

# **Working Paper**

**Richard G. Innes**

2836 Deerfield Drive

Villa Hills, KY 41017

INTERNET: 70224.434@Compuserve.com

Phone: 859-344-0406, Cell 859-466-8198

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## **Cut off at the Pass**

### **Evidence That Cutting Off Education At the Passing Point for CATS Leaves Students Unprepared for College**

#### **Why A Working Paper?**

Quite simply, the review staff at the Bluegrass Institute for Public Policy Solutions is currently overloaded with work, so it will be some time before they can vet this paper. At the same time, Kentucky's policy makers must shortly make critical decisions about the state's education system, including the CATS assessment program. Thus, in the interests of allowing those policymakers access to important information in this paper that bears on their decision, I have decided to release a working paper now, with the idea that this will someday be updated and reissued as a Bluegrass Institute report.

To prevent a considerable amount of rewriting later, the term "we" is used in a number of places in this paper. However, readers should keep in mind that at this time this paper expresses my own conclusions and recommendations but not necessarily those of the Bluegrass Institute. Thus, the term "I" is more appropriately understood in those areas where the text uses the term "we."

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## Cut off at the Pass

### Evidence That Cutting Off Education At the Passing Point for CATS Leaves Students Unprepared for College

#### Executive Summary

*Half of Northern Kentucky University students require remedial courses, and NKU President James Votruba wants to know why so many people are so poorly prepared for college.*

*The Kentucky Post*, November 22, 2004

Dr. Votruba is far from the only person asking this question. In fact, information from the Kentucky Council on Postsecondary Education (CPE) shows inadequate college preparation is endemic throughout the Commonwealth of Kentucky, a fact that concerns many informed Kentuckians.

How can this be? Kentucky's public school assessment, called the Commonwealth Accountability Testing System, or 'CATS' for short, has been providing steady evidence that public education in Kentucky is on the upswing. How can CATS paint such a rosy picture of progress while Kentucky's colleges and technical schools are going into crisis mode in order to deal with a huge amount of remediation?

We examine that question from several different directions. First, we explore Kentucky's trends on the ACT college entrance test. We find examples where the CATS shows a high school is making good to outstanding progress at the very same time that the ACT scores for that school are in decline.

We also show that ACT score trends for a number of Kentucky school districts move in opposite direction to the CATS scores for high schools in those districts. We show that from the first year of CATS testing through 2002, the average ACT score for Kentucky districts actually fell statewide while the CATS scores were rising. Even a recent small up turn in the districts' performance has not fully erased the decay in ACT scores that began after 1998, the year before CATS testing began.

Our second set of evidence comes from the work of the American Diploma Project (ADP). The ADP looked at Kentucky's high school CATS assessments for reading, writing and mathematics and found both the reading and math tests lacked adequate rigor for college preparation. Only the writing elements appeared to have some value, but comments about the on-demand writing test questions seemed cautionary, as well.

The third set of evidence concerns those high college remediation rates that worry Dr. Votruba. We find that the latest available data show the rates at four-year universities are an alarming 40 percent, while the rates at the two-year colleges and within Kentucky's technical school system are an astounding 64 percent. These rates make it very clear that the ACT, and not the CATS,

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appears to be the more accurate predictor of what is really happening in Kentucky's public high schools.

We also note that Kentucky's failure to prepare students involves more than just the college bound. New data from ACT, Inc., indicates that non-college-bound students who want to enter technical careers also need the very same skills required to do well on the ACT. Thus, the state's lackluster performance on the ACT has much more extensive implications than earlier assumed.

Now, we return to the question of why is this happening. We believe the answer is that the CATS simply cuts off educational evaluation at too low a level to provide useful information about how schools do with college preparation. It clearly is possible to do quite well on CATS and at the same time not do nearly as good a job as required to truly prepare students for life. In addition, the insufficient rigor in the CATS program creates inflated scores that lead to an information vacuum.

The CATS thus leaves too many in Kentucky uninformed. The list of the poorly informed includes far more than students who are misled into believing they are making good progress; the uninformed also include parents, teachers, employers, policy makers, and the general citizens of the state.

Fortunately, better ideas are available. And, a target of opportunity to make meaningful changes is at hand. Our recommendations involve the following:

1. Ensure the current review of Kentucky's Core Content for Assessment is meaningful and conducted with an eye towards the requirements of college and technical job requirements.
2. Support the Governor's recent commitment of Kentucky to the American Diploma Project. There are some excellent ideas in this national effort to improve high schools, and Kentucky will be left behind if it does not effectively participate.
3. Support a plan for an alternative pilot assessment using the ACT. This pilot program deserves a chance to show that the ACT can function as a high school assessment in Kentucky.

We note that both Colorado and Illinois now test all their 11<sup>th</sup> graders with the ACT to determine how their schools are really performing. Colorado has released a considerable amount of information about its program. Contrary to predictions of doom and gloom naysayers in Kentucky, the Colorado ACT program appears to be working well. The rates of going on to college have increased notably, and the need for college remediation is going down. Incredibly, Colorado has shown that even students with learning disabilities can take the ACT, and can even make progress.

4. Evaluate the impact of testing accommodations on CATS scores. This sub-program may be inflating the overall results and needs to be carefully reviewed.

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## Cut off at the Pass

### Evidence That Cutting Off Education At the Passing Point for CATS Leaves Students Unprepared for College

#### Introduction

*Half of Northern Kentucky University students require remedial courses, and NKU President James Votruba wants to know why so many people are so poorly prepared for college.*

*The Kentucky Post*, November 22, 2004

Dr. Votruba certainly is not only person asking this question. In fact, information from the Kentucky Council on Postsecondary Education (CPE) shows inadequate college preparation is endemic throughout the Commonwealth of Kentucky.[1] Many informed Kentuckians are just as concerned as Dr. Votruba.

But, how can this be? The Kentucky public school assessment program, called the Commonwealth Accountability Testing System, or ‘CATS’ for short, has been providing steady evidence that public education in Kentucky is on the upswing. How can CATS paint such a rosy picture of progress while Kentucky’s colleges are going into crisis mode to deal with a huge amount of remediation?

The answer is that the CATS assessment simply does not provide Kentucky’s students, parents and policy makers with reliable data about how high schools perform with the upper half of their student body. Evidence discussed in this paper indicates that the CATS simply cuts off educational evaluation at too low a level to provide useful information how schools do with college preparation.

The shocking truth is that the CPE cites a remediation rate average well over 60 percent in the state’s community and technical college system.[1]. Thus, the CATS also apparently cuts off evaluation at too low a level to even measure adequate preparation for community colleges and the technical schools that lead to better-paying, non-college-track employment.

Lack of rigor in the CATS program creates an information vacuum that leaves too many in Kentucky uninformed. Those poorly informed include far more than just the students who are misled into believing they are making good progress; the uninformed also include parents, teachers, employers, policy makers, and the general citizens of the state.

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## Overview of The Paper

This paper assembles evidence from several different sources, all of which consistently indicate that CATS simply isn't rigorous enough.

The first part of that evidence comes from an original Bluegrass Institute analysis of Kentucky's public school performance on the ACT college entrance test.

The second set of evidence was developed by researchers for the American Diploma Project (ADP). The ADP is an effort to improve the educational quality of the regular high school diploma track. ADP researchers looked at several different academic tests from the CATS program and found a number of shortcomings.

A third set of evidence concerns those college remediation rates that worry Dr. Votruba. We examine these rates for Kentucky's public universities. Sadly we find Northern Kentucky University's problems with ill-prepared freshmen are far from unique.

## The main point

We want to make our end goal clear before looking at the detailed data. So long as the CATS fails to adequately evaluate upper level high school courses and the resulting impact of those courses on preparation for college and the workplace, the Kentucky assessment will continue to produce incomplete, if not outright misleading, information.

We want Kentucky's school assessment to become a truly valid evaluation of high school performance. The state cannot afford a watered down assessment that misleads people into feeling good about a poorly performing educational program. We want an assessment system that calls the shots accurately, even if some pain is involved. If high college remediation rates are to be expected, we want to know right away from our school assessment. We don't want to wait for an unanticipated surprise a year or two later.

Our motivation is simple to understand. With an accurate assessment system, Kentucky will finally get data that can be used in a timely manner to help fix problems rather than obscure them. With an accurate assessment, truly effective education reform can finally begin.

## A shared concern

Many know that high schools need to strengthen their performance with upper level course work.

The most recent public example comes from a February 2005 high school summit meeting of state governors.[2] Following a keynote address by Bill Gates of Microsoft, the governors, specifically including Kentucky's Governor Ernie Fletcher, agreed that current high school performance is inadequate and warrants extensive rethinking. Kentucky's governor signed an

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agreement at the end of the conference to join a continuing ADP program to improve the state's high school program.[3]

The governors are not alone. The ACT college testing organization is also concerned. In 2004 this testing group identified minimum ACT scores required to insure a reasonable chance of success in college. We address those specific benchmarks later. But, along with this information, the ACT made some surprisingly strong statements about the importance of upper level high school courses, even for those students who are not going on to college. The ACT says:

*“While not every student plans to attend college after high school, many of the jobs now being created in a highly technology-based economy require abilities equivalent to those expected of the first-year college student.”*[4]

In other words, to have good opportunities in life, even students who don't go to college need skills that lead to solid ACT scores. However, as we will show, Kentucky's students are not reaching ACT score levels that insure adequate preparation for our high technology economy.

