

ENSURING EDUCATION EQUALITY
Understanding the Achievement Gap in Kentucky's Public
School System

A research report by

Kentucky Commission on Human Rights
Commonwealth of Kentucky



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SUMMARY

General Observations:

- Student achievement gaps in Kentucky's public school districts are alarming, as they adversely affect the future of specific groups of students, most of whom are from protected groups.
- At the national level, the *No Child Left Behind* Act of 2001 made a major shift in the public school system by emphasizing stronger accountability from schools and districts for results on student performances.
- Endeavors initiated to close the serious achievement gaps faced by Kentucky's African American students resulted in the formation of Senate Bill 168.
- Senate Bill 168 is an Act relating to reducing the achievement gaps in Kentucky's public schools.
- This report is the result of the gap analysis research by the Kentucky Commission on Human Rights, of the 2001 - 2002 Core Content Test Scores from CATS for 12 selected school districts. It exposes the extent, trend and seriousness of student achievement gaps among: minority students, male students, students from low-income families, students with disabilities, and students with limited English proficiency.
- The analysis shows that students with a disability are the worst affected, followed by students from low-income families, African American students, Hispanic students and male students.
- Disabled students have alarming mean score gaps of more than 25% for all subjects in distinguished & proficient (combined) and novice performance categories. Especially in the distinguished & proficient category, they have a severe gap of 34% (i.e.: 50% of the non-disabled students in the 12 school districts scored in distinguished & proficient category, while only 16% of the disabled students scored in that category, thus having a steep gap of 34%).
- Low-income students (students receiving free and reduced lunch) have a sharp 20% gap in distinguished & proficient category compared to their counterparts. The novice means score gap for low-income students exceeds 10% in all subjects, with 30% in the subject of writing.
- African American students are 15% behind their white counterparts in all subjects in both distinguished & proficient and novice categories. The gap faced by African American students for mathematics in the novice category is almost 30%.

- Hispanic students, similar to African American students have about 15% gap in all subjects for distinguished & proficient and novice categories. However, their highest gap in the novice category is in mathematics with about 20% gap.
- Male students, while they do not face extreme gaps like the above sub-groups, have a moderate gaps in distinguished & proficient and novice categories compared to female students.
- Examination of data and the discussions with various school district officials revealed a strong correlation between students with limited English proficiency and students of Hispanic race.
- Similarly there is a strong apparent correlation between students in poverty and African American students. For example, in Paducah Independent School District, the majority of African American students (who are about 50% of the total enrollment) are also from low-income families (i.e.: they are among the 70% of the total enrollment of students who receive free/reduced lunches).

Best Practices:

- Realizing the seriousness of the gap faced by African American students, the Paducah Independent School District, long before Senate Bill 168, formed a bi-level task force (one at the community level and the other at school level) to address the issue. During the past two years, the task force has come-up with measures that have reduced the gap slowly but steadily.
- Henderson County Public School district has been conducting community forums to increase the awareness of achievement gaps.
- Bowling Green Independent School District has implemented an innovative program called 'African American Heroes Mentoring Program.' In collaboration with the local housing authority, the district has invited a panel of prominent African American leaders for regular mentoring sessions with low-performing African American students. This program has yielded promising positive results in the past few years.
- Jefferson County Public Schools have Extended School Services and a 'Safety-Net Program' specifically geared low achieving students. Additional academic care and training provided through these programs have boosted the CATS scores of a considerable number of the students.

Conclusions and Recommendations:

- Closing the achievement gaps between various groups of Kentucky's public school students is not only an issue of their performance, but also is a civil rights issue. Especially when most of the affected students are from protected groups such as disabled students and minority students.
- Although the seriousness of achievement gaps are acknowledged widely, Kentucky's public school system does not have a definitive and wholistic plan specifically targeting a reduction in the achievement gap. Different school districts follow different approaches and measures to alleviate the problem. Without a statewide comprehensive plan to reduce the gaps with standard measures, it is very difficult to close the gaps across the state.
- In its attempts and approaches to close the achievement gaps, the Kentucky Department of Education seems to be more 'passive' than 'active'. The Department needs to take a pro-active approach by transforming its current role as more of a 'clearing house for information' to an organization that spearheads a concerted statewide endeavor to close the gaps.
- As proven by several national level studies (such as Harvard Civil Rights Project), high stake test scores such as CATS affect minority students disproportionately. Access to quality curriculum and instruction also need to be considered in student assessments.
- African American teachers are under-represented in Kentucky's public school system. Of the 41,000 public school teachers in the state, only 4% are African Americans (while 10.3% of the students are African American), only six principals are African American, and the state's public school system has never had an African American superintendent. Minority teacher recruitment and retention should be addressed aggressively by KDE.
- KDE needs to produce and maintain extensive data sets for analyzing the performance scores and outcomes. Although KDE, under the requirement of Senate Bill 168, has begun to maintain disaggregated data, further sophistication is needed in producing data. For example, while it is apparent that there are strong correlations between various factors (such as low-income status and race) that contribute to achievement gaps, adequate data need to be collected/organized to elicit such correlations so that issues can be addressed.
- While Senate Bill 168 focuses only on reducing the achievement gap, it does not insist on increasing the overall achievement levels. For instance, a school/district which has a low gap may also have a low overall achievement level.

