0.00%
Special Education*	500	610	620	6.41%
Special Education Core Principles	127	152	156	0.00%
Special Education: Emotional Disturbances	147	161	164	**
School Psychology	630	700	700	3.23%
Education Administration & Supervision	540	700	680	2.27%
General Science Content Knowledge Part 2	150	163	158	10.61%
Communication Skills*	646	661	662	6.60%
General Knowledge*	643	657	657	7.68%
Professional Knowledge*	644	662	663	3.49%
Health Education	550	675	710	**

*Tests were being replaced.
**Not available due to sample size under 10.

Source: KY Department of Education

Attitudes and Expectations

Surveys of new Kentucky teachers during the past three years have found the majority of them concluding that the state's colleges and universities had prepared them very well to teach. They did not, however, feel as well prepared to deal with specific elements of the reforms put in place in 1990, according to a Wilkerson & Associates survey conducted for the state Department of Education.

Findings of the 1998 survey included:

- 95% of new teachers said they were extremely to moderately well prepared to teach in public schools.
- 94% said they were teaching in the subject area in which they were certified.
- 63% said they were extremely to moderately well prepared to teach writing portfolios.
- 67% said they were extremely to moderately well prepared to participate in school-based decision making.
- Less than half said they were well prepared to teach children from diverse backgrounds, use tests to measure student achievement, and to discipline students.
- New teachers trained at independent colleges expressed the most confidence.

Professional Development

Simply put, Kentucky is spending a lot of money on professional development. About $23 per student, or a total of $15 million is earmarked in the state budget during each year of the current biennium. For comparison, before the state enacted its education reforms in 1990, approximately $500,000 was allocated to fund professional development programs statewide each year. Each state budget between 1990 and 1995 included a regular increase in money to help teachers enhance their professional skills. It is important to note that the total figures do not include professional development money provided at the local level. Although there is no statewide tracking system for these funds, they undoubtedly amount to hundreds of thousands — if not millions — of dollars each year.

In the years immediately following the enactment of the state's reforms, legislation mandated that professional development — formerly known as in-service training — focus on helping teachers understand and implement specific components of the new system.

That mandate has since been removed, leaving schools and districts free to customize professional development to meet the needs of teachers and to help them improve the academic performance of their students. A missing piece, however, is standards for professional development programs. In *Teaching for Kentucky's Future*, the Prichard Committee has recommended that the state Education Professional Standards Board be authorized to establish such standards and that they be closely linked to those required by the National Board for Professional Teaching Standards.

A study commissioned by the Partnership for Kentucky Schools and the Prichard Committee noted that Kentucky has made strides in professional development.

But the researchers also pointed out that, "much of professional development continues to be stand-alone

"Adult learning is not something you go out and do for a few minutes."

Jane L. David, director of the Bay Area Research Group, Palo Alto, Calif.
Lexington Herald-Leader
April 2, 1999

workshops of short duration with no formal follow-up. The need persists, therefore, for teachers to have learning opportunities that are tied more closely to their classrooms, involve analyzing practice with their peers, and deepen their knowledge of curriculum content."

Among the study's interim findings:

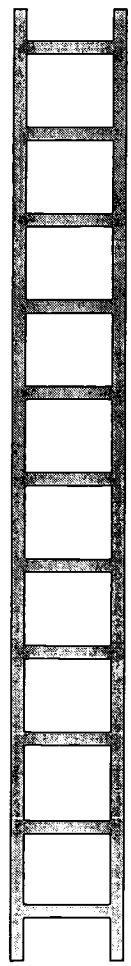
- Current policies — including required hours that teachers must accumulate — reinforce traditional views of professional development and limit the options that are considered.
- Current professional development activities are more focused on techniques and procedures rather than helping teachers extend their knowledge of curriculum content and how to teach it.
- Kentucky's assessment system drives professional development planning at most schools that were studied.
- More promising models of professional development involving intensive, collegial experiences are emerging.
- Promising options for professional development are difficult to implement in many schools.

Recruitment and Supply

As is the rest of the population, Kentucky's teaching force is aging. A 1997 estimate projected the possible retirement of one-fourth of the state's teachers in just a few years, resulting in a high demand for teachers who are now receiving their education.

At this point, Kentucky generally has enough teachers overall, but shortages exist in some specialized areas. The state's "teacher training institutions long have produced more graduates than are needed in the state's public schools, and the teacher workforce has remained stable with only a 6 or 7 percent turnover rate in most years," according to a recent report. The report was prepared for a state committee working with the National Commission on Teaching & America's Future, or NCTAF.

The challenge is in filling available positions with qualified teachers. *Teaching for Kentucky's Future* notes that "serious shortages exist in specialized teaching fields like math, science, and special education. There are serious shortages of minority teachers and administrators. Other shortages occur in geographic locations or for schools with students who are most difficult to teach." There is also a shortage of well-qualified applicants for principals' positions.



Comparison of Teacher Salaries with Those of Occupations Requiring Similar Educational Preparation Levels

Occupation Title	Mean Hourly Wage, 1996
Law Clerks	$8.79
Clergy	$14.13
Reporters and Correspondents	$15.24
Teachers/Instructors, Vocational Education & Training	$15.87
Instructional Coordinators	$16.58
Administrative Services Managers	$17.79
Teachers, Special Education*	$18.09
Teachers, Elementary School*	$18.69
Teachers, Secondary School*	$19.07
Criminal Investigators, Public Service	$19.09
Mining Engineers, Including Mine Safety	$22.06
Occupational Therapists	$23.17
Marketing, Advertising, & Public Relations Managers	$24.35
Sales Agents, Securities, Commodities, & Financial Services	$32.84

*The hourly wages were adjusted to reflect a 9 1/2 month work year.

This analysis is based on a sample of 80 occupations that require at least a bachelor's degree. The data were obtained from the Workforce Development Cabinet.

Source: *Kentucky's Teachers: Charting a Course for KERA's Second Decade*

"Good professional development means living one's life as a professional where you constantly analyze the work that needs to be done and have access to resources to do that. It's a way of learning all the time."

Tony Alverado
Deputy Superintendent, San Diego Public Schools

Minority recruiting

Kentucky has increased its efforts to recruit minority teachers in recent years, but the need remains unmet. "About 10 percent of Kentucky public school students are minorities, but only about 4 percent of the teachers are," the NCTAF committee report noted. "In 1994-95, for example, the state needed an additional 2,974 black teachers to bring their representation to the same percentage as that of black students."

The 1992 General Assembly created the Division of Minority Educator Recruitment and Retention, allocating $400,000 a year for personnel and programs. The appropriation has grown in the current fiscal year to $2 million, much of it dedicated to a scholarship program that awards up to $5,000 a year to minority teacher-education students. Approximately 600 students are currently receiving the scholarships. Students must meet certain criteria to qualify and must agree to teach in Kentucky one year for each year of scholarship funding received.

An Administrative Leadership Institute identifies currently certified minority teachers who wish to become principals and superintendents. The first principal class of 15 members graduated in July 1999 from the collaborative effort of the Kentucky Department of Education, the Kentucky Alliance of Black School Educators, and Western Kentucky University. Five teachers participated in the inaugural superintendent's program. No Kentucky school district employs a minority superintendent at this time.

National certification

Kentucky has only twelve teachers who have earned certification from the National Board for Professional Teaching Standards. To be certified, teachers demonstrate their skills and knowledge through a year-long series of assessments that include teacher portfolios, student work samples, videotapes, and analysis of their classroom work and student learning. Teachers also must complete written exercises that measure how well they understand their subjects and how to teach those subjects to students. Nearly 2,000 teachers have been certified in the nation since 1987. The Prichard Committee has recommended that funds be set aside to encourage teachers to obtain national certification.

Minority recruiting efforts

1994-95 minority enrollment in teacher education programs: 398

1994-95 minority graduates: 105

1997-98 minority enrollment: 1,008

1997-98 minority graduates: 245

Source: KDE Division of Minority Educator Recruitment & Retention, October 1998

Schools & Communities

High academic standards, effective teachers, increased funding, and other improvements can do much to move Kentucky toward educational excellence. But the lives of children, and their ability and willingness to learn, are influenced by an array of factors: income level, health, crime, home stability, and others. Many of these things are far removed from the influence of schools and educators.

Rick McComb - Kentucky Department of Education

Simply put, schools do not exist in a vacuum. Each one is part of a community of citizens, businesses, churches, and other public and private organizations that creates a local climate for learning. All members of these communities must work in concert if Kentuckians are to overcome the societal and cultural obstacles that hinder the ability of all students to achieve.

As the Prichard Committee noted in its 1985 report *The Path to a Larger Life*, "...schools cannot be set apart from the community and cannot be immune to its condition; while some of these (societal) conditions can be accommodated or responded to by schools, schools alone cannot prevent them."

The Prichard Committee reaffirms today what it stated then. "If we truly believe that Kentucky's people are its most valuable resource, then we must make a new commitment to all of our children and a new investment in their futures."

What's different?

By establishing a public education system that stresses results and measures whether schools achieve them, Kentucky's education reform placed a special burden on the public. The idea is a very old-fashioned one in our democratic society. If citizens and parents are given understandable information about how well their schools are doing, they will respond to that information. If their schools improve, they will encourage them. If their schools do not improve, they will demand that they do. In short, parents and citizens must be sure that their schools improve and that there are high expectations for all students.

Doing that will require a renewed effort by all members of Kentucky's communities — locally and in the state as a whole — to support, supplement, and reinforce the work of our schools by creating an environment of educational excellence for all children.

The need is particularly great in Kentucky, where poverty persists as an impediment to the development of "learning-ready" children. Kentucky ranks 42nd nationally in child poverty and equally low in most other indicators of child wellbeing. The state is 41st overall in the latest *Kids Count* report.

	KY	US
Children in poverty, 1996	25%	20%
Children in extreme poverty (income below 50% of poverty level), 1996	12%	9%
Median income of families with children, 1996	$33,900	$39,700

Source: 1999 *Kids Count*

"Problems in Kentucky's economy, political system, and families may be traced to the condition of Kentucky's children from their earliest years."

The Path to a Larger Life
The Prichard Committee for Academic Excellence, 1985

"The power of this reform is to change the structure of civic life fundamentally," said Faye King of Stanton Elementary School in Powell County, Kentucky's 1997 Principal of the Year.

Congressional Quarterly
February 26, 1998

Early childhood

An investment in our youngest children is an investment in the state's economic future. Far more than a cliché, this statement represents a demographic reality: Kentuckians are getting older. Projections by the Kentucky State Data Center show that the state's largest population groups in 2020 will be made up of people who are 50-59 and 60-69 years old. Meanwhile, the smallest groups under age 70 will be those whose members are 0-9 and 10-19 years old. This means that smaller numbers of young workers will be supporting larger numbers of retired people.

Kentucky never could afford to miss an opportunity to invest in the well-being of a child, and that is especially true today.

"In a state like Kentucky the quality of education will improve only as the condition of the population improves," the authors of *The Path to a Larger Life* noted. "And since this condition grows out of the childhood years, we must openly acknowledge that substantial improvement may occur early, and that it will show results only over many years, perhaps even a generation."

The need for the earliest possible attention to the youngest Kentuckians is reinforced by recent brain research findings:

- 90% of brain growth occurs during the first three years of life.
- The majority of a child's patterns for learning will be developed, with the proper stimulus, during the first three years.
- Brain development can be harmed by stress, the absence of a nurturing caregiver, and the lack of appropriate stimulation.

At this time, Kentucky has undertaken its most ambitious effort to improve the condition of young children in 30 years. The Prichard Committee strongly supports the efforts of the Governor's Early Childhood Task Force to address critical issues in the areas of maternal and child health, supporting families, enhancing early child care and education, and program coordination. Sweeping recommendations from this group of experts, business people, and legislators will be announced soon, and we do not repeat those recommendations in this report.

Family Resource and Youth Services Centers

The changes Kentucky made in 1990 put in place programs that encourage the direct involvement of citizens and communities in their local schools. Included on the list are Family Resource and Youth Services Centers, facilities that use local resources — either through direct assistance or networking — to help students succeed in school.

In countless large and small ways, these centers connect schools with their communities in one of the state's most notable education success stories.

- In one county, the services include assistance with a reading program that helps prepare children — the very youngest children — for learning.
- In another, a local effort matches low-income children with vision problems with community resources to ensure the students have eyeglasses.
- Around the state, the focus is on getting out the word about a new program that provides free health care to children in low-income families.

Parenting classes are offered in all Ohio County schools through the youth services centers. "It's good for parents to know they aren't the only ones having problems," said county center coordinator Judy Bevil. "So many parents wait until there is a family crisis before they seek help, and then it may be too late. So many people feel they don't need to take advantage of the programs because they don't think it will ever happen in their family, but there's always that chance."

***Owensboro Messenger-Inquirer,* July 18, 1998**

At least 20 percent of a school's students must be eligible for free meals before the school qualifies for a center. State law mandates that certain services be provided, but the centers have flexibility in how they deliver those services.

Family Resource Centers serve children through the age of 12 and must provide programs that address:

- preschool child care for 2- and 3-year-olds,
- after-school day care,
- education for new and expectant parents,
- parent and child education,
- support and training for child care providers, and
- health services or referrals to health services.

Youth Services Centers serve children over the age of 12 and must provide programs that address:

- employment counseling, training, and placement,
- summer and part-time job development,
- drug and alcohol abuse counseling,
- family crisis and mental health counseling, and
- referrals to health and social services.

A statistical look at the availability of center programs, based on 1998-99 data from the state Department of Education, shows:

- 602 centers served 961 schools, or about 80 percent of those eligible schools.
- Almost half, or 48 percent, of the 444,000 students in these schools were eligible for free school meals.
- 424 centers were in rural areas, 98 in urban areas, and 78 in suburban locations.
- There were 312 Family Resource Centers, serving children through age 12; 166 Youth Services Centers, serving children over 12; and 124 combined centers.
- State grants awarded to the centers totaled approximately $39,713,600. Individual grant awards ranged from $10,000 to $90,000 and averaged $70,000.

Rick McComb - Kentucky Department of Education

Limited resources threaten the future effectiveness of these centers. Their funding, limited from the outset, has not increased substantially since 1990.

School-Based Decision Making

"Site-based management may be the most significant reform of the decade — a potential force for empowering educators and communities," Jane L. David, director of the Bay Area Research Group in Palo Alto, California, wrote in 1996.

Virtually all schools are required to establish councils to decide locally how individual schools would be run. Each council consists of three teachers, two parents, and the school principal, who serves as chair.

Kentucky's education system is designed to reach all children by establishing standards, accountability, and new resources at the state level and pushing decisions on how to reach those goals to the local level. Local school councils and school boards are the decision-making bodies that are to do this work. Decisions made by school councils determine, among other things, what curriculum a school will use, how many teachers it will hire, what its disciplinary policy will be, and what extracurricular activities it will offer.

School management decisions now made by councils had previously been the province of local school boards, and the change prompted concerns about turf battles or other conflicts. But the legislature's Office of Education Accountability gave the following assessment of school-based decision making, or SBDM, in its 1998 Annual Report: "Implementing SBDM in almost 1,200 schools has been extremely challenging for all stakeholders; however, it has probably met with less resistance than anticipated.

"While it has meant new roles for teachers, principals, school administrators, school board members, and parents, most have approached the task with an open mind and an eagerness to learn their new role. The incidences of blatant resistance have been minimal, and the anticipated conflict between school boards and school councils has been almost nonexistent.

"Commitment of school officials and advocates at the local, regional, and state level has resulted in remarkable progress in decentralizing the governance structure of education in Kentucky."

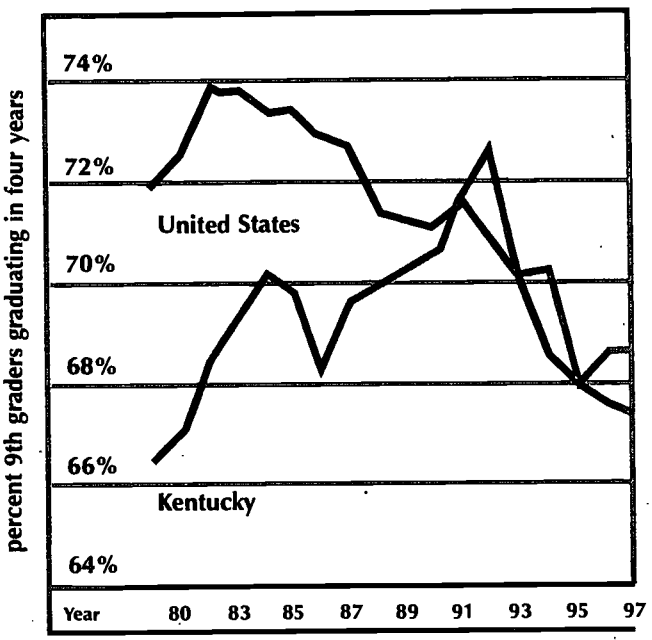
The school councils have drawn parents more directly into the education decision-making process and given teachers more policy-making authority in their schools. However, councils have been slow to change the academic practices of most schools, indicating a clear need for better training of council members in interpreting test scores and developing strategies for improvement.

School-Based Decision Making

- 1,224 schools are managed by school councils.
- 64 schools have "alternative" council models in place, meaning their make-up is different from the standard three teachers, two parents, and principal membership.
- 8 schools are the only schools in their district, automatically exempting them from the school-based council requirements of state law. Another 19 schools are exempt because of their consistently strong academic performance.
- Approximately 3,900 teachers serve on school councils.
- Approximately 2,800 parents serve on school councils.
- There are approximately 700 minority teachers and parents on school councils.
- Approximately 24,000 teachers participate on councils or council committees statewide.
- Approximately 15,000 parents participate on councils or council committees statewide.

Source: KY Department of Education, 1999

How Many 9th Graders Graduate in Four Years?



Source: *Making It To Graduation: A Cohort Survival Analysis of Kentucky Public High Schools*, Thomas G. Mortenson, August 1999

Public support for schools

A fundamental requirement for successfully engaging communities on behalf of educational improvements is public support for schools and the work they do. A poll conducted in early spring 1999 for the Kentucky Institute for Education Research sought the opinions of both citizens and educators on various aspects of the state's educational system as well as the performance of schools.

The groups polled were:

- school board members,
- principals,
- teachers,
- school council parents, and
- the general public.

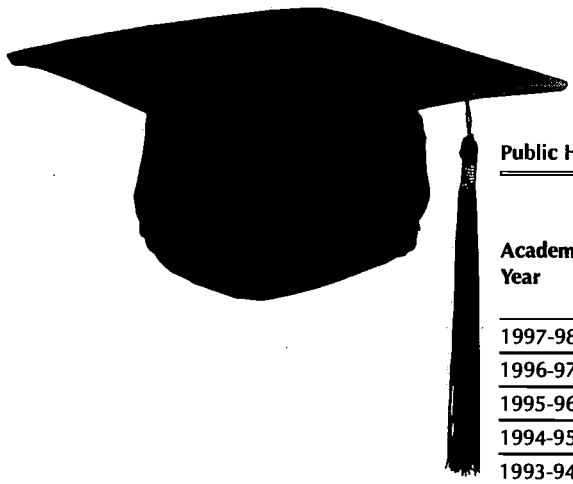
Specifically addressing perceptions of local school performance, the poll respondents were asked how well they think schools are doing preparing students for various roles after high school graduation. Among those findings:

- More than half of each group — ranging from 81 percent of school board members to 65 percent of the general public — believe students are being very or moderately well prepared for college.
- More than half of each group — ranging from 82 percent of school board members to 58 percent of the general public — believe students are being very or moderately well prepared for work.
- More than half of each group — ranging from 87 percent for principals to 57 percent of the general public — believe students are being very or moderately well prepared to be self-sufficient after high school.
- More than half — ranging from 95 percent of principals to 69 percent of the general public — believe schools are doing very to moderately well teaching the basic skills of reading, writing, and math.

Graduation rates

Although slightly ahead of the national average, Kentucky continues to struggle with an unacceptably high dropout rate. This is a particularly important challenge for communities, whose economic viability rests on the skills and productivity of future workers. Our recommendations on reading and teaching improvement, if implemented, will increase high school graduation. Also needed are special school and community initiatives aimed at preventing dropouts.

A recent study commissioned by the Prichard Committee analyzed 20 years of high school enrollment data to determine the extent of the challenge the state faces in keeping its young people in high school until graduation. This study looked at cohort survival rates — information that reveals whether a particular group of students stays in school from ninth-grade enrollment through graduation.



Public High School Graduation Rates: Kentucky and United States 1980-81 to 1997-98

Academic Year	Kentucky Fall 9th Grade Enrollment	Kentucky Regular High School Graduates	Kentucky High School Graduation Rate	Kentucky State Rank	U.S. High School Graduation Rate
1997-98	55,758 ('94)	38,282	68.7%	30	67.5%
1996-97	54,502 ('93)	37,456	68.7%	31	67.7%
1995-96	53,819 ('92)	36,641	68.1%	33	68.1%
1994-95	53,502 ('91)	37,588	70.3%	31	68.6%
1993-94	50,959 ('90)	35,777	70.2%	35	70.1%
1992-93	50,010 ('89)	36,360	72.7%	33	71.1%
1991-92	48,563 ('88)	34,945	72.0%	35	71.7%
1990-91	51,188 ('87)	36,206	70.7%	36	71.1%
1989-90	55,038 ('86)	38,693	70.3%	34	71.3%
1988-89	57,749 ('85)	40,435	70.0%	37	71.4%
1987-88	57,180 ('84)	39,849	69.7%	39	72.7%
1986-87	54,428 ('83)	37,189	68.3%	42	72.9%
1985-86	54,090 ('82)	37,762	69.8%	39	73.4%
1984-85	54,869 ('81)	38,532	70.2%	40	73.4%
1983-84	56,989 ('80)	39,468	69.3%	40	73.8%
1982-83	59,727 ('79)	40,839	68.4%	42	73.9%
1981-82	63,618 ('78)	42,636	67.0%	44	72.6%
1980-81	63,472 ('77)	42,234	66.5%	42	71.9%

Source: *Making It To Graduation: A Cohort Survival Analysis of Kentucky Public High Schools*, Thomas G. Mortenson, August 1999

Among the study's findings:

- Currently, about one third of Kentucky's enrolling ninth graders in public high schools will not graduate with their classmates.
- Until the late 1980s, Kentucky stood well behind the nation in the chance that a ninth grader would become a regular high school graduate.
- The gap between Kentucky and the nation closed rapidly in the late 1980s, and by 1991-92 Kentucky's graduation rate rose above the national rate. It has remained there, except for one year, ever since.
- In 1997-98 Kentucky ranked 30th among the states in graduation rates, compared to a rank of 42nd in 1980-81.
- By any fair measure, Kentucky has made progress over the last two decades in improving the rate at which its public high school students graduate. The rate of gain is small, but it occurred at the same time that the national graduation rate was deteriorating sharply.

The complete study is included in the appendix to this report.

Community and citizen initiatives

A state that establishes such high goals for its schools and hopes to overcome entrenched, historic problems must also have citizens and parents acting as aggressive advocates for public school quality. We believe that the engagement of the public has been a vital part of Kentucky's continued focus on education improvement and has contributed to academic progress thus far. But, although many necessary pieces are in place, we are still far away from the full mobilization of citizens, business people, and parents that is required to educate our children well.

From nonprofit organizations developing parent networks to improve academic progress to local school boards focusing on student achievement, a variety of initiatives in Kentucky focus on linking schools and communities in the cause of educational excellence.

The examples that follow do not represent a comprehensive list of activities and programs. They are intended simply to illustrate the types of projects that parents, civic and business leaders, educators, and others are involved in on behalf of better schools.

"...without engaging parents, communities, and educators in sustained discussion about the schools we want and the teaching we need, no research-based reform can succeed widely or for very long."

Linda Darling-Hammond,
***Educational Researcher*, Vol. 27**
January-February, 1998

Commonwealth Institute for Parent Leadership

This project of the Prichard Committee for Academic Excellence is developing a network of skilled parents who are engaged in grassroots efforts to improve the academic achievement of all students. Originated in 1997, the institute trains more than 200 parents a year to become active partners in their local schools. The parents' specific school involvement takes the form of projects that must improve student achievement, involve more parents, and have a lasting impact.

Learning Equals Earning

The Partnership for Kentucky Schools encourages employers to use school records — transcripts, portfolios, or any other record of effort, attendance, and accomplishment — as part of their hiring process. The objective is to send students the message that hard work in school will be rewarded with better employment prospects.

Summer Educators' Business Institute

The Northern Kentucky Chamber of Commerce has developed this program that puts 25 teachers to work for a week at various local businesses to gain a better understanding of what a modern workplace looks like and requires. The workplace experiences are designed to reinforce messages that teachers take to their students about the factors that really do make a difference when the students start looking for jobs.

Advancing Student Achievement Project

Also known as ASAP for School Boards, this program of the Kentucky School Boards Association gives local school boards new ways to measure and react to indicators of student learning. The program includes a toolkit of materials and data; information on evaluating local academic programs and progress; information on budget and planning issues, and other elements.

Parents and Teachers Talking Together

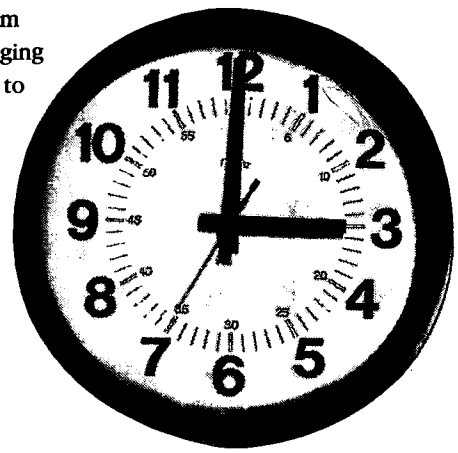
This structured dialogue brings parents and teachers into a conversation about education for their children. Since 1994, nearly 300 sessions have been held, involving more than 6,000 parents and teachers, to focus on what parents and teachers want for their students and what they need to do to get what they want. Established by the Prichard Committee for Academic Excellence, the conversations have resulted in activities that improve communication and working relationships between families and schools.

Difficult Ground

A collaboration of the Kentucky School Boards Association, the Kentucky Chamber of Commerce, and the Partnership for Kentucky Schools, this program focuses on encouraging community leaders to seek election to local school boards and supporting their efforts to improve education.

Community Education

Kentucky's Community Education program combines state training and local support to help communities address local problems and improve their schools. As of September 1999, 70 full-time coordinators worked with 102 school districts on community education efforts. Each program must include five elements: collaboration, access to schools by the public, a lifelong learning component, service learning, and volunteers. The program is operated by the Kentucky Department of Education.



Conclusions & Recommendations

Rick McComb - Kentucky Department of Education

As longtime advocates of educational improvement, the members and staff of the Prichard Committee for Academic Excellence have been immersed in an array of school programs, policies, and initiatives for nearly two decades. This level of involvement and attention to detail are necessary to ensure progress. But it is also important to lift our eyes from the finer points of the brush strokes to focus on the broad landscape of Kentucky education today.