Now, we turn our attention to evidence that CATS does not look at the kinds of upper level high school course material that is essential to students' futures. We begin with our own analysis of the state's ACT performance

## Evidence from the ACT That The CATS Lacks Rigor

### -Evidence from Individual High School Results-

Table 1 summarizes ACT and CATS performance for nine Kentucky high schools. These schools are listed because all have unquestionably different trends over time on these two assessments.

According to CATS, each of the listed schools is performing well. All received the highest CATS accountability rating for 2004.

The picture looks different, however, when the ACT performance of these schools is considered. If ACT is the measure of merit, these schools do a poorer job today than they did four years ago.

### School selection for Table 1

Schools in Table 1 meet the following selection criteria:

1. All listed schools have increasing CATS performance and received the highest CATS performance classification of “Meets Goal” for the 2003-2004 two-year testing cycle (called a biennium).
2. All schools have lower ACT Composite scores in 2004 than in 2001.

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## Table 1 Description

The source for the ACT scores in Table 1 is an electronic file created annually by the ACT.

The top portion of the table includes the listed schools' ACT Composite scores for graduating seniors for each year from 2001 to 2004. The difference between the 2001 and 2004 score is tabulated.

Next, the average of the ACT Composite scores for 2001 and 2002 for each school is compared to that school's average Composite score for 2003 and 2004. This approximates the two-year averaging process used in CATS. The differences in these "biennium" averages are listed in the next row.

The final row in the ACT section of Table 1 lists the number of seniors in the Class of 2004 in each school that was tested on ACT.

The CATS section of Table 1 shows the final CATS accountability indexes for each school for both the 2001/02 and 2003/04 bienniums. The difference is found in the next row. That is followed by the overall CATS school classification for each school for 2004. Note that all the listed schools received the highest possible CATS rating.

Finally, the number of 12<sup>th</sup> graders evaluated by CATS in 2004 is listed for comparison to the ACT participation. That participation comparison is shown in the last row of Table 1 as the percentage of the number of 2004 seniors tested by ACT divided by the number of seniors who were tested by CATS. Because CATS requires essentially 100 percent participation, the ratio calculated closely approximates the true ACT participation rate for each school.

## Observations on Table 1

The most stunning observation is that all of schools listed in Table 1 performed very well according to CATS. In fact, while not shown here, Phelps High School was the most improved high school in Kentucky in the 2004 CATS and now ranks in the top 30 high schools in the state on CATS.

However, using two different analysis approaches for their ACT performance, all but one school did an increasingly poorer job of college preparation between 2001 and 2004. That one exception is Belfry High School. It had mixed results in the ACT analysis -- down in the 2001 to 2004 comparison, but up in the ACT two year averages comparison. However, if Belfry's 2002 ACT composite score is ignored as an outlier, this school's trend over 2001, 2003 and 2004 is clearly a decline, as well.

College preparation in the remaining eight schools is down no matter how ACT performance is considered.

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**Table 1. ACT and CATS Results Compared, Schools with Improved CATS Performance but lower 2004 ACT Composite Scores Than in 2001**

		PIKE COUNTY SCHOOL SYSTEM	CALDWELL CO SCHOOL DISTRICT	PARIS IND SCHOOL DISTRICT	ROCKCASTLE CO SCHOOL DISTRICT	HARDIN COUNTY SCHOOLS	JEFFERSON CO PUBLIC SCHS	PIKE COUNTY SCHOOL SYSTEM	BARDSTOWN IND SCHOOL DISTRICT	POWELL CO SCHOOL DISTRICT
		PHELPS HIGH SCHOOL	CALDWELL COUNTY SR HIGH SCHOOL	PARIS HIGH SCHOOL	ROCKCASTLE COUNTY HIGH SCHOOL	NORTH HARDIN HIGH SCHOOL	SUDA E BUTLER TRADITIONAL HS	BELFRY HIGH SCHOOL	BARDSTOWN HIGH SCHOOL	POWELL COUNTY HIGH SCHOOL
<b>ACT Performance</b>	<b>2001 ACT Composite</b>	17.9	20.4	20.3	19.8	19.8	19.7	19.6	20.0	19.3
	<b>2002 ACT Composite</b>	17.8	19.7	19.0	19.3	19.0	19.7	18.5	19.3	19.6
	<b>2003 ACT Composite</b>	16.7	19.4	19.4	18.7	18.8	20.0	19.5	19.3	19.4
	<b>2004 ACT Composite</b>	16.4	18.9	19.0	18.7	19.2	19.3	19.3	19.7	19.2
	<b>ACT Difference, 04-01</b>	-1.5	-1.5	-1.3	-1.1	-0.6	-0.4	-0.3	-0.3	-0.1
	<b>ACT Average 01-02</b>	17.85	20.05	19.65	19.55	19.4	19.7	19.05	19.65	19.45
	<b>ACT Average 03-04</b>	16.55	19.15	19.2	18.7	19	19.65	19.4	19.5	19.3
	<b>ACT, Difference Between Bienniums, Rounded to Nearest Tenth</b>	-1.3	-0.9	-0.4	-0.9	-0.4	-0.1	0.3	-0.1	-0.2
	<b># Graduates Tested by ACT in 2004</b>	28	102	23	92	223	300	86	77	77
<b>CATS Performance</b>	<b>2001-02 Biennium CATS Accountability Index</b>	61.9	66.7	67.9	64.3	62.2	81	66.9	68.8	63
	<b>2003-04 Biennium CATS Accountability Index</b>	87.2	75.4	79.9	75.2	72.4	83.9	74.8	75.8	66.7
	<b>CATS Accountability Index Difference</b>	25.3	8.7	12	10.9	10.2	2.9	7.9	7	3.7
	<b>CATS Accountability Classification, 2004</b>	Meets Goal	Meets Goal	Meets Goal	Meets Goal	Meets Goal	Meets Goal	Meets Goal	Meets Goal	Meets Goal - Dropouts
	<b># 12 Graders Tested By CATS in 2004</b>	57	131	31	166	319	363	126	105	136
<b>ACT Participation Rate, 2004</b>	<b>Based on # Tested By ACT / # Tested By CATS</b>	49.1%	77.9%	74.2%	55.4%	69.9%	82.6%	68.3%	73.3%	56.6%

Notes: All listed schools have ACT Composites in 2004 below state public school average, which was 20.2.

All schools listed have 2004 ACT Composite Scores lower than their 2001 Composites.

ACT scores and participation figures from 2004 ACT datafile for Kentucky.

CATS Accountability Index Scores and 12th grade students tested from each school's 2004 Kentucky Performance Report



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For comparison, the 2004 ACT Composite average for students in all public high schools in Kentucky was 20.2. Note that the schools in Table 1 all score below that, some very far below. Never the less, all schools in the list still got the highest possible rating from CATS.

ACT participation in every one of these schools represents an appreciable proportion of the entire senior class of 2004. Even Phelps high school, with its 49.1 percent senior class participation on the ACT, provides evidence that a significant portion of each school's student body wanted to go on to higher education and strongly demonstrated that intent by voluntarily taking the ACT. Thus, while not a true random sample, the ACT results cover such a large percentage of each school's student body that it would be folly to dismiss those results as unimportant.

The fact that Phelps performs so well in CATS but so poorly on the ACT provides an important indication that CATS does not test at a high enough level to provide a usable indication about how well a school prepares its students for college. Is this high school really among the top 30 in Kentucky?

As a note, CATS did identify one school, Powell County High School, as having poor dropout performance. However, that non-academic finding does not relate to ACT performance, which is solely an academic evaluation. Ironically, because Kentucky currently is not giving monetary awards for CATS performance, the impact of its dropout situation on Powell County is slight. So far as academics go, CATS says Powell County is "meeting goal" just like all the other schools in the listing. And, CATS offers no higher rating.

### **Could the results shown in Table 1 just be due to test sampling error?**

If we had looked at only one year of data for our analysis in Table 1, this concern would be quite valid. Classes of students do vary from year to year, and this creates some up and down movement in scores. However, we point out that Table 1 does not look at just one or two years of data. The trends on the ACT and the CATS are compared across four years of assessments. Such multi-year analysis is commonly used to smooth out the effects of individual class variation. Over a period this long, individual variation should be heavily filtered. Thus, the excuse that the trends for these schools are due to some error of measurement seems far less credible than would be the case if only one year of data were being examined.

### **Placing the ACT scores in larger perspective**

In 2004 the ACT released new score interpretation guidelines. According to the ACT, for a student to have a 50 percent chance of getting a "B" or higher grade and a 75 percent chance of getting a "C" or higher grade in the related college subjects, students must score at least the following on the ACT:

College English - ACT English Score of 18  
College Algebra - ACT Math Score of 22  
College Biology - ACT Science Score of 24. [5]

Note: The ACT didn't provide a minimum score for reading.

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In Table 2 we show the actual 2004 ACT scores by subject for the high schools listed Table 1.

Comparing the ACT targets to the actual scores achieved in these schools provides more evidence that the vast majority of the students in these schools are inadequately prepared for college. This is clear in Figures 1 to 3, which compare the scores for each school in each subject to the ACT minimum threshold score for reasonable college preparation.

Regarding figure 1, notice that the schools barely prepare their average student to succeed in a freshman college English course. That means that many students, probably nearly half, in these schools who want to go to college are not likely to do well in college English.

**Table 2**  
**2004 ACT Scores For Schools In Table 1**

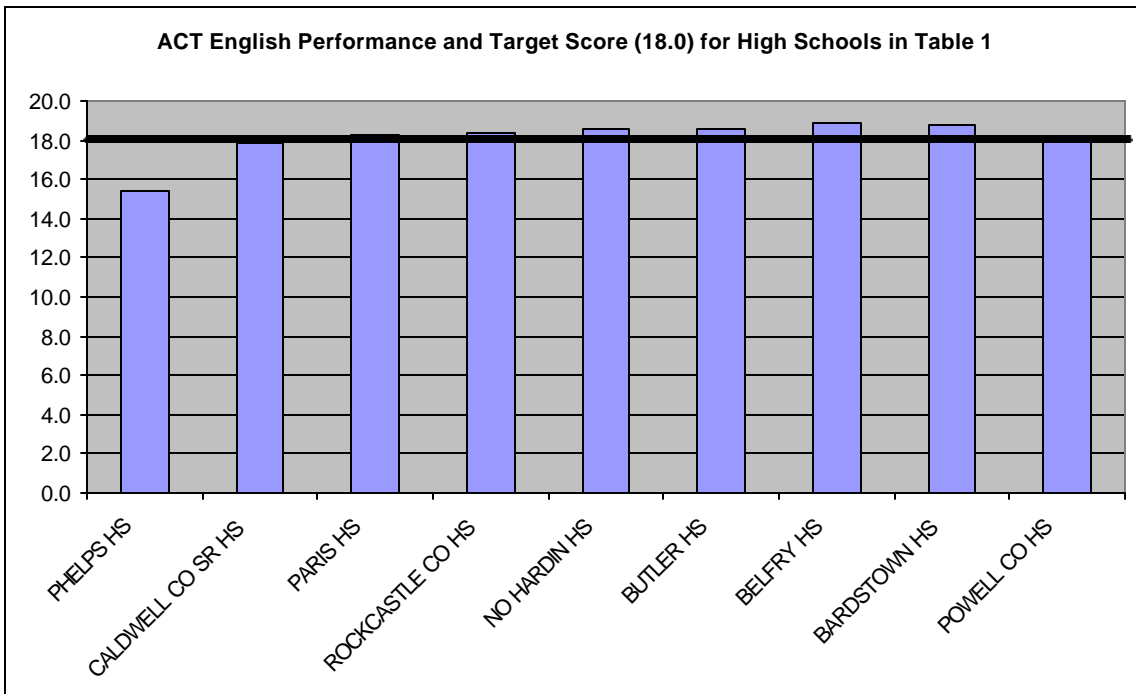
		English	Math	Reading	Science	Composite
<b>PIKE COUNTY SCHOOL SYSTEM</b>	<b>PHELPS HIGH SCHOOL</b>	15.4	15.7	17.4	16.8	16.4
<b>CALDWELL CO SCHOOL DISTRICT</b>	<b>CALDWELL COUNTY SR HIGH SCHOOL</b>	17.9	18.9	19.1	19.2	18.9
<b>PARIS IND SCHOOL DISTRICT</b>	<b>PARIS HIGH SCHOOL</b>	18.3	18.3	19.1	19.6	19.0
<b>ROCKCASTLE CO SCHOOL DISTRICT</b>	<b>ROCKCASTLE COUNTY HIGH SCHOOL</b>	18.4	18.0	19.4	18.8	18.7
<b>HARDIN COUNTY SCHOOLS</b>	<b>NORTH HARDIN HIGH SCHOOL</b>	18.6	18.0	20.1	19.6	19.2
<b>JEFFERSON CO PUBLIC SCHS</b>	<b>SUDA E BUTLER TRADITIONAL HS</b>	18.6	19.1	19.2	19.6	19.3
<b>PIKE COUNTY SCHOOL SYSTEM</b>	<b>BELFRY HIGH SCHOOL</b>	18.9	18.7	19.5	19.6	19.3
<b>BARDSTOWN IND SCHOOL DISTRICT</b>	<b>BARDSTOWN HIGH SCHOOL</b>	18.8	19.5	20.2	19.6	19.7
<b>POWELL CO SCHOOL DISTRICT</b>	<b>POWELL COUNTY HIGH SCHOOL</b>	18.1	19.0	19.9	19.6	19.2

The situation deteriorates considerably when math is considered. Not one of the listed schools prepares its average student well enough to have much hope of success in a credit bearing college mathematics course. That means the vast majority of the students will need remediation in college, just as Dr. Votruba noted in the introductory quote to this report.

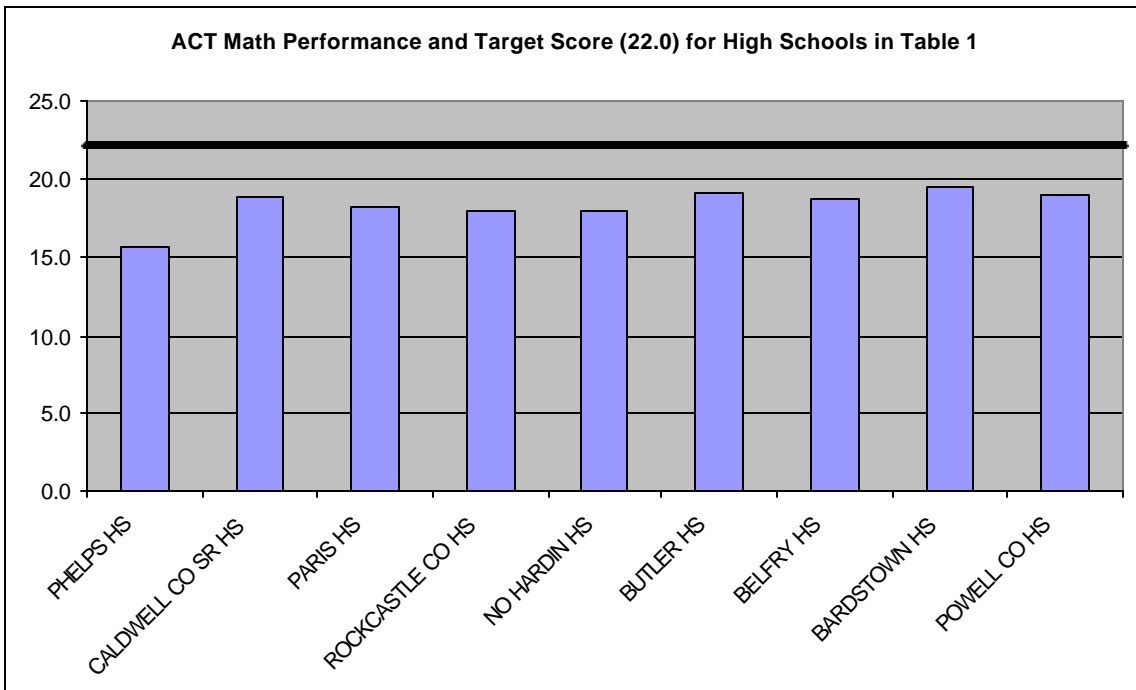
Things look far more serious when the science preparation of these students is considered. The average ACT score in all of the listed schools falls more than four points below the level ACT says is needed for college success in biology. Clearly, well below half of these students will enter college ready to take a freshman science course.

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**Figure 1**  
**Comparison of ACT English Target and Performance of the Schools in Table 1**

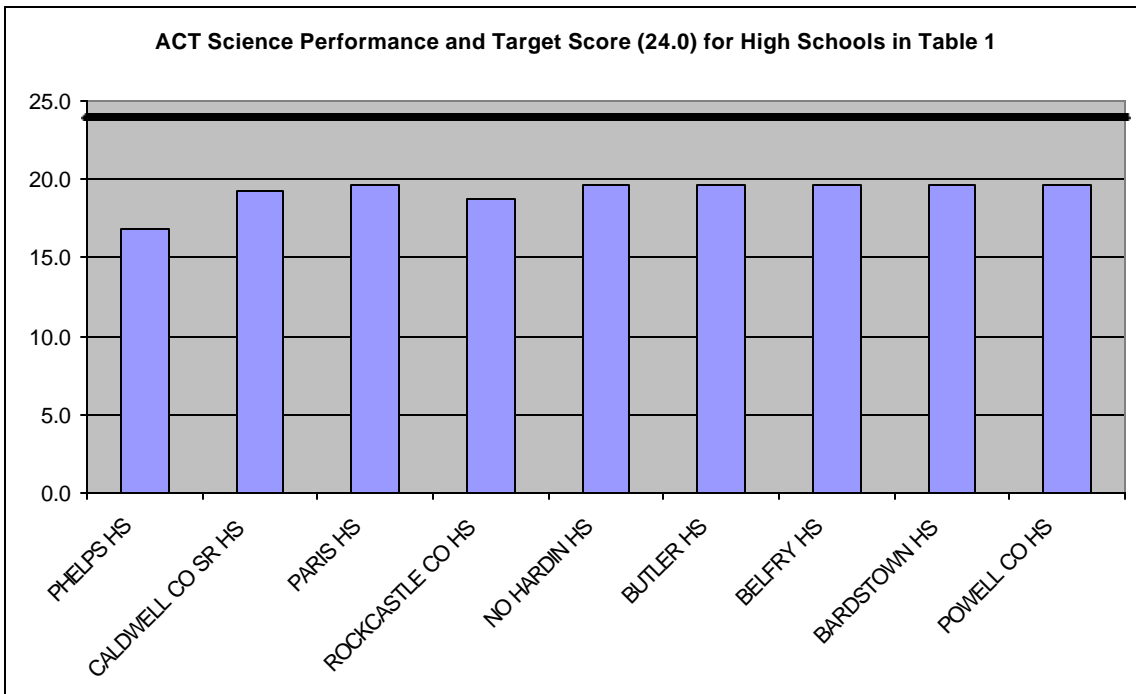


**Figure 2**  
**Comparison of ACT Math Target and Performance of the Schools in Table 1**



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**Figure 3**  
**Comparison of ACT Science Target and Performance of the Schools in Table 1**



The overall situation is very obvious; while these schools get the top performance rating in the CATS, they are failing to prepare astonishingly high percentages of their students for college and demanding technical jobs. That result is consistent with the idea that CATS does not test sufficiently difficult subject matter for high school students.

## Working Paper - ACT Evidence from School District Level Results-

One of the real surprises in this study concerns the ACT scores for school districts in Kentucky. It turns out the resulting statewide average ACT Composite for school districts in 2004 is actually lower than a previous high back in 1998, which was one year before the CATS program began.

We computed the simple average of ACT Composite scores in this part of the study for those Kentucky school districts that have high schools. We ran this calculation for each year in the past decade.

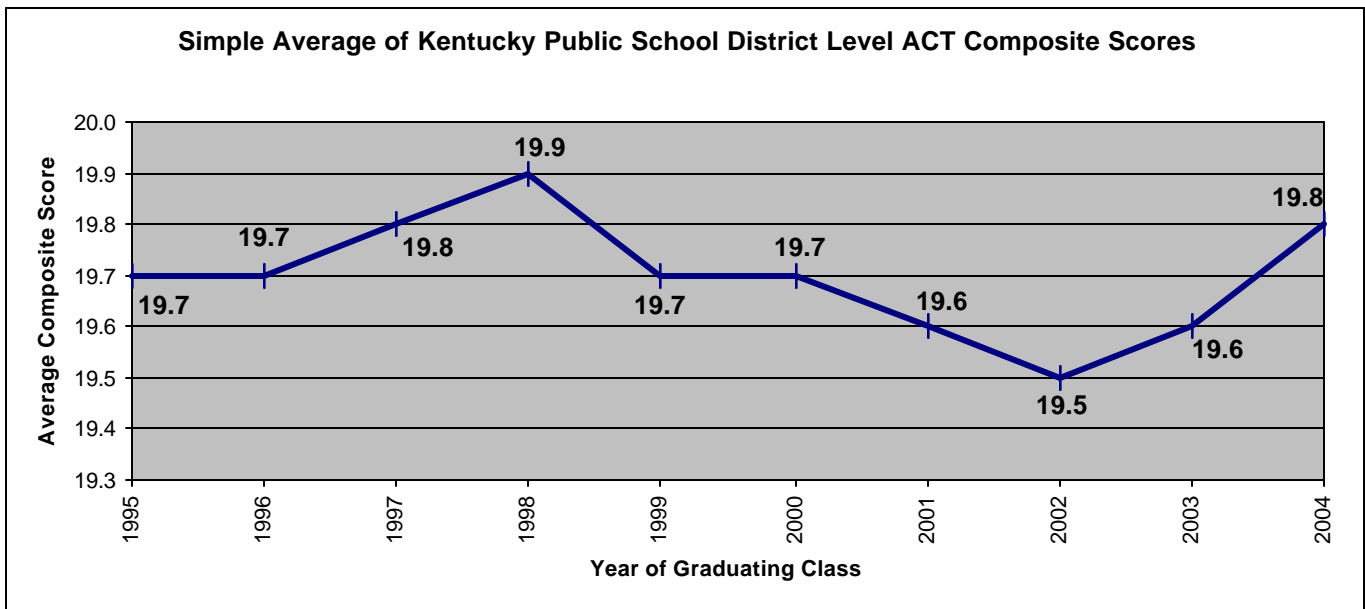
As shown in Figure 4, during most of the CATS period, which began in 1999, the ACT Composite average for Kentucky's school districts entered a period of decline at the very same time that district CATS averages, like the CATS averages for individual schools, were consistently improving.

The state's school districts actually performed at least as well back in 1995 as at any time during the CATS period prior to 2004. Even in 2004, the district average on the ACT is only a scant tenth of a point above the score in 1995.

The trends in Figure 4 certainly stand in sharp contrast to the steady picture of improvement painted by CATS from 1999 onward.

Thus, there is evidence from this different analysis of the ACT scores that the CATS, at least to the present time, simply has not provided accurate information about college and workforce preparation activities in Kentucky's public schools.

**Figure 4  
District ACT Composite Scores**



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## More District Score Analysis

Based on the trend data in Figure 4, the average ACT Composite scores for all the districts were analyzed using three key years: 1995, the earliest available data in our decade long study, 1998, the year that the state experienced its best scores at the district level on the ACT Composite, and the latest available data for 2004. That led to the creation of the next set of tables in this report.

### District Selection for Tables 3 and 4

The following rules were used to identify districts that had diverging ACT and CATS performance:

1. Lower ACT Composite scores in 2004 than in 1998, and
2. A CATS Accountability Classification for the District's weakest high school no lower than "Progressing," plus
3. No more than a 10% increase in student participation from 1995 to 2004 (To make it clear that lower scores were not simply due to more students taking the ACT).

The resulting list of districts and analysis of their ACT scores are shown in Tables 3 and 4.

Again, the goal was to present very clear examples where the CATS and ACT trends differ.

Table 3 shows the number of graduating seniors in each year that took the ACT (shown by the columns with an "N" in the headings) and the scores by subject in those years.

Table 4 shows results from several differences calculations involving the ACT Composites and in ACT participation across the years 1995, 1998, and 2004. The middle year of 1998 was chosen based on the peak in the district average ACT Composite in that year as shown in Figure 4.

In Table 4, the column second from the right shows the percentage of participation change from 1995 to 2004 in each district. Note that most districts had a reduction in ACT participation during this decade. Only seven districts had an increase in participation, and those increases were all modest due to our purposeful selection criteria.

The far right column in Table 4 shows the lowest CATS accountability classification for the high schools in each listed district. For most districts in the listing, there is only one high school, so the high school rating can properly be considered the district rating, as well. In a few cases, such as Harlan County, more than one high school is present. Those situations are noted in the far right column by showing the number of schools in the district in parenthesis (3 in the case of Harlan). For districts that have multiple high schools, the CATS accountability classification of the lowest rated school is shown in the far right column of Table 4. An exception is the Eminence Independent School District, which reformed its high school and got a district score only. Of course, with only one high school, the Eminence District score also applies to the high school.

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### **-Comments on Tables 3 and 4-**

As with the evaluation of school level ACT scores, it is helpful to analysis of the district performance to recall the ACT target scores that indicate a reasonable chance of success in college. Again, these are:

College English - ACT English Score of 18  
College Algebra - ACT Math Score of 22  
College Biology - ACT Science Score of 24.

Note that of the 24 districts in the Table 3 listing, only 15 meet the English requirement in 2004 for their average student.

Things are far worse in math, where no district in the list prepares its average ACT student participant well enough to have a reasonable chance of surviving college algebra courses.

The dismal math statistic is replicated far more severely in the science area, where not one of these districts prepares its average student well enough to survive a college biology course.

Now, consider Table 4. Note that every one of the listed districts experienced a decline in its ACT Composite both from 1998 to 2004 and from 1995 to 2004.

In addition, matching the overall trend for all districts, as shown in Figure 4, 10 districts in Table 4 actually showed an improvement in their ACT Composite from 1995 to 1998. However, each of these 10 districts lost all of that improvement and more between 1998 and 2004.

Also notice that many of the districts listed experienced a decline in ACT participation between 1995 and 2004. This runs counter to an often-heard excuse that poor ACT performance is due to more students taking the ACT. That isn't true for these districts, so the standard excuse does not work here.

Notice in Table 4 that, based on CATS, the Eminence Independent District was rated an Exemplary Growth District. That rating clearly conflicts with Eminence's 2.6-point drop in ACT scores between 1995 and 2004 and the 1.4-point ACT drop from 1998 to 2004. If Kentucky considers such performance to be exemplary, the state is engaging in serious self-delusion.

It must be pointed out that not one high school in any of the listed districts received the unfavorable CATS rating of "Assistance" in 2004. All the high schools in these districts received a CATS classification of "Progressing" or better. That CATS classification would indicate to parents the schools are improving at a rate that presents no major cause for alarm. However, the ACT performance in every one of these districts is not one of progress. Each district in our listing encountered ACT score declines from one year prior to the start of CATS to the present. And, some of the declines are quite notable.

For example, Jenkins Independent, Breathitt County, and Mayfield Independent districts all experienced ACT Composite declines of more than two full points between 1998 and 2004. That is particularly troubling performance.

Overall, the ACT performance shown by the districts listed in Table 3 and 4 is disconcerting, and in some cases sharply so. However, CATS identified not one school in those listed districts as needing assistance. The CATS told teachers, students and parents that not one of these districts is considered to be in any sort of academic trouble.

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**Table 3.**  
**School Districts with Divergent CATS and ACT Trends, ACT Scores [6]**

District Name	1995 N	1995 Eng	1995 Math	1995 Read	1995 Sci	1995 Comp	1998 N	1998 Eng	1998 Math	1998 Read	1998 Sci	1998 Comp	2004 N	2004 Engl	2004 Math	2004 Read	2004 Scie	2004 Comp
JENKINS IND	41	18.0	16.0	19.0	18.6	18.0	32	20.3	17.7	20.6	19.2	19.6	19	15.8	16.5	16.8	18.7	17.2
RUSSELLVILLE IND	84	19.4	19.0	21.1	20.8	20.2	58	20.0	20.2	20.5	21.1	20.6	47	17.9	17.9	19.4	19.1	18.7
LIVINGSTON CO	56	19.4	16.8	19.7	19.2	18.9	38	19.8	17.7	20.3	19.6	19.5	34	17.4	17.2	18.5	18.3	18.0
CARROLL CO	71	19.9	19.9	20.4	20.7	20.4	56	19.7	19.9	21.1	21.9	20.7	46	18.8	17.9	20.0	19.8	19.3
HARLAN COUNTY BD OF EDUC	210	18.2	16.6	18.9	18.7	18.3	168	17.5	16.8	18.3	17.9	17.7	153	16.7	16.1	18.5	18.0	17.5
BREATHITT CO	75	20.9	19.3	21.4	20.4	20.7	64	19.8	18.6	21.1	20.1	20.0	60	16.3	16.5	17.9	17.8	17.3
ELIZABETHTOWN IND	117	21.2	21.4	22.8	21.4	21.8	89	22.4	22.4	23.4	21.9	22.6	97	21.4	20.5	22.3	21.0	21.4
BOYD CO	162	19.7	18.9	21.0	20.6	20.2	157	19.7	18.6	20.7	19.9	19.9	143	19.2	18.9	20.2	20.0	19.7
RACELAND-WORTHINGTON IND	62	19.1	19.6	20.6	19.9	19.9	50	19.9	18.5	20.6	20.0	19.9	55	18.8	18.1	20.2	19.4	19.3
HENRY CO	66	20.4	18.8	21.1	20.8	20.4	60	20.4	19.3	20.9	20.8	20.5	60	19.5	18.8	21.3	19.9	19.9
HICKMAN CO	33	23.2	20.3	23.8	22.0	22.4	31	20.3	18.8	21.3	21.2	20.4	30	19.5	19.1	19.2	19.1	19.3
NICHOLAS CO	54	19.1	18.4	20.6	20.1	19.7	22	18.4	17.7	20.1	20.0	19.1	50	16.5	18.1	19.0	19.0	18.2
LEE CO	45	19.8	18.0	20.3	19.3	19.5	40	20.0	18.7	21.7	19.7	20.1	42	18.2	18.0	19.1	18.7	18.6
SIMPSON CO	111	20.8	21.3	21.3	20.8	21.2	94	20.1	21.1	20.3	20.0	20.6	104	19.8	20.3	21.4	20.1	20.5
MUHLENBERG COUNTY	220	20.0	19.2	20.8	20.3	20.2	209	19.7	19.3	20.2	20.1	20.0	215	19.0	18.6	19.6	19.5	19.3
ADAIR CO	98	19.9	18.6	20.7	19.8	19.9	94	19.2	18.1	19.9	19.7	19.4	96	17.7	17.9	19.0	19.0	18.5
Mayfield Ind.	57	21.8	21.4	21.6	21.5	21.7	63	21.9	22.4	21.7	21.9	22.0	56	18.2	19.8	18.3	19.1	18.9
POWELL CO	78	20.4	18.4	20.4	19.4	19.8	87	19.2	19.3	20.6	19.6	19.7	77	18.1	19.0	19.9	19.6	19.2
BUTLER CO	72	20.6	18.9	20.9	19.9	20.2	83	18.9	18.7	19.4	19.5	19.2	74	18.1	18.0	19.3	19.3	18.8
EMINENCE IND	20	18.9	18.4	20.5	19.8	19.6	16	18.4	17.8	18.5	18.9	18.4	21	15.6	16.8	18.1	17.2	17.0
DAYTON IND	33	17.7	18.0	17.8	19.2	18.3	28	17.1	19.0	19.1	19.1	18.8	35	16.6	17.8	18.8	18.9	18.1
BOWLING GREEN IND	142	20.5	18.8	21.6	20.9	20.6	116	20.9	20.3	21.7	21.1	21.1	152	20.0	19.7	20.7	20.2	20.3
FRANKLIN COUNTY	254	21.1	20.0	22.2	21.2	21.3	221	20.7	20.7	21.4	20.9	21.0	276	19.8	20.0	21.1	20.0	20.4
CHRISTIAN CO	277	20.4	19.6	20.7	20.3	20.4	238	20.3	19.0	20.7	20.3	20.2	304	19.1	19.1	20.5	19.8	19.8



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**Table 4**  
**Performance Calculations for the Diverging Districts [6]**

District Name	Composite Difference 98 minus 95	Composite Difference 04 minus 98	Composite Difference 04 minus 95	Participation Difference 98 minus 95	Participation Difference 04 minus 98	Participation Difference 04 minus 95	Percent Participation Change from 95 to 04	2004 CATS Accountability Classification
JENKINS IND	1.6	-2.4	-0.8	-9	-13	-22	-53.7	Prog-Nov
RUSSELLVILLE IND	0.4	-1.9	-1.5	-26	-11	-37	-44.0	Prog-Del, Nov
LIVINGSTON CO	0.6	-1.5	-0.9	-18	-4	-22	-39.3	Prog -Nov
CARROLL CO	0.3	-1.4	-1.1	-15	-10	-25	-35.2	Prog -Nov
HARLAN COUNTY BD OF EDUC	-0.6	-0.2	-0.8	-42	-15	-57	-27.1	(3) Prog-Drp,Nov
BREATHITT CO	-0.7	-2.7	-3.4	-11	-4	-15	-20.0	Prog-Nov
ELIZABETHTOWN IND	0.8	-1.2	-0.4	-28	8	-20	-17.1	Meets Goal
BOYD CO	-0.3	-0.2	-0.5	-5	-14	-19	-11.7	Prog-Nov
RACELAND-WORTHINGTON IND	0.0	-0.6	-0.6	-12	5	-7	-11.3	Prog
HENRY CO	0.1	-0.6	-0.5	-6	0	-6	-9.1	Prog-Nov
HICKMAN CO	-2.0	-1.1	-3.1	-2	-1	-3	-9.1	Prog
NICHOLAS CO	-0.6	-0.9	-1.5	-32	28	-4	-7.4	Prog
LEE CO	0.6	-1.5	-0.9	-5	2	-3	-6.7	Prog-Nov
SIMPSON CO	-0.6	-0.1	-0.7	-17	10	-7	-6.3	Prog-Nov
MUHLENBERG COUNTY	-0.2	-0.7	-0.9	-11	6	-5	-2.3	(2) Prog-Nov
ADAIR CO	-0.5	-0.9	-1.4	-4	2	-2	-2.0	Prog-Nov
Mayfield Ind.	0.3	-3.1	-2.8	6	-7	-1	-1.8	Prog
POWELL CO	-0.1	-0.5	-0.6	9	-10	-1	-1.3	Meets Goal-Drp
BUTLER CO	-1.0	-0.4	-1.4	11	-9	2	2.8	Prog
EMINENCE IND	-1.2	-1.4	-2.6	-4	5	1	5.0	Exempl Growth Dist
DAYTON IND	0.5	-0.7	-0.2	-5	7	2	6.1	Prog
BOWLING GREEN IND	0.5	-0.8	-0.3	-26	36	10	7.0	Prog-Nov
FRANKLIN COUNTY	-0.3	-0.6	-0.9	-33	55	22	8.7	(2) Prog
CHRISTIAN CO	-0.2	-0.4	-0.6	-39	66	27	9.7	(2) Prog-Nov, Del

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## How can CATS and ACT Differ?