- Under KERA, it is the Site Based Decision Making Councils that wield the authority to make decisions on curriculum and allocation of resources. However, Senate Bill 168 holds the school/district administration responsible for reducing the gap.
- Several superintendents/officials feel that KDE needs to disseminate more information and technical assistance in the wake of Senate Bill 168 and its implementation.
- This study reinstates and illustrates the seriousness of achievement gaps among various student sub-populations in Kentucky's public schools. Allowing the existence of alarming gaps will have disastrous consequences on the future of students who are lagging behind. Continuation of achievement gaps is also a barrier to the civil/equal rights of students from protected groups who are the victims.
- It is important that the school system, educators, and various educational policy-making agencies take a hard look at the serious issue of student achievement gap and make every attempt to close the gaps on one hand and improve the overall achievement level on the other.
- 'Achievement' and 'gap' should be well defined with proper measurement scales. KDE also needs to define standard measures and outcomes in closing the gaps.
- In its endeavors to close student achievement gaps in Kentucky's public school districts, KDE should devise a systematic, long-term approach for closing the gaps and speak with "one voice" in the dissemination of information regarding gap reduction to individual school districts. Information disseminated on an ad-hoc manner is confusing school district officials.
- In the implementation of Senate Bill 168, KDE, the school/district administrations and the Site Based Decision Making Councils need to be jointly held accountable in reaching the goals for reducing the achievement gaps.

Chapter 1 **INTRODUCTION**

During the past few years, major concerns have emerged over the achievement gaps faced by various segments of Kentucky's public school students. In a public school system with a mission of providing equal opportunities for learning and education to all its pupils, existence of alarming gaps in the achievement levels of the students, in essence, is an indication of the failure of the system. Unfortunately, most of the victims of the achievement gaps are the children from protected groups and thus, from the context of civil and equal rights also, it has become one of the thorniest issues. It is very important that the school system, educators, and various educational policy making agencies take a hard look at the serious issue of student achievement gaps and make every attempt to close the gaps. Failure to close gaps will force the affected student sub-populations into a downward spiral of high dropout rates, poor job and life skills, and an overall low quality of life.

Existing literature and public opinion express that Kentucky's public school system suffers from large and pervasive gaps in the achievement levels of various student groups. This research report exposes the extent, trend and seriousness of student achievement gaps that exist among minority students, male students, students from low-income families, students with disabilities and students with low English proficiency in Kentucky's public schools. Following a case study methodology, this report analyzes the performance levels of these student sub-populations and presents the findings. This report also identifies some of the best practices in closing student achievement gaps. The report

presents the results of the research study, which analyzed both quantitative and qualitative data through gap analysis and extensive discussions with school officials.

Seriousness of the Achievement Gap in Public Schools

Achievement gaps among sub-populations of school students, obviously contribute to low graduation rates, low rate of college education, and eventually low career/professional attainment among the disadvantaged sub-groups who lag behind their counterparts in school test scores. Achievement gaps among various segments of the public school student population has been a focus of educators and researchers for the past two decades. The quest to close achievement gaps in Kentucky's public schools has taken a serious turn in the new millennium. Among major research reports, Minority Student Achievement Task Force's March 2000 report entitled "All Means All" and KDE's Seven School Districts Pilot Project report confirmed that there is a large and pervasive achievement gap existing between white and African American students. Several efforts have been launched in the past years to close the gap, but the size and pervasiveness of the problem has made progress difficult, if not impossible, without a wholistic approach. The following is an example to illustrate the seriousness of student achievement gaps in Kentucky's public schools:

Reading Scores for the high school students of Jefferson County Public Schools:

	Distinguished & Proficient	Novice
Male students	23%	26%
Female students	36%	13%
White students	36%	14%
African American students	12%	33%

Students receiving free & reduced lunch (poverty indicator)	13%	32%
Students with disability	2%	70%
Students with limited English Proficiency	11%	18%

In the above example, notice that while 36% of the white students have achieved the performance level of distinguished & proficient, only 12% of the African American students achieved that level. African American students are behind with a gap of 24%. Conversely, one-third of the African American students are in the novice category while only 14% of the white students are novice.

Organizational Framework of Kentucky's Public School System

The public school system in Kentucky is operated, managed and monitored by the Kentucky Department of Education (KDE). The department provides resources and guidance to Kentucky's public schools and districts as they implement the state's K-12 education requirements. The department also serves as the state liaison for federal education requirements and funding opportunities. The organizational structure of KDE is given in the Appendix (Appendix II).

KDE is led by an appointed Commissioner of Education, who answers to the 11-member Kentucky Board of Education. As mandated by Kentucky law, the Kentucky Board of Education develops and adopts the regulations that govern Kentucky's 176 public school districts and the actions of the Kentucky Department of Education. Department officials follow board guidelines as they lead and serve public elementary, middle and high schools. The Kentucky Department of Education is composed of the

Bureau of Operations and Support Services and the Bureau of Learning and Results Services, which are headed by deputy commissioners. Offices within those bureaus are administered by associate commissioners, and divisions within those offices are administered by division directors. Major activities at the department include:

- administering the statewide assessment and accountability system;
- providing technical assistance to schools and districts in the areas of finance, management and curriculum;
- providing support and information to the Kentucky Board of Education as it promulgates state education regulations;
- overseeing the state's education technology system; and
- monitoring school and district compliance with state and federal laws.