To conclude this report, we offer our observations about Kentucky's educational landscape as well as recommendations in select areas that are of critical importance for future success.

A new way of thinking

Through the past nine years, Kentucky has developed a new mindset about how to make public policy in education. A direction established in 1990 continues today. There have been changes, updates, and revisions. But the course has been consistent and that, in and of itself, is noteworthy. The past practice was one of starting and stopping and starting again in a new direction, a reform-of-the-month syndrome that — not surprisingly — engendered skepticism at best and cynicism too often, especially among teachers.

Most, if not all, of the system of public education established in 1990 is now in place. It appears at this point that much of the most pronounced political and partisan debate has subsided. The state's full attention can and must turn to the most important challenge: improving teaching and student learning.

The fact is, Kentucky is nearly 10 years into this process and is just now in a position to expect substantial improvement in the classroom performance of students. This is a fundamental condition of the complex change that has been effected in Kentucky. The last place we will see solid evidence of significant differences is in the dramatic improvement of students' classroom performance. Almost all that has been done to this point has been the systemic foundation work, the overture to a symphony that now must start filling the hall.

The idea that schools and teachers are responsible for whether students learn, and not just for covering the material in their textbooks, is with us to stay. Now the challenge is to see that each child learns, and that is the hard part.

So, this is a critical point of transition for our schools. As this report reveals, Kentucky has achieved momentum toward its goal. Schools must now become institutions that focus relentlessly on the continuous improvement of teaching practice and student learning. It is the responsibility of school officials at all levels to see that this happens. Simply putting performance standards in place, as Kentucky has done, will not guarantee that student achievement increases. And this, as we have said before, is the hardest part of the task.

If we look beyond the fine points for broader signs of progress, we see:

- ☒ Many teachers have seized the opportunity to improve their teaching practices, to make their classrooms exciting and vibrant places for children. We can celebrate what one researcher calls their "spirit of innovation."
- ☒ The idea that meeting high academic standards is the way things are done in Kentucky schools has been accepted in many places.
- ☒ The public has generally accepted the value of increased investment in education — including that resulting from improved property tax collections — to get better results.
- ☒ In most schools there is planning to improve student achievement. "Achievement is the topic of discussion," says a teacher, "not who will buy the crayons."
- ☒ The Supreme Court's view that a "child's right to an adequate education is a fundamental one under our Constitution" has been incorporated into the thinking of and accepted in principle by those with influence over education policy.
- ☒ The idea that the entire education system — not just one piece or program — must be changed in a comprehensive way has been accepted.
- ☐ The largest portion of the education community has accepted reform as inevitable and desirable. When asked: "Would you return to the old ways?," most educators say no.
- ☐ There is general acceptance of changes in state governance, such as the employment of a professional commissioner of education. Efforts to eliminate nepotism and inappropriate political practices have been accepted.
- ☐ Student achievement has improved.
- ☐ The principle that schools and teachers should be held accountable and responsible for the quality of their teaching and other educational practices has generally been accepted.

Richard Elmore, a Harvard University researcher who has written widely about school change, says, "New systems are implemented within the context of existing teacher knowledge. ... Not surprisingly, the introduction of new systems of incentives doesn't change the way people think about their work overnight, and the processes required to change the way people think are often too complicated and too long term to interest reformers. As a result, there's little patience for the slow, slogging work that's required to help schools identify and solve their own problems."

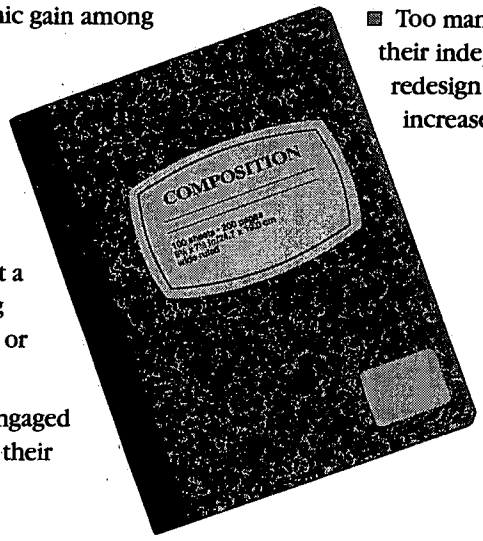
Keepin' On

The Prichard Committee for Academic Excellence, 1995

On the other hand, we still have a long way to go:

- There is not yet a mindset that recognizes continuous improvement as the focus of schools and professional educators. Too many educators say and believe, "We've done all we can do."
- The most visible results of reform have not required changes in teaching practices and have been, so far, the easiest to accomplish, even though they represent great progress for Kentucky schools. We now need to look for more demonstrated progress at the classroom and child level.
- Teachers know less than was expected about what to change in their classrooms and need effective training and leadership to teach as well as they are now expected to teach.
- Too few educators can explain how their classroom teaching practice affects results or suggest ways to change it. Programs that help teachers constantly improve their skills and knowledge are not commonly available or fully effective.
- There is a lack of adequate academic gain among students from the poorest regions, minority students, and the schools serving them.
- Investments in salaries and certain support areas have not increased enough in recent years.
- Postsecondary education is not yet a fully effective partner in improving elementary and secondary schools or preparing teachers.
- Too few families and parents are engaged as full partners in the education of their children, and the idea of broad community responsibility for educating all children has not become part of most communities' behavior.

Rick McComb - Kentucky Department of Education



- Too many school councils have not recognized their independence or the expectation that they will redesign curriculum and improve teaching to increase student learning.

Recommendations

As noted at the beginning of this report, the Prichard Committee has issued numerous reports and made recommendations in the years that have passed since Kentucky started redefining and restructuring its education system. Those recommendations are not repeated here.

Instead, at this critical point of transition, we focus on three areas that require special attention if we are to accelerate the improvement of all schools and reach our goals of high academic achievement by all students.

Reading proficiency

Kentucky schools are not teaching children to read well enough even though Kentucky's reading scores have improved more than most other states. Too many children enter middle school without the reading skills they need to master the academic content at that level. And from there, it is a downward spiral for these children as they struggle — with many of them failing — to catch up.

Poor reading skills lead to failure in high school and to dropping out. They result in low participation in postsecondary education and a high need for remedial education. And they produce adults who cannot read well enough to function in today's society, much less in the aggressively competitive economy of the future. One million working-age Kentuckians are either unable to read at all or have very limited to moderate reading ability, according to the state Task Force on Adult Education and Literacy.

The goal of Kentucky education is to break the cycle of illiteracy and ignorance over the next generation. How? By educating all children well. In the long run, high school completion will rise, and adult illiteracy will decline if all children learn to read well.

To get there, we recommend the following steps to improve students' reading skills:

- Make reading a policy priority. The people who make decisions about education in Kentucky must agree that early reading is fundamental and imperative if student academic achievement is to increase substantially in the future.
- Make reading a top priority in the early grades, varying instructional approaches and time spent on reading to meet individual student needs. State standards for assessing fourth grade reading must ensure that students have the skills they need to perform work at the next grade level.
- Make reading a priority for Extended School Services funds, especially for high-quality summer reading programs with small classes that are evaluated for results.
- Improve the preparation of new teachers to teach reading in the primary grades and beyond. Add reading to the skills assessed in the standards for new teachers. Hold colleges accountable for meeting standards in this and other areas.
- Prepare new teachers to use instructional techniques that are shown by research to be effective in teaching all children to read. Teachers should know how to use all approaches to teaching reading.
- Establish reading academies for primary teachers in which they spend enough time to improve their skills and learn how to teach reading and assess students' reading skills.
- Provide professional development for middle and high school teachers on reading instruction and provide reading specialists to work with teachers at these levels. Although the specialists could supplement teachers' efforts, it must be understood that all classroom teachers are responsible for reading instruction across the curriculum.

- Engage parents to the fullest extent possible to help children learn to read well. Use various programs and incentives to encourage parents of infants to read to their children. Establish community campaigns to encourage reading and limit television viewing.
- Make family literacy programs such as Parent and Child Education (PACE) and others that involve parents and young children accessible to every parent.
- Pool the resources and expertise of literacy-service providers under the coordination of the new Kentucky Literacy Partnership to implement these recommendations.
- Implement the recommendations of the Task Force on Adult Education and Literacy.

A more detailed discussion of Kentucky's reading challenges and these recommendations can be found in the appendix to this report.

Rick McComb - Kentucky Department of Education

Teaching

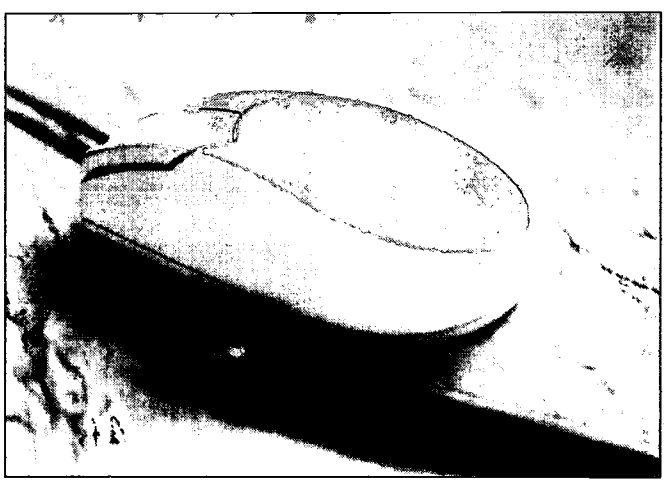
Teacher quality is the neglected child of Kentucky school reform. Failure to improve it will mean failure to achieve educational excellence for children in all parts of the state. Researchers emphasize that the bedrock of increased student learning is improved classroom teaching, which makes the excellent preparation and continuous development of teachers imperative. At its root, Kentucky's education system requires teachers who have the skills, knowledge, and desire to teach each child so each child learns.

To improve and enhance the quality, training, compensation, and professional development of Kentucky teachers, we recommend the following:

- Make one government agency responsible for teacher quality, give it enough money to do the job right, and require that it develop an improvement plan whose results can be measured.
- Create a new Education Professional Standards Board, with independence and a different membership composition.
- To improve partnerships among schools and postsecondary institutions: Strengthen the P-16+ Council, institutionalize it, broaden its representation, and set high expectations for its performance.
- To increase the availability of reliable information on which to base policy decisions: Support research and development, improve the means of obtaining data, make it available for all who need it, and create a Center for Teaching Excellence as a collaborative effort among teacher preparation programs.

- To improve teacher preparation programs and hold colleges and universities accountable: Define the desired results, adequately fund teacher preparation programs, close those that are not successful, and hold higher education accountable.
- Set high, clearly defined standards for the profession of teaching.
- Improve the quality of college teaching in all departments to provide appropriate models for new teachers, use schools as clinical settings similar to teaching hospitals, and strengthen teacher and principal internships.
- To recruit the best teachers: Improve hiring practices and induction, create a program to recruit talent from high-poverty areas, and develop programs to interest young people in teaching.
- Substantially redefine and recreate teachers' professional development so teachers know what to do to help students meet high academic expectations.
- Provide financial incentives for teachers seeking national board certification and salary supplements for those who achieve it.
- Provide salary increases based on knowledge and skills in a new compensation system.
- Give the Education Professional Standards Board the authority to set standards for professional development.
- Gradually make teaching year-round employment to include teacher learning and planning.
- Revise the teacher salary schedule to attract and retain talented people.
- Provide higher salaries and bonuses to attract teachers in areas of short supply such as science, math, and special education.
- Increase incentives to recruit and retain teachers from minority populations.

A full copy of the Prichard Committee report, *Teaching for Kentucky's Future*, is included in the appendix to this report.



Rick McComb - Kentucky Department of Education

Early childhood

"In a state like Kentucky the quality of education will improve only as the condition of the population improves. And since this condition grows out of the childhood years, we must openly acknowledge that substantial improvement may occur early, and that it will show results only over many years, perhaps even a generation."

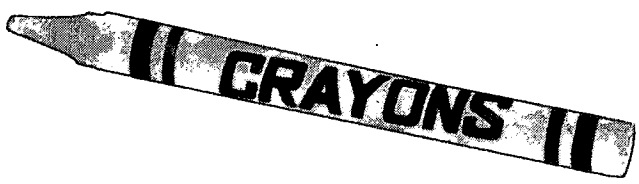
The Path to a Larger Life
The Prichard Committee for Academic Excellence, 1985

Vast amounts of evidence show that Kentucky's youngest children are not doing well. Far too many reach school age in poverty .The realities of their lives — poor nutrition and inadequate health and child care — leave them ill prepared to do well in school.

Meanwhile, increasing amounts of research show that the earliest years of life — long before children begin school — are critical times for brain development. If Kentucky's schools are to teach all children well, we must do much better for those children before they enter school.

We believe that this challenge is being addressed boldly by the Governor's Task Force on Early Childhood. Several Prichard Committee members and its executive director have served on that task force.

Recommendations from that group are to be released this fall. Rather than make recommendations on early childhood in this report, we applaud the work of the task force and are hopeful that its recommendations will be approved and funded.



Community involvement

As it has with so many other aspects of school and learning, Kentucky's education system has changed the way effective partnerships between schools and communities are defined.

The very nature of the Prichard Committee for Academic Excellence illustrates its belief in the importance of community involvement. As a group of citizen volunteers, the committee's perpetual focus has been on reaching citizens through community-based activities — whether the community is a single school or the state as a whole.

During the past nine years, parents, civic and business leaders, and other citizens have become more focused on academic achievement as they have become involved in school-related projects. Earlier in this report, we included several examples of such projects. But these community efforts must increase. Unlike other factors affecting schools, however, community support relies on the voluntary actions of citizens.

The vision Kentucky has chosen for its schools, as well as today's environment for raising children, puts new responsibilities on citizens, parents, and business leaders. To meet this responsibility, citizens and their communities must:

- renew and expand their commitment to schools and reject the view that educators alone are responsible for quality education,
- re-energize themselves, recruit new allies, and devise new approaches to reach and engage their fellow citizens on behalf of student achievement,
- recognize that dramatic academic advancement will take time to achieve,
- demand improved academic achievement, and
- demand that no child be left behind.

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Robert F. Sexton, Executive Director

Gaining Ground:

Hard Work and High Expectations for Kentucky Schools

Appendix

Analysis of Kentucky Test Data
Analysis of National Test Data
Making It To Graduation
Prichard Committee Report on Reading
Teaching for Kentucky's Future

The Prichard Committee for Academic Excellence

In collaboration with:
The Partnership for Kentucky Schools
The Kentucky Chamber of Commerce
November 1999

MEMORANDUM

Kentucky Association of School Councils
Susan Perkins Weston, Executive Director

TO: Robert Sexton
Prichard Committee for Academic Excellence

FROM: Susan Perkins Weston

DATE: June 15, 1999

RE: KIRIS Data on Improvement In Student Performance

KEY POINTS

You have asked for a review of Kentucky students' academic progress as shown in KIRIS data for 1993 through 1998. That review follows, with the following points appearing to me to be the most significant:

Good news about results to date

- ☆ Strong mathematics progress at the elementary, middle, and high school levels.
- ☆ Reading progress as an elementary school standout.
- ☆ Social studies and reading progress as high school standouts.

Issues that will need major attention

- ☆ Getting middle schools to start delivering substantial progress, with science as especially urgent.
- ☆ Understanding and changing the relatively weak progress on the writing portfolio.
- ☆ Closing the appalling gap between African-American and white students, especially in writing and science.
- ☆ Getting data on how well we are educating students from low income families and closing any gaps that we find in that data.

Details follow on these issues and a number of other aspects of what KIRIS can show us about our progress in improving what Kentucky's students know and are able to do.

Post Office Box 784, Danville, KY 40423 • Phone: 606/238-2188 • Fax: 606/238-0806 • Electronic Mail: kascouncil@aol.com

THE CONTENTS OF THIS REPORT

The report looks at KIRIS results first at the elementary level, then in middle school, and finally in high school. KIRIS stands for the Kentucky Instructional Results Information System, the assessment system we used through 1998 to determine what progress our students were making toward state goals.

KIRIS assessed reading, math, science, social studies, writing, arts and humanities, and practical living/vocational studies. Students were classified as novice, apprentice, proficient and distinguished. Novice work is well below state standards, while apprentice work is closer to the standard but still not the quality we are aiming for. Proficient work meets our standards, and distinguished work exceeds them. Schools also received a "content index," an overall score for each subject which was calculated by multiplying the percent novice by zero, apprentice by .4, proficient by 1, and distinguished by 1.4. Finally, they received an "accountability index" that combined all the content indices plus some data on attendance, dropouts and other nonacademic issues using a weighted formula.

In the reporting that follows, I have used three indicators of progress:

- ☆ Raising the school's "content index," which is the single number that places the school's performance for that subject on a scale of 0 to 140.
- ☆ Reducing novice performance, which is the lowest score a student could receive on KIRIS.
- ☆ Increasing proficient and distinguished performance, the two categories that meet or exceed state standards.

I have compared scores from 1993 with those from 1998, with one exception. The Department of Education advises against comparing writing scores from 1993 and 1994 with later years because of changes in assessment methods, so for writing alone this report makes comparisons starting with 1995 rather than 1993.

For some subjects at some levels, we also have data from the National Assessment of Educational Progress (NAEP), and I have noted how those scores compare with the KIRIS results.

In addition, the report reviews the 1998 KIRIS data sorted by race, gender, and disability, using novice performance as the number for comparison.

I was unable to obtain KIRIS data sorted by socio-economic status. In 1998, the Kentucky Department of Education collected data showing which students have qualified for free and reduced price lunches, but the Department did not analyze or report on results to schools or the public. Deputy Commissioner Gene Wilhoit and Associate Commissioner Scott Trimble have told me that their goal is to include that data in reports to schools starting with the 2000 scores on the new Kentucky Core Content Test.

KENTUCKY'S ELEMENTARY SCHOOL STUDENTS

Elementary schools helped our students make dramatic progress in reading from 1993 to 1998, along with substantial gains in math and science. They also helped students achieve moderate growth in social studies, arts and humanities, and practical living/vocational studies, and limited advances in writing. NAEP results also show Kentucky fourth graders improving their reading performance from 1992 to 1998 and their math performance from 1992 to 1996.

READING

Reading was the standout subject, with elementary schools lifting their overall score 26 points. (The overall score for each subject is formally called the Academic Index.)

The percentage of our students at the novice level in reading plummeted from 32% to just 5%, while the percentage of our students scoring proficient or distinguished climbed from 8% to 33%.

(Our NAEP scores also show significant improvement in reading, with our average scale score moving up from 213 in 1992 to 218 in 1998. That made Kentucky one of just five states to improve significantly from 1992 to 1998, and only one state (Connecticut) made a bigger improvement in its score than Kentucky. Our 1998 average scale score put us placed three points ahead of the national average.)

MATHEMATICS

Elementary schools moved their overall math scores up 22 points, from 22 in 1993 to 44 in 1998.

The percentage of our elementary students scoring novice in math dropped from 58% to 28%, and the percentage scoring proficient or distinguished grew from 7% to 20%.

(NAEP results also show significant improvement in math. We raised our average scale score from 215 in 1992 to 220 in 1996. We improved our scale score faster than the national average and faster than all but 8 of the 38 states who participated in both years.)

ELEMENTARY SCHOOL ACADEMIC INDEX RESULTS

	1993	1998	change
READING	32	58	+26
MATHEMATICS	22	44	+22
SCIENCE	18	37	+19
SOCIAL STUDIES	28	38	+10
ARTS & HUMANITIES	8	16	+8
PRACTICAL/VOCATIONAL	19	29	+10
	1995	1998	change
WRITING	33	38	+5

PERCENTAGE OF ELEMENTARY SCHOOL STUDENTS SCORING PROFICIENT OR DISTINGUISHED (MEETING STATE STANDARDS)

	1993	1998	change
READING	8	33	+25
MATHEMATICS	7	20	+13
SCIENCE	2	8	+6
SOCIAL STUDIES	8	15	+7
ARTS & HUMANITIES	1	3	+2
PRACTICAL/VOCATIONAL	2	6	+4
	1995	1998	change
WRITING PORTFOLIO	19	21	+2
WRITING PROMPT	3	5	+2

PERCENTAGE OF ELEMENTARY SCHOOL STUDENTS SCORING NOVICE

	1993	1998	change
READING	32	5	-27
MATHEMATICS	58	28	-30
SCIENCE	57	20	-37
SOCIAL STUDIES	43	29	-14
ARTS & HUMANITIES	81	68	-13
PRACTICAL/VOCATIONAL	54	38	-16
	1995	1998	change
WRITING PORTFOLIO	30	23	-7
WRITING PROMPT	72	61	-11

SOURCE: Elementary School Report provided by Mr. Scott Trimble. Overall scores from page 3 and percentages from pages 4-14.

SCIENCE

At the elementary level, the overall science score moved up 19 points, from 18 to 37 between 1993 and 1998.

Elementary schools generated this progress mainly by reducing novice performance, from 57% to 20%. The proportion of our elementary students scoring proficient or distinguished rose more slowly, from 2% to 8%.

OTHER SUBJECTS

Elementary schools delivered improvement in all subjects, with the following additional results

- In social studies, the elementary overall score rose from 28 in 1993 to 38 in 1998.
- In practical living/vocational studies, that score improved from 19 to 29 in the same period.
- In arts and humanities, that score improved from 8 to 16 in the same period.
- In writing, the elementary overall score rose from 33 in 1995 to 38 in 1998, with most of the improvement coming from reducing the percentage of novices both on the writing portfolio and on the writing prompt. (As noted earlier, the Department of Education advises against comparing writing scores from 1993 and 1994 with later years, so for writing alone this report makes comparisons starting with 1995 rather than 1993.)

KENTUCKY'S MIDDLE SCHOOL STUDENTS

Middle schools delivered dramatic progress for our students in mathematics, but moved far more slowly than high schools and elementary schools in improving student results on other KIRIS subjects. NAEP also shows our eighth graders improving in mathematics from 1990 to 1996, scoring slightly above national average in reading in 1998, and scoring slightly below national average in science in 1996.

As noted above, this data suggest that we may need special and intense efforts to ensure that middle school students make greater progress in the next few years.

MATHEMATICS

Overall mathematics scores climbed 28 points, from 23 in 1993 to 51 in 1998.

The percentage of our students at the novice level in math declined from 60% to 34%, and the proportion reaching the proficient or distinguished level climbed from 16% to 31%.

(NAEP also shows improvement in eighth grade mathematics, with our average scale score rising from 257 in 1990 to 267 in 1996. That improvement showed us improving faster than the nation as a whole and faster than all but 5 of the 31 states who participated in both years. In 1996, Kentucky was still below the national average scale score, but the gap had closed to just 4 points.)

READING

Reading was the next strongest subject for middle schools, with a 9 point increase in the overall score, from 38 in 1993 to 47 in 1998.

The percentage of middle school students scoring proficient or distinguished moved up from 11% to 15%, and the percent scoring novice declined from 20% to 6%.

(NAEP reported state-level scores for eighth grade reading for the first time in 1998. In that year, Kentucky had an average scale score of 262, as compared to a national average of 261. Although the difference was not statistically significant, it is new for Kentucky to be ahead of the national average.)

The middle school reading progress is a relatively weak improvement compared to elementary schools' 26 point improvement and high schools' 31 point improvement in their overall reading scores.

SMALL GROWTH

In three other subjects, middle schools showed much smaller progress in their overall scores from 1993 to 1998:

MIDDLE SCHOOL ACADEMIC INDEX RESULTS			
	1993	1998	change
READING	38	47	+9
MATHEMATICS	23	51	+28
SCIENCE	20	22	+2
SOCIAL STUDIES	29	33	+4
ARTS & HUMANITIES	20	24	+4
PRACTICAL/VOCATIONAL	16	20	+4
	1995	1998	change
WRITING	28	28	0

PERCENTAGE OF MIDDLE SCHOOL STUDENTS SCORING PROFICIENT OR DISTINGUISHED (MEETING STATE STANDARDS)			
	1993	1998	change
READING	11	15	+4
MATHEMATICS	16	31	+15
SCIENCE	2	1	-1
SOCIAL STUDIES	10	12	+2
ARTS & HUMANITIES	6	6	+0
PRACTICAL/VOCATIONAL	4	7	+3
	1995	1998	change
WRITING PORTFOLIO	15	13	-2
WRITING PROMPT	4	7	+3

PERCENTAGE OF MIDDLE SCHOOL STUDENTS SCORING NOVICE			
	1993	1998	change
READING	20	6	-14
MATHEMATICS	60	34	-26
SCIENCE	54	47	-7
SOCIAL STUDIES	43	35	-8
ARTS & HUMANITIES	59	53	-6
PRACTICAL/VOCATIONAL	66	63	-3
	1995	1998	change
WRITING PORTFOLIO	45	50	+5
WRITING PROMPT	68	46	-22

SOURCE: Middle School Report provided by Mr. Scott Trimble. Overall scores from page 3 and percentages from pages 4-14.

- 4 points in social studies.
- 4 points in arts and humanities.
- 4 points in practical living/vocational studies.

VERY SMALL GROWTH

In science, the middle school overall score moved up very slightly, from 20 in 1993 to 22 in 1998 and the percentage of our students scoring proficient or distinguished declined from 2% to 1%. The minor increase in scores came from a decrease in the percentage of our students in the novice category, from 54% to 47%. (In 1996, NAEP reported our 8th grade mean science scale score as 147 on a scale of 0 to 300, just below the national average of 148.)

NO GROWTH

In writing, the overall middle school score did not rise at all from 1995 to 1998, staying put at 28.

Middle schools delivered 1998 student portfolios that were weaker overall than those from 1995: the percentage of our students scoring proficient or distinguished (that is, meeting state standards) declined from 15% to 13%, and the percentage in the novice category rose from 45% to 50%.

Overall scores stayed even only because middle schools did improve results on the writing prompt, moving from 68% of students scoring novice down to 46%, and moving up from 4% of students scoring proficient or distinguished to 7%.

(As noted earlier, the Department of Education advises against comparing writing scores from 1993 and 1994 with later years, so for writing alone this report makes comparisons starting with 1995 rather than 1993.)

KENTUCKY'S HIGH SCHOOL STUDENTS

High Schools improved our students' performance in all subjects, with the biggest steps forward coming in reading, social studies, and mathematics, and an important smaller improvement showing in science. (There is no NAEP data allowing state-level comparisons of high school performance.)

READING

High schools' overall reading score shot up from 20 to 51 between 1993 and 1998.

The percentage of our high school students scoring proficient or distinguished in reading jumped from 4% in 1993 to 28% in 1998, and the percentage scoring at the novice level plummeted from 57% to 16%.

SOCIAL STUDIES

The overall social studies score for high schools moved from 23 in 1993 to 49 in 1998.

Our high schools moved up from having 6% of our students scoring proficient or distinguished in 1993 to having 29% in those categories in 1998.

The social studies novice percentage fell from 52% to 24% in the same period.

MATHEMATICS

In math, high schools' overall score climbed from 22 to 47 between 1993 and 1998.

The percentage of our students scoring proficient or distinguished rose from 13% to 27% over the five year period, and the percentage in the novice category dropped from 60% to 32%.

SCIENCE

High schools raised their science score overall from 27 to 44, a 17 point rise from 1993 to 1998.

The improvement came mainly from reducing the percentage of our in the novice category from 39% to 8%. The percentage of our students reaching the proficient or distinguished categories rose from 4% to 13%.

HIGH SCHOOL ACADEMIC INDEX RESULTS			
	1993	1998	change
READING	20	51	+31
MATHEMATICS	22	47	+25
SCIENCE	27	44	+17
SOCIAL STUDIES	23	49	+26
ARTS & HUMANITIES	14	22	+8
PRACTICAL/VOCATIONAL	12	23	+11
	1995	1998	change
WRITING	32	43	+11

PERCENTAGE OF HIGH SCHOOL STUDENTS SCORING PROFICIENT OR DISTINGUISHED (MEETING STATE STANDARDS)			
	1993	1998	change
READING	4	28	+24
MATHEMATICS	13	27	+14
SCIENCE	4	13	+9
SOCIAL STUDIES	6	29	+23
ARTS & HUMANITIES	2	4	+2
PRACTICAL/VOCATIONAL	2	6	+4
	1995	1998	change
WRITING PORTFOLIO	23	22	-1
WRITING PROMPT	2	23	+21

PERCENTAGE OF HIGH SCHOOL STUDENTS SCORING NOVICE			
	1993	1998	change
READING	57	16	-41
MATHEMATICS	60	32	-28
SCIENCE	39	8	-31
SOCIAL STUDIES	52	24	-28
ARTS & HUMANITIES	67	52	-15
PRACTICAL/VOCATIONAL	73	54	-19
	1995	1998	change
WRITING PORTFOLIO	35	26	-9
WRITING PROMPT	76	26	-50

SOURCE: High School Report provided by Mr. Scott Trimble. Overall scores from page 3 and percentages from pages 4-14.

OTHER SUBJECTS

The high school overall writing score improved 11 points, from 32 in 1995 to 43 in 1998.

This improvement came heavily from the writing prompt: we moved from 2% of our students being proficient or distinguished to 23%, and we moved from 76% of our students in the novice category down to 26%.

In the writing portfolio, progress was slower, with a 9 point reduction in the percentage of novices being partly offset by a 1 point decline in the percentage of students scoring proficient or distinguished. (As noted earlier, the Department of Education advises against comparing writing scores from 1993 and 1994 with later years, so for writing alone this report makes comparisons starting with 1995 rather than 1993.)

Arts and humanities overall scores rose 8 points, and practical living/vocational studies scores rose 11 points.

KENTUCKY'S AFRICAN-AMERICAN STUDENTS

Schools are achieving far weaker results for our African-American students than for our white students. A complete chart of the 1998 gaps appears below, with the following facts raising particularly grave concerns:

- In middle school, a majority of Kentucky's African-American students are still scoring at the novice level in every middle school subject except reading (and even there the novice percent is more than twice that for whites).
- In math, a majority of our African-American students are novices at every level. The novice rate is 27 points higher for African-American students than for whites in elementary school, 27 points higher in middle school, and 22 points higher in high school.
- Middle school science shows the very worst gap: 74% of African-American students are still novices compared to 44% of white students, leaving a roaring 30 point gap. (Notice that the worst racial gap is in the subject where middle schools also had the most disturbing lack of progress.)
- Only in elementary reading and middle school reading is the gap less than 10 points.

Undoing these unacceptable results needs to be a priority for the future.

I have heard several people suggest that these failings are a manifestation of poverty rather than racial discrimination by our schools, but that hypothesis cannot be tested until we collect and publish data on children in poverty as part of our testing system. The Department currently intends to do that starting with the 2000 administration of our new assessment.

HIGH SCHOOL NOVICE PERCENTAGES FOR KENTUCKY'S WHITE AND AFRICAN-AMERICAN STUDENTS

Students	Reading	Science	Writing Prompt	Writing Portfolio	Math	Social Studies	Arts & Hum.	Practical/ Vocational
White	15	7	22	23	30	22	51	53
African-American	26	20	35	45	52	40	63	66
Gap	11	13	13	22	22	18	12	13

MIDDLE SCHOOL NOVICE PERCENTAGES FOR KENTUCKY'S WHITE AND AFRICAN-AMERICAN STUDENTS

	Reading	Science	Writing Prompt	Writing Portfolio	Math	Social Studies	Arts & Hum.	Practical/ Vocational
White	5	44	44	47	31	32	52	62
African-American	12	74	61	70	58	59	67	76
Gap	7	30	17	23	27	27	15	14

ELEMENTARY NOVICE PERCENTAGES FOR KENTUCKY'S WHITE AND AFRICAN-AMERICAN STUDENTS

	Reading	Science	Writing Prompt	Writing Portfolio	Math	Social Studies	Arts & Hum.	Practical/ Vocational
White	4	18	49	21	25	28	67	37
African-American	8	39	64	39	52	47	78	48
Gap	4	21	15	18	27	19	11	11

SOURCE: Elementary, Middle, and High School Reports provided by Mr. Scott Trimble, pages 16 and 17.

KENTUCKY'S STUDENTS WITH DISABILITIES

We are providing the very weakest education for our students with disabilities, both those tested with accommodations and those tested without accommodations.

- In elementary schools, a majority of those students are still at the novice level in every subject except reading, science, and the writing portfolio.
- In middle schools, a majority of those students are still at the novice level in every subject except reading.
- In high schools, a majority of those students are still at the novice level in every subject except science.
- The only area where the gap between students with disabilities and students overall is below 10% is in elementary reading.

Reducing this gap will be a major challenge in the years ahead.

Department reports separate students with disabilities into two groups. Some students took the KIRIS test without any special arrangements to accommodate their disabilities. Others needed special accommodations in order to take the test. Examples of accommodations might include a large print version of the test for a student with a severe vision impairment or an adult to read questions out loud for a student with acute dyslexia: the exact arrangements needed for each child with disabilities are determined by that child's Individual Education Plan.

HIGH SCHOOL NOVICE PERCENTAGES FOR ALL KENTUCKY STUDENTS AND DISABLED STUDENTS WHO RECEIVE NO TESTING ACCOMMODATIONS								
	Reading	Science	Writing Prompt	Writing Portfolio	Math	Social Studies	Arts & Hum.	Practical/ Vocational
All	16	8	23	25	32	24	52	54
Disabled (No Acc.)	56	33	63	74	77	74	83	83
Gap	40	25	40	49	45	50	31	29
MIDDLE SCHOOL NOVICE PERCENTAGES FOR ALL KENTUCKY STUDENTS AND DISABLED STUDENTS WHO RECEIVE NO TESTING ACCOMMODATIONS								
	Reading	Science	Writing Prompt	Writing Portfolio	Math	Social Studies	Arts & Hum.	Practical/ Vocational
All	6	47	46	49	34	35	53	63
Disabled (No Acc.)	21	78	79	79	72	70	79	86
Gap	15	31	33	30	38	35	26	23
ELEMENTARY NOVICE PERCENTAGES FOR ALL KENTUCKY STUDENTS AND DISABLED STUDENTS WHO RECEIVE NO TESTING ACCOMMODATIONS								
	Reading	Science	Writing Prompt	Writing Portfolio	Math	Social Studies	Arts & Hum.	Practical/ Vocational
All	4	20	51	23	28	30	68	38
Disabled (No Acc.)	12	37	70	43	52	55	82	55
Gap	8	17	19	20	24	25	14	17

SOURCE: Elementary, Middle, and High School Reports provided by Mr. Scott Trimble, pages 16 and 17.

HIGH SCHOOL NOVICE PERCENTAGES FOR ALL KENTUCKY STUDENTS AND DISABLED STUDENTS TESTED WITH ACCOMMODATIONS								
	Reading	Science	Writing Prompt	Writing Portfolio	Math	Social Studies	Arts & Hum.	Practical/ Vocational
All	16	8	23	25	32	24	52	54
Disabled (Acc.)	68	39	79	n/a	82	77	89	87
Gap	52	31	56	n/a	50	53	37	33
MIDDLE SCHOOL NOVICE PERCENTAGES FOR ALL KENTUCKY STUDENTS AND DISABLED STUDENTS TESTED WITH ACCOMMODATIONS								
	Reading	Science	Writing Prompt	Writing Portfolio	Math	Social Studies	Arts & Hum.	Practical/ Vocational
All	6	47	46	49	34	35	53	63
Disabled (Acc.)	23	83	87	87	75	76	83	88
Gap	17	36	41	38	41	41	30	25
ELEMENTARY NOVICE PERCENTAGES FOR ALL KENTUCKY STUDENTS AND DISABLED STUDENTS TESTED WITH ACCOMMODATIONS								
	Reading	Science	Writing Prompt	Writing Portfolio	Math	Social Studies	Arts & Hum.	Practical/ Vocational
All	4	20	51	23	28	30	68	38
Disabled (Acc.)	10	34	72	55	54	54	80	53
Gap	6	14	21	32	26	24	12	15

SOURCE: Elementary, Middle, and High School Reports provided by Mr. Scott Trimble, pages 16 and 17.

KENTUCKY'S MALE STUDENTS

Our male students also deserve some concern.

More boys than girls are in the novice category in every subject and at every level, with the gaps being the most severe in writing.

Nationwide, there has been great concern about weaker opportunities for girls. In Kentucky, on this test, the weakness runs the other way, and deserves serious concern as we work to further improve our schools.

HIGH SCHOOL NOVICE PERCENTAGES FOR KENTUCKY'S MALE AND FEMALE STUDENTS								
	Reading	Science	Writing Prompt	Writing Portfolio	Math	Social Studies	Arts & Hum.	Practical/ Vocational
Female	9	7	15	18	29	17	45	47
Male	23	9	33	33	35	31	60	62
Gap	14	2	18	15	6	14	15	15
MIDDLE SCHOOL NOVICE PERCENTAGES FOR KENTUCKY'S MALE AND FEMALE STUDENTS								
	Reading	Science	Writing Prompt	Writing Portfolio	Math	Social Studies	Arts & Hum.	Practical/ Vocational
Female Students	3	43	34	40	30	31	45	56
Male Students	8	51	57	57	37	38	61	71
Gap	5	8	23	17	7	7	16	15
ELEMENTARY NOVICE PERCENTAGES FOR KENTUCKY'S MALE AND FEMALE STUDENTS								
	Reading	Science	Writing Prompt	Writing Portfolio	Math	Social Studies	Arts & Hum.	Practical/ Vocational
Female	3	20	43	19	26	25	63	34
Male	5	21	58	27	29	34	73	42
Gap	2	1	15	8	3	9	10	8

SOURCE: Elementary, Middle, and High School Reports provided by Mr. Scott Trimble, pages 16 and 17.

KENTUCKY'S STUDENTS IN POVERTY

Anyone with a passing familiarity with data on educational performance knows that socio-economic status is often strongly correlated with learning results. Put more bluntly, children from low-income families very often end up with weaker educations.

Those who watch the data more closely also know that schools can reduce those gaps dramatically if they make it a priority.

NAEP data shows that Kentucky's children who receive free or reduced price lunches are indeed receiving a weaker education than their classmates. This gap appears for every year in which there is NAEP state-level data.

The great hole in this report is that there is no available KIRIS data on whether our children from low-income families are acquiring the knowledge and skills they need to succeed as adults.

The Department does have data in raw form on that issue at least for 1998. When students had completed their testing booklets, school officials were directed to fill in a bubble on the cover sheet for each child showing whether that child participated in the free lunch program or the reduced lunch program. Associate Commissioner Scott Trimble has told me, however, that that data has not been collated or analyzed, and that individual schools have not received reports showing how this subgroup of students is performing. He has also told me that the Department collected the same data in 1999 for the Kentucky Core Content Test, but does not plan to report those 1999 results to the public or individual schools.

Starting in 2000, Associate Commissioner Trimble and Deputy Commissioner Gene Wilhoit have assured me that the state will begin providing school-level reports on this issue, allowing schools to identify and begin repairing any weaknesses in the education they are providing to students from low-income families. Understanding how those students are performing and ensuring that they reach our high academic standards will be additional challenges for the coming years.

(Readers concerned about privacy issues may be concerned about whether such reports will be legal. The federal Child Nutrition Act of 1996 permits schools to report free and reduced lunch eligibility to the state as part of the accountability program, while prohibiting all parties from revealing information on the eligibility of individual children. A report showing the percentage of students statewide in poverty who scored novice, apprentice, proficient, or distinguished in each subject would, of course, not violate the privacy of individual students, and neither would school-level reports. Another theoretical concern is that if a school has only a few eligible children being tested, unauthorized persons might be able to figure out how individual students performed, but in practice the Department has already established a policy of not providing group data if there are fewer than 10 students in a group. This policy has worked well to protect students in groups who can be identified on sight--ethnic minorities, girls, and boys, for example--and it should also work well for a trait like free-lunch status that is itself kept confidential.)

MEMORANDUM

Kentucky Association of School Councils
Susan Perkins Weston, Executive Director

TO: Robert Sexton
Prichard Committee for Academic Excellence

FROM: Susan Perkins Weston
Kentucky Association of School Councils

DATE March 19, 1999

RE: NAEP Data on Kentucky Performance

You have asked for a review of Kentucky students' academic progress as shown in data from the National Assessment of Educational Progress from 1990 through 1998. This overview summarizes the results and the rest of the memorandum provides details.

OVERVIEW

FOURTH GRADE READING

- ☑ Our students improved more between 1992 and 1998 in fourth grade reading than nearly all states, and they exceeded the national average in 1998.
- ☑ Our average scale score rose 5 points between 1992 and 1998: Only Connecticut improved faster, and only Colorado, North Carolina, and Mississippi moved as fast.
- ☑ Our 1998 average scale score exceeded the national average, by 218 to 215. The 1998 reading results (for fourth and eighth grade) were the first time Kentucky exceeded the national average in any NAEP subject.
- ☑ Only 8 states had 1998 average scale scores that were significantly higher than ours: Connecticut, Iowa, Kansas, Maine, Massachusetts, Montana, New Hampshire, and Wisconsin.

EIGHTH GRADE READING

- ☑ Our eighth graders were ahead of the nation in 1998, the first year that eighth grade NAEP reading scores were published by state.
- ☑ Our 1998 average scale score exceeded the national average, by 262 to 261. The 1998 reading results (for fourth and eighth grade) were the first time Kentucky exceeded the national average in any NAEP subject.
- ☑ Only 7 states had 1998 average scale scores that were significantly higher than ours: Connecticut, Kansas, Maine, Massachusetts, Minnesota, Montana, and Virginia.

FOURTH GRADE MATHEMATICS

- ☑ Our fourth graders improved faster in mathematics than most states between 1992 and 1996, and they were closing in on the national average.
- ☑ Our fourth grade average mathematics scale score went up 5 points between 1992 and 1996. Only five states improved faster.
- ☑ In 1996, we were just 2 points behind the national average--compared to a 4 point gap in 1992--and the gap was no longer statistically significant.

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EIGHTH GRADE MATHEMATICS

- ☑ Kentucky's eighth graders improved faster in mathematics than most states between 1990 and 1996, and they were closing in on the national average.
- ☑ Our eighth grade average mathematics scale score went up 10 points between 1990 and 1996. Only five states improved faster.
- ☑ In 1996, we were 4 points behind the national average, closing in from a 5 point gap in 1990.

EIGHTH GRADE SCIENCE

- ☑ Kentucky's eighth graders were just 1 point behind the national average scale score in science in 1996, the first year that state-level eighth grade NAEP science scores were released. In the life science field, our average scale score matched the national average.

I will begin my more detailed report with a brief explanation of the data I have used, and then provide a more complete statement of the good news in NAEP and the not-so-good news that can help us identify issues we will need to work on if we are to achieve excellence for all Kentucky students.

BASIC INFORMATION ON NAEP

NAEP DATES

NAEP began reporting statewide results in 1990, starting with the 8th grade math test. The table to the right shows where state-level reports are available.

NAEP STATE LEVEL RESULTS ARE AVAILABLE FOR				
Subject	Math	Math	Reading	Science
Grade	4	8	4	8
Years	1992 1996	1990 1992 1996	1992 1994 1998	1996

NAEP RESULTS AND REPORTING OPTIONS

NAEP results can be listed several ways.

- ☑ Scale scores. This is a single number for the subject, with science scored on a 0 to 300 scale and reading and math on a 0 to 500 scale.
- ☑ Achievement levels. Students are scored below basic, basic, proficient or advanced, and percentages reaching each level can be reported.
- ☑ "At or Above" achievement levels. NAEP reports an "At or Above Basic" percentage that includes basic, proficient, and advanced students, and an "At or Above Proficient" percentage that combines proficient and advanced. (*Education Week* uses the category "Proficient," but the numbers entered appear to be NAEP's "At or Above Proficient" figures.")
- ☑ Ranking of scale scores. It is appropriate to list states statistically above, below, or on a par to Kentucky, and NAEP reports results that way. Simply rank-ordering the scale scores is unhelpful, because many differences between states are statistically insignificant and because changing state participation makes rank comparisons misleading.

STATISTICAL SIGNIFICANCE

The NAEP state reports routinely list the standard errors for individual statistics beside each reported score or percentage. The report also cautions that in comparing two numbers, one must use a method called "the standard error of the difference," which is explained in the appendices of each of the NAEP reports.

All results reported below are statistically significant unless specifically said not to be. The footnotes indicate whether the NAEP report confirmed the significance or whether I did the calculation myself.

EIGHTH GRADE SCIENCE

1996 NAEP Results

GOOD NEWS

1. In 1996, our 8th grade mean science scale score was 147 on a scale of 0 to 300, just below the national average of 148. The difference between our result and the nation was not statistically significant.[1]

2. Our black students scored above the national black average: the difference of 127 to 120 was statistically significant.[2]

3. Our male students scored a 148 compared to a national male average of 149, and our female students scored a 147 compared to a national female average of 148: the differences were not statistically significant.[3]

4. Our free and reduced lunch students scored 135 compared to a national average of 133: the difference between state and nation was not statistically significant.[4]

WORK AHEAD

1. The NAEP Science test is scored on a 0 to 300 scale, giving us lots of room for improvement.

2. 18 states achieved scores that were significantly higher than ours (see chart below).

3. Our Hispanic students still lag behind white students and the national Hispanic average, and we must provide them with an education that allows them full success. The Kentucky Hispanic average scale score was 113, compared to 151 for white Kentucky students and 127 as the national Hispanic average.[5]

4. We still must make considerable improvements to educate our black students as well as our white students. The black 1996 average scale score of 127 is unacceptably far behind the white average of 151. (The national scores were 120 and 159: it is good that we have a smaller gap than the nation, but not good enough.)[6]

5. Our white students are significantly behind the national average, with a Kentucky average scale score of 151 compared to 159 for the nation.[7]

6. We still must make considerable improvements to educate our children living in poverty as well as those from more fortunate backgrounds. The 1996 average scale score for students eligible for free or reduced price lunches was 135, unacceptably far behind the score of 155 for other students.[8]

OTHER STATES COMPARED TO KENTUCKY: 1996 8TH GRADE SCIENCE			
Significantly Above Kentucky		Not Significantly Different From Kentucky	Significantly Below Kentucky
Alaska	Missouri	Arizona	Alabama
Colorado	Montana	Arkansas	California
Connecticut	Nebraska	Maryland	Delaware
Indiana	North Dakota	New York	District of Columbia
Iowa	Oregon	North Carolina	Florida
Maine	Utah	Rhode Island	Georgia
Massachusetts	Vermont	Tennessee	Hawaii
Michigan	Wisconsin	Texas	Louisiana
Minnesota	Wyoming	Virginia	Mississippi
		Washington	New Mexico
		West Virginia	South Carolina
NAEP 1996 Science: State Report for Kentucky, page 27 (Idaho, Illinois, Kansas, Nevada, New Hampshire, New Jersey, Ohio, Oklahoma, Pennsylvania, and South Dakota did not participate or did not meet minimum participation rate guidelines.)			

FOURTH GRADE MATHEMATICS

1992 AND 1996 NAEP Results

GOOD NEWS

1. We raised our average scale score from 215 to 220.[9]

2. We improved our scale score faster than the national average and faster than all but 8 of the 38 states who participated in both years. (I do not know how to assess statistical significance of these rates of improvement.)[10]

3. Our male and our female students made identical improvement, with each group moving from 215 to 220.[11] (It is probably worth smiling over the sight of exactly equal performance numbers.)

4. Our white, black, and Hispanic students all improved, but only the white student improvement was statistically significant. The average scale score for white Kentucky students rose from 217 to 223, while the score for black Kentucky students rose from 201 to 203, and the score for Hispanic students rose from 199 to 201.[12]

5. Our free and reduced lunch students scored 209 compared to a national average of 207, though the small lead was not statistically significant.[13]

6. We raised our percentage of students scoring at or above basic from 51 to 60.[14]

7. We also raised our percentage of students scoring at or above proficient (from 13 to 16) though that improvement was not considered statistically significant.[15]

8. Our percentage of students performing "at or above basic" moved much closer to the national norm. In 1992, our percentage was 51, compared to a national percentage of 57. In 1996, our percentage was 60, compared to a national average of 62, and the 1996 difference was not statistically significant.[16]

9. We made statistically significant improvement in three subareas of mathematics:

    1. geometry and spatial sense improved from 216 to 222;
    2. data analysis, statistics and probability improved from 216 to 222; and
    3. algebra and functions improved from 214 to 226.[17]

10. We also improved in the other two subareas but the improvement was not statistically significant. Number sense, properties, and operations improved from 213 to 216 and measurement improved from 220 to 221.[18]

WORK AHEAD

☑ The NAEP Science test is scored on a 0 to 500 scale, giving us lots of room for improvement.

☑ 22 states achieved scores that were significantly higher than ours.[19]

☑ We are still providing an unequal education for our minority students, and their progress in math was slower than that for white students.[20]

☑ We still must make considerable improvements to educate our children living in poverty as well as those from more fortunate backgrounds. The 1996 average scale score for students eligible for free or reduced price lunches was 209, well behind the score of 230 for other students.[21]

☑ Our white students scored significantly below white students nationwide, with a Kentucky average scale score of 223 compared to a national average of 231. (Our black students scored above black students nationwide--by 203 to 200--but the difference was not statistically significant.)[22]

☑ Our male students scored significantly below male students nationwide, with a Kentucky average scale score of 220 compared to a national average of 224. (Our female students also scored below female students nationwide--by 220 to 221--but the difference was not statistically significant.)[23]

OTHER STATES COMPARED TO KENTUCKY: 1996 4TH GRADE MATHEMATICS			
Significantly Above Kentucky		Not Significantly Different From Kentucky	Significantly Below Kentucky
Alaska	Nebraska	Arizona	Alabama
Colorado	New Jersey	Maryland	Arkansas
Connecticut	North Carolina	Nevada	California
Indiana	North Dakota	New York	Delaware
Iowa	Pennsylvania	Oregon	District of Columbia
Maine	Texas	Rhode Island	Florida
Massachusetts	Utah	Tennessee	Georgia
Michigan	Vermont	Virginia	Hawaii
Minnesota	Washington	Wyoming	Louisiana
Missouri	West Virginia		Mississippi
Montana	Wisconsin		South Carolina
			New Mexico
NAEP 1996 Mathematics: State Report for Kentucky, page 35 (Idaho, Illinois, Kansas, New Hampshire, Ohio, Oklahoma, and South Dakota did not participate or did not meet minimum participation rate guidelines.)			

EIGHTH GRADE MATHEMATICS

1990 AND 1996 NAEP Results

POSITIVE ACHIEVEMENTS

1. We raised our average scale score from 257 to 267 (a statistically significant improvement).[24]

2. Our average scale score improved faster than the nation and faster than all but 5 of the 31 states who participated in both years. (I do not know how to assess statistical significance of these rates of improvement.)[25]

3. Both our male and our female students made statistically significant improvement, with boys moving from 259 to 267 and girls moving from 256 to 266.[26]

4. Both our white and our black students improved, but only the white student improvement was statistically significant. White students moved from 260 to 269, while black students moved from 240 to 248.[27] Hispanic results were not reported for 8th grade math.

5. Scores rose for children of college graduates (from 268 to 281), for children of high school graduates (from 253 to 260) and for children of high school dropouts (from 241 to 251). Scores also improved for children whose parents had some education after high school (from 269 to 271), but the change was not significant.[28]

6. We improved our percentage of students scoring "at or above basic" from 43 to 56.[29]

7. We also improved our percentage of students scoring at or above proficient from 10 to 16.[30]

8. We moved closer to the national average for students performing at or above basic: Kentucky was 8 points behind in 1990 but only 4 points behind in 1996. The gap remained statistically significant.[31]

9. We made statistically significant improvement in all five subareas:

   - ☑ number sense, properties, and operations improved from 261 to 268;
   - ☑ measurement improved from 254 to 265;
   - ☑ geometry and spatial sense improved from 253 to 264;
   - ☑ data analysis, statistics and probability, improved from 258 to 268; and
   - ☑ algebra and functions improved from 257 to 267.[32]

WORK AHEAD

1. The NAEP Science test is scored on a 0 to 500 scale, giving us lots of room for improvement.

2. Our average scale score of 267 is still significantly behind the national average of 271.

3. 19 states achieved scores that were significantly higher than ours.

4. Our percentage of students scoring "at or above basic" is still behind the nation, and the difference is still statistically significant. Our percentage of students scoring "at or above proficient" also lags significantly behind.[33]

5. We still must make considerable improvements to educate our black students as well as our white students. The black 1996 average scale score of 248 is unacceptably far behind the white average of 269. (The national scores were 242 and 281: it is good that we have a smaller gap than the nation, but not good enough.)[34]

6. We still must make considerable improvements to educate our children living in poverty as well as those from more fortunate backgrounds. The 1996 average scale score for students eligible for free or reduced price lunches was 252, unacceptably far behind the score of 276 for other students.[35]

7. Our white students scored significantly below white students nationwide, with a Kentucky average of 169 compared to a national average of 181. (Our black students scored above black students nationwide--by 248 to 242--but the difference was not statistically significant.)[36]

8. Our female students scored significantly below female students nationwide, with a Kentucky average scale score of 266 compared to a national average of 271. (Our male students also scored below male students nationwide--by 267 to 270--but the difference was not statistically significant: it is worth noting that this is the reverse of the 4th grade pattern, where the male gap was significant and the female gap was not.)[37]

OTHER STATES COMPARED TO KENTUCKY: 1996 8TH GRADE MATHEMATICS			
Significantly Above Kentucky		Not Significantly Different From Kentucky	Significantly Below Kentucky
Alaska	Montana	Arizona	Alabama
Colorado	Nebraska	California	Arkansas
Connecticut	North Dakota	Delaware	District of Columbia
Indiana	Oregon	Florida	Georgia
Iowa	Utah	Maryland	Hawaii
Maine	Vermont	New York	Louisiana
Massachusetts	Washington	North Carolina	Mississippi
Michigan	Wyoming	Rhode Island	New Mexico
Minnesota	Wisconsin	Tennessee	South Carolina
Missouri		Texas	
		Virginia	
		West Virginia	
NAEP 1996 Mathematics: State Report for Kentucky, page 37			
(Idaho, Illinois, Kansas, New Hampshire, Ohio, Oklahoma, Nevada, New Jersey, Pennsylvania, and South Dakota did not participate or did not meet minimum participation rate guidelines.)			

FOURTH GRADE READING

1998 NAEP Results

GOOD NEWS

1. We raised our average scale score from 213 to 218. [38] That made Kentucky one of five states to improve significantly from 1992 to 1998, one of nine to improve significantly from 1994 to 1998, and one of just three states to improve compared to both past NAEP reading tests.[39] (Basic background: from 1992 to 1994, reading scores went down for the nation, most states, and Kentucky.)

2. We placed three points ahead of the national average. Kentucky has been close to the national average in several recent NAEP tests, but never above it.[40]

3. Only one state (Connecticut) made a bigger improvement in its score than Kentucky.[41]

4. Kentucky was tied with Virginia and Rhode Island for the 13th highest scale score nationwide. 35 states that took the test in 1992 and 1998, and in 1998 Kentucky was tied with Rhode Island for 12th among that group. By comparison, in 1992, Kentucky was tied with Texas and Delaware for 18th place.

5. Our male students moved closer to our female students, with boys raising their average scale score from 209 to 216 while girls rose from 216 to 220. The male improvement was statistically significant, but the female improvement was not. [42]

6. Our free and reduced lunch students outscored free and reduced lunch students nationwide, by 204 to 198.[43]

7. We raised our percentage of students scoring at or above basic from 58 to 63[44] and our percentage of students scoring at or above proficient from 23 to 29.[45]

8. Our percentage of students performing "at or above basic" passed the national norm. In 1992, our percentage was 58, compared to a national percentage of 60. In 1996, our percentage was 63, compared to a national average of 61. While neither difference was statistically significant, this is the first time Kentucky has been ahead of the nation in this category on any NAEP test.[46]

WORK AHEAD

1. The NAEP Reading test is scored on a 0 to 500 scale. Our average scale score of 218 places us in the "basic" category (defined as 208-237) rather than proficient (238-267).[47]

2. Minority students did not participate in the improvement. Although the decline was not statistically significant, black students slipped from 197 to 196. Hispanic students made no progress, scoring 195 in 1992 and 1998.[48]

3. Our white students scored significantly below white students nationwide, with a Kentucky average scale score of 221 compared to a national average of 225. (Our black students scored above black students nationwide--by 196 to 193--but the difference was not statistically significant. Our Hispanic students scored 195, the same score as Hispanic students nationwide.)[49]

4. We still must make considerable improvements to educate our children living in poverty as well as those from more fortunate backgrounds. The 1998 average scale score for students eligible for free or reduced price lunches was 204, well behind the score of 229 for other students.[50]

OTHER STATES COMPARED TO KENTUCKY: 1996 4TH GRADE READING		
Significantly Above Kentucky	Not Significantly Different From Kentucky	Significantly Below Kentucky
Connecticut	Colorado	Alabama
Iowa	Maryland	Arizona
Kansas	Michigan	Arkansas
Maine	Minnesota	California
Massachusetts	Missouri	Delaware
Montana	New York	District of Columbia
New Hampshire	North Carolina	Florida
Wisconsin	Oklahoma	Georgia
	Oregon	Hawaii
	Rhode Island	Louisiana
	Texas	Mississippi
	Utah	Nevada
	Virginia	New Mexico
	Washington	South Carolina
	West Virginia	Tennessee
	Wyoming	
NAEP 1998 Reading: State Report for Kentucky, page 9 (Alaska, Idaho, Illinois, Indiana, Nebraska, New Jersey, North Dakota, Ohio, Pennsylvania, and South Dakota did not participate or did not meet minimum participation rate guidelines.)		

READING

NAEP 8th Grade Results for 1998

POSITIVE ACHIEVEMENTS

1. We scored 262, as compared to a national average of 261.[51] Although the difference was not statistically significant, it is new for Kentucky to be in the lead.

2. Only seven states had a statistically significant lead over Kentucky. Kentucky had a statistically significant lead over 13 states, 16 states had scores that were not significantly different from ours, and 14 did not participate or did not meet minimum participation rate guidelines.[52]

3. Our free and reduced lunch students outscored free and reduced lunch students nationwide, by 251 to 246.[53]

4. Although the differences were not statistically significant, Kentucky's black students outscored black students nationwide by 196 to 193, [54] and our female students outscored girls nationwide by 269 to 268.[55]

5. Our percentage of students scoring "at or above basic" also exceeded the nation by 74 to 73. Although the difference was not statistically significant, it is new for Kentucky to be in the lead.[56]

WORK AHEAD

1. The NAEP Science test is scored on a 0 to 500 scale. Our students' average scale score of 262 puts them in the "basic" achievement level (defined as 243 to 280), rather than the proficient category (281-322).[57]

2. Our black average scale score of 242 is unacceptably far behind the white average of 265. (The national scores were 241 and 270: it is good that we have a smaller gap than the nation, but not good enough. Hispanic scores were not reported for 8th grade reading.)[58]

3. Our white students scored significantly below white students nationwide, with a Kentucky average of 265 compared to a national average of 270.[59]

4. The 1996 average scale score for students eligible for free or reduced price lunches was 251, unacceptably far behind the score of 270 for other students. (The national scores were 246 and 269: it is good that we have a smaller gap than the nation, but not good enough.)[60]

OTHER STATES COMPARED TO KENTUCKY: 1998 8TH GRADE READING		
Significantly Above Kentucky	Not Significantly Different From Kentucky	Significantly Below Kentucky
Connecticut	Arizona	Alabama
Kansas	Colorado	Arkansas
Maine	Maryland	California
Massachusetts	Missouri	Delaware
Minnesota	New York	District of Columbia
Montana	North Carolina	Florida
Virginia	Oklahoma	Georgia
	Oregon	Hawaii
	Rhode Island	Louisiana
	Tennessee	Mississippi
	Texas	Nevada
	Utah	New Mexico
	Washington	South Carolina
	West Virginia	
	Wisconsin	
	Wyoming	
NAEP 1998 Reading: State Report for Kentucky, page 9 (Alaska, Idaho, Illinois, Indiana, Iowa, Michigan, Nebraska, New Hampshire, New Jersey, North Dakota, Ohio, Pennsylvania, South Dakota, and Vermont did not participate or did not meet minimum participation rate guidelines.)		

APPENDIX A: CALCULATIONS OF STATISTICAL SIGNIFICANCE

1996 8TH GRADE SCIENCE SCALE SCORES	Black	Hispanic	White
Footnote	2	5	7
Data from page:	33	33	33
Kentucky scale score	127	113	151
Nation scale score	120	127	159
Mean difference	7	(14)	(8)
Kentucky standard error	2.7	6.2	1.1
Nation standard error	1.2	1.8	1.1
Standard error of the difference	3.0	6.5	1.6
Mean difference + 2 standard errors of the difference	12.9	(1.1)	(4.9)
Mean difference - 2 standard errors of the difference	1.1	(26.9)	(11.1)
Statistically significant?	YES	YES	YES

1996 4TH GRADE MATHEMATICS "AT OR ABOVE BASIC"	
Footnote	16
Data from page:	75
Kentucky percentage	60
Nation percentage	62
Mean difference	(2)
Kentucky standard error	1.8
Nation standard error	1.4
Standard error of the difference	2.3
Mean difference + 2 standard errors of the difference	2.6
Mean difference - 2 standard errors of the difference	(6.6)
Statistically significant?	NO

1996 4TH GRADE MATH SCALE SCORES	Black	White
Footnote	22	22
Data from page:	48	48
Kentucky scale score	203	223
Nation scale score	200	231
Mean difference	3	(8)
Kentucky standard error	2.3	1.1
Nation standard error	2.4	1.1
Standard error of the difference	3.3	1.6
Mean difference + 2 standard errors of the difference	9.6	(4.9)
Mean difference - 2 standard errors of the difference	(3.6)	(11.1)
Statistically significant?	NO	YES

1996 4TH MATH SCALE SCORES	Male	Female
Footnote	23	23
Data from page:	45	45
Kentucky scale score	220	220
Nation scale score	224	221
Mean difference	(4)	(1)
Kentucky standard error	1.5	1.1
Nation standard error	1.2	1.1
Standard error of the difference	1.9	1.6
Mean difference + 2 standard errors of the difference	(0.2)	2.1
Mean difference - 2 standard errors of the difference	(7.8)	(4.1)
Statistically significant?	YES	N0

1996 8TH MATHEMATICS "AT OR ABOVE BASIC"	
Footnote	31 AND 33
Data from page:	76
Kentucky percent	56
Nation percent	61
Mean difference	(5)
Kentucky standard error	1.6
Nation standard error	1.3
Standard error of the difference	2.1
Mean difference + 2 standard errors of the difference	(0.9)
Mean difference - 2 standard errors of the difference	(9.1)
Statistically significant?	YES

1998 4TH READING ACHEIVEMENT LEVELS	AT OR ABOVE BASIC	AT OR ABOVE PROFICIENT
Footnote	46	46
Data from page	21	21
Kentucky percent	63.0	29
Nation percent	61.0	29
Mean difference	2.0	-
Kentucky standard error	1.8	1.7
Nation standard error	1.0	0.9
Standard error of the difference	2.1	1.9
Mean difference + 2 standard errors of the difference	6.1	3.8
Mean difference - 2 standard errors of the difference	(2.1)	(3.8)
Statistically significant difference	NO	NO

1998 4TH GRADE READING SCALE SCORES	White
Footnote	49
Data from page:	27
Kentucky scale score	221.0
Nation scale score	225.0
Mean difference	(4.0)
Kentucky standard error	1.5
Nation standard error	0.9
Standard error of the difference	1.7
Mean difference + 2 standard errors of the difference	(0.5)
Mean difference - 2 standard errors of the difference	(7.5)
Statistically significant?	YES

1998 8TH GRADE READING SCALE SCORES	Female	White
Footnote	55	59
Data from page:	23	27
Kentucky scale score	269.0	265.0
Nation scale score	268.0	270.0
Mean difference	1.0	(5.0)
Kentucky standard error	1.5	1.2
Nation standard error	1.0	0.9
Standard error of the difference	1.8	1.5
Mean difference + 2 standard errors of the difference	4.6	(2.0)
Mean difference - 2 standard errors of the difference	(2.6)	(8.0)
Statistically significant?	NO	YES

APPENDIX B: COMPARING STATE RANKS IN 4TH GRADE MATHEMATICS							
STATE	1992 AVERAGE SCALE SCORE	RANK OF 1992 AVERAGE SCALE SCORE	1996 AVERAGE SCALE SCORE	RANK OF 1996 AVERAGE SCALE SCORE	RANK OF 1996 SCORE AMONG 1992 PARTICI-PANTS	CHANGE IN SCORE FROM 1992 TO 1996	RANK OF CHANGE IN SCORE FROM 1992 TO 1996
Texas	218	18	229	6	9	11	1
North Carolina	213	29	224	20	17	11	1
Indiana	221	14	229	6	8	8	3
West Virginia	215	23	223	22	21	8	3
Tennessee	211	32	219	30	25	8	3
Michigan	220	17	226	14	15	6	6
Arkansas	210	33	216	33	28	6	6
Mississippi	202	37	208	43	37	6	6
Connecticut	227	6	232	1	3	5	9
Colorado	221	14	226	14	14	5	9
New York	218	18	223	22	20	5	9
KENTUCKY	**215**	**23**	**220**	**28**	**23**	**5**	**9**
Rhode Island	215	23	220	28	24	5	9
Louisiana	204	36	209	41	36	5	9
Minnesota	228	5	232	1	2	4	15
Maryland	217	21	221	27	22	4	15
Alabama	208	34	212	40	34	4	15
Nebraska	225	9	228	10	10	3	18
Utah	224	11	227	12	12	3	18
Missouri	222	13	225	17	16	3	18
Arizona	215	23	218	31	26	3	18
North Dakota	229	3	231	4	4	2	22
Wisconsin	229	3	231	4	5	2	22
Massachusetts	227	6	229	6	7	2	22
Pennsylvania	224	11	226	14	13	2	22
Virginia	221	14	223	22	19	2	22
Florida	214	27	216	33	27	2	22
Hawaii	214	27	215	35	31	1	28
New Mexico	213	29	214	38	32	1	28
South Carolina	212	31	213	39	33	1	28
California	208	34	209	41	35	1	28
Maine	232	1	232	1	1	0	32
New Jersey	227	6	227	12	11	0	32
Iowa	230	2	229	6	6	-1	34
Georgia	216	22	215	35	30	-1	34
Wyoming	225	9	223	22	18	-2	36
Delaware	218	18	215	35	29	-3	37
District of Columbia	193	38	187	44	38	-6	38
Montana			228	10			
Vermont			225	17			
Washington			225	17			
Alaska			224	20			
Oregon			223	22			
Nevada			218	31			

APPENDIX B: COMPARING STATE RANKS IN 8TH GRADE MATHEMATICS							
STATE	1990 AVERAGE SCALE SCORE	RANK OF 1990 AVERAGE SCALE SCORE	1990 AVERAGE SCALE SCORE	RANK OF 1996 AVERAGE SCALE SCORE	RANK OF 1996 SCORE AMONG 1990 PARTICI-PANTS	CHANGE IN SCORE FROM 1990 TO 1996	RANK OF CHANGE IN SCORE FROM 1990 TO 1996
North Carolina	250	29	268	25	18	18	1
Michigan	264	12	277	12	8	13	2
Texas	258	20	270	20	13	12	3
Hawaii	251	28	262	33	25	11	4
Connecticut	270	9	280	8	7	10	5
KENTUCKY	**257**	**21**	**267**	**27**	**20**	**10**	**5**
Minnesota	275	5	284	1	1	9	7
Wisconsin	274	6	283	5	4	9	7
Colorado	267	10	276	14	9	9	7
Indiana	267	10	276	14	9	9	7
Maryland	261	14	270	20	13	9	7
New York	261	14	270	20	13	9	7
Rhode Island	260	17	269	24	17	9	7
West Virginia	256	22	265	29	22	9	7
Florida	255	26	264	30	23	9	7
Arizona	260	17	268	25	18	8	16
Nebraska	276	4	283	5	4	7	17
California	256	22	263	31	24	7	17
Iowa	278	3	284	1	1	6	19
Virginia	264	12	270	20	13	6	19
Delaware	261	14	267	27	20	6	19
Arkansas	256	22	262	33	25	6	19
New Mexico	256	22	262	33	25	6	19
Louisiana	246	30	252	39	30	6	19
Oregon	271	8	276	14	9	5	25
Alabama	253	27	257	38	29	4	26
North Dakota	281	1	284	1	1	3	27
Montana	280	2	283	5	4	3	27
Wyoming	272	7	275	18	12	3	27
Georgia	259	19	262	33	25	3	27
District of Columbia	231	31	233	41	31	2	31
Maine			284	1			
Vermont			279	9			
Alaska			278	10			
Massachusetts			278	10			
Utah			277	12			
Washington			276	14			
Missouri			273	19			
Tennessee			263	31			
South Carolina			261	37			
Mississippi			250	40			
Alaska			224	20			
Oregon			223	22			
Nevada			218	31			

APPENDIX B: COMPARING STATE RANKS IN 8TH GRADE SCIENCE		
STATE	1996 AVERAGE SCALE SCORE	RANK OF 1996 AVERAGE SCALE SCORE
Maine	163	1
North Dakota	162	2
Montana	162	2
Wisconsin	160	4
Minnesota	159	5
Iowa	158	6
Wyoming	158	6
Nebraska	157	8
Vermont	157	8
Massachusetts	157	8
Utah	156	11
Connecticut	155	12
Oregon	155	12
Colorado	155	12
Michigan	153	15
Indiana	153	15
Alaska	153	15
Missouri	151	18
Washington	150	19
Virginia	149	20
Rhode Island	149	20
Kentucky	147	22
West Virginia	147	22
North Carolina	147	22
New York	146	25
Maryland	145	26
Texas	145	26
Arizona	145	26
Arkansas	144	29
Tennessee	143	30
Florida	142	31
Georgia	142	31
Delaware	142	31
New Mexico	141	34
Alabama	139	35
South Carolina	139	35
California	138	37
Hawaii	135	38
Mississippi	133	39
Louisiana	132	40
District of Columbia	113	41

APPENDIX B: COMPARING STATE RANKS IN 4TH GRADE READING							
STATE	1992 AVERAGE SCALE SCORE	RANK OF 1992 AVERAGE SCALE SCORE	1998 AVERAGE SCALE SCORE	RANK OF 1998 AVERAGE SCALE SCORE	RANK OF 1998 SCORE AMONG 1992 PARTICI-PANTS	CHANGE IN SCORE FROM 1992 TO 1998	RANK OF CHANGE IN SCORE FROM 1992 TO 1998
Connecticut	222	7	232	1	1	10	1
Colorado	217	13	222	8	7	5	2
KENTUCKY	**213**	**18**	**218**	**13**	**12**	**5**	**2**
North Carolina	212	21	217	16	14	5	2
Mississippi	199	34	204	36	31	5	2
Texas	213	18	217	16	14	4	6
Maryland	211	24	215	23	21	4	6
Alabama	207	30	211	28	24	4	6
Minnesota	221	8	222	8	7	1	9
Rhode Island	217	13	218	13	12	1	9
Michigan	216	15	217	16	14	1	9
New York	215	17	216	20	17	1	9
Wisconsin	224	5	224	6	5	0	13
Oklahoma	220	10	220	11	9	0	13
West Virginia	216	15	216	20	17	0	13
Tennessee	212	21	212	26	22	0	13
South Carolina	210	27	210	29	25	0	13
Louisiana	204	31	204	36	31	0	13
California	202	33	202	38	33	0	13
Massachusetts	226	3	225	4	3	-1	20
Delaware	213	18	212	26	22	-1	20
Florida	208	29	207	33	28	-1	20
New Hampshire	228	1	226	2	2	-2	23
Maine	227	2	225	4	3	-2	23
Iowa	225	4	223	7	6	-2	23
Georgia	212	21	210	29	25	-2	23
Arkansas	211	24	209	31	27	-2	23
Arizona	209	28	207	33	28	-2	23
Virginia	221	8	218	13	11	-3	29
Hawaii	203	32	200	39	34	-3	29
Wyoming	223	6	219	12	10	-4	31
Missouri	220	10	216	20	17	-4	31
Utah	220	10	215	23	20	-5	33
New Mexico	211	24	206	35	30	-5	33
District of Columbia	188	35	182	40	35	-6	35
Montana			226	2			
Kansas			222	8			
Washington			217	16			
Oregon			214	25			
Nevada			208	32			
Washington			225	17			
Alaska			224	20			
Oregon			223	22			
Nevada			218	31			

APPENDIX B: COMPARING STATE RANKS IN 8TH GRADE READING		
STATE	1998 AVERAGE SCALE SCORE	RANK OF 1998 AVERAGE SCALE SCORE
Maine	273	1
Connecticut	272	2
Montana	270	3
Massachusetts	269	4
Kansas	268	5
Minnesota	267	6
New York	266	7
Oregon	266	7
Virginia	266	7
Wisconsin	266	10
Oklahoma	265	11
Utah	265	11
Washington	265	11
Colorado	264	14
North Carolina	264	14
Missouri	263	16
KENTUCKY	**262**	**17**
Maryland	262	17
Rhode Island	262	17
Texas	262	17
West Virginia	262	17
Wyoming	262	17
Arizona	261	23
Tennessee	259	24
New Mexico	258	25
Georgia	257	26
Nevada	257	26
Arkansas	256	28
Delaware	256	28
Alabama	255	30
South Carolina	255	30
California	253	32
Florida	253	32
Louisiana	252	34
Mississippi	251	35
Hawaii	250	36
District of Columbia	236	37

FOOTNOTES

[1] NAEP 1996 Science: State Report For Kentucky, page 24. Statistical significance of difference between Kentucky and national result analyzed by NAEP.

[2] NAEP 1996 Science: State Report For Kentucky, page 33. Statistical significance of difference between Kentucky and national black performance calculated in Appendix A.

[3] NAEP 1996 Science: State Report For Kentucky, page 32. Statistical significance of difference between male and female performance in Kentucky and nation analyzed by NAEP.

[4] NAEP 1996 Science: State Report for Kentucky, page 38. Statistical significance of difference between Kentucky and national free/reduced lunch performance analyzed by NAEP.

[5] NAEP 1996 Science: State Report for Kentucky, page 33. Statistical significance of difference between white and Hispanic performance in Kentucky analyzed by NAEP. Statistical significance of difference between Kentucky and national Hispanic performance calculated in Appendix A.

[6] NAEP 1996 Science: State Report for Kentucky, page 33. Statistical significance of the black/white gap analyzed by NAEP.

[7] NAEP 1996 Science: State Report for Kentucky, page 33. Statistical significance of difference between Kentucky and national white performance calculated in Appendix A.

[8] NAEP 1996 Science: State Report for Kentucky, page 38. Statistical significance of difference between free/reduced lunch results and other students analyzed by NAEP.

[9] NAEP 1996 Mathematics: State Report for Kentucky, page 31. Statistical significance of increased score analyzed by NAEP.

[10] 1992 data comes from Table 1.1, 1992 Mathematics Assessment, 1992 4th Grade Public School Students, Average Mathematics Composite Scale Scores and Selected Percentiles," taken page 8 of the Cross-State Compendium, faxed to me by Kevin Hill of KDE on February 25. 1996 comes from NAEP 1996 Mathematics: Report Card for the Nation and the States, page 28. Analysis is shown in Appendix B.

[11] NAEP 1996 Mathematics: State Report for Kentucky, page 44. Statistical significance of male and female improvement analyzed by NAEP

[12] NAEP 1996 Mathematics: State Report for Kentucky, page 48. Statistical significance of white, black and Hispanic improvement analyzed by NAEP.

[13] NAEP 1996 Mathematics: State Report for Kentucky, page 58. Statistical significance of difference in Kentucky and national free/reduced lunch performance analyzed by NAEP on page 57.

[14] NAEP 1996 Mathematics: State Report for Kentucky, page 75. Statistical significance of improvement in percent "at or above basic" analyzed by NAEP.

[15] NAEP 1996 Mathematics: State Report for Kentucky, page 75. Statistical significance of "at or above proficient" change analyzed by NAEP. Statistical significance of "advanced" change calculated in Appendix A.

[16] NAEP 1996 Mathematics: State Report for Kentucky, page 75. Statistical significance of difference in Kentucky and national percentages "at or above basic" calculated in Appendix A.

[17] NAEP 1996 Mathematics: State Report for Kentucky, pages 39-40. Statistical significance of subarea improvements analyzed by NAEP.

[18] NAEP 1996 Mathematics: State Report for Kentucky, page 39-40. Statistical significance of subarea improvements calculated in Appendix A.

[19] NAEP 1996 Mathematics: State Report for Kentucky, page 35. Statistical significance of differences among states analyzed by NAEP.

[20] NAEP 1996 Mathematics: State Report for Kentucky, page 48. (Details in the text above.)

[21] NAEP 1996 Mathematics: State Report for Kentucky, page 58. Statistical significance of difference between free/reduced lunch students and others analyzed by NAEP on page 57.

[22] NAEP 1996 Mathematics: State Report for Kentucky, page 48. Statistical significance of difference between Kentucky and national results for white and black students calculated in Appendix A.

[23] NAEP 1996 Mathematics: State Report for Kentucky, page 45. Statistical significance of differences between Kentucky and national results for male and female students calculated in Appendix A.

[24] NAEP 1996 Mathematics: State Report for Kentucky, page 32. Statistical significance of improvement analyzed by NAEP.

[25] 1992 data comes from Table 1.4, 1992 Mathematics Assessment, 1992 4th Grade Public School Students, Average Mathematics Composite Scale Scores and Selected Percentiles," taken page 13 of the Cross-State Compendium, faxed to me by Kevin Hill of KDE on February 25. 1996 comes from NAEP 1996 Mathematics: Report Card for the Nation and the States, page 28. Analysis is shown in Appendix B.

[26] NAEP 1996 Mathematics: State Report for Kentucky, page 46. Statistical significance of male and female improvement analyzed by NAEP.

[27] NAEP 1996 Mathematics: State Report for Kentucky, page 50. Statistical significance of white and black improvement analyzed by NAEP on page 49.

[28] NAEP 1996 Mathematics: State Report for Kentucky, page 54. Statistical significance of improvements for education subpopulations analyzed by NAEP on page 53.

[29] NAEP 1996 Mathematics: State Report for Kentucky, page 76. Statistical significance of improvement in percentage "at or above basic" analyzed by NAEP.

[30] NAEP 1996 Mathematics: State Report for Kentucky, page 76. Statistical significance of improvement in percentage "at or above proficient" analyzed by NAEP.

[31] NAEP 1996 Mathematics: State Report for Kentucky, page 76. Statistical significance for percentage "at or above basic" compared to nation calculated in Appendix A.

[32] NAEP 1996 Mathematics: State Report for Kentucky, pages 41-42. Statistical significance of subarea improvements analyzed by NAEP.

[33] NAEP 1996 Mathematics: State Report for Kentucky; page 76. Statistical significance for percentage "at or above basic" compared to nation calculated in Appendix A.

[34] NAEP 1996 Science: State Report for Kentucky, page 50. Statistical significance of gap between black and white Kentucky students analyzed by NAEP on page 49.

[35] NAEP 1996 Science: State Report for Kentucky, page 58. Statistical significance of gap between free/reduced lunch students and others analyzed by NAEP on page 57.

[36] NAEP 1996 Mathematics: State Report for Kentucky, page 50. Statistical significance of black and white improvement analyzed by NAEP.

[37] NAEP 1996 Mathematics: State Report for Kentucky, page 46. Statistical significance of male and female improvement analyzed by NAEP.

[38] NAEP 1998 Reading: State Report for Kentucky, page 9. Statistical significance of increased score analyzed by NAEP.

[39] NAEP 1998 Reading Report Card, pages 114 and 115. Statistical significance analyzed by NAEP.

[40] This assertion is documented in the preceding pages of this report.

[41] NAEP 1998 Reading Report Card, page 113. Analysis is shown in Appendix B.

[42] NAEP 1998 Reading: State Report for Kentucky, page 23. Statistical significance of male and female improvement analyzed by NAEP (page 22).

[43] NAEP 1998 Reading: State Report for Kentucky, page 35. Statistical significance of improvement in scores of free and reduced lunch students analyzed by NAEP (page 34).

[44] NAEP 1998 Reading: State Report for Kentucky, page 21. Statistical significance of improvement in percent "at or above basic" analyzed by NAEP (page 20).

[45] NAEP 1998 Reading: State Report for Kentucky, page 21. Statistical significance of "at or above proficient" change analyzed by NAEP (page 20).

[46] NAEP 1998 Reading: State Report for Kentucky, page 75. Statistical significance of difference in Kentucky and national percentages "at or above basic" and "at or above proficient" calculated in Appendix A.

[47] NAEP 1998 Reading: State Report for Kentucky, page 21: the relationship between achievement levels and scale scores is explained in the notes to the table.

[48] NAEP 1998 Reading: State Report for Kentucky, page 27. Statistical significance of the decline in black students' scores analyzed by NAEP (page 26).

[49] NAEP 1998 Reading: State Report for Kentucky, page 27. Statistical significance of difference between Kentucky and national results for white students calculated in Appendix A.

[50] NAEP 1998 Reading: State Report for Kentucky, page 35. Statistical significance of difference between free/reduced lunch students and others analyzed by NAEP (page 34).

[51] NAEP 1998 Reading: State Report for Kentucky, page 19. Statistical significance of improvement analyzed by NAEP.

[52] NAEP 1998 Reading Report Card, page 117. Rankings are shown in Appendix B.

[53] NAEP 1998 Reading: State Report for Kentucky, page 35. Statistical significance of difference in Kentucky and national scores for free and reduced lunch students analyzed by NAEP (page 34).

[54] NAEP 1998 Reading: State Report for Kentucky, page 21. Statistical significance difference between Kentucky and national black student score analyzed by NAEP (page 20).

[55] NAEP 1998 Reading: State Report for Kentucky, page 27. Statistical significance difference between Kentucky and national female student score analyzed in Appendix A.

[56] NAEP 1998 Reading: State Report for Kentucky, page 21. Statistical significance difference between Kentucky and national percentages "at or above basic" analyzed by NAEP (page 20).

[57] NAEP 1998 Reading: State Report for Kentucky, page 21: the relationship between achievement levels and scale scores is explained in the notes to the table.

[58] NAEP 1996 Science: State Report for Kentucky, page 27. Statistical significance of gap between black and white Kentucky students analyzed by NAEP (page 26).

[59] NAEP 1998 Reading: State Report for Kentucky, page 50. Statistical significance of difference between Kentucky and national white student scores analyzed in Appendix A.

[60] NAEP 1998 Reading: State Report for Kentucky, page 35. Statistical significance of gap between free/reduced lunch students and others analyzed by NAEP (page 34).

Making It To Graduation

A Cohort Survival Analysis of Kentucky Public High Schools

The Prichard Committee for Academic Excellence
August 1999

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Making It To Graduation:
A Cohort Survival Analysis of Kentucky Public High Schools

Executive Summary

This is a report of a study of persistence and attrition among Kentucky public high school students. The study spans the period from 1977-78 through 1997-98. It examines the rate at which fall 9th grade students in Kentucky's public high schools persisted in their enrollment to fall 10th grade, to fall 11th grade, and to fall 12th grade enrollments, and from there to become regular high school graduates. **This is called a cohort survival analysis.**

Over the last two decades, an average of about 70 percent of a given cohort, or group, of Kentucky 9th grade students have become regular high school graduates. The remaining 30 percent have dropped out of high school along the way.

To foster understanding of persistence and attrition in Kentucky high schools, two types of comparisons are developed in this analysis. The first is the comparison of Kentucky to itself over time, over the period both before and after the 1990 Kentucky Education Reform Act became law. The second is the comparison of Kentucky's experience to the nation's experience. Here it is possible to see clearly when, where, and by how much Kentucky made progress in its efforts to address the problem of high school drop outs.

The graded school enrollment data used for this analysis have all been collected by the Kentucky Department of Education. These data have been reported to two main bodies: the National Center for Education Statistics (NCES) through its Common Core of Data collection for public K-12 education, and the Western Interstate Commission for Higher Education (WICHE) for its annual projections of high school graduates for each state. In this analysis we used data supplied to us by the Kentucky Department of Education, NCES and WICHE.

The results of the cohort survival analysis show progress in public high school graduation in Kentucky over the last two decades. A summary graph of this analysis, comparing Kentucky to the nation over most of the last two decades, is on the following page.

- The chance that a Kentucky 9th grader would become a high school graduate increased from about 68 percent in the early 1980s to a peak of about 72 to 73 percent in the early 1990s but has since dropped back to a little over 68 percent.

- Kentucky's progress mainly stands out when compared to national trends and patterns. Between 1980 and the early 1990s, Kentucky moved up from well behind the national public high school graduation rate to just above the national rate.
- Since 1991 Kentucky's public high school graduation rate has remained just above the national rate. Compared to the national data, Kentucky's progress came primarily from keeping 9th graders enrolled to the 10th grade, between 11th and 12th grades, and from fall 12th grade to high school graduation.

The Data

This study is based entirely on enrollment and regular high school graduate data. For this kind of study, accuracy and definitions are important. Thus, a fair part of the study was simply devoted to obtaining and carefully examining the best data available.

Specifically, the enrollment data used in this study is based on fall counts of public school enrollment by grade, beginning with the 9th grade and continuing through 12th grade enrollments. These graded public high school enrollments are collected each year by the Kentucky Department of Education and reported on the Common Core of Data survey report form to the NCES. NCES publishes these data by grade, state, and year in several publications, including the annual *Digest of Education Statistics*.

Additionally, WICHE retrieves these data from each state, including Kentucky, for its annual forecasts of high school graduates by state. These data differ somewhat from the data reported to NCES due to later reporting dates that include opportunities to update and correct data reported earlier to NCES.

Finally, regular public high school graduation rate data are added to this file. This includes the number of regular high school graduates from Kentucky public high schools during a given academic year. Our analysis of these data suggests that the earlier data reported to NCES contained inconsistent and often substantial errors. Thus, for this analysis we chose instead to use data supplied by the Kentucky Department of Education to WICHE, and to this study's author, as the final and best count of Kentucky's annual production of regular high school graduates.

Alternative Credentials

This study uses data on regular public high school graduates only in the cohort survival analysis. Although the Census Bureau counts those acquiring alternative credentials as high school graduates in compiling data on *status* high school graduates, we do not do so here. Our analysis measures events occurring between two points in time and thus is called *event* measurement. The Census Bureau's monthly sampling of the population measures status.

Alternative high school credentials include the GED, diplomas awarded by the National External Diploma Program, or various distance study diploma programs recognized by the Distance Education and Training Council.

Cohort Survival Analysis

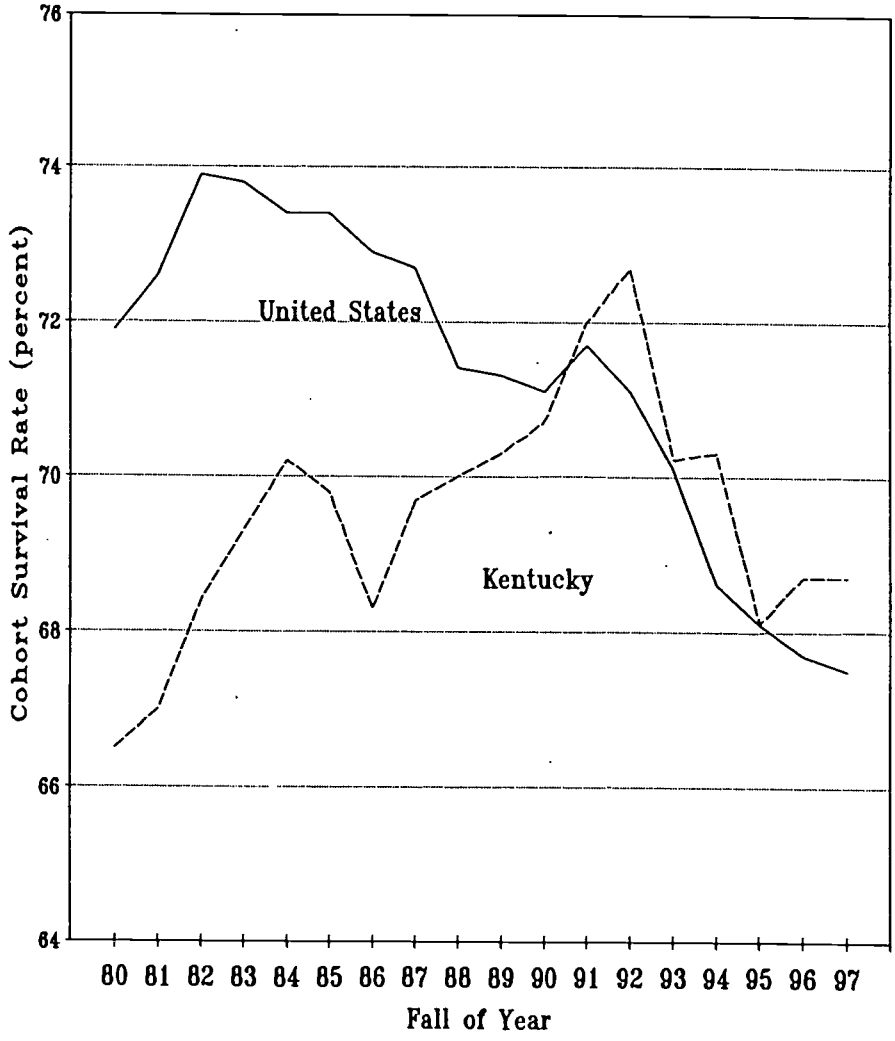
The analysis of enrollment and graduation data performed here tracks a specific cohort, or group, of students through the high school years to regular high school graduation. This tracking and measurement is called cohort survival analysis.

To illustrate by example:

- In 1996-97 there were **37,456** regular public high school graduates in Kentucky.
- When this class enrolled in the 9th grade in the fall of 1993, there were **54,502** students in the cohort.
- In the fall of 1994, when they were 10th graders, their numbers had dropped to **48,521**.
- A year later, when they were in the 11th grade, there were **43,614** enrolled.
- By their senior year in the fall of 1996, **38,460** were still enrolled.
- Of this total, **37,456** became regular high school graduates.

To control for differences in size, to facilitate comparisons with national data, and to enable projections of currently enrolled students to future estimates of high school graduates, cohort survival *rates* are commonly used. For the cohort described above, for example, the cohort survival rate between the 9th and 10th grades was 89 percent. Expressed another way, 11 percent dropped out of the public school system. Working through the four grades, we find that, of the original cohort, 68.7 percent were regular high school graduates. (The numbers and cohort survival rates for Kentucky and the nation are shown in the tables on the following pages.)

Grade 9 to Graduation Cohort Survival Rates
Kentucky and United States
1980-81 to 1997-98



Kentucky Public High School Enrollment Cohort Survival

Year	Grade 9	Grade 10	Cohrt Srvvl Rate	Grade 11	Cohrt Srvvl Rate	Grade 12	Cohrt Srvvl Rate	Regular Hgh Sch Grads	Cohort Srvivl Rate	Cohort Grad Rate
77-78	63,472	57,413		50,311		44,375		41,611	0.938	
	Dropout:N							-2,764		
	Dropout:%							-6.2%		
78-79	63,618	55,668	0.877	49,522	0.863	43,818	0.871	41,402	0.945	
	Dropout:N	-7,804		-7,891		-6,493		-2,416		
	Dropout:%	-12.3%		-13.7%		-12.9%		-5.5%		
79-80	59,727	55,746	0.876	49,333	0.886	42,946	0.867	41,203	0.959	
	Dropout:N	-7,872		-6,335		-6,576		-1,743		
	Dropout:%	-12.4%		-11.4%		-13.3%		-4.1%		
80-81	56,989	52,440	0.878	49,889	0.895	43,500	0.882	42,234	0.971	0.665
	Dropout:N	-7,287		-5,857		-5,833		-1,266		
	Dropout:%	-12.2%		-10.5%		-11.8%		-2.9%		
81-82	54,869	50,453	0.885	47,215	0.900	44,238	0.887	42,636	0.964	0.670
	Dropout:N	-6,536		-5,225		-5,651		-1,602		
	Dropout:%	-11.5%		-10.0%		-11.3%		-3.6%		
82-83	54,090	48,868	0.891	45,768	0.907	41,822	0.886	40,839	0.976	0.684
	Dropout:N	-6,001		-4,685		-5,393		-983		
	Dropout:%	-10.9%		-9.3%		-11.4%		-2.4%		
83-84	54,428	48,382	0.894	45,112	0.923	40,773	0.891	39,468	0.968	0.693
	Dropout:N	-5,708		-3,756		-4,995		-1,305		
	Dropout:%	-10.6%		-7.7%		-10.9%		-3.2%		
84-85	57,180	48,085	0.883	44,657	0.923	39,983	0.886	38,532	0.964	0.702
	Dropout:N	-6,343		-3,725		-5,129		-1,451		
	Dropout:%	-11.7%		-7.7%		-11.4%		-3.6%		
85-86	57,749	50,797	0.888	43,445	0.904	39,284	0.880	37,762	0.961	0.698
	Dropout:N	-6,383		-4,640		-5,373		-1,522		
	Dropout:%	-11.2%		-9.6%		-12.0%		-3.9%		
86-87	55,038	51,772	0.897	46,040	0.906	38,991	0.897	37,189	0.954	0.683
	Dropout:N	-5,977		-4,757		-4,454		-1,802		
	Dropout:%	-10.3%		-9.4%		-10.3%		-4.6%		
87-88	51,188	49,605	0.901	47,244	0.913	41,586	0.903	39,849	0.958	0.697
	Dropout:N	-5,433		-4,528		-4,454		-1,737		
	Dropout:%	-9.9%		-8.7%		-9.7%		-4.2%		
88-89	48,563	46,075	0.900	44,841	0.904	42,382	0.897	40,435	0.954	0.700
	Dropout:N	-5,113		-4,764		-4,862		-1,947		
	Dropout:%	-10.0%		-9.6%		-10.3%		-4.6%		
89-90	50,010	43,520	0.896	41,319	0.897	40,186	0.896	38,693	0.963	0.703
	Dropout:N	-5,043		-4,756		-4,655		-1,493		
	Dropout:%	-10.4%		-10.3%		-10.4%		-3.7%		
90-91	50,958	45,483	0.909	39,689	0.912	37,577	0.909	36,206	0.964	0.707
	Dropout:N	-4,527		-3,831		-3,742		-1,371		
	Dropout:%	-9.1%		-8.8%		-9.1%		-3.6%		
91-92	53,502	45,549	0.894	41,277	0.908	36,131	0.910	34,945	0.967	0.720
	Dropout:N	-5,409		-4,206		-3,558		-1,186		
	Dropout:%	-10.6%		-9.2%		-9.0%		-3.3%		
92-93	53,819	48,497	0.906	41,441	0.910	38,029	0.921	36,360	0.956	0.727
	Dropout:N	-5,005		-4,108		-3,248		-1,669		
	Dropout:%	-9.4%		-9.0%		-7.9%		-4.4%		
93-94	54,502	48,467	0.901	43,758	0.902	37,629	0.908	35,777	0.951	0.702
	Dropout:N	-5,352		-4,739		-3,812		-1,852		
	Dropout:%	-9.9%		-9.8%		-9.2%		-4.9%		
94-95	55,758	48,521	0.890	43,371	0.895	39,482	0.902	37,588	0.952	0.703
	Dropout:N	-5,981		-5,096		-4,276		-1,894		
	Dropout:%	-11.0%		-10.5%		-9.8%		-7.3%		
95-96	56,572	49,429	0.886	43,614	0.899	38,797	0.895	36,641	0.944	0.681
	Dropout:N	-6,329		-4,907		-4,574		-2,156		
	Dropout:%	-11.4%		-10.1%		-10.5%		-5.6%		
96-97	55,989	48,867	0.864	43,346	0.877	38,460	0.882	37,456	0.974	0.687
	Dropout:N	-7,705		-6,083		-5,154		-1,004		
	Dropout:%	-13.6%		-12.3%		-11.8%		-2.6%		
97-98	57,537	49,963	0.892	44,440	0.909	40,153	0.926	38,282	0.953	0.687
	Dropout:N	-6,026		-4,427		-3,193		-1,871		
	Dropout:%	-10.8%		-9.1%		-7.4%		-4.7%		

United States Public High School Cohort Survival

Year	Grade 9	Grade 10	Cohrt Srvvl Rate	Grade 11	Cohrt Srvvl Rate	Grade 12	Cohrt Srvvl Rate	Regular High Sch Grads	Cohort Srvivl Rate	Cohort Grad Rate
77-78	3,791,949	3,708,113		3,402,462		3,038,845				
78-79	3,726,000	3,610,000	0.952	3,312,000	0.893	3,023,000	0.888			
79-80	3,516,450	3,526,798	0.947	3,240,615	0.898	2,968,543	0.896	2,747,678	0.926	
80-81	3,379,921	3,375,217	0.960	3,194,641	0.906	2,924,899	0.903	2,725,285	0.932	0.719
81-82	3,290,428	3,223,131	0.954	3,041,248	0.901	2,907,511	0.910	2,704,758	0.930	0.726
82-83	3,248,270	3,136,414	0.953	2,915,842	0.905	2,786,531	0.916	2,597,744	0.932	0.739
83-84	3,330,200	3,102,825	0.955	2,860,948	0.912	2,678,061	0.918	2,494,885	0.932	0.738
84-85	3,439,311	3,144,353	0.944	2,818,705	0.908	2,598,677	0.908	2,414,020	0.929	0.734
85-86	3,439,161	3,230,028	0.939	2,866,026	0.911	2,549,735	0.905	2,382,616	0.934	0.734
86-87	3,256,407	3,214,941	0.935	2,953,561	0.914	2,600,516	0.907	2,428,803	0.933	0.729
87-88	3,143,179	3,020,018	0.927	2,935,626	0.913	2,680,843	0.908	2,500,192	0.933	0.727
88-89	3,106,280	2,894,602	0.921	2,748,750	0.910	2,649,674	0.903	2,456,139	0.927	0.714
89-90	3,141,456	2,867,522	0.923	2,629,483	0.908	2,473,278	0.900	2,320,337	0.938	0.713
90-91	3,169,211	2,896,670	0.922	2,612,157	0.911	2,380,470	0.905	2,234,893	0.939	0.711
91-92	3,313,235	2,915,420	0.920	2,645,100	0.913	2,392,456	0.916	2,226,016	0.930	0.717
92-93	3,351,766	3,027,541	0.914	2,656,266	0.911	2,432,367	0.920	2,233,241	0.918	0.711
93-94	3,486,958	3,050,404	0.910	2,751,227	0.909	2,424,031	0.913	2,220,849	0.916	0.701
94-95	3,604,115	3,131,234	0.898	2,748,189	0.901	2,487,552	0.904	2,273,541	0.914	0.686
95-96	3,704,455	3,237,391	0.898	2,826,023	0.903	2,487,135	0.905	2,281,317	0.917	0.681
96-97	3,792,818	3,316,015	0.895	2,925,139	0.904	2,581,941	0.914	2,359,572	0.914	0.677
97-98	3,818,929	3,376,595	0.890	2,972,004	0.896	2,673,067	0.914	2,433,373	0.910	0.675

Comparisons over Time to National Data

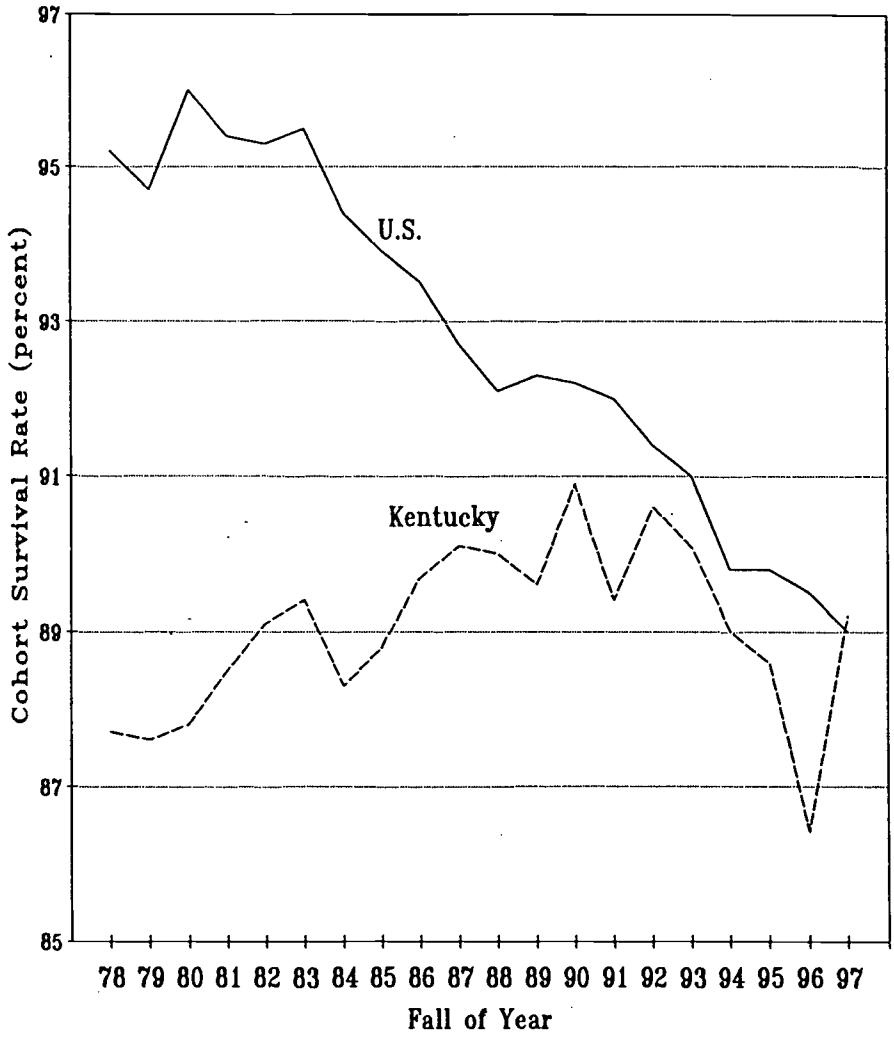
Ninth-to-tenth grade cohort survival rate. As shown in the graph on the following page, the rate at which Kentucky 9th graders moved on to the 10th grade improved slightly between the late 1970s and the early 1990s, from about 88 to about 90 percent, and has declined since then to about 89 percent. (The 1996 spike suggests that the data point is suspect.) The real gain for Kentucky is relative: Kentucky's rate edged up while the national rate was declining sharply. By the fall of 1997, for the first time in two decades, the rate for Kentucky, 89.2 percent, surpassed the national rate, 89 percent.

Tenth-to-eleventh grade cohort survival rates. There is very little difference over the last two decades between the Kentucky and national cohort survival rates between the 10th and 11th grade. However, between the extremes in time, Kentucky's rate has clearly increased more than the national rate. (Again, the 1996 spike suggests suspect data.)

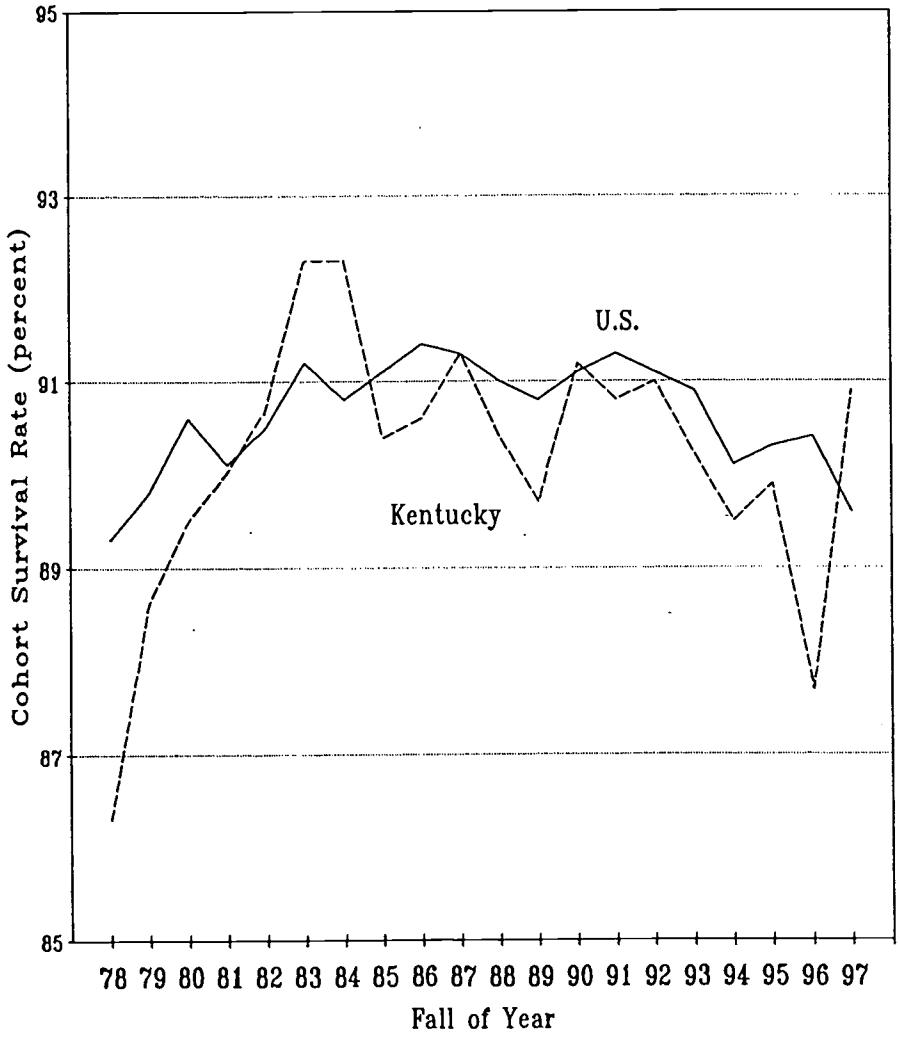
Eleventh-to-twelfth grade cohort survival rates. Here Kentucky has made progress, both compared to its own record and compared to the national rate. In 1978-79 the cohort survival rate was 87.1 percent. By 1997-98 it had increased to 92.6 percent – the highest rate for Kentucky over the last two decades. Moreover, in 1978-79 Kentucky's survival rate stood 1.7 percentage points below the national rate. By 1997-98 Kentucky's rate stood 1.6 percentage points above the national rate.

Fall twelfth grade to graduation cohort survival rates. Kentucky's rate of graduating seniors who enroll in the fall of their senior year has typically been above the national rate. Kentucky's rate has increased over the last two decades while the national rate has been declining.

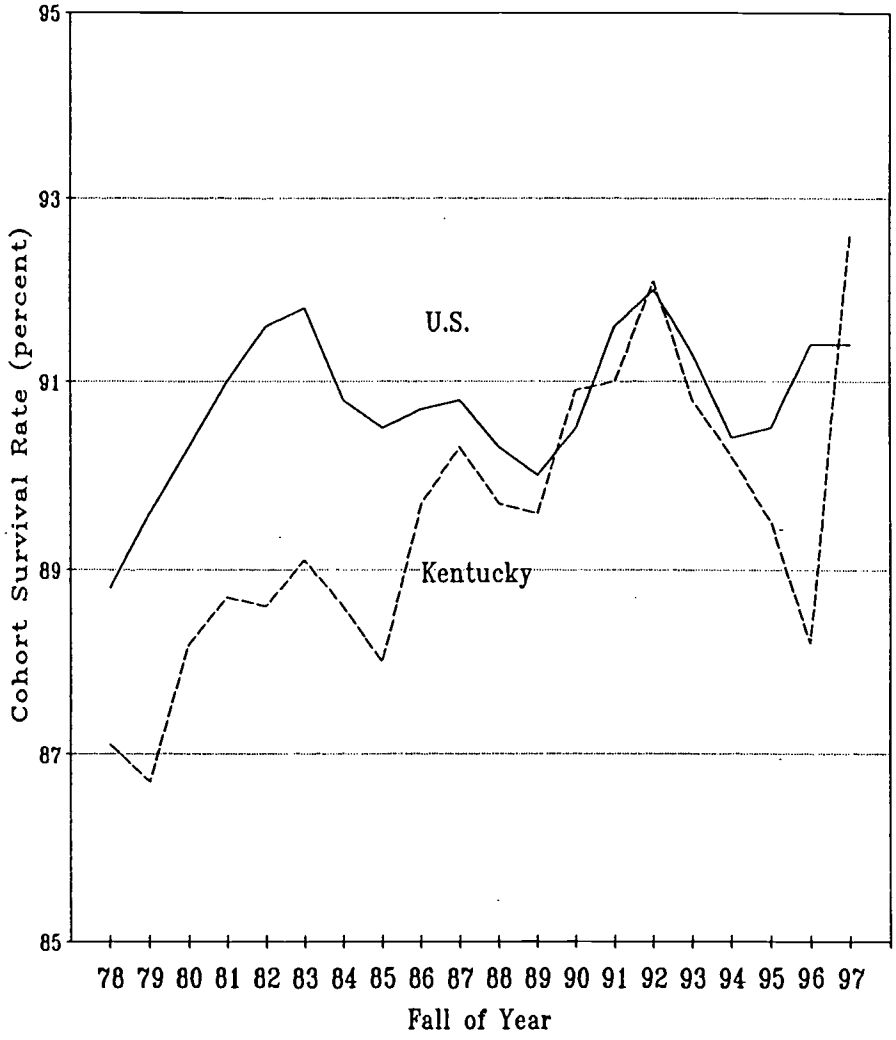
Grade 9 to Grade 10 Cohort Survival Rates
Kentucky and United States
1978-79 to 1997-98



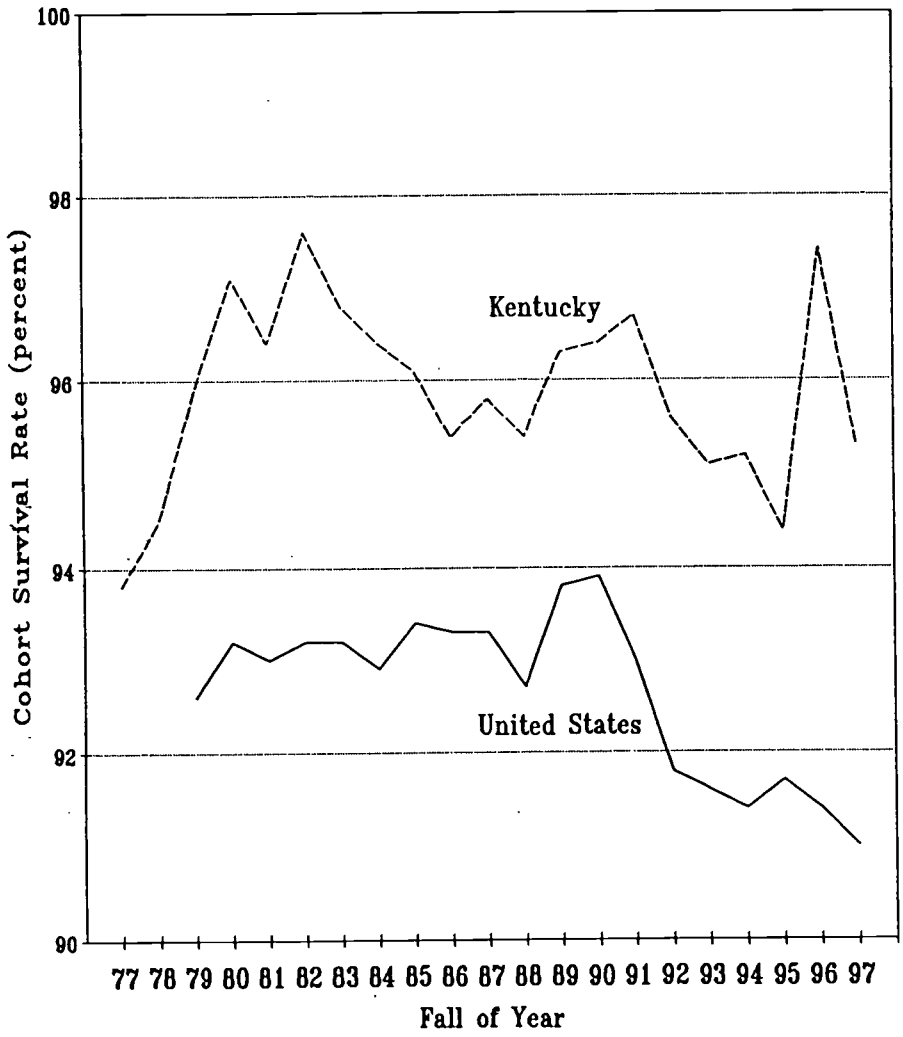
Grade 10 to Grade 11 Cohort Survival Rates
Kentucky and United States
1978-79 to 1997-98



Grade 11 to Grade 12 Cohort Survival Rates
Kentucky and United States
1978-79 to 1997-98



Grade 12 to Graduation Cohort Survival Rates
Kentucky and United States
1977-78 to 1997-98



Summary and Commentary

This study has examined public high school enrollment data for about the last two decades for the purpose of reaching useful understandings about the problem of high school attrition before and after the 1990 education reforms. Enrollment and regular high school graduate data originally collected through the Kentucky Department of Education and subsequently reported to NCES and WICHE were examined through a cohort survival analysis. To add insight into what has happened in Kentucky, the state data were compared to national data over the same period.

Analysis of the data leads to findings and conclusions; the findings are expressed in the cohort survival rates.

- Between 1980 and 1992 the chance that a 9th grader would become a regular public high school graduate in Kentucky increased from 66.5 percent to a peak of 72.7 percent. By 1997, it had dropped back to 68.7 percent.
- Currently in Kentucky, about one out of three fall 9th graders will not graduate with his or her classmates.
- Until the late 1980s, Kentucky ranked well behind the nation in the chance that a 9th grader would become a regular high school graduate. The gap between Kentucky and the national 9th grade-to-graduation cohort survival rate closed rapidly in the late 1980s and by 1991 Kentucky's rate rose above the nation's. The state and national rates remained about equal in the mid-1990s, but in 1996 and 1997 Kentucky's rate rose above the national rate.
- Compared to national data, Kentucky's greatest gains have occurred between fall 9th and 10th grade enrollments and between fall 11th and 12th grade enrollments.
- Kentucky's 10th to 11th grade cohort survival rate is nearly identical to the national rate.
- Kentucky's fall 12th grade to regular high school graduation enrollment rate is and nearly always has been well above the national average.
- The cohort survival rates for African-American students trail those for white students. From 1994-95 to 1997-98, the survival rate for white students was 70.4 percent; for African-American students, the rate was 58.4 percent.
- The 1997-98 public high school regular graduation number is 38,282. The 9th grade-to-graduation survival rate is 68.7 percent, the same as in 1996-97. This puts Kentucky above the preliminary estimated national rate of 67.5 percent.

By any fair measure, Kentucky has made significant progress over the last two decades in improving the rate at which its public high school students graduate. The rate of gain within Kentucky is small. But this small gain occurred at the same time that the national data were deteriorating sharply. Measured against the national decline, Kentucky's small gain looks very strong.

However, by another measure – the educational attainment requirements of the American labor force – these data are not at all satisfactory. Since about 1973, the real (inflation adjusted) incomes of families headed by persons with only a high school diploma have been in decline. Declining income means declining living standards. That nearly one out of three Kentucky public high school students should leave school without graduating is simply not acceptable. They will start off at the lowest wages in jobs left over after those with more education have filled the available better-paying jobs. The experience of the last twenty-five years suggests that their real income will decline from there and so, too, will their living standards. Kentucky and the nation cannot afford the costs that will result from leaving a substantial portion of their citizens outside the benefits of national economic prosperity.

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Public High School Graduation Rates
Kentucky and United States
1980-81 to 1997-98

Academic Year	Kentucky				U.S. High School Graduation Rate
	Fall 9th Grade Enrollment	Regular High School Graduates	High School Graduation Rate	State Rank	
1997-98	55,758 ('94)	38,282	68.7%	30	67.5%
1996-97	54,502 ('93)	37,456	68.7%	31	67.7%
1995-96	53,819 ('92)	36,641	68.1%	33	68.1%
1994-95	53,502 ('91)	37,588	70.3%	31	68.6%
1993-94	50,959 ('90)	35,777	70.2%	35	70.1%
1992-93	50,010 ('89)	36,360	72.7%	33	71.1%
1991-92	48,563 ('88)	34,945	72.0%	35	71.7%
1990-91	51,188 ('87)	36,206	70.7%	36	71.1%
1989-90	55,038 ('86)	38,693	70.3%	34	71.3%
1988-89	57,749 ('85)	40,435	70.0%	37	71.4%
1987-88	57,180 ('84)	39,849	69.7%	39	72.7%
1986-87	54,428 ('83)	37,189	68.3%	42	72.9%
1985-86	54,090 ('82)	37,762	69.8%	39	73.4%
1984-85	54,869 ('81)	38,532	70.2%	40	73.4%
1983-84	56,989 ('80)	39,468	69.3%	40	73.8%
1982-83	59,727 ('79)	40,839	68.4%	42	73.9%
1981-82	63,618 ('78)	42,636	67.0%	44	72.6%
1980-81	63,472 ('77)	42,234	66.5%	42	71.9%

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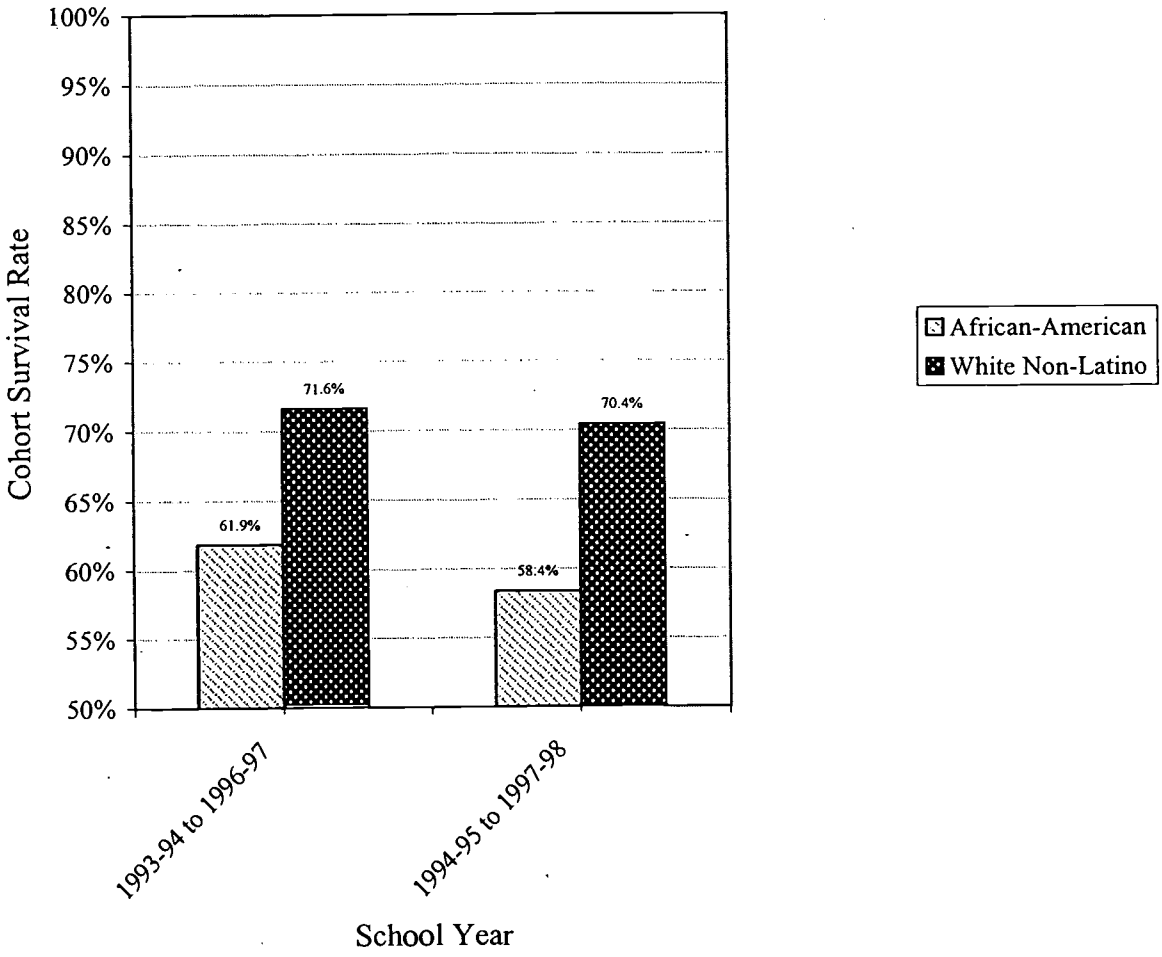
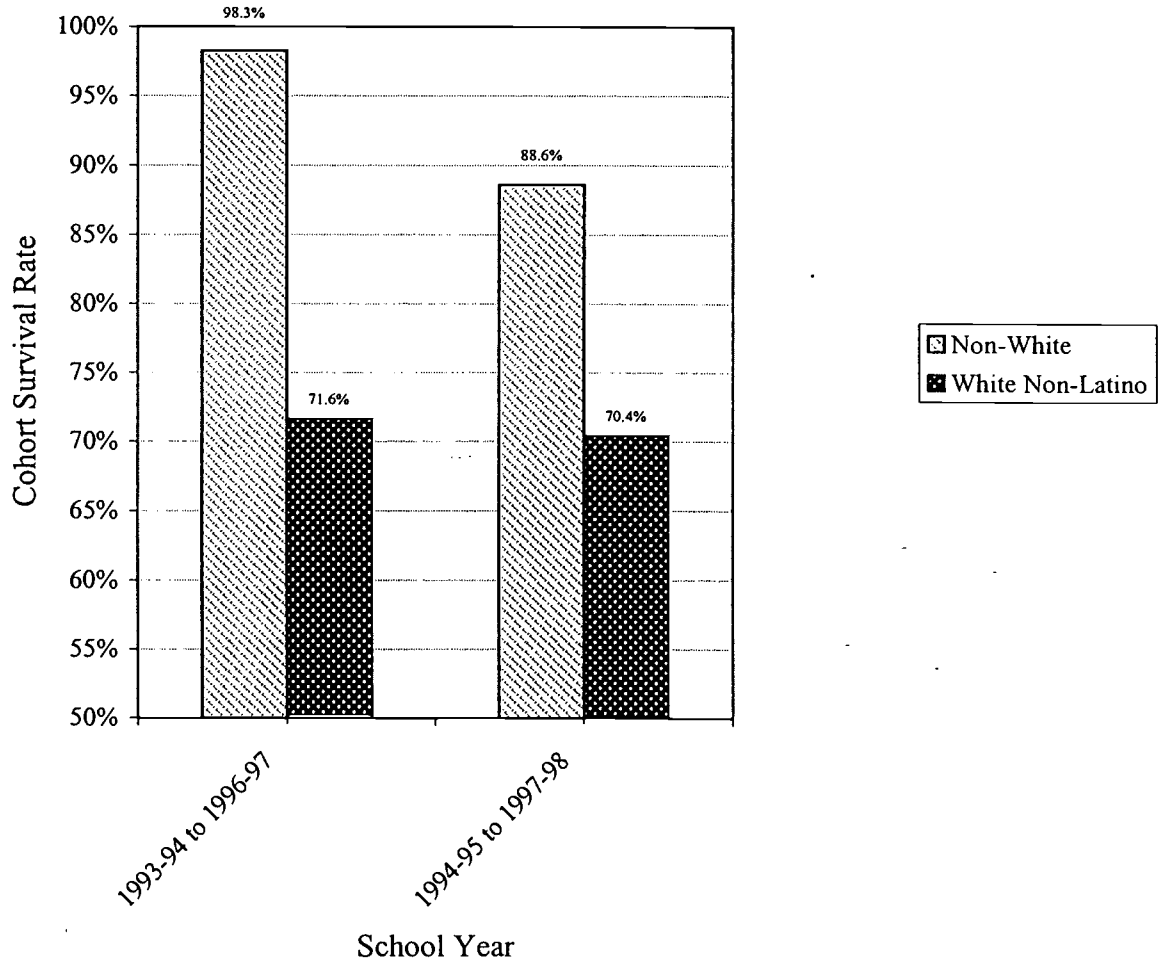
August 27, 1999

Kentucky Public High School Enrollment Cohort Survival Rates
Grade 9 to Graduate by Race (White Non-Latino and African-American)
1993-94 to 1997-98



Source: Western Interstate Commission for Higher Education. (February 1998). *Knocking at the College Door: Projections of High School Graduates by State and Race/Ethnicity, 1996-2012.* A Joint publication of WICHE and The College Board. Boulder, CO.

Kentucky Public High School Enrollment Cohort Survival Rates
Grade 9 to Graduate by Race (White Non-Latino and Non-White)
1993-94 to 1997-98



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About the Author

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Tom's policy research focuses on opportunity for postsecondary education and training and the ways public policy fosters or impedes access to that opportunity. He has special concern for populations that are under-represented in higher education. His studies have addressed academic and financial preparation for college, access, choice, persistence, attainment, and labor force entry of college graduates. He is particularly interested in public and private finance of higher education opportunity and the enrollment consequences of the cost-shift from taxpayers to students that has been under way for the last 20 years. He has been employed in policy research and budget analysis roles for the University of Minnesota, Illinois Board of Higher Education, Illinois State Scholarship Commission, and the American College Testing Program.

Currently Tom is editor and publisher of *Postsecondary Education OPPORTUNITY*, a monthly research letter devoted to analysis and reporting on the demographics, sociology, history, politics, and economics of educational opportunity after high school. He provides consulting services on higher educational opportunity policy to state and national organizations and makes presentations on opportunity throughout the country.

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October 8, 1999

DRAFT

FIRST THOUGHTS ON READING

PRICHARD COMMITTEE FOR ACADEMIC EXCELLENCE

Kentucky has a reading problem. Despite significant improvement in recent years, progress toward Kentucky's grand educational goal—all children learning at high levels—will be stymied unless these reading deficits are corrected.

Kentucky schools are not teaching children to read well enough. Too many adult Kentuckians do not read well enough to function in today's society. And the reading deficiencies of young and old are linked together. The reading gap in Kentucky is fundamental and basic. It is a burden that weighs Kentucky down, and it must be cast off.

Let's acknowledge up-front that teaching all children to read well is a bigger challenge in Kentucky than in many other places. That's why we need a full-scale war on illiteracy for young and old.

Why now? Although reading has always been a problem in Kentucky—about one million Kentucky adults have reading problems—school accountability has forced the spotlight on reading more powerfully than ever before. Schools are now responsible for results, for what children know and are able to do. In short, it now matters whether children can read.

I. Why is this challenge bigger here? Why must Kentucky emphasize reading?

Teaching all children to read well is a national challenge, one that every state is confronting. But states like Kentucky have bigger problems than most. Kentucky's poorly educated adult population, high poverty rates, and historic devaluing of education mean that a larger portion of children have difficulties learning to read than in many other states. Kentucky children have less support at home to learn to read and more obstacles; the deck is stacked against them. Kentucky schools have to try harder.

Why must we emphasize reading? Because reading is fundamental; it's "the mother's milk of learning," writes Harvard University's Jeanne Chall. Children who read poorly in the early grades will not be able to reach higher academic expectations when they get to middle and high school. Kentucky's middle and high school academic achievement will not increase if reading skills do not improve. Many youngsters with reading deficiencies will fail and drop out of high school. Adult drop-outs who are illiterate or who have inadequate skills are unlikely to succeed economically. They will not be able to help their own children learn to read well. It's a vicious cycle: poor reading skills lead to low school achievement and to dropping out, which leads to adult illiteracy, unemployment, and underemployment, which leads to reading problems for the next wave of youngsters.

There are, we believe, five areas related to reading that are of critical importance to the future of Kentucky: adult illiteracy; reading in the early grades; high school drop-outs; participation in postsecondary education; equity.

Adult illiteracy

The new report from the Kentucky Task Force on Adult Education and Literacy released in June, 1999, says that "adult illiteracy is like a disease that infects virtually every dimension of Kentucky life. Adult illiteracy saps the energy and capability of Kentucky's people and its economy. Adult illiteracy severely hinders the life chances of young children, undermines school reform, limits the opportunity for postsecondary education."

The task force reports:

- "Too many young Kentucky parents are unable to read and lack the basic literacy necessary to provide the necessary stimulating, supportive family environments for young children." Adults who have reading problems will probably have children who have reading problems unless schools are effective at teaching these children to read. Reading instruction for poor and minority children doesn't help them catch up if they are behind, given current methods of teaching reading.

- Forty percent (or one million) of Kentucky's working age population (ages 16 to 64) functions at the two lowest levels of literacy—not being able to read at all or at very limited to moderate reading ability. Fourteen percent of (346,000) Kentucky adults have no or virtually no literacy skills.

- "In 1990, Kentucky ranked first in the nation in the proportion of the population that had less than a ninth grade education, 19 percent, compared to 10.4 percent nationally. In 1990, 35.4 percent of Kentucky's population age 25 and older had less than a high school education, compared to 24.8 percent for the U.S."

- Differences within Kentucky are a special problem. "The differences within Kentucky are more severe than any differences between Kentucky and other states. Large portions of the state have literacy levels that could only compare with those of developing nations." Overcoming these regional differences are at the heart of the school reform effort in Kentucky. Evidence shows that the challenge of achieving educational quality in the poorest areas of Kentucky is severe.

- Illiteracy is a national problem. On average Kentucky's literacy levels are competitive with literacy levels of all Americans. ". . . the proficiency of Kentucky adults is higher than the national and regional averages . . . Fewer Kentucky adults perform at the lowest levels of literacy. . . . For prose literacy, 14 percent of Kentucky adults are at the lowest level, compared to 23 percent for the southeast and 21 percent nationally."

- But the task force says these national rankings are deceiving. "A more important question for Kentucky, however, is how its level of literacy compares with its competitor states—many of which are not in the southeast. Kentucky's mean proficiency level is significantly below those for Illinois, Indiana, Missouri, Ohio, and Virginia. In other words, these literacy data are good news when Kentucky is compared to the states of the deep south, but not such good news when compared to states . . . that are major competitors in economic development."

- A child's literacy is heavily dependent on his or her parents. "Children's literacy levels are strongly linked to the educational level of their parents, especially their mother's. Children of parents who are unemployed and have not completed high school are five times more likely to drop out of school than children of employed parents."

Reading in the early grades

Evidence of our inattention to reading is pervasive. Researchers have proved that test scores go up for every hour a child reads each week; scores go down for every hour of television a child watches. Kentucky children watch more television than do students in most other states, read less for fun, and visit their local libraries less often. Only four other states have more fourth grade children who watch TV longer than Kentucky children. Only 40 percent of Kentucky's children read for fun every day. (Only two states are lower.) Only four other states had fewer family visits to libraries: Arkansas, Louisiana, Mississippi, and Tennessee. Ironically, Kentucky is rich in both public libraries and literary talent. It is, indeed, famous for its writers. The Commonwealth is a "land of contrast," Kentucky historian laureate Thomas D. Clark is fond of saying.

The goal of Kentucky education is to break the cycle of illiteracy and ignorance over the next generation. How? By educating all children well. In the long-run, high school completion (with strong skills and knowledge, not just a collection of credits) will rise, and adult illiteracy will decline. We believe in this goal and there is evidence that headway is being made. Indeed, on fourth and eighth grade reading tests, Kentucky is somewhat above the national average and has made progress equaled to only two other states.

But Kentucky must move further and faster. Reading is fundamental to educational progress. Too many of Kentucky's fourth graders move on to middle school without the reading skills they need to master academic content at the next level. Data from the Kentucky Department of Education to determine how many of Kentucky's fourth graders fall into this category is sketchy. (The Department needs to analyze its data to determine the exact scope of the reading problem.) Nonetheless, we estimate that about 50 percent of Kentucky's fourth graders do not have the reading skills they need to handle content at the middle school level. (We emphasize again that this is a national problem. In all states far too many children do not read well enough and will become adult illiterates.)

When children move on from the fourth grade, they must also progress from "learning to read" to "reading to learn." Children cannot handle academic content such as science, math, social studies, and literature if they cannot decode and comprehend it. Children cannot handle challenging test questions based on written passages if they cannot comprehend the passages.

Without improved reading in the early grades, middle and high school achievement will falter. Reading is not taught in middle and high schools except for rare cases. If a student falls behind or cannot read at all by fourth grade, there is little or no chance for him or her to catch up. This creates a self-defeating situation for an educational system, such as Kentucky's, where academic results count.

In other words, all schools will not reach their goals on Kentucky's new accountability system by the year 2014 unless all children can read well enough to handle subject matter at the next level. An analysis of reading scores and test items in middle school by Renee Murray at the University of Kentucky shows that:

- "While reading performance has improved over the past six years, only 15 percent of Kentucky's seventh graders scored at the goal of proficient level in 1998. The greatest gain has been the reduction of scores in the novice range, but only four percent more have achieved proficiency."

- The skills required to "read to learn" are limited. "Some of the individual skills that would appear to be most useful in independent content area reading are those on which students score lowest: text features, organizational patterns, persuasive techniques, sequence, following directions, skimming and scanning."

- "Many skills which are tested at fourth grade are also assessed . . . with more difficult text at seventh grade. Students' scores at seventh grade are lower than fourth grade in skills considered important to independent reading in middle grades; for example, text features, organization, main ideas and details, sequence."

- Four of the five skills that are most important for success in content classes have the lowest scores (summarizing, skimming, scanning, identifying persuasive techniques and recognizing figurative language).

High school dropouts

Poor reading skills lead to failure in high school and to dropping out. (Students who fall behind are those who drop out.) Although Kentucky's high school completion rate is slightly above the national average and has improved somewhat in the past 10 years, 31 percent of Kentucky's ninth graders fail to complete high school four years later. The vicious cycle starts over again.

One reason, we believe, that there has been so little change in high school completion rates since the 1970s is that such a large fraction of children fail to learn to read well enough in the early grades. Vastly improved reading will, over time, increase Kentucky's high school graduation rate.

Participation in postsecondary education

Poor reading skills result in low participation in postsecondary education and to a high need for remedial education. If 31 percent of our ninth-graders fail to complete high school, and many other students graduate from high school without adequate preparation for postsecondary learning, Kentucky will not be able to increase its postsecondary participation up to the national level, the goal established in 1998 by Governor Paul Patton and the Kentucky General Assembly.

Inequity

Poor reading skills fuel inequities. In Kentucky all schools, no matter what their student bodies are like, are expected to teach all children so they reach high academic levels. The focus is on results and reading deficiencies prevent results. We have noted elsewhere in this report that Kentucky's poorest regions are far behind others in adult literacy and high school graduation rates. We also know from reviewing Kentucky's student achievement data that reading scores for poor children and African-American children are not improving as fast as scores for other children. In addition, boys are not achieving as much as girls. Indeed, one researcher has said recently, "white girls are pulling up Kentucky's reading scores."

II. Why aren't we making more progress?

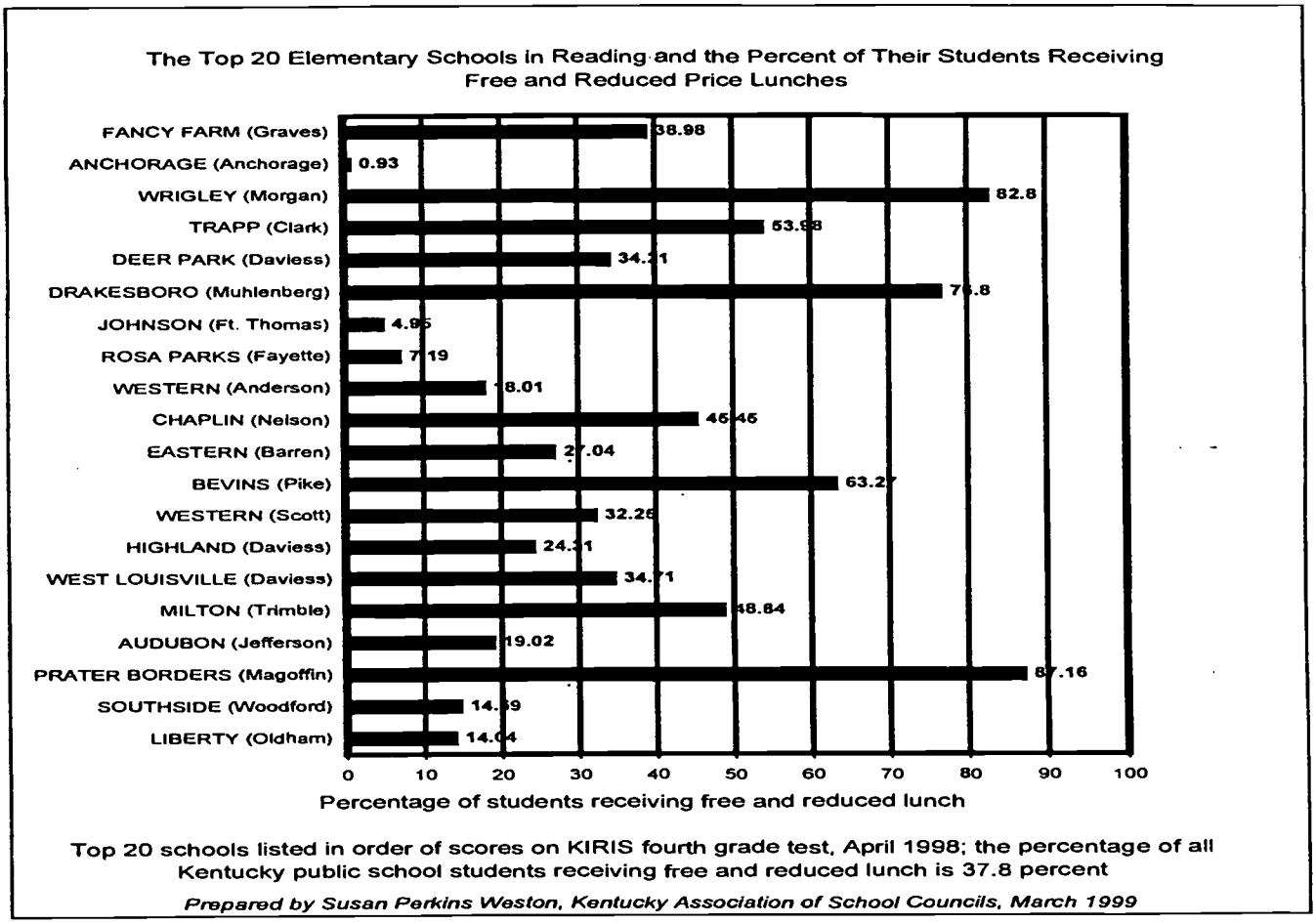
In a nutshell, we believe that progress in reading is limited by these causes:

- Too many teachers assume that children learn to read like they learn to walk; too many believe that their teaching will have little effect on the child's reading.
- Reading is not being taught effectively in the primary schools, especially to children who have difficulty learning to read. Teaching reading has not included adequate attention to phonological awareness, the ability to attend to the sounds of language as distinct from its meaning. Children who have not come to kindergarten with this ability are left behind and need special instruction to catch up.
- Students' reading skills are not being assessed enough in an ongoing manner for diagnostic purposes.
- Parents are not being involved enough in helping their children with reading; too many parents have trouble helping.
- Adult illiteracy is not being eradicated fast enough.
- An adequate array of teaching practices is not being used in the classroom.
- Teachers in their college preparation programs are not being prepared well enough to teach reading to diverse learners.
- Adequate professional development is not available to teachers so they know an array of practices to use in combating various reading problems of their students. They don't have, one teacher says, enough "tools in their toolbox."
- Not enough time is available for children who need more instruction in reading. (There is no information available to show how much Extended School Services time is focused on reading.)

III. What do we do to solve the reading problem?

We believe solutions are available and possible; it can be done. Kentucky's fourth grade reading scores have improved. Many Kentucky schools teach almost all of their children to read well despite the fact that many of their students are hard to teach.

Look at the list of Kentucky's top 20 schools (out of about 800) with the highest scores in fourth grade reading. Fancy Farm Elementary, in far west Kentucky, with 39 percent of its students qualifying for free and reduced priced lunches, had the top scores; Anchorage, with less than 1 percent free and reduced price lunches, was second; in third was Wrigley Elementary in Morgan County, one of Kentucky's poorest counties (36 percent of the total population lives in poverty) with 82 percent of its children eligible for free and reduced priced lunches. Prater Borders in Magoffin County, one of the poorest counties in America, is also in the top 20 schools.



These schools pay attention, and lots of it, to reading and writing. They have the same high expectations for all children, and they demand that parents help. The message is clear: these Kentucky schools *can* teach poor children. The question is: why can't everyone else? Why does this top 20 list include so few schools from our wealthier and biggest counties, Fayette and Jefferson? Why so many from Daviess County?

Kentucky needs to launch a full-scale, top-priority war on its reading problems. Small steps and specific programs must be part of the attack, but strategies and tactics must be linked in a campaign with aggressive leadership, coordination, and measurable results. The solution does not depend solely on teachers because teachers cannot do this alone. The solution must include colleges and universities, parents and communities, the governor and the legislature, the Kentucky Department of Education, and local school officials. If a full-scale campaign is not launched and successful, Kentucky students will not reach the lofty expectations set for them in 1990.

As a group of citizens and parents, proposals of the Prichard Committee for Academic Excellence are stated in this report as general directions. We leave the details about how these recommendations are to be implemented to specialists in teaching of reading and the preparing of teachers. In other words, our recommendations are a sketch of the building we want, not a detailed blueprint for the carpenter. Regardless, circumstances demand that we get started immediately.

IV. What should be done? First thoughts:

- Reach agreement among decision makers that early reading is fundamental and that it must be successfully confronted if student academic achievement is to increase substantially in the future. (The National Research Council in the report, *Starting Out Right*, states this challenge clearly: "Children who do well in reading from the beginning rarely stumble later on. Those who have difficulty in the primary grades tend to remain behind their classmates as the years go by—even though they receive remediation. This fact, reconfirmed again and again, is a painful testimony to the importance of addressing reading difficulties as early as possible in a child's life. As important as it is to hold out hope for every struggling reader in our middle and high schools, there is no substitute for an all-out effort to ensure that all of our children start out right, so that they never have to experience the consequences of failure and frustration that are so prevalent in our schools.")

- Make reading a top priority in the early grades. Vary instructional approaches and the amounts of time spent on reading instruction to meet individual student needs. Ensure that all children leave the primary program reading and reach proficiency by the end of the fourth grade. The Kentucky Department of Education should review the standards for assessing fourth grade reading to ensure that the skills students need at the next grade level are assessed and included in the formula. Department officials should be able to determine whether students can "read to learn" well enough to master more complex content material.

- Teachers should use informal assessment techniques regularly to diagnose student's strengths and weaknesses in reading. Teachers will need training to do this, and it should be provided.

- Establish Reading Academies for primary teachers in which they spend ample time (2-3 weeks) increasing their skills and learning effective instructional and assessment techniques. Train all Kentucky primary teachers over the next five

years. Recognize this training in a new teacher compensation system that rewards and encourages continuous professional growth. The goal of such academies says one reading specialist, is "to increase the tools in the teachers' toolbox." Teachers tell us that, even when they know their students have reading problems, they "don't know what to do."

- Spend as much time on reading in the early grades as it takes to teach each child to read well. Proficiency is the goal; different children will require different amounts of time to achieve it.

- See that reading in the early grades is a priority for Extended School Services' funds. These funds, for instance, invested in high-quality summer reading programs with small classes that are evaluated for results, would be preferable to the fourth grade competency testing so popular today in many other states. (The Kentucky Department of Education should determine what portion of these funds is currently used for reading instruction and assess the quality of that instruction.)

- Provide professional development to middle and high school teachers on reading instruction and provide reading specialists to work with teachers at the middle and high school levels. (We note that reading is not taught after the fourth grade. As a result, children who are behind cannot catch up.)

- Do a better job of preparing new teachers to teach reading in the primary grades and beyond. This situation must be improved. (Add reading to the skills that are assessed in the standards for new teachers. Hold colleges accountable for meeting standards in this area as well as other areas.)

- Prepare teachers in colleges of education to use instructional techniques shown by research to be effective in teaching all children to read. Teachers should know how to use all approaches to reading, including direct instruction of systematic phonics to achieve phonological awareness. This means that the so-called "reading wars," ("whole language" versus "phonics") must end. This has become largely a political debate, and it has been destructive to children. It is necessary to bring people together in our colleges of education to see that this happens. (The recent report of the National Research Council, *Starting Out Right*, was prepared by a broad range of scholars with various perspectives on teaching reading. Its recommendations are the strongest case for blending reading instruction approaches and, if school children are lucky, it will end the counterproductive debates over reading.)

- Use reading specialists to supplement classroom teachers, but recognize also that all classroom teachers must take responsibility for reading instruction across the curriculum. It is far too important to shift all responsibility to anyone else. Working in concert, a teacher and a reading specialist can successfully assist all children in reaching the goal of being a proficient reader by the end of fourth

grade. (Says the National Research Council, "Reading specialists and other specialist roles need to be defined so that there is two-way communication between specialists and classroom teachers about the needs of all children at risk of and experiencing reading difficulties. Coordination is needed at the instructional level, so that children are taught with methodologies that are not fragmented. Schools that have reading specialists as well as special educators need to coordinate these roles.")

- Engage parents to the fullest extent possible to help children learn to read well. Stress the importance of reading and get parents started early. Use numerous approaches and incentives to encourage the parents of infants to read to their children such as community reading events, home visits, and library visitations. (Many examples exist, such as the U.K. Pediatrics Club.) Establish community campaigns to encourage reading and to control television watching. Build strong communications focused on student achievement between schools and home. Support volunteer tutoring programs. Teach parents who cannot read along with their children using family literacy concepts. Put someone in charge. (On tutoring and parents see *Starting Out Right*, page 142 and 143.)

- Ensure that family literacy programs, such as PACE and others that involve parents and young children, are accessible to every parent.

- Implement the recommendations of the Task Force on Adult Education and Literacy (draft June 7, 1999).

- Under the coordination of the recently-appointed Kentucky Literacy Partnership, bring together all providers of literacy programs to pool resources and expertise and move these recommendations forward to implementation.

* Many thanks to Renee Murray, Lois Adams-Rodgers, Diana Taylor, and Lois Combs Weinberg for their valuable advice and assistance with this report.

Teaching for Kentucky's Future

A Report
from the

Task Force on Teaching for Kentucky's Future

October 18, 1999

Prichard Committee for Academic Excellence

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Preface

This report was prepared by a group of citizens—the Task Force on Teaching for Kentucky's Future—appointed by the Prichard Committee. The task force is composed entirely of private citizens. To advise this group, the Prichard Committee also appointed a resource group of individuals with special expertise—teachers, administrators, and college and university professors. This report reflects the consensus of the Task Force members with ideas from the resource group, but the members of the resource group do not necessarily agree with all of the recommendations in this report.

The work of the task force was overseen by Dr. Gayle Ecton who served as senior consultant to the Prichard Committee. This report could not have been completed without Gayle's diligence and wisdom, and we are grateful to him.

The work of the Task Force was sponsored by a grant from the Philip Morris Companies Inc. Long interested in teacher preparation and a major donor to the National Commission on Teaching and America's Future, the foundation's support is gratefully acknowledged by the Prichard Committee.

Introduction

Since 1981 the Prichard Committee for Academic Excellence has published five reports that make recommendations for the improvement of teacher education and professional development. Several of these recommendations have been implemented—some more fully than others—but by and large the improvements that were suggested have not materialized.

Likewise, others in Kentucky have addressed the subject since the early 1980s as have numerous national initiatives. Taken altogether the results of the studies, reports, and other initiatives were discouraging, despite pockets of improvement.

Since the 1980s, however, the national context has changed dramatically. Almost all states began to focus on student academic performance results, which often meant the publication of achievement scores and various incentives for academic improvement. This focus put the spotlight more intensely on the quality of teaching. At the same time, new research documented a strong connection between teacher quality and student achievement. (This was not radical news from a common sense perspective, but common sense bolstered by research increased the power of the findings.) Of particular interest is the research of Dr. William Sanders at the University of Tennessee. Dr. Sanders has documented that the effectiveness of the teacher is the major determinant of student academic progress. Furthermore, he reported that "teacher effects on student achievement have been found to be both additive and cumulative with little evidence that subsequent effective teachers can offset the effects of ineffective ones." (Sanders & Horn, 1998)

In 1996 a new opportunity presented itself. The National Commission on Teaching and America's Future (NCTAF) released its report, *What Matters Most: Teaching for America's Future*. Not only was the report insightful and comprehensive, it also represented a consensus of business leaders, politicians, and educators (the commission was chaired by Governor James Hunt of North Carolina).

The national commission report was accompanied by a campaign, funded by national corporations and foundations, to implement its recommendations. Kentucky was selected by the commission as one of 12 (now 15) collaborating states. As part of that collaboration, the Prichard Committee was asked to engage the public in the teacher improvement dialogue, and the Philip Morris Companies, Inc. provided funding to do this. The committee staff responded with active participation in the national dialogue and by participating in regional studies. The Prichard Committee also was represented on the Kentucky Partnership Oversight Committee which was formed under the direction of the Kentucky Education Professional Standards Board. The oversight committee's task was to develop a strategic plan for Kentucky as a partner state with NCTAF. This was accomplished in June, 1999.

Most importantly, the Prichard Committee established a Task Force on Teaching for Kentucky's Future made up of citizens, parents, and business people. A parallel body, a resource

group to the task force composed of educators and researchers, was established to provide expert advice.

This report summarizes the views and recommendations of this task force. In addition, this task force also actively participated in a collaborative effort which resulted in the final revision of the report developed by the Kentucky Partnership Oversight Committee in June, 1999.

We call our task force "Teaching for Kentucky's Future" intentionally. Our goal is to improve the quality of the teaching profession and not focus on one single aspect, such as teacher education. As a result, this report addresses most of those factors that influence the quality of the teaching profession—from training at the college level to recruitment and salaries.

Teacher quality is the neglected child of school reform in Kentucky. Failure to deal with it will mean failure to achieve the grand vision established for this Commonwealth in 1990—reaching each and every child with high quality education regardless of where he or she lives.

Researchers who have studied school reform in Kentucky and other states emphasize that the bedrock of increasing student learning is improved classroom teaching. This, they argue, makes excellent preparation and the continuous development of teachers imperative. At its root Kentucky's reform requires teachers who have the skills, knowledge, and desire to teach each child so each child learns. Teaching is all about student learning.

Researchers argue further that, after initial gains in student achievement, score gains will level off if teaching practice does not continue to improve. The academic improvement of Kentucky's schools will slow and stop if vast improvements are not made in the teaching profession. Many teachers and schools have done very well in improving learning; they prove that success is possible. Part of what we need to do is identify, empower, and support the successful teachers. But there are not enough of these successes.

The National Commission on Teaching and America's Future supports this position:

> "...without a sustained commitment to teachers' learning and school redesign, the goal of dramatically enhancing school performance for all of America's children will remain unfulfilled...an impasse had been reached in school reform: Most schools and teachers cannot achieve the goals set forth in new educational standards, not because they are unwilling, but because they do not know how, and the systems they work in do not support them in doing so."

We also agree with Michael Fullan's observation:

> "...the basic reason that most promising educational innovations fail is that schools are not organized for problem-solving, while teachers are not prepared for managing change and for making the critical judgments and action steps to make them work. ...We don't need more innovations; we need a greater capacity to deal with them. There is no pathway to this goal that does not involve the simultaneous

renewal of teacher education and schools (as well as universities and communities)...We are, in brief, talking about profound changes, hitherto unprecedented, in the teaching profession itself..."

Ensuring quality teachers for Kentucky's future is easily as important and demanding as the entire reform attempted through the Kentucky Education Reform Act. Reforms like Kentucky's have raised the standard; more is expected of teachers now than before. Conditions have changed drastically. We know more than we did about what makes good schools and how students learn. It's time to act.

There has, we believe, never been a greater opportunity to improve the preparation of the teaching profession.

The recommendations in this document and those of the National Commission on Teaching have much to do with making the work of teachers a true profession. Despite years of rhetoric, many of the key characteristics required to be a true profession are still missing. A profession would have high standards for entry; expect and reward continuous professional growth and learning; be based on a rigorous preparation drawn from knowledge about what is required to be effective; require license renewal; have the working conditions and support necessary for high quality performance and public respect, and provide competitive compensation to attract and retain the most qualified people.

Implementation of Kentucky's education reform will also establish teaching as a true profession. It will ensure that every principal and teacher has the knowledge, skills, and support he or she needs.

Legislative action is required to implement some but not all of the reforms we suggest. Many of these reforms can be undertaken without legislation.

The recommendations here are just the beginning, not the answer to all of the issues which must be addressed. The collection and analysis of data, research, and discussion among those who must be involved need to be ongoing. However, it is vitally important that tangible, visible changes begin to occur quickly.

I. Comprehensive Plan with One Agency Responsible

In its report, *What Matters Most,* the National Commission on Teaching and America's Future, warns: "The first step is to recognize that these ideas must be pursued together as an entire tapestry that is tightly interwoven. Pulling on a single thread will create a tangle rather than tangible progress." Just as a builder would not consider attempting to build a complex building without a blueprint and detailed plans, this task should not be attempted without a well thought-out plan which addresses all aspects. Initially, this is a matter of sorting out what can be done based on existing data and, in other instances, what must be done in the interim until adequate data is obtained.

Recommendations

- Develop a detailed, comprehensive plan which addresses all aspects of the teacher quality issue.

- Assign clear responsibility for teacher quality improvement to one state agency and provide it with adequate resources and authority. It is our recommendation that that agency be the Education Professional Standards Board.

II. Education Professional Standards Board

The Education Professional Standards Board (EPSB) needs to be independent; it should be funded and staffed adequately to accomplish its mission; it should have a broad-based membership to include certified educators, representation from the Council on Postsecondary Education and the Kentucky Board of Education, representation from the business community and from the public. To ensure consistency and interconnectedness between teacher preparation and professional development, the Education Professional Standards Board should have the authority and responsibility for setting standards and policy for professional development in addition to its current responsibilities. (School funding and technical support for professional development should remain in the Kentucky Department of Education.)

A comprehensive plan to ensure teaching excellence requires clear direction and leadership. At this time no one government agency has this responsibility; it is divided among the Council on Postsecondary Education (CPE), public and independent colleges and universities, the Kentucky Board of Education (KBE), and the Education Professional Standards Board. This divided and compartmentalized leadership needs to change. Arguments can be made for primary leadership to be provided by any of these state agencies. Our recommendation, however, is that primary leadership responsibilities be assigned to the Education Professional Standards Board if adequate authority and resources are provided and the board becomes more broadly representative.

Recommendations

- Create an independent Education Professional Standards Board in a fashion similar to the Council on Postsecondary Education.

- Change the membership of the EPSB to include certified educators, board member representation from the Council on Postsecondary Education and Kentucky Board of Education, and representatives from the business community and the public at-large. The EPSB should be structured so that there is parity between certified, practicing, classroom teachers (50 percent) and the other members of the board (50 percent).

- Give EPSB authority to set standards for professional development.

- Give EPSB responsibility for implementing the actions recommended in this report and the resources and authority to be effective in providing this leadership.

III. Data

A comprehensive data system to track students in teacher preparation programs as well as teachers in the work force is needed to determine accurately what policy decisions must be made. Such data and information are needed, writes Steve Clements in *Kentucky's Teachers: Charting a Course for KERA's Second Decade,* "to ensure that teachers are being properly deployed given their training and backgrounds, to determine what types of professional development and educational support teachers need, to gauge supply and demand imbalances, and to ascertain what combination of teacher knowledge and skills has the greatest impact on student achievement."

There is also a compelling need for research and development in addition to data collection. What we need to learn will take a coordinated, comprehensive effort over several years. This will require funding, direction, and authority at the state level. It will also require significant cooperation among all state and local education agencies.

Recommendations

- Develop a coordinated, comprehensive, linked database system containing all relevant data regarding teachers, both in teacher preparation programs and in the work force, that allows for appropriate and timely access to all who have legitimate need.

- Provide funding and direction for research and development for teacher excellence with a performance-based focus. Encourage colleges and universities through incentives to give priority to such research.

- Establish and fund a Center for Excellence in Teaching located at a Kentucky college or university to be a collaborative effort among the Kentucky colleges and universities with teacher preparation programs. This center should provide a critical mass of research and leadership talent for the continuing improvement of teaching and should connect with similar centers in other states.

IV. P-16+ Council

A voluntary, advisory P-16+ council has been formed through the cooperation of the Council for Postsecondary Education and the Kentucky Board of Education. This is a notable and worthwhile beginning. The systemic and interconnected nature of teacher quality requires strong partnerships, regular communication, cooperation, and coordination among all education agencies.

However, the on-going nature of the challenge demands that this council, its role and agenda, not be voluntary and left to the discretion of whomever happens to be on the Council for Postsecondary Education and state board. Likewise, if this council is only advisory, its ability to resolve many of the tough issues is diminished.

The P-16+ Council needs to be institutionalized with well-defined authority and boundaries, funding for operation and incentives, and accountability for accomplishing state policy. It should have representation from all appropriate state education agencies and institutions as well as other stakeholders. The council should include but not be limited to representatives from the Council on Postsecondary Education, Kentucky Board of Education, Association of Independent Kentucky Colleges and Universities, Kentucky Community and Technical College System, Education Professional Standards Board, representatives of the business community, and the public at-large.

Much of what needs to happen must occur at the local level. This will require regular communication, cooperation, and coordination among all affected agencies and institutions. This state council should also provide communication and coordination for regional P-16+ councils. These should be established in each service region of the state with a similar composition to the state P-16+ council.

Recommendations

- Institutionalize the P-16+ Council to include representation from but not be limited to the Kentucky Board of Education, Council on Postsecondary Education, Association of Independent Kentucky Colleges and Universities, Kentucky Community and Technical College System, Education Professional Standards Board, representatives of the business community and the public at-large. There should be provision for including classroom teachers, administrators, and other representatives when the issues being discussed so warrant. This council would develop policy and address statewide issues.

- Provide support for the establishment of regional P-l6+ councils which will be the primary mechanism for collaboration, cooperation, and communication between regional institutions and local school districts.

- Ensure that this structure provides for the appropriate relationship of regional councils with the state council to ensure coordination, consistency, and cooperation.

- Provide funding to the P-16+ Council for incentive grants to support innovation.

V. Certification by the National Board for Professional Teaching Standards

The National Board for Professional Teaching Standards has established high and rigorous standards for what an accomplished teacher should know and be able to do. This certification can

link professional development, compensation, and school improvement. It should also shape pre-service and graduate teacher preparation. Substantial state financial incentives such as financial support for teachers who seek the certification and annual salary increases to those who become certified provide motivation for teachers to seek the certification. They also recognize those who demonstrate a significantly higher level of professional knowledge and skills.

To build greater capacity for school improvement, the state should support a group of teachers seeking national board certification at each school. Much of a school's professional development could be driven by the activities which this group would engage in while working toward the certification. This would benefit all teachers in the school. The group itself could become part of the clinical teaching faculty in a school-university partnership.

Standards for teacher preparation, professional development, performance evaluation, and re-licensure should all be linked closely to national board certification standards.

Recommendations

- Provide funding for a group of teachers in each school to undertake national board certification with a goal of building a team of national board certified teachers in every school as quickly as funding permits.

- Reward national board certified teachers with substantial financial supplements. Pay additional supplements for national board certified teachers who serve as mentors to other teachers.

- Standards for teacher preparation, professional development, performance evaluation, and re-licensure should all be closely linked to national board certification standards.

- Establish a model program at one college or university to assist teachers in their pursuit of national board certification. Replace graduate courses with such training. Provide research and development support to adapt this new training program to other institutions over time. As an alternative, consider using the new Commonwealth Virtual University or contracting with the Open University of the U.S. for this purpose.

VII. Teacher Preparation and Professional Development

This is by far the most difficult and complex area to address. The beginning point of improving teacher preparation and professional development is to support and enhance the work already begun by the Education Professional Standards Board and to ensure that the new teacher standards are enforced. In this area, the Kentucky General Assembly should define expectations regarding what is to be done and direct the EPSB to work out the mechanics and coordination, holding each respective agency and institution accountable for its part.

The recommendations that follow are based upon three premises. First, they are based on the philosophy incorporated in the Kentucky Education Reform Act and the Higher Education Reform Act that the primary responsibility of state government is to establish standards, get the incentives right, assess performance against established standards, hold institutions accountable and provide resources.