How is it possible for CATS to show good results while the ACT clearly shows otherwise for the schools and school districts discussed above? We mentioned one possibility already: testing error. However, as previously discussed, we purposely looked at performance over time so that testing error would be largely eliminated. Thus, this excuse isn't convincing.

A far more likely answer seems to be that CATS simply cuts off the evaluation of high school course work at too low a grade level. This would make good performance on CATS a necessary, but incomplete element in good preparation of students for college. Students with only, say, a 10<sup>th</sup> grade level of education can probably score quite well on CATS, but they are not well prepared for better technical jobs in the world of work and are far more unprepared still for the rigorous demands of higher education.

Clearly, the conflict between ACT trends and CATS performance cited above offers disturbing evidence that doing acceptably on CATS offers no assurance to Kentucky parents that their school is doing an adequate job of preparing students for college and demanding technical occupations. Now, we examine more evidence that the CATS cuts off academic evaluation at too low a level.

## **-Evidence from the American Diploma Project-**

Kentucky was one of five states selected as a partner in the American Diploma Project (ADP), a study of how states could better align their high school exit standards with the knowledge and skills needed for success in state postsecondary institutions and employment in high-performance jobs. [7] The project is a collaborative effort of four national organizations: Achieve, Inc., the Education Trust, the Fordham Foundation and the National Alliance of Business. This is an interesting collection of organizations that span conservative to liberal viewpoints about education.

As part of the ADP, a research team examined several CATS academic tests involving English language arts and mathematics. It is not known why the team did not examine other important academic subjects such as social studies and science.

It is interesting to note that the ADP team was not allowed full access to all the CATS test questions. The team was only allowed to review a small subset of questions, and those were somewhat dated as they were publicly released way back in 1999.[8] This important restriction could limit the validity of the report's comments. For example, the released questions might not be typical of the overall question set. The samples might be either more or less difficult than average. Of course, because they were in a formal public release, one might expect these questions to be carefully selected. As such, the questions reviewed by the team might be of higher than normal caliber.

Another interesting point is that while Kentucky was a formal partner to the ADP research program, the state's true level of cooperation seems open to question because the research team did not receive full access to the assessments. This is the latest example of a consistent trend in which other professional researchers have also been denied full access to CATS questions.

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The situation creates uncomfortable implications. Surely, qualified professional researchers don't represent much of a compromise threat to CATS questions, and it should be possible to draft non-disclosure agreements that would provide adequate penalties to prevent such problems. Other states are more forthcoming with their assessment data. The situation creates a somewhat uneasy feeling that something about CATS is being well protected from public exposure.

### Overall Evidence On KCCT Assessments

In general, the ADP team found that current CATS assessments do not evaluate education at a sufficiently high level to be useful for effective evaluation of college preparation.

The ADP discusses an important overall limitation in CATS for individual evaluation of student preparation for college. That limitation is fundamental to the basic design of all KCCT tests and applies to all subjects. The CATS design feature in question spreads the test questions out among six different test booklets. As a result, each individual student is tested on only a small portion of the entire curriculum. Regarding this limitation, the ADP says of CATS:

*“As such, it has limited value in diagnosing college readiness for any specific student....”*[8]

We note that recently the Kentucky Legislature's Education Assessment and Accountability Review Subcommittee (EAARS) heard testimony from its panel of testing experts on the same issue. Those experts indicated that individual CATS scores may not fairly represent individual student performance and therefore should not be used to make high stakes decisions such as awarding college scholarships or determining entry levels for college writing courses.[9]

Parents must keep this important CATS limitation firmly in mind and cannot assume that any CATS scores for individual students convey accurate information. This is especially so when the demanding task of entering and succeeding in college is under consideration.

In addition to their overall general comment, the ADP also comments on several specific CATS academic areas. These are discussed next.

### Evidence On KCCT Reading Assessment

The ADP found that the KCCT reading test is given too early to provide useful information for college admission or placement. That is understandable because the last KCCT reading assessment ever taken by students is administered in the 10<sup>th</sup> grade. The ADP team says a comparable test is needed in 12<sup>th</sup> grade. [10] Clearly, the current CATS reading assessment cuts off well below the level of accomplishment required by colleges.

More specifically, of six reading passages that the ADP team was allowed to review, they found four were only at the sixth to eighth grade level of difficulty. One was at the 9<sup>th</sup> to 10<sup>th</sup> grade level. The sole remaining question might be appropriate for graduating seniors, but even that finding is couched in cautionary terms.[11] Overall, the reviewers are clearly concerned that the majority of the questions are not even targeted at a level appropriate for the 10<sup>th</sup> grade, let alone for college preparation.

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## Evidence On KCCT Writing Assessment

Of the three CATS elements ADP examined, the review team thought the KCCT writing prompts might offer the best predictor of college performance. They also thought the 12<sup>th</sup> grade writing portfolio had some merit in this area, as well. [10] Interestingly, however, the testimony provided to the Kentucky Legislature's EAARS on April 20, 2005, indicated that the KCCT writing elements were not adequate to determine placement in college writing classes. [9] Also, those ADP summary comments on the KCCT writing assessment don't seem to agree very well with more detailed comments in the body of the ADP report. The reviewers say of the KCCT writing prompt package:

“[It] sets students up to write something adults don't want to read and students don't want to write about, though the topic is O.K.”[12]

We also should point out that recent expert testimony to the legislature's EAARS on the CATS writing assessments indicated that technical issues made this part of CATS unsuitable for determining college writing course placement.[9]

Thus, there are mixed signals on whether the CATS writing assessment elements might have merit for college work.

## Evidence On KCCT Math Assessment

While the ADP reviewers like the format of the KCCT math assessment even better than the format of the ACT, their report clearly says that the KCCT math assessment lacks upper level math questions from Algebra 2.[13] As a result, curricular coverage in the KCCT math assessment is too limited and clearly cuts off below the levels required for college.

The ADP research team offers further unfavorable evidence about CATS mathematics in their report, stating:

“Statewide, over 50% of students entering postsecondary education need to take intermediate algebra, or the mathematics typically learned in high school Algebra 2. This course is not a credit-bearing course in college.” [8]

Obviously, the experience at Northern Kentucky University is being replicated across the Commonwealth. An astounding number of Kentucky public school students do not receive adequate preparation in mathematics in high school. As a result, students and parents must shoulder an extra financial burden for remedial education that should be unnecessary. The fact that CATS has failed to identify this deficiency offers small comfort to either parents or students who are contemplating what should be an unnecessary college expense.

Overall, the ADP report makes it quite obvious that CATS math assessments cut off below an acceptable level for measuring college preparation.

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To summarize on the ADP findings, both the math and reading parts of the CATS are inadequate for college preparation purposes. And, signals are mixed, at best, on the usefulness of the CATS writing elements for determining college capabilities.

### -Evidence from College Remediation Rates-

A third set of evidence that CATS is not providing Kentucky an adequate picture of high school performance comes from very high remediation rates for students in the state's public university system. This is the situation Dr. Votruba discusses in the opening quote to this report.

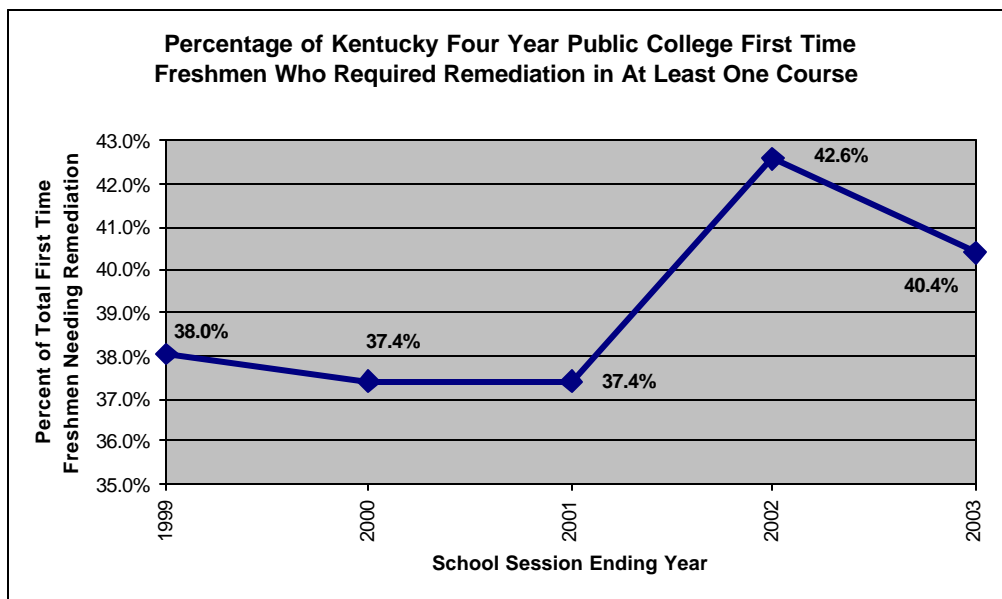
Figure 5 shows the recent remediation rates (labeled "development" course rates by the CPE) for entering college freshman at Kentucky's four-year public colleges. Note that the rate is high, and it increased recently when the colleges increased standards in response to complaints from professors that their freshmen students were inadequately prepared for college.

The really unfortunate story about college remediation comes for students enrolled in the states two-year community colleges and technical training schools. As shown in Figure 6, far more than half of these students need remedial training before they can begin to take standard, credit-bearing courses.

Clearly, by any standard, Kentucky's public schools are not "carrying the mail" for their college-bound students but instead award far too many diplomas that do not represent adequate preparation, not even for a two-year technical school.

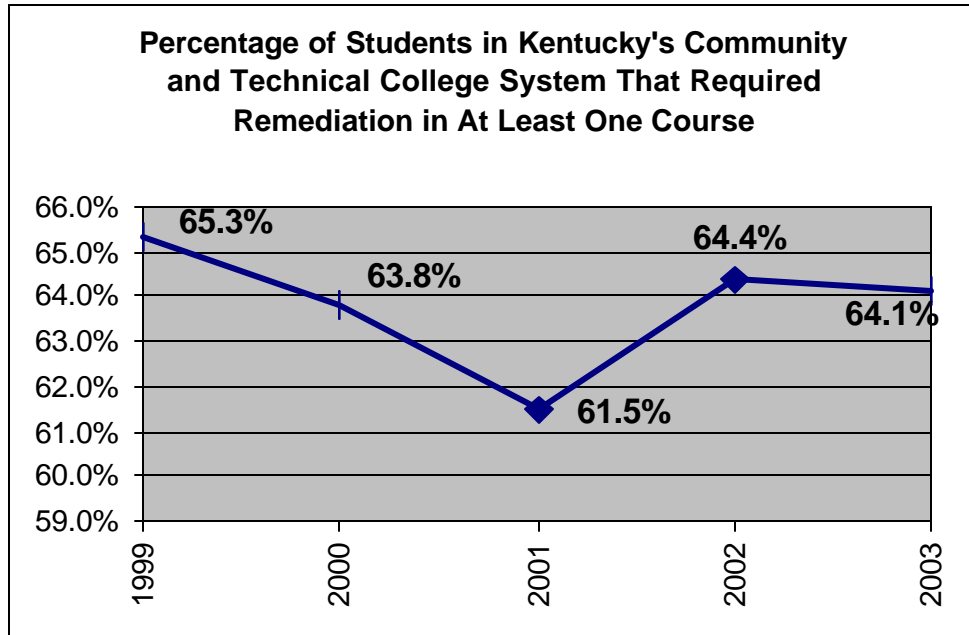
Thus, college remediation rates strongly show that Kentucky's public school students simply are not arriving in college with sufficient educations, and over the most recent three years the trend seems to be worsening. That, of course, stands in very sharp contrast to the state's overall trends on CATS testing.

Figure 5 [14]



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Figure 6 [14]



To summarize, this third set of important evidence is entirely consistent with the evidence from the ACT and the study by the ADP about the level of rigor in CATS. If Kentucky wants to compete successfully in the high technology modern world, it simply must demand more from its public schools and the assessment program that currently is intended to drive academic performance.

## - Added Comments -

### On the ACT

There have been a great many comments made in Kentucky that the ACT is inappropriate for statewide high school testing. The states of Colorado and Illinois strongly disagree. Both states began testing all of their 11<sup>th</sup> graders with the ACT several years ago. While extensive results from the Illinois program have not been published, the Colorado Department of Education has posted some extremely encouraging results in its web site. ACT scores have actually improved since the start of the Colorado program, and more students are going to college in that state. At the same time, college remediation rates have actually declined.

In addition, Colorado's learning disabled students have not only been able to sit for the ACT, but this group has actually improved its Composite score by 0.7 points from 11.6 to 12.3 in the four years since the program began. [15] Interested individuals are encouraged to spend time in the Colorado Department of Education's web site reviewing this very encouraging data.

How do the overall ACT scores for Colorado and Illinois compare to Kentucky? Unfortunately, the ACT does not publish public school only results for other states, but the overall ACT scores for all students all three states were identical in 2004. However, while both Colorado and Illinois tested essentially all of their

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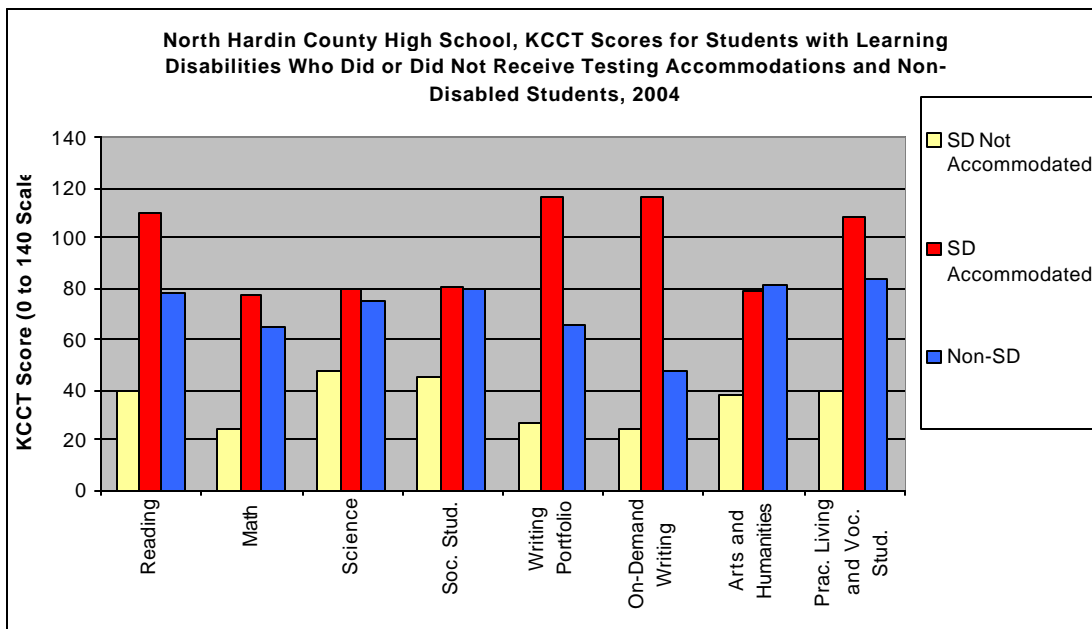
students, in Kentucky only 75 percent of all the public and private school graduates took the ACT. Had all Kentucky graduates been tested, the scores would undoubtedly be well below those for Colorado and Illinois.[16]

## On Testing Accommodations in the CATS

One additional potential cause for inflated CATS scores is too complex for a full discussion here. However, this issue must also be considered when the possibility of inflated CATS scores is under discussion. This additional problem for CATS involves Kentucky’s rather radical program of testing accommodations for students with learning disabilities (SD). This program may be inflating the overall CATS scores for some schools.

We recently examined the scores for SD for another report and were shocked to discover that in some schools these students now considerably outscore the general student group. For example, in North Hardin High School, which is one of the schools listed in Table 1, SD who get testing accommodations grossly outscore regular students in virtually every subject. This seems inherently unreasonable to us, and the situation certainly could have contributed to the disparity in score trends between ACT and CATS at North Hardin High School. We summarize those North Hardin scores in Figure 7.

Figure 7. [17]



Note: Some scores in this graph had to be calculated. Details will be provided in a future report or may be obtained from the author.

Two other schools mentioned in this study also have some interesting trends in their scores for students with learning disabilities, though neither is as pronounced a situation as North Hardin’s. In the first case, the Kentucky Performance Report for Bardstown High School shows the school’s KCCT writing portfolio scores have some unanticipated results. Only 6 percent of the school’s non-disabled students got a “Distinguished” score for writing, but 30 percent of the disabled students got this very difficult to achieve

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score.[18] Overall, the Bardstown writing score summary shows that learning disabled students outscored the non-disabled students for writing. With 10 learning disabled students and only 94 non-disabled students, such unanticipated scores can pull the whole school's average up.

A similar situation exists for Rockcastle County High School, where no reportable percentage of the non-disabled students received a "Distinguished" for On-Demand Writing, but 10 percent of the learning disabled students did. Even more interesting, 15 percent of the learning disabled students who got testing accommodations during this writing exam got a "Distinguished" score.[19] On the other hand, Rockcastle's score disparities are not so severe as in Bardstown and North Hardin. So the 20 disabled students in Rockcastle's 2004 writing sample would not pull the scores as much as in the other schools mentioned above.