Of the 176 public school districts in Kentucky, 56 are independent districts, meaning that they are run by local municipalities. There are a total of 1,271 schools (36 pre-schools, 776 elementary, 213 middle, 5 junior high, 3 senior high, 37 junior-senior high, 199 four-year high and two K-12 schools). The system has a total of 646,830 students and 40,972 teachers.

Overview of Public School Reforms in Kentucky

The Kentucky Constitution, adopted in 1891, requires (Section 138) that “The General Assembly shall, by appropriate legislation, provide for an efficient system of common schools throughout the state.” Through various amendments in the years 1941, 1949 and 1953, the General Assembly was authorized to establish a method for equitable distribution of funds to all the school districts. In June 1998, the Kentucky Supreme Court, in response to a complaint filed in November 1985 challenging the equity and

adequacy of funds provided for the education of young Kentuckians, declared that the system of common schools in Kentucky was unconstitutional. A Task Force on Kentucky Education Reform appointed by the General Assembly in July 1989, after studies, discussions and public hearings, developed the Kentucky Educational Reform Act (KERA) which was approved by the 1990 General Assembly and became a law on July 13, 1990.

KERA transformed Kentucky's public school system into a "primarily performance-based" statewide system of student assessment and school accountability with rewards and sanctions. KERA also initiated a Site-Based Decision Making (SBDM) process, shifting most assessment and accountability powers from the school administration to SBDM councils. Membership of the council includes parents, teachers, and administrators of the local school. The SBDM Council has the responsibility (through KRS 160.345 2) to set school policy, consistent with district board policy, which 'shall provide an environment to enhance the students' achievement and help the school meet the goals established by KRS 158.645 and 158.6451.' The rationale for investing the power to the councils was that 'by making decisions through shared decision-making, there is a higher commitment to implement the decisions that will enhance the achievement of students.'

In the late 1990s, African American community leaders and civic organizations in Louisville and Lexington, realizing the seriousness of the fact that African American students lag far behind their white counterparts in CATS scores, pressured political leaders to look into avenues to close achievement gaps.

The Commissioner of KDE formed a Minority Student Achievement Task Force in March 2000 to study the extent of achievement gaps faced by African American students in Kentucky's public schools. In October 2000, this Task Force released its preliminary findings in a report entitled "All Means All." Subsequently, KDE commissioned a pilot study for an in-depth analysis of disaggregated data for seven school districts to identify the seriousness of the achievement gaps suffered by African American students. All these endeavors culminated in the formation of Senate Bill 168. Senate Bill 168 is an Act relating to reducing the achievement gaps in the public schools. It was sponsored and introduced to the Senate by Senator Gerald Neal in February 2002 and was passed and signed into a law by Governor Paul E. Patton in April 2002.

Accountability, Assessment and Testing

Until 1998, KDE followed the Kentucky Results Information System (KIRIS) to test and report the performance of school students. In 1998, the Commonwealth Accountability Testing System (CATS) was developed through a broad and collaborative process involving educators and citizens of Kentucky. The tests measure how well Kentucky students know the various subjects they learn in school. These academic expectations are spelled out in the Kentucky Core Content (KCC). Each district/school has a customized growth chart to track progress. Student progress is reported by determining the performance level achieved, rather than the grades. School and district success is measured by the percentage of students achieving at each performance level. Kentucky's accountability system is a high-stakes system with rewards and sanctions attached to results. Schools that do well receive financial rewards and schools that do poorly receive help to improve.

Research Methodology

The research for this report followed a case study methodology using both qualitative and quantitative data from 12 school districts selected from the total of 176 districts. A gap analysis was conducted to identify the extent of the achievement gaps between the five student sub-populations. Three Core Content Test scores namely reading, writing and mathematics are taken as the cognitive measures for the gap analysis. The categories of Proficient and Distinguished were combined to keep the analysis at a manageable level. Definitions of technical terms used in this report are given in the appendix (Appendix I).

Qualitative data were used to develop a ‘best practices’ model to highlight positive measures taken by various school districts in closing the achievement gaps between the student sub-populations. The qualitative analysis also was used to elicit issues/concerns faced by school districts in closing the gaps and in implementing Senate Bill 168 (see page 13 for a summary of Senate Bill 168).

The Twelve Case School Districts

The twelve school districts considered for this report are: Jefferson County Public Schools, Louisville; Fayette County Public Schools, Lexington; Bardstown Independent Schools, Bardstown; Bowling Green Independent Schools, Bowling Green; Covington Independent Schools, Covington; Christian County Public Schools, Hopkinsville; Hardin County Public Schools, Elizabethtown; Hazard Independent Schools, Hazard; Henderson County Public Schools, Henderson; Owensboro Independent Schools, Owensboro; Paducah Independent Schools, