

HIGH ACHIEVING HIGH SCHOOLS

**PRICHARD COMMITTEE FOR
ACADEMIC EXCELLENCE**

MAY 2005

“No more prizes for predicting rain. Prizes only for building arks.”

The Noah Principle
Crisis or Possibility? Conversations about the American High School
National High School Alliance, 2004

A generation at risk

Too many high schools – in Kentucky and throughout the nation – are failing to adequately prepare students for life after graduation, whether they plan to go to work, college or vocational/technical training.

Students are dropping out:

- Of 100 9th graders who enter high school in Kentucky, only 68 graduate.

Or they decide not to continue their education:

- Of the 68 who graduate from high school, only 39 go on to college.

Or they quit college before finishing:

- Of the 39 who enroll in college, only 15 graduate six years later.

There are many costs associated with this reality, but the one with the broadest impact is economic. The bottom line: learning equals earning.

Median Earnings by Degree Level, 18- to 64-Year-Olds

	Kentucky	United States
Less Than High School	\$14,000	\$14,900
High School Graduate	\$20,000	\$20,800
Some College	\$20,000	\$22,500
Associate Degree	\$26,800	\$28,000
Bachelors Degree	\$30,800	\$36,000
Masters Degree	\$37,000	\$45,000
Professional Degree	\$52,000	\$60,000
Doctorate Degree	\$48,800	\$58,000
2000 Census, U.S. Census Bureau; 5% Public Use Microdata Sample (PUMS) Files. www.higheredinfo.org		

Too many students are failing to graduate. Too many others are getting by in high school, but they aren't learning enough to succeed in college courses without remedial help or at workplace assignments without additional training.

Recognizing the problem

Too many schools, students, parents, communities and policymakers do not understand that hard academic work and high achievement are required of *all* students for success after high school, in both postsecondary education and employment. And too often, Kentucky's exceptionally bright students are not being challenged to do higher-level work.

To put it simply, times have changed. High schools have not.

**It is time to bring public high schools into the 21st century.
The work will be hard, but vitally important.**

That message is being heard throughout the United States as state, regional and national organizations take a close look at the institution that plays—or should play—a critical role in launching young people into adulthood.

The sense of alarm reflects a stark reality: the financial, social and civic security of our state and nation rests on the ability of a smaller number of workers to provide for a growing number of older citizens as the population continues to age.

Kentucky is on the leading edge of the trend, but the nation as a whole is aging. Social Security statistics illustrate the problem: as Social Security spending increases, the number of workers per beneficiary declines – from 42 in 1945 to nine in 1955 to three in 2000. (*Public Agenda*) It will be today's high school graduates whose work, earnings and taxes finance the services that our aging population will demand.

Beyond the economic issues, our state and nation need scientists who can solve environmental problems; artists who can express human insights; and citizens who can make good public decisions. All of these are diminished if our high schools don't help young people recognize, value and achieve excellence.

Ensuring that all young Kentuckians graduate from high school and are equipped to succeed in their lives' pursuits is a critical goal that the state must achieve.

“America’s high schools are obsolete. By obsolete, I don’t just mean that our high schools are broken, flawed and underfunded – though a case could be made for every one of those points.

“By obsolete, I mean that our high schools – even when they’re working exactly as designed – cannot teach our kids what they need to know today. ... Our high schools were designed 50 years ago to meet the needs of another age.

“Until we design them to meet the needs of the 21st century, we will keep limiting – even ruining – the lives of millions of Americans every year.”

*Bill Gates
CEO, Microsoft
Remarks to the National
Governors Association
February 26, 2005*

“If Rip Van Winkle woke up tomorrow morning, one place in Kentucky he would be most comfortable is in the high schools.”

*Willard Daggett
International Center for
Leadership in Education*

An urgent need for improvement

But we are falling far short of the mark in Kentucky, making the need for dramatic high school improvement particularly urgent here. The challenge in Kentucky has become clearer in recent years as participation in postsecondary education increases—at one of the fastest rates in the nation—and Kentucky’s traditional reliance on low-skilled labor decreases.

Our low graduation rates persist, laying the foundation for economic and social challenges that will undermine the success of another generation. One national study estimated that each year’s class of dropouts will cost the nation more than \$200 billion in lifetime lost earnings and unrealized tax revenue. Beyond economics, high-risk behavior such as teen pregnancy, delinquency, substance abuse and crime is significantly higher among dropouts. (*NASSP-Improving High School Graduation Rates Through Support Mechanisms*)

Part of the problem is that high schools have been among the slowest institutions to change, locked in historical patterns and practices that are no longer effective. Research consistently points out that high schools are pretty much unchanged from the way they were 100 years ago. As one speaker noted: “There is an old quip that high schools were established as sorting machines. One-third of the students would drop out, one-third would go to work, one-third would go to college. Sadly, this hasn’t changed much.”

The message of this report is that **this is not acceptable**.

The standards-based reforms enacted across the nation in the past decade have had little impact on high schools. Academic gains are significant and rising in the early grades, but flat at the high school level. The percentage of Kentucky 9th graders who graduate four years later has increased since the 1980s and is above the national average, but it is still unacceptably low.

Too many students are failing to achieve proficiency in basic academic skills, and very few are reaching the distinguished or world-class level. Depending on the subject, 15 to 54 percent of Kentucky high school students scored proficient or distinguished on state tests in 2004.

“We have thought of Kentucky as a state that was barefoot and pregnant, and with an ever-growing population of young to feed our schools, industries and businesses. We could take the best, and throw away the rest of the growing young work force. ...No more!”
Ronald. T. Crouch
Kentucky State Data Center

Achievement gaps persist between groups of students. For example:

- Out of 100 African American 11th graders, 85 scored below proficient in math on the 2004 state test.
- Results of middle school math tests showed 81 percent of eighth graders who participate in the free or reduced-price lunch program scoring below proficient.
- Twenty-three percent of fourth grade students with disabilities were novice readers in 2004, compared with 9 percent of fourth graders without disabilities.

Although we offer specific recommendations related to closing these achievement gaps, we urge readers to note that all the recommendations in this report, which apply to all students, are meant to achieve this goal.

The senior year is a special problem. The last year of high school is often a time when students fall behind because, having accumulated the credits they need for graduation, they choose easy electives, outside activities and paid employment instead of challenging academic work. The system as it now exists does not link the senior year with what lies ahead. **A wasted senior year means diminished chances of success in postsecondary education or work.**

In addition:

- Twenty-nine percent of Kentucky’s 2000 high school graduates who attended a four-year public university needed a remedial course, and 57 percent who attended a two-year college needed a remedial course. (This number will likely increase as record number of Kentucky high school graduates enter college.) (*High School Feedback Report, CPE*)
- The need for remediation exists even though more high school students are taking pre-college courses. The Council on Postsecondary Education reports that 96.2 percent of freshmen who enrolled in state universities in 2003 seeking baccalaureate degrees had met pre-college curriculum requirements.

“Senior courses are not geared toward a seamless transition to college work, nor is the senior year treated as a culmination of high school curriculum.” When students find out they are not prepared for postsecondary work, “they’re angry. They say, ‘Why didn’t you tell us. We thought we were prepared.’”

*Professor Michael W. Kirst
Stanford Report*

“Today’s students belong to the first generation in more than a century whose members are at risk of having a lower standard of living than their parents.”

Willard R. Daggett

- Kentucky trails 24 other states in preparing students for postsecondary education; six states lag Kentucky’s efforts and 19 others are rated at the same level. (*Measuring Up 2004*)
- Extremely small proportions of 11th and 12th graders score well on advanced placement tests and small proportions score well on college entrance exams. (*Measuring Up 2004*)

There is growing concern among educators, employers and advocates that too many of Kentucky’s high school students fail to graduate, and those who do are not prepared to succeed in the next phase of their lives, whether it involves going to work or continuing their education at a university or technical school.

A key reason: in addition to the failure of an alarming number of students to finish high school at all, most of those who do graduate take courses that are not demanding enough and do little to help them learn how to apply what they know either for work or postsecondary education. These classes are not *rigorous* enough and do not demand enough of students. We emphasize that these skills are needed for success in the workplace as well as by students who go on to postsecondary education.

The student perspective

High school students themselves know this. A national survey of recent high school graduates, prepared for Achieve, Inc., makes it clear that students want to be more challenged:

“High school graduates are unequivocal about the power of high expectations. Those who feel well-prepared are much more likely to come from high schools that challenged them and held them to high standards. Compared to other respondents, they took far more rigorous math and science curriculum, including mathematics beyond Algebra II. ...”

What it all means is that too many students are getting out of high school without getting what they need out of high school. And that means their transition into adulthood is weighed down with the baggage of poor preparation.

What difference does it make?

For individuals headed on to college or technical school, getting a quality high school education can mean saving serious money. Remedial courses in college aren't free, and the students who need them must spend their higher-education dollars just catching up – not on actual higher-education classes. Well-educated high school graduates also have a better shot at winning scholarships that will pay for college or technical school – not to mention having an easier time just being admitted to a postsecondary institution.

Studies show a direct relationship between the courses students take and their success in postsecondary education. Eighty percent of students who take calculus, for instance, are likely to be successful; if geometry is the highest level math they take, only 23% are successful. (<http://www.ed.gov/pubs/Toolbox>) The knowledge and skills needed for success in the workplace are similar to those required for postsecondary education, since success requires the capacity to continuously learn more advanced skills.

Highest Math Studied in High School	Percentage of High School Grads Earning Bachelor's
Calculus	79.8
Pre-Calculus	74.3
Trig	62.2
Algebra II	39.5
Geometry	23.1
Algebra I	7.8
Pre-Algebra	2.3
Clearly, students who take more difficult math courses in high school have a higher success rate in college.	
www.ed.gov/pubs.Toolbox/toolbox.html	

“Successful preparation for both postsecondary education and employment requires learning the same rigorous English and mathematics content and skills.

No longer do students planning to go to work after high school need a different and less rigorous curriculum than those planning to go to college. In fact, nearly all students will require some postsecondary education, including on-the-job training, after completing high school.

Therefore, a college and workplace readiness curriculum should be a graduation requirement, not an option, for all high school students.”

*Agenda for Action
The American Diploma Project*

Students who really challenge themselves and take Advanced Placement courses in high school have an opportunity to receive college credit if they score a 3, 4, or 5 on the AP exam. This means they have a greater chance of getting into the college of their choice. It also means they might save thousands of dollars in university tuition and fees by getting up to a year’s college credit while still in high school.

On the other hand, students who fail to take at least one Advanced Placement high school course have a lower probability of graduating from college. Only one-third of students who don’t take an AP course in high school graduate from college while 59 percent of students who complete at least one AP course and 76 percent of those who complete two or more courses are college graduates. (*Answers in the Toolbox*; <http://www.ed.gov/pubs/Toolbox>)

For young people headed into the workplace, getting a quality high school education can mean making more money – significantly more money.

Most of today’s good-paying jobs require—at a minimum—the high-level math, science, communications and thinking skills that are acquired in demanding high school courses. As a result, modern employers are understandably unimpressed with a C-average diploma that shows a student just made it through the basic high school courses.

Additional education beyond a high school diploma is now required for all jobs that allow workers to earn even middle-income wages. A high school diploma is not enough in today’s economy. In fact, 70 percent of the 30 fastest-growing jobs today will require an education beyond high school, and 40 percent of all new jobs will require at least an associate’s degree. (*Somerville and Yi, 2002*)

For employers, quality high schools translate into a healthier bottom line. A workforce that is actually ready to work means higher productivity and reduced training costs.

The realities of global competition make high performance an imperative for every worker. Kentucky employers are clear about their workforce needs: employees that have not only a strong grasp of basic academic skills, but also the ability to convert them into the value-added skills that are demanded by today’s work environment. According to employers, Kentucky’s schools are not producing enough workers with the right skills and capabilities needed in all occupations; the most significant deficiencies are in basic skills such as reading and math, interpersonal skills and a willingness of workers to change and learn new things. (*Ready for Work, Partnership for Kentucky Schools*)

For communities and the state as a whole, high-quality high schools are the producers of young citizens who have a better chance for success in their personal, work and civic lives.

A particular challenge

The very structure of high schools presents particular challenges to improvement efforts. Established in the 19th century, the institutions were designed to provide what at the time was the highest level of education that many citizens would receive (and were, in fact, criticized by some as “elite institutions of classical learning”). (*Reese, Origins of the American High School*) In 1940, for example, only about 15 percent of Kentuckians had a high school diploma. Today’s high schools serve a vastly different purpose, with responsibility for preparing all young people, not just a few, for continuing education in some form.

In addition, the standards-based accountability systems that now guide most of the nation’s schools have had little impact on high schools. High schools are different from elementary schools, and more difficult to change, because they “are being asked to do what they have never done before – something they were not designed to do – to prepare all students for the same academic endpoint.” (*Leslie Santee Siskin, “The Challenge of the High Schools,” Redesigning Accountability Systems for Education*)

“The goal of a transformed system of high schools is to prepare every student to succeed in postsecondary education without remediation.

“While not every adolescent will or must attend a four-year college immediately after high school, some postsecondary education—whether in a four-year college, a high-quality technical training program, or a community college—is now a necessity on the pathway to a successful adulthood.

“A high school education must open the doors to college for all, whenever individuals may choose to take advantage of the opportunity.”

Michael Cohen

“Transforming the American High School”

The use of the word “postsecondary” in this report refers to what comes after high school. For some students, that will mean going on to a university in pursuit of a bachelor’s degree. Others will enroll in community college or technical school for an associate degree or certification in a specific skill. Still others will enter the workplace. Whatever a student’s postsecondary choice, it is critical that his or her high school experience provide the preparation needed for success.

Other Initiatives

In Kentucky and nationally, a number of efforts are looking at ways to improve the quality of high schools and the knowledge and abilities of the students they graduate. A list of Kentucky initiatives can be found in the appendices of this report. This work is prompting a new look at many issues related to high school performance.

A Note about Higher Expectations

High expectations are critical for all students—those who are unlikely to graduate as well as those who will go on to postsecondary education or the workplace.

Recent polling by Achieve, Inc., shows that high school graduates who believed their high school expected more of them were more likely to feel extremely well prepared for their futures – whether they went to college or not. Eighty percent of college students who were held to high expectations said they felt well prepared for the next step; 72 percent of students who did not go on to college had the same feeling about their preparation. Students who experienced low expectations in high school were less likely to feel prepared for college or the workplace, 37 percent and 36 percent respectively.

But to believe that merely issuing a directive to toughen course-taking requirements and then expecting all high school students to master that content is folly. Schools must have the conditions and resources they need to be successful in reaching this goal.

We offer two observations to accompany our emphasis on high expectations and the need for resources.

First, we know from implementing Kentucky’s systemic reform that good teaching—what happens in each classroom—is central to student success. We also know from numerous national reports that teaching practice—what happens in each teacher’s classroom—has been very slow to change in two decades of reform.

The assumption behind our call for higher achievement for high school students is that teaching practice must be improved. We have addressed this need in other reports and will not repeat those recommendations here. Let us say only that improving teaching practice is the biggest challenge Kentucky faces, that it is the responsibility of everyone associated with education and that it requires multiple solutions in tandem. Achieving the goals expressed in this report is not just a matter of teachers and students “working harder.”

Second, high school educators will rightly say: “But all students don’t come to us ready and able to master the content you propose; some haven’t mastered even the basics yet.” This is true.

Our recommendations are thus based on the premise that preparation must be improved at the lower grades as well, that students entering high school must be ready to handle more challenging work and, if they are not, remedial programs at the high school level must be put in place. Raising expectations in high schools is therefore meant to leverage better teaching and higher achievement throughout the system. If this is not done, the goals we express in this report — higher academic achievement for all students — cannot be reached.

We also recognize that flexibility is important in the pursuit of educational excellence. Just as students learn in different ways, customized approaches that reflect each school’s unique population and characteristics will have the best chance of success. But whatever approach is adopted, high schools with consistently low graduation rates and those that fail to prepare students adequately should be redesigned and reorganized from top to bottom.

Kentucky should focus its immediate attention on the state’s lowest performing high schools and redesign or reorganize them to pull them out of crisis.

“Our recommendations are thus based on the premise that preparation must be improved at the lower grades as well, that students entering high school must be ready to handle more challenging work and, if they are not, remedial programs at the high school level must be put in place.”

Recommendations

Our recommendations for creating high-achieving high schools are presented in the context of the Kentucky’s overall program to improve student achievement. Improving high schools presents a special problem, as national evidence shows, but high schools do not exist in isolation from other schools or from other reform policies.

These recommendations, then, depend on the success of measures that we do not emphasize in this report. These include adequate funding for public education, providing highly qualified teachers for all students and leaders for all schools, success for all students in reading and math at early levels, effective preschool experiences for all children, effective professional development, school climates that set high expectations at all grade levels, high expectations for parents and communities, effective and accurate student and school achievement data, a powerful accountability system based on high standards and powerful incentives to encourage school performance.

“Rigor requires students to make a substantial personal investment in their own learning. Students involved in rigorous learning are deeply engaged in thought, critical analysis, debate, research, synthesis, problem-solving and reflection. In other words, they are exercising their cognitive abilities to the maximum.”

Willard R. Daggett, Ed.D.

“Reforming American High Schools—Why, What, and How”

I. Set high expectations through rigorous course work.

High school students often complete the requirements for graduation without learning what they need to know to succeed in college or in the workplace. The courses they take simply don't demand enough of them. And the senior year is becoming an educational wasteland for too many students who accumulate all or most of the credits they need for a diploma by the end of their junior year.