The second premise is that colleges and departments of education are not solely responsible for the quality of teacher preparation. The whole university or college is responsible and must be accountable. Future teachers learn to teach in all of their classes. They will model the teaching they experience in all classes, good or bad. They will, for instance, understand how to use technology and portfolios if these tools are a regular part of their undergraduate experience.

Third, teacher preparation and professional development should lead to professional behavior that values and seeks continuous improvement or, as one superintendent says, "living one's life as a professional where you constantly analyze the work that needs to be done and have access to resources to do that...a way of learning all the time."

Recommendations

A. Teacher Preparation

- Define what each teacher should know and be able to do and structure teacher preparation programs accordingly.

- Devise new performance-based assessments to determine if teacher candidates are prepared to be effective teachers (for example, have a command of the content knowledge, skills to teach the specific content, knowledge of child/adolescent development and learning, skills to use technology as an instructional tool, the ability to use a variety of learning strategies to reach diverse learners, and knowledge of education in Kentucky.)

- Hold universities and colleges accountable for the success rate of their graduates on the new performance-based assessments.

- Close teacher preparation programs that do not have high success rates on the assessments and, in the case of public universities, reallocate funding to more effective institutions.

- Ensure alignment between teacher preparation and the "real world" of the schools. Professional development schools (public schools in the fashion of "teaching hospitals" as clinical settings) should be integral parts of every program; school teachers should be used as clinical professors; college professors should be expected to work in school classrooms on a regular basis depending upon their skills and qualifications.

- Assign regional P-16+ councils to oversee the alignment, facilitate communication, and serve as a catalyst for change for all public elementary and secondary schools, colleges and universities, technical schools and community colleges, and other college-alternative educational programs.

- Develop and align with new standards, performance-based re-licensure exams for practicing teachers.

- Strengthen and consider lengthening teacher and principal intern programs; improve incentives for mentors and other intern committee members; establish new levels of performance and guidelines to ensure that the programs are meaningful.

- Adequately fund the new models for teacher preparation.

- Require college teachers to spend time in elementary, middle, and secondary classrooms so they have the understanding to make appropriate changes to their college curricula.

- Improve the quality of undergraduate teaching in all classes by requiring college teachers of undergraduate courses taken by teacher candidates to model teaching styles and methods which are appropriate and effective for public elementary and secondary schools.

- Make teaching quality a performance standard to be evaluated by the educational institutions and the Council on Postsecondary Education. Provide necessary resources to improve undergraduate teaching quality.

- Ensure that teacher preparation programs are funded adequately. Publish the per student expenditures for colleges and departments of education as part of the information that helps prospective students decide which colleges or universities to attend.

- Provide incentives for several model programs at colleges or universities to prepare non-traditional students seeking alternative teaching certification. Stress quality, convenience, and good teaching practice in model programs. Explore the feasibility of using the Open University of the U.S. or the Commonwealth Virtual University as such a provider.

B. Professional Development

- Enact the proposals of the Partnership for Kentucky Schools and the Prichard Committee to improve professional development. These call for subject matter collaboratives, content-based summer institutes, semester-long sabbaticals, support for national board certification, and incentive grants. (See attached Appendix.)

- Link professional development to teacher standards.

- Connect professional development which meets national and state standards and other high-performance criteria to certification requirements and individual professional growth plans.

- Connect professional development to instructional practice through the formal evaluation process.

- Ensure that resources are used responsibly to meet professional development needs. Set clearer guidelines for school councils regarding use of professional development funds and provide training and assistance to councils.

- Ensure that experiences intended to develop teaching professionals result in improved student achievement.

- Fund professional development in schools that provides follow-up and support.

- Ensure that criteria for quality professional development are applied to all providers.

- Evaluate the Kentucky Department of Education's Regional Service Centers for their effectiveness in delivering and supporting professional development.

- Use the process of the National Board for Professional Teaching Standards certification to improve the professional development of all teachers.

VIII. Recruitment and Retention

There are many dimensions to the issue of teacher shortages. While at this time widespread shortages are not predicted for Kentucky as they are for other states, serious shortages exist in specialized teaching fields like math, science, and special education. There are serious shortages of minority teachers. Other shortages occur in geographic locations or for schools in areas of high poverty. Data at this time is not adequate for good decision making.

Teacher recruitment involves getting the best people into teacher preparation programs as well as into the areas of need. This also requires further study to determine effective long-range strategies. In the meantime, Kentucky needs to implement successful programs like the Teacher Cadet Program from South Carolina, which target high school students who may be prospective teachers.

Most districts have no recruitment program and depend solely on candidates who come to them unsolicited. Local hiring practices often hamper getting the best candidates for teaching vacancies. District recruitment and hiring practices need to be examined and improved. School report cards, soon to be published, should inform parents and taxpayers about qualifications of teachers in their schools.

Getting the incentives right is imperative for all other initiatives to work. The incentives for national board certification will help some teachers. Other teachers need opportunities to receive pay increases for increasing knowledge and skill to improve their classroom teaching. The Kentucky Department of Education needs to support and learn from the pilot effort to develop a new professional compensation plan to pay teachers for acquiring new knowledge and skills directly related to their classroom teaching rather than paying for just acquiring additional degrees and college course-work not related to what they teach. It is important to determine what is feasible and can be replicated in other districts.

A career continuum is needed to create teaching as a true profession and to attract and retain the best qualified people. Even though beginning teacher salaries are competitive with some professions, they still may not be enough to attract the best candidates especially in some of the critical shortage areas. Overall, teacher salaries need to increase, particularly after several years experience when teacher salaries don't keep pace with the rate of increase in most other professions.

Moving toward employing teachers year-round is the most logical way to provide additional compensation. It would also give teachers additional time for professional growth, planning, and other professional activities. There needs to be a focus on increased teacher pay based on career-long plans for professional growth with salary increments for learning rather than just increases in base pay.

Finally, working conditions also affect the recruitment and retention of quality teachers. Teachers need adequate resources, staff support, and a safe, secure working environment providing optimum learning conditions.

Recommendations

A. Teacher Shortages

- Conduct a detailed study to determine the exact nature of teacher shortages.
- Use temporary strategies such as differential pay and release from loan obligations until the data are available to develop a comprehensive plan.
- Expand existing and develop new initiatives to recruit and retain teachers from minority populations.
- Implement and fund a new salary schedule that provides increased remuneration in high-demand teaching areas such as science, math, and special education. Award bonuses to attract highly-qualified individuals to such fields.
- Implement strategies, including a differential salary schedule, to reduce teacher shortages in content specialties, in geographic areas, and in grade levels (primary, middle school, high school), and to attract high-quality teachers to low performing schools. These new strategies should be flexible and adaptable to changing needs.

- Create a Pathways to Teaching Program to recruit and train teacher aides and paraprofessionals to become teachers in high poverty areas. Provide participants with resources for their training and with support in the first years of teaching.

- Implement strategies to recruit and retain highly-qualified and experienced college level educators.

B. Teacher Recruitment

- Increase incentives and decrease disincentives to recruiting, retaining, and continuing the professional growth of high-quality teachers.

- Implement successful programs like the Teacher Cadet Program and Future Teachers of America clubs to promote teaching as a career in middle and high schools.

- Provide technical assistance to districts in designing effective recruitment programs.

- Create more public awareness of the importance of teaching, the need for good teachers, and the potential shortage areas while promoting teaching as a profession. This must be in conjunction with improving the incentives and decreasing the disincentives for teaching. Report to parents regularly on the qualifications of teachers in their schools.

- Gather data on district recruitment and hiring practices.

C. Incentives

- Provide salary incentives for national board certification.

- The General Assembly should ensure that the professional compensation plan mandated in 1990 be produced as soon as possible. This plan should connect teacher compensation with demonstrated professional skills.

- Increase teacher salaries to be more competitive with other professions. Do this primarily by moving toward year-round employment for teachers.

- Develop a career continuum for teachers with the opportunity to earn salaries which are more competitive with other professions at similar career points.

- Through the Education Professional Standards Board ensure that degree requirements only result in salary increments if they are in the teacher's field of employment.

D. Working Conditions

- Support extensive studies and data gathering to determine the exact nature of working conditions for teachers, their impact on performance, and actions needed to improve.

- Require meaningful exit interviews as teachers leave the profession to determine what causes them to leave.

IX. Governance and Organizational Leadership

The authority of school councils and school boards needs to be reviewed to determine its effect on hiring the best qualified teachers, insuring that schools are organized for teacher and student success, and providing high-quality professional development. School board and school council policies and procedures should facilitate, not hinder, putting quality teachers in every classroom.

Highly-skilled teachers should work with the students who have the greatest needs. Teachers need time for planning and for working and learning collegially so that schools can become true learning organizations. Teachers need more time to work in teams with shared groups of students and to work with the same groups of students over longer periods of time. Beginning teachers should not be given the classes that are the most difficult to teach, the toughest schedules, and the most poorly equipped rooms. Instead they should have more support, smaller classes, and other conditions which give them the best opportunity to succeed. Much of this is a leadership issue and must be addressed through better training, selection, and support of school leaders. Schools need strong leadership to support good teachers. They need to value teaching by respecting and supporting teachers and treating them as professionals. Such leadership is also an issue for school councils since many decisions in this area are now within their domain. The amount and nature of training for school councils need to be rethought, and new, appropriate requirements developed. Awareness must also be raised with local school boards and the general public regarding the resources and support needed so that teachers and students have the best opportunity to be successful.

A. School-Based Decision Making Councils and Local School Boards

- Create a task force (to report by November 1, 1999) composed of representatives of the Kentucky School Boards Association, the Kentucky Association of School Administrators, and the Kentucky Association of School Councils. Charge it with reviewing school-based decision making and local board statues and regulations to determine their effects on teacher hiring, school organization, and professional development.

- Require the Kentucky Department of Education to develop an action plan for corrective measures and technical support to districts and propose legislative action where needed. Encourage and support districts in removing incompetent and ineffective teachers.

B. Organizing Schools for Teacher and Student Success

- Reduce class sizes for first-year teachers.

- Develop new models of certification and professional development for administrators, which better prepare them to reorganize schools and support quality teachers. (As one example, this might include more meaningful personnel management training and use of experts from business in personnel management as mentors to principals.)

- Determine if current leadership staffing patterns are appropriate and sufficient to meet the complex needs of reorganized schools.

- Develop and support required training for school councils to better prepare them for the decisions they must make.

- Provide incentives for education associations, agencies, and institutions to work collaboratively to develop and provide professional development appropriate to the needs of school leaders (more than just administrators), school boards, and school councils. This professional development should support changing schools so teachers and students can be more successful.

- Provide incentives, technical assistance, and resources for schools to reorganize.

X. Diversity

While it is vitally important to have staff diversity in schools with significant numbers of diverse students, it is likewise important to have staff diversity in all schools. For example, minority children need role models of their own race, and all children need the opportunity to experience a teaching-learning relationship with teachers of races other than their own. There are also other areas of diversity which must also be considered such as gender, age, and ethnicity, in the composition of an effective school staff.

Recommendations

- Ask all state professional education associations, agencies, and other entities to assist in raising awareness about the importance of diversity in our schools and require, where possible, that their efforts be reported to the legislature.

- Require on a regular basis data collection and reporting on the status of diversity in the schools, including initiatives to increase both awareness of the issue and the actual diversity of staff.

Appendix A

KENTUCKY TEACHING EXCELLENCE INITIATIVE

A proposal from the Partnership for Kentucky Schools and the Prichard Committee for Academic Excellence
October 22, 1998

INTRODUCTION

A set of guidelines for high quality professional development was established in House Bill 536 adopted by the 1998 legislature. This legislation called for "professional development programs that are based on the statewide needs of teachers, administrators, and other educational personnel. They shall include programs that: address the goals of Kentucky schools as stated in KRS 158.6451; engage educators in effective learning processes; foster collegiality and collaboration; and provide support for staff to incorporate newly acquired skills into their work through practicing the skills, gathering information about the results, and reflecting on their efforts."

This legislation was passed following extensive investigation of professional development practices across Kentucky conducted by a team of national researchers on behalf of the Partnership for Kentucky Schools and the Prichard Committee for Academic Excellence.

What teachers know and can do are critical for improving student performance. In addition, every teacher must be supported by an effective principal who focuses on improving instruction. National and state level studies indicate that teachers in Kentucky are facing serious obstacles as they strive to improve classroom instruction for all students.

The capacity of Kentucky's teachers to address these obstacles is greatly affected by the quality and availability of professional development. Of equal importance is sufficient time to participate in intellectually demanding learning that can significantly increase student achievement.

Kentucky is a national leader in creating a professional development system that supports teacher learning. But improved quality and the time to leverage this investment is imperative. Professional development to date has been limited and often based on old models of teaching and teacher learning. Professional development needs to move to a more sophisticated, efficient level so student achievement will continue to rise. To do so will require concentrated efforts on several strategic levels. Teaching can become more effective through a system that:

- Builds networks of teachers, in conjunction with school principals, from the local district to the regional and state level in order to expand opportunities for teachers to learn from their peers.

- Builds collaboration among higher education and K-12 educators to provide higher quality professional development.

- Mobilizes and makes better use of the subject matter expertise in institutions of higher education.
- Provides stable high quality professional development opportunities in core content areas.
- Ensures that all teachers have high-quality opportunities to keep pace with the knowledge and norms of good practice in the disciplines that they teach.
- Builds sustained capacity throughout the state to provide subject matter support.
- Builds school and district level support for teachers.
- Builds teacher capacity to be responsible for their own professional development.
- Gathers, analyzes, and disseminates information about the accountability and efficiency of the professional development delivery system.

PROPOSED ACTIVITIES

I. **Establish the Kentucky Teaching Excellence Fund** as a substantial investment in Kentucky's teachers and is a leap forward in teacher training. Built on the above principles, the Fund will provide financial support in the form of grants for individual teachers, groups of teachers, or schools within a feeder pattern. Specific components are listed below.

A. **Subject Matter Collaboratives:** Through competitive grants, subject matter projects in the four core content areas of math, science, social studies, and English can be funded. Patterned after the proven California Subject Matter Projects, these projects will provide opportunities for teachers to deepen their knowledge of subject matter while engaged in a network of colleagues from the same content field. These initiatives will be housed at a university or college and will be headed by co-directors, one from a KDE Regional Resource Center and one from higher education. Activities within the collaboratives can include seminars with scholars, concentrated research projects, and 2-3 week workshops in which university and school subject matter specialists work with teachers on curriculum projects.

Once the collaboratives are created, the Fund will both support teacher participation and systematic follow-up in the form of mentoring, coaching, and additional training by subject matter experts.

These projects will build on statewide professional development and leadership work currently in progress: Kentucky Leadership Academy, Highly Skilled Educator Program, Kentucky Teacher Leadership Academy.

B. Additional Support for Teacher Learning: Individual teachers can apply to the Fund for financial support to attend **content-based summer institutes** different from those provided through the collaborative experience. This concentrated academic learning will create high quality experiences that increase the knowledge and skills necessary in core content areas. Examples might include introduction to the latest research in the field, in-depth study of a topic, curriculum development, working with university faculty, or observing other teachers.

In addition, the Fund would support **semester-long sabbaticals** for 200 teachers. These opportunities provide deep immersion in core content areas over an extended period of time and at an advanced level. This teacher incentive addresses the need expressed by teachers for more time to increase their knowledge and skills. Examples of appropriate activities for sabbaticals

include tasks that could benefit the school or district: curriculum development, demonstration teaching and mentoring, or updating technology skills.

Other activities that benefit the personal development of teachers could include reading and research on content areas and redesigning lessons, serving in a role at the regional collaborative, team teaching a university course, or doing independent study with university faculty or visiting master teachers.

Sabbatical applicants would be required to submit a plan for approval by the school principal and local school board. Documentation would be required to indicate how the results of the sabbatical can improve the quality of education for students in the teacher's classroom and school. The consolidated plan should serve as the framework for choosing work to be completed during the sabbatical.

The third component of the teacher grant program would be support for the fees ($2,000) to seek **certification by the National Board for Professional Teaching Standards** which represents a state-of-the-art teaching focus. Teachers who successfully complete this rigorous work can have a definite impact on their schools and on student achievement.

These three options address areas assessed by teachers as high priorities: time, incentives, and substantive professional development experiences.

C. School Component: A major obstacle to improving student achievement has been lack of time for teachers within a school to work together to plan and develop substantial changes within their schools. To address this need, schools within a feeder pattern can apply for a grant to do the planning, exploration, and implementation design so that the school can adopt proven methods for enhancing student achievement.

II. Governance, Oversight and Evaluation of the Kentucky Teaching Excellence Fund should be designed to engage higher education more fully in preparation of teachers and to build stronger collaboration between higher education leaders and K-12 leaders at the state level.

III. Teacher Pay and Incentives for Professional Growth: To enhance the importance of professional development in the eyes of teachers, their compensation should increase as new and relevant skills are acquired. A teacher compensation plan based on professional knowledge is now being developed by the Kentucky Department of Education and the Kentucky Education Association. It is imperative to build upon that existing work, plus the new teacher evaluation process approved by the 1998 legislative session, to fashion a consensus compensation plan.

Gaining Ground

Hard Work and High Expectations for Kentucky Schools

Executive Summary

November 1999

The Prichard Committee for Academic Excellence

Gaining Ground was produced by the Prichard Committee for Academic Excellence in collaboration with the Kentucky Chamber of Commerce and the Partnership for Kentucky Schools.

Copies of the complete report are available from the Prichard Committee at P.O. Box 1658, Lexington, KY 40588-1658
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A lot of the history we've had in Kentucky has been marked by a consistently poor performance in education. With a tired refrain of failure echoing through the decades, countless Kentuckians have strained against the bindings of ignorance to make a living, raise their children, and improve themselves and their state.

The pathetic condition of the state's schools was part of the public conversation for well over 100 years. Time and again, efforts to effect lasting, positive change ran into a seemingly insurmountable barrier of political and attitudinal resistance.

By the 1980s, the evidence of this reality was coldly objective, if personally painful. Kentucky was described as a Third World country with the nation's most uneducated work force. And among the states, we ranked:

- 42nd in education spending per pupil
- 42nd in high school graduation
- 38th in teacher salaries
- 41st in pupil-teacher ratio
- 50th in adults with a high school diploma
- 49th in adults with a college degree

Our state was perceived — by Kentuckians and others — to be lodged squarely in the nation's cellar for academic performance. Kentucky's high level of poverty and the low educational levels of our adult citizens meant that we had a long way to go to catch up.

But the past decade has seen a significant shift in the reality for our schools as Kentuckians have done much more than just talk about preparing the state for the 21st century. We have planned, enacted, and refined the most comprehensive reform of education in the state's history.

In the process, we have fashioned a new path for Kentucky schools to follow, one that demands excellence, sets high academic standards, measures performance, and holds teachers, schools, and districts accountable for their success or failure. We are only part way down that path today.

Kentucky's commitment is to continuous improvement, to ensure that all students — gifted students and disabled students, students of different social and cultural backgrounds, at-risk and minority students, students of diverse ethnic heritage — never stop achieving at the highest levels.

Looking back at the reform development

Much like the overnight acting sensation who in reality has played summer stock for years, Kentucky's new strategy for better schools emerged after decades of false starts and failed initiatives.

But the process taught the state an important lesson: Its only hope for better schools was to be found in a comprehensive program of interconnected steps that would require an extended period of time and deep commitment to become reality.

As more and more Kentuckians recognized and acknowledged this fact, they became an army of reformers waiting for the event that would galvanize the state's political leaders. That moment came in 1989 with a landmark Kentucky Supreme Court decision.

Four years earlier, 66 school districts sued the governor, legislature, superintendent of public instruction, and state school board, arguing that the way Kentucky financed schools was inadequate and inequitable. In response to the suit, the Supreme Court declared the state's entire system of common schools to be unconstitutional.

"Each child, every child, in this Commonwealth must be provided with an equal opportunity to have an adequate education," the court said in its opinion, directing the General Assembly to recreate Kentucky's entire school system to ensure equal educational opportunities for all children.

The following months were filled with hope and hard work as the governor, legislators, education leaders, and citizen advocates developed a plan that touched virtually every aspect of elementary and secondary education in the state.

What distinguished Kentucky's reform plan was that it set very high expectations and provided the means — the policies, money, and other resources — that were needed to achieve them.

The elements of the plan were interconnected, each of them addressing a specific area of need while supporting and strengthening the overall objective of improving the academic achievement of all students.

- The fundamental belief that all children can learn, and nearly all at high levels, provided the foundation of the reforms, and academic expectations reflecting high standards were adopted.
- A system of assessment and accountability was created to measure schools' progress in making sure all students meet high academic standards.

"We have a lot of history. But we have a lot of future coming up, too."

Historian Laureate Thomas D. Clark

- Political and governance reforms targeted nepotism on local school boards and shifted authority at the state level from an elected superintendent of public instruction to an appointed education commissioner. A new legislative oversight agency — the Office of Education Accountability — was created.
- Decisions about running individual schools were pushed down to the school level through the development of school-based councils.
- Taxes were raised and local tax collection strengthened, and a new system of distributing public money was developed to help equalize funding among school districts.

The Kentucky Education Reform Act was signed into law on April 11, 1990, and the challenges of transforming the state's system of schools have been with us ever since.

Signs of progress

The new picture that is emerging of Kentucky's schools is attracting the attention of scholars, education policy experts, and other observers throughout the country. As a result, Kentucky's school reform arguably is one of the most studied education initiatives in the nation's history. An indication of how others see us was provided in 1997, when Kentucky's school reform was named the winner of the Innovations in American Government Award by Harvard University and the Ford Foundation.

The national attention and scholarly studies, by Kentuckians and others, are important parts of the ongoing review of the state's school-improvement efforts. But more telling — and more critical to the lives of our children — are the signs of progress that emerge when we look at where we started and where we are now.

The company we keep

Our elementary students are improving well compared to their counterparts in other states in reading, math, and writing test scores. Of particular significance is the company we now keep. Locked for years in the bottom tier with other low-performing states, the academic performance of Kentucky's students has moved the state up to the next level.

Our new neighbors now include states such as Michigan, Maryland, Virginia, and North Carolina. National test results in 1998, for example, showed only seven states with average scores that were significantly higher than Kentucky's in eighth-grade reading. The rate of improvement in our fourth graders' math scores between 1992 and 1996 was exceeded by only eight states. Kentucky was one of five states that improved significantly between 1992 and 1998 in fourth grade reading.

Other indicators

- The funding gap that for decades hampered the education of children in less-wealthy districts has been slashed, making Kentucky's funding more equitable than the national average.
- Among the states, we've moved from 42nd to 30th in education spending per pupil.
- Our pupil-teacher ratio and teacher salaries are 30th in the nation. We had been 41st and 38th, respectively, in those categories.
- The state's high school graduation rate has moved to a national ranking of 30, up from 42.
- More than three-fourths of our at-risk 4-year-olds are in preschool programs, and studies are showing the long-term benefits of their experiences.
- Many — but not enough — schools that serve students at very high levels of poverty have shown they can educate those students as well as schools with the most affluent students.

One researcher has pointed out that Kentucky, given all the fits and starts of school reform, has done an amazing job of getting the infrastructure of reform in place. That is not to say, of course, that it is exactly as it needs to be.

On the other hand, those elements of reform, such as the preschool program, that require the least improvement in teaching practice, were implemented most easily and receive the most universal praise. The challenge now lies in sustaining the commitment for the hardest part of the work — improving teaching in all classrooms.

Improving schools is a task that never will be complete. Kentucky must plan, thoughtfully and deliberately, how we will move ahead to build on and improve the program of innovation, equity, and excellence for the education of Kentucky's students.

With that objective in mind, this report takes a constructively critical look at the results to date of the Kentucky Education Reform Act of 1990, recognizing both progress and weaknesses.

Our general observation at this interim point is that, overall, Kentucky's schools have made gains, but the progress isn't enough. Many schools have made strong improvement, but not enough schools have made enough improvement. Too many have improved too slowly or hardly at all. But there is ample proof that reform can work.

If we look for broad signs of progress, we see:

- Many teachers have seized the opportunity to improve their teaching practices, to make their classrooms exciting and vibrant places for children.
- The idea that meeting high academic standards is the way things are done in Kentucky schools has been accepted in many places.
- The public has generally accepted the value of increased investment in education — including that resulting from improved property tax collections — to get better results.
- In most schools there is planning to improve student achievement.
- The Supreme Court's view that a "child's right to an adequate education is a fundamental one under our Constitution" has been incorporated into the thinking of and accepted in principle by those with influence over education policy.
- The idea that the entire education system — not just one piece or program — must be changed in a comprehensive way has been accepted.
- The largest portion of the education community has accepted reform as inevitable and desirable.
- There is general acceptance of changes in state governance, such as the employment of a professional commissioner of education. Efforts to eliminate nepotism and inappropriate political practices have been accepted.
- Student achievement has improved.
- The principle that schools and teachers should be held accountable and responsible for the quality of their teaching and other educational practices has generally been accepted.

On the other hand, we still have a long way to go:

- There it not yet a mindset that recognizes continuous improvement as the focus of schools and professional educators. Too many educators say, and believe, "We've done all we can do."
- The most visible results of reform have not required changes in teaching practice and have been, so far, the easiest to accomplish.
- Teachers know less than policy-makers thought they did about how to improve their teaching and need more effective training and leadership.
- Too few educators can explain how their classroom teaching practice affects results or suggest ways to improve this practice. Programs that help teachers constantly improve their skills and knowledge are not commonly available or fully effective.
- There is a lack of adequate academic gain among students from the poorest regions, minority students, and the schools serving them.
- Investments in salaries and certain support areas have not increased enough in recent years.
- Postsecondary education is not yet a fully effective partner in improving schools or preparing teachers.
- Too few families and parents are engaged as full partners in the education of their children, and the idea of broad community responsibility for educating all children has not become part of most communities' behavior.
- Too many school councils have not recognized their independence or the expectation that they will redesign curriculum and improve teaching to increase student learning.

To accelerate the improvement of all schools, we believe three areas require special attention in the next stage of the process, and our recommendations focus on those areas.

- Reading instruction must improve in the early grades so all children enter middle school able to read and understand the work at that level. There also must be reading instruction in middle schools for those who arrive unprepared. Accelerated reading improvement will move everything else along. Failure to teach every child to read, on the other hand, will block academic progress in our middle and high schools.
- Kentucky must vastly improve the quality of training available to current teachers and the preparation that new teachers receive in college. Every Kentucky student deserves a well-prepared teacher. School officials must see that teachers have mastered the academic content that students are expected to master. It is also imperative that our teachers know how to teach that content to students at all academic levels. We must help teachers improve their teaching practice so all children can learn.
- Kentucky's vision for its schools puts heavier responsibilities on citizens, parents, and business leaders. To meet these responsibilities, citizens and communities must renew and expand their commitment to schools, recruit new allies, demand improved academic achievement, and recognize that educators are not solely responsible for quality education. Of particular importance is community support for early childhood initiatives. We applaud the work of the Governor's Task Force on Early Childhood and are hopeful that its recommendations will be approved and funded.

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