Overall, while this is an area of concern that policy makers need to watch, it probably does not explain most of the disparities between CATS and the ACT noted in this report.

### **-Conclusions-**

Clearly, the CATS program is open to serious challenge when it can provide trend information that directly conflicts with other important evidence about the college preparation of students. It seems clear that the CATS is not rigorously evaluating all high schools.

We should emphasize that only the most obvious and egregious CATS to ACT disparities in individual districts and schools are discussed in this report. In the interests of absolute clarity, we chose not to explore other examples where the school level rate of progress on the ACT is flat or slightly positive, but still much lower than the rate of progress shown by the CATS. However, based on the spotty school district performance on the ACT shown in Figure 4, it is obvious that the statewide score increases shown in the CATS have not been born out in ACT. That implies many schools are making little headway in college and technical school preparation while they get CATS scores that indicate all is well.

We also want to strongly emphasize that it is inappropriate to dismiss indications of the inadequate preparation of the large portion of Kentucky's student body that wants to go to college or technical school. There are individuals in Kentucky who would prefer to ignore, if not totally bury, the ACT evidence presented in this paper. However, when at least half of the seniors in even small, under-performing schools like Phelps High School want to go to college, that is far too important a situation to simply disregard.

We are concerned as well that parents and policy makers in Kentucky presently do not have easy access to the public high school ACT performance. The only scores normally released by the state department of education cover all schools, public, private and home school. It is grossly inappropriate for proponents of Kentucky's public school reform to claim credit for ACT improvements actually made in non-public-school environments.

We note that public school parents have been emphatically told they can rely on the CATS as an accurate measure of what is occurring in the state's secondary school system. The results tabulated here make it obvious that it is possible for the CATS to provide seriously inaccurate information about a school's performance. In particular, for parents of students who are definite college candidates, that deficiency in the CATS is unacceptable.



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## This isn't just a high school problem

We do not believe that the CATS deficiencies are restricted to the high school level. There is evidence in recently released test items that the CATS may have inadequate rigor at lower grade levels, too. See more on this in the Bluegrass Institute for Public Policy Solutions report, *Assessing CATS: Questions That Must Be Answered So That No Child Is Left Behind In Kentucky* (On-line at [www.bipps.org](http://www.bipps.org)).

In fairness, we must point out that high schools cannot overcome totally inadequate preparation in the lower grades, and it is foolhardy to expect them to do so. As a result, it would be incorrect to blame high schools alone for the problems discussed in this report. The problems with the CATS are system-wide. It is going to take a system wide approach to improve the situation.

## Recommendations

1. As this report goes to press, a review is under way for the Core Content for Assessment curricular documents that outline what is to be tested on CATS. This review must look deeper than just the high school level to form system-wide improvements that create a coordinated public school program that will adequately prepare students to perform in college and in life. In particular, a minor revision will not meet the need and will do a great disservice to the students and citizens of Kentucky. Fortunately, there are encouraging signs that the State Board of Education is reacting to the situation and is leaning in positive directions. The Board needs to be encouraged to follow through.
2. Governor Fletcher has pledged Kentucky to a new level of high school standards as a full partner in the ADP project. This is an important, but incomplete, step to making real improvements in the state. While the high school effort is needed to insure graduates are properly prepared, not just for college, but also for life, the Governor and all involved policy makers must understand rigor must be raised at all levels of assessment from Primary School to 12<sup>th</sup> grade. We must admit that an assessment to accurately measure progress still eludes us in Kentucky.
3. There are some very excellent proposals under consideration to create a pilot testing program with the ACT serving as the high school evaluation, and the Iowa Test of Basic Skills (ITBS) serving for lower grade testing. This idea, which comes from several of Kentucky's top performing school districts, has great merit. The ITBS is much better aligned with the ACT (and, therefore, with college and technical school preparation) than the CATS. In addition, the ITBS provides diagnostic feedback to teachers that the CATS cannot supply. We again point out that Colorado and Illinois require 100 percent testing of all their 11<sup>th</sup> grade students with the ACT, and Colorado reports very good initial results with its four-year old program. The alternative testing pilot should include a good mix of schools, both high and low performing. We strongly support taking this common-sense approach to see if an alternate assessment would better serve Kentucky.
4. We are also impressed with reports of good results with the Tennessee Value Added Assessment System, which is the school testing program used in Tennessee. This is a longitudinally based program that also provides important feedback about teacher performance that the CATS cannot supply. A number of states are now adopting similar approaches, and Kentucky would do well to examine this form of assessment. We

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again note encouraging signs in recent State Board of Education meetings that longitudinal assessment features are under consideration for a modification to the CATS.

5. One particular problem with the CATS is that it allows very extreme testing accommodations for students with learning disabilities. While this issue requires more study, the problem bears on the discussion here. Part of the inflation in the CATS scores noted in this report may come from awarding unreasonably high scores to students with learning disabilities in a way that inflates the overall school results. The entire issue of test score inflation through accommodations is badly under researched, but that problem must be addressed as the State Board discusses changes to the CATS program.

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## Endnotes

- [1] See spreadsheet data file: ***Kentucky Public Postsecondary Education, First-time Freshmen Enrollment in Developmental Education***, available from the Kentucky Council on Postsecondary Education, Frankfort, KY.
- [2] Caroline Hendrie, “Summit Underscores Gates Foundation’s Emergence as Player,” ***Education Week***, March 9, 2005.
- [3] Ben Feller, “Kentucky Part of Education Plan,” ***Lexington Herald-Leader***, 28 Feb 2005.
- [4] ***Crisis at the Core, Preparing All Students for College and Work***, ACT, Iowa City, IA, © 2004, Page iii.
- [5] Measuring College Readiness, The National Graduating Class of 2004, Part II, ACT, Iowa City, IA, 2004, Page 1.
- [6] Source of ACT data is annual ACT Datafile for Kentucky Public High Schools. Source of CATS ranking is individual school’s 2004 Kentucky Performance Report from the KDE.
- [7] ***Kentucky, Assessing the Test Gap: Findings from the Gap Analysis for the American Diploma Project***, Attachment E-3-a, American Diploma Project, Achieve, Washington, DC, © 2004, Page 1.
- [8] ***Kentucky, Assessing the Test Gap: Findings from the Gap Analysis for the American Diploma Project***, Attachment E-3-a, American Diploma Project, Achieve, Washington, DC, © 2004, Page 4.
- [9] See 22 Feb 05 Letter, “Requested Responses to OAC Questions,” from James S. Catterall and John Poggio, National Technical Advisory Panel for Accountability and Assessment (sic, should read Assessment and Accountability) to Kentucky Office of Education Accountability (OEA), available from the OEA.
- [10] ***Kentucky, Assessing the Test Gap: Findings from the Gap Analysis for the American Diploma Project***, Attachment E-3-a, American Diploma Project, Achieve, Washington, DC, © 2004, Page 1.
- [11] ***Kentucky, Assessing the Test Gap: Findings from the Gap Analysis for the American Diploma Project***, Attachment E-3-a, American Diploma Project, Achieve, Washington, DC, © 2004, Page 8.
- [12] ***Kentucky, Assessing the Test Gap: Findings from the Gap Analysis for the American Diploma Project***, Attachment E-3-a, American Diploma Project, Achieve, Washington, DC, © 2004, Page 9.
- [13] ***Kentucky, Assessing the Test Gap: Findings from the Gap Analysis for the American Diploma Project***, Attachment E-3-a, American Diploma Project, Achieve, Washington, DC, © 2004, Page 2.
- [14] Source of data for Figures 2 and 3 is an Excel file titled “Kentucky Postsecondary Education, First Time Freshmen Enrolled in Developmental Education,” Kentucky Council on Postsecondary Education, Frankfort, KY.
- [15] See Table “2002-2004 Colorado Grade 11 Average ACT\* Results by IEP” in ***Statement of the Chairman of the Board of Education, Jared Polis***: a Colorado Department of Education (CDE) news release, August 2, 2004, available on-line in the CDE web site.
- [16] “Average ACT Scores by State: 2004 ACT-Tested Graduates” downloaded from the ACT web site.

## Working Paper

[17] Data source, North Hardin High School Kentucky Performance Report for 2004, Kentucky Department of Education web site. Some analysis of scores was required to prepare this table. For example, the KPR does not list scores for the writing parts of the KCCT, but does list the percentages of students scoring Novice, Apprentice, Proficient, and Distinguished. So, these scores were converted to one, overall KCCT compatible score using the weighting factors of:

Novice 0.0  
Apprentice 0.4  
Proficient 1.0  
Distinguished 1.4

All scores for "Academic Score Accommodated SD Only" were calculated using an algebraic formula that insures the weighted average of the scores for the accommodated SD and the published scores for the not-accommodated SD equals the published overall average scores for all SD. A full explanation of the process will be presented in a pending Bluegrass Institute paper.

[18] Data source, Bardstown High School Kentucky Performance Report for 2004, Kentucky Department of Education web site.

[19] Data source, Rockcastle High School Kentucky Performance Report for 2004, Kentucky Department of Education web site.