- **Top priority: Require more rigorous coursework for high school graduation. The Kentucky Scholars Course of Study represents the minimum level of rigor that should be required.**

The Kentucky Scholars Course of Study	
Courses	Credits
English (English I, English II, English III, English IV)	4
Mathematics* (Algebra I, Geometry, Algebra II)	3
Science (Biology, Chemistry, Physics)	3
Social Studies (Chosen from U.S. History/1.0; World History/ 1.0; World Geography/ 1.0; Economics/ 0.5; Government/0.5)	3.5
Languages other than English (Two credits of the same language)	2
Total Credits	15.5
<i>*We would also recommend the addition of pre-calculus at a minimum.</i>	

- **Top priority: Vastly expand opportunities for high school students to participate in postsecondary learning opportunities while they are still in high school; encourage courses for postsecondary credit for high school students through such programs as middle college, early college, Advanced Placement and International Baccalaureate. Start preparing students during their freshman year. Develop funding policies that encourage, instead of discourage, dual enrollment.**
- Align curriculum and assessment among all levels of education.
- Strengthen the effectiveness of Individual Graduation Plans with regulatory language that more clearly defines the process, includes IGPs in the accountability system, and requires annual contracts among parents, students and schools that detail the public's financial investment in a student's education and expectations for student performance and parent involvement.
- Provide early diagnostic assessment and instructional interventions for all students, beginning as early as middle school, to ensure that students graduate from high school prepared for college and the skilled workplace. The assessments should be aligned with college and workplace entrance expectations and provide results that allow individual student achievement to be tracked and compared with that of students in other states.

The faculty at J.E.B. Stuart High School in Falls Church, Virginia, wanted more students enrolled in higher-level courses, in part to improve SAT scores. To reach the goal, the International Baccalaureate (IB) program was put in place, and the courses were open to all students. Students also were encouraged to take more Advanced Placement (AP) courses. In 1998, the high school's students met the passing rate on one of the Virginia Standards of Learning exit exams. In 2002, Stuart students exceeded the state passing rate on all 11 exit exams. SAT scores improved by 104 points in four years. Enrollment in AP and IB courses has increased by 279 percent.

“Breakthrough High Schools”
National Association of Secondary School Principals

Additional critical steps:

- Launch a substantial public information campaign aimed primarily at parents to demonstrate the value of effort and rigor in high school course taking and the importance of success in high school.
- Incorporate service learning, independent study, field experience or other nontraditional educational opportunities into the senior year or earlier to provide for individual students' learning styles.
- Use the high school feedback report to inform high school students and their parents, high school faculty, and school councils about college remediation rates and the costs involved for students and families.
- Provide effective professional development for middle and high school teachers that focuses on their shared responsibility for counseling students on academic matters.
- Reorganize high schools to provide time for building relationships between faculty and students, a factor that students say makes a difference.
- Encourage schools to exceed the requirements of any authorizing agency in setting academic standards for students who participate in athletics or extracurricular activities. Reward and recognize schools which do so.

II. Competency or end-of-course exams

The state's assessment and accountability system should encourage high achievement throughout high school and provide information about students' readiness for college or the workplace. Uniform competency or end-of-course exams, administered statewide, should be used to promote consistent, high standards for coursework and to determine whether a student has mastered a particular subject.

- **Top priority: Establish end-of-course or competency exams, ultimately replacing the current high school assessment under CATS, providing appropriate accommodations for students who request them. Such exams, based on high standards, should be mandatory in all schools to provide a consistent means of measuring student knowledge in specific subjects and to ensure that students can succeed at the next level.**
- Ultimately, but not immediately, students should be required to pass end-of-course or competency exams before being permitted to advance to the next grade or level in a particular subject and before qualifying for KEES scholarship funds.

III. Financial incentives for rigorous work

Because it is now based only on grade point average, the Kentucky Educational Excellence Scholarship (KEES) is having the unintended result of discouraging students from taking more challenging high school courses. KEES and other scholarships should encourage more rigorous coursework.

- **Top priority: Require a rigorous curriculum for KEES eligibility to make it an incentive for students who take more challenging courses; bonus money should be available for students who earn a 3 or higher—the level at which colleges award credit—on an Advanced Placement exam or in an equivalent performance course.**
- Ensure that KEES funds awarded for ACT performance are granted only to students who score 18 or higher on that test.
- Focus public awareness efforts on helping students and parents understand the KEES rewards of taking Advanced Placement courses.
- Enforce the regulation that restricts the use of KEES funds for college credit courses only and not for remedial coursework.

The Kentucky Educational Excellence Scholarship, created by the 1998 General Assembly, awards scholarships to students based on the grade point average they receive each year of high school.

Base scholarship amounts range from \$125 per year of college for each year a 2.5 GPA is earned in high school to \$500 per year for a 4.0 GPA. Bonus awards based on ACT scores range from \$36 per year for a score of 15 to \$500 a year for a score of 28 or above. Advanced placement courses are more heavily weighted in grade point calculations under KEES.

IV. Highly qualified teachers

Every Kentucky student must have a highly-qualified teacher every year; if this is not achieved it is unlikely that high schools will improve as recommended in this report. Kentucky does not have enough teachers who are qualified to teach the higher-level courses we recommend. Not enough teachers are being adequately prepared by the state's colleges and universities to do this, and the current compensation system does not attract or keep enough highly qualified teachers in the profession.

- **Top priority: Ensure that Kentucky's colleges and universities are accountable for providing high-quality preparation for all prospective teachers. This involves greater content knowledge and the ability to impart that knowledge in the classroom. It also requires extensive cooperation between colleges of education and other campus academic departments. The postsecondary education funding formula should be revised to recognize success in the preparation of teachers.**
- **Top priority: Create a differentiated teacher compensation system that encourages and rewards good teaching and continued teacher learning and includes recruitment strategies and incentives that attract talented people to high school teaching in areas of greatest need. Reforming the teacher compensation system should include restoration of the rewards for reaching CATS achievement goals that were defunded in the 2002 General Assembly.**

In congressional testimony and other venues, Education Trust Director Kati Haycock delivers a clear message: high quality teachers have a direct and lasting impact on student achievement. "In summarizing available research, Eric Hanushek, an economist at Stanford University, estimated 'the difference in annual achievement growth between having a good and having a bad teacher can be more than one grade level equivalent in test performance.' Moreover, these teacher effects appear to be cumulative. For example, Tennessee students who had three highly effective teachers in a row scored more than 50 percentile points above their counterparts who had three ineffective teachers in a row, even when they initially had similar scores."

Kati Haycock,
Testimony to U.S. House Committee on Education and the Workforce
Subcommittee on 21st Century Competitiveness
May 2003

- **Top priority: Create/enhance leadership development programs for principals to ensure the presence of effective, achievement-focused leaders in every school building. Support these school leaders with strong professional development and competitive financial compensation based on performance as measured by multiple criteria.**
- Expand the length of Kentucky's school year by adding 10 days for professional development and instructional purposes.
- Provide incentives to encourage all university faculty, including arts and sciences, to contribute to the preparation of teachers. Address conditions within universities that under-value those programs. Teacher preparation is not solely the responsibility of colleges of education.
- Remove barriers to alternate certification for teachers to encourage professionals from other disciplines and teachers from other states to become classroom teachers in Kentucky.
- Create and deliver high-quality professional development programs that are tied directly to student achievement.

V. Alternative systems for earning high school credits

The Carnegie system of credits now in place to determine a student's eligibility for graduation inhibits needed high school improvements and restricts the flexibility required to educate all students well and to increase graduation rates. The Carnegie unit was developed in 1906 as a measure of the amount of time a student has studied a subject. Each unit represents one year of study, or its equivalent, in a secondary school subject. In Kentucky, 22 Carnegie units are required for high school graduation.

The Kentucky Board of Education should create alternate avenues for awarding high school credit.

- **Top priority: Kentucky should establish and expand pilot programs that award course credit to students based on their proven proficiency or learning experiences other than in traditional classes, not on the amount of time they spend in a particular class. This will require a substantial redesign for traditional high schools.**
- **Top priority: Encourage the expansion of dual enrollment credit programs that allow students to take postsecondary courses while also completing high school. Changes should be made to the school funding system to encourage dual enrollment. (Also included under Recommendation #1.)**
- Adjust the KEES regulations to encourage students to participate in dual credit programs.

VI. Close achievement gaps

Roswell High School in rural New Mexico partners with Eastern New Mexico University, five miles away, to provide expanded learning opportunities for its students. Broad offerings at the university include such specialty areas as aviation science, and it is possible for a student to graduate from high school with a diploma and full certification as an aircraft mechanic. The school has an annual graduation rate of 99.6 percent.

“Breakout High Schools”

National Association of Secondary School Principals

Eliminating the achievement gaps that persist between groups of students will ensure that all students are prepared for success in postsecondary education and/or the workplace. Below are several specific steps aimed at eliminating the gaps. However, we emphasize that eliminating these gaps is also addressed and can be achieved if the recommendations contained in this report are implemented successfully.

- **Top priority: Provide training and professional development for teachers and counselors to help them develop the skills they need to communicate with and effectively educate all students, including those from different ethnic, economic and educational backgrounds, those with learning disabilities and those who have different ways of learning.**
- Restore rewards for schools that meet their academic goals and close achievement gaps if schools are persistently low performing, as determined by the state accountability system, they should be redesigned to incorporate practices that have been proven successful in other schools.
- Use technology more effectively to improve the achievement of students with disabilities.
- Achievement gaps between Kentucky students and students in high-achieving states and countries must be narrowed. Kentucky should join TIMSS (Trends in International Mathematics and Science Study) to compare its students' academic performance to the rest of the world.
- Maintain full funding for Extended School Services to ensure the availability of assistance for all students and ensure that the funding is used to provide assistance that meets students' academic needs.
- Develop professional development programs based on best practices of closing achievement gaps.

Conclusion: Getting Attention, Changing Attitudes

“You need more pressure for change than resistance to change before change will happen.”
Willard Daggett

Kentucky has an urgent, serious problem in many of its high schools. It isn't that our high schools are failing to do the work they were designed to do. It is that the design itself is outmoded and falls far short of providing students with the academic experience and preparation that will keep them in school and prepare them to succeed after graduation.

We have another urgent, serious problem beyond our high school walls – and that is the fact that most Kentuckians do not understand that our high schools must change – and quickly – if today's students are to be prepared to meet the demands of continuing their education or finding a job in the skilled workplace.

No formula for improvement will succeed if we fail to address the fundamental issues of understanding and attitude.

And this is a formidable challenge, based on reports the Task Force received from a variety of experts and other sources:

- Many students view high school, especially the senior year, as their last opportunity to enjoy life before adulthood. They do not understand that a quality high school education really does matter—for future employment or more education—and that quality means harder work.
- Parents often reinforce these negative student attitudes and resist, or in some cases block, attempts to direct students into more challenging courses.
- Too many teachers are skeptical about the need to involve all students in demanding coursework and do not believe all students can handle such work.
- Community leaders and employers fail to communicate with students, parents and educators about the importance of high school and the quality of education it provides.
- There is limited understanding that all students, including those who will go straight into the labor force or into other training programs, need the same rigorous courses that students will need to enter postsecondary programs.

Improving Kentucky's high schools will require greater public awareness backed up by specific action. The effort must raise expectations for the performance of students, parents, educators, and communities, and it must encourage all Kentuckians to do more and work harder to make high achieving high schools a reality across the state.

For Kentucky the challenge is particularly severe and more demanding than in other places. This is because Kentucky's historic neglect of education has resulted in a larger portion of adult

Kentuckians — the parents of today’s students — who had an unsuccessful high school experience than adults in any other state. This means that Kentucky will need to push harder and invest more creativity, energy and resources in convincing today’s students to meet the same levels as students in other states.

But this difficult work must be done. We have no choice if we are to realize our goals of providing a high-quality education—and the economic opportunity it provides—for every Kentuckian. Our state has made heavy investments of time, talent and money in our schools. Sustaining and building on that commitment requires dramatic changes in the ways our high schools do their work. We must act. Now.



Appendix A

High school improvement efforts under way in Kentucky

- **The American Diploma Project**, (ADP) a collaboration of the Department of Education, the Council on Postsecondary Education (CPE) and the P-16 Council, has established benchmarks in English and mathematics that are being incorporated into Kentucky's standards. The CPE also has passed a postsecondary placement policy that defines college readiness in English and math based on the ADP benchmarks.
- **The American Diploma Project Network** is a group of 13 states, including Kentucky; the members have agreed to increase the rigor of their high school standards, assessments and curriculum to align them with the requirements of postsecondary education and work.
- **Database development** by the state's education agencies to track students from preschool through college that will provide information to high schools about how their graduates performed in postsecondary education.
- **GEAR UP** (Gaining Early Awareness and Readiness for Undergraduate Education Programs) is a coordinated effort between middle schools, high schools, colleges and universities to support and encourage low-income middle and high school students to pursue postsecondary education.
- **GoHigher**, a program and web site sponsored by the Council on Postsecondary Education that provides high school students with information about college prep courses, individual graduation plans and online college applications.
- **Kentucky Early Mathematics Testing Program**, administered by Northern Kentucky University with online capacity through the University of Kentucky, that provides diagnostic assessments to 10th- and 11th-grade students on their likely readiness for college-level mathematics.
- **Kentucky Scholars**, a Partnership for Kentucky School's initiative in which businesspeople encourage all 8th- and 9th-grade students to take specific courses that are more challenging.
- **The Kentucky Successful Practices Alliance Network**, includes the Kentucky Department of Education, the International Center for Leadership in Education (ICLE) with Dr. Willard Daggett, and a select group of school districts. They will share information and training as they work to accelerate the pace of improvement in secondary education in Kentucky.
- **Kentucky Virtual High School**, including the **Kentucky Virtual Advanced Placement Academy**. The virtual high school is a statewide educational service delivering high school courses and online learning opportunities to Kentuckians. The academy offers schools more than one way to provide Advanced Placement courses to students and to prepare them for success on AP exams.
- **Refocusing Secondary Education**, a Department of Education initiative that is exploring such possibilities as end-of-course examinations and changing the way students earn course credit.

Appendix B

Academic Performance

Percent students scoring proficient or distinguished			
READING			
	Elementary	Middle Schools	High Schools
	Grade 4	Grade 8	Grade 10
All students	67%	60%	34%
White	69%	62%	36%
African American	48%	40%	19%
GAP	21	22	17
NOT Free/reduced lunch	77%	72%	43%
Free/reduced lunch	57%	47%	20%
GAP	20	25	23
Female	71%	68%	43%
Male	63%	52%	25%
GAP	8	16	18
Students w/o disabilities	70%	64%	37%
Students with disabilities	49%	26%	10%
GAP	21	38	27

MATH			
	Elementary	Middle Schools	High Schools
	Grade 5	Grade 8	Grade 11
All students	48%	33%	37%
White	51%	36%	39%
African American	28%	13%	15%
GAP	23	23	24
NOT Free/reduced lunch	61%	46%	45%
Free/reduced lunch	36%	19%	21%
GAP	25	27	24
Female	49%	34%	37%
Male	48%	32%	37%
GAP	1	2	0
Students w/o disabilities	52%	37%	40%
Students with disabilities	29%	12%	11%
GAP	23	25	29

Source: 2004 Kentucky Core Content Test Results, KDE

ACT - SUMMARY

KENTUCKY AND NATION

YEAR	KY COMPOSITE	PERCENT OF GRADUATES TESTED	US COMPOSITE	PERCENT OF GRADUATES TESTED
1990	19.9	62	20.6	
1991	20.0	60	20.6	
1992	20.0	62	20.6	
1993	20.1	63	20.7	
1994	20.1	63	20.8	36
1995	20.1	63	20.8	37
1996	20.1	62	20.9	35
1997	20.1	65	21.0	36
1998	20.2	67	21.0	37
1999	20.1	68	21.0	36
2000	20.1	71	21.0	38
2001	20.1	72	21.0	38
2002	20.0	72	20.8	39
2003	20.2	73	20.8	40
2004	20.3	75	20.9	40

Source: ACT, Inc.

SAT: KENTUCKY AND US

Kentucky				
Year: Graduating Class	Verbal	Math	Total	Participation rate
2004	559	557	1116	12%
2003	554	552	1106	13%
2002	550	552	1102	12%
2001	550	550	1100	8%
2000	548	550	1098	12%
1999	547	547	1094	12%
1998	547	550	1097	13%
1997	548	546	1094	12%

US				
Year: Graduating Class	Verbal	Math	Total	Participation rate
2004	508	518	1026	48%
2003	507	519	1026	48%
2002	504	516	1020	46%
2001	506	514	1020	43%
2000	505	514	1019	44%
1999	505	511	1016	43%
1998	505	512	1017	43%
1997	505	511	1016	42%

Sources: College Entrance Exam Board and Kentucky Department of Education

Kentucky Achievement Gaps by School Level

Trends in International Mathematics and Science Study, 2003

Mathematics and Science Achievement of Fourth-Graders

Comparisons of the mathematics and science achievement of fourth-graders in 2003 are made among the 25 participating countries.

- In 2003, U.S. fourth-grade students exceeded the international averages in both mathematics and science. In mathematics, U.S. fourth-graders outperformed their peers in 13 of the other 24 participating countries, and, in science, outperformed their peers in 16 countries.
- In 2003, fourth-graders in three countries-Chinese Taipei, Japan, and Singapore-outperformed U.S. fourth-graders in both mathematics and science, while students in 13 countries turned in lower average mathematics and science scores than U.S. students. Among the 13 countries in which students were outperformed by U.S. fourth-grade students, five countries are members of the OECD (Australia, Italy, New Zealand, Norway and Scotland), and three are English-speaking countries (Australia, New Zealand and Scotland).

Mathematics and Science Achievement of Eighth-Graders

Comparisons of the mathematics and science achievement of eighth-graders in 2003 are made among the 45 participating countries.

- In 2003, U.S. eighth-graders exceeded the international average in mathematics and science. U.S. eighth-graders outperformed their peers in 25 countries in mathematics and 32 countries in science.
- Eighth-graders in the five Asian countries that outperformed U.S. eighth-graders in mathematics in 2003-Chinese Taipei, Hong Kong SAR, Japan, Korea, and Singapore-also outperformed U.S. eighth-graders in science in 2003, with eighth-graders in Estonia and Hungary performing better than U.S. students in mathematics and science as well.

Source: National Center for Education Statistics <http://nces.ed.gov/timss/Results03.asp>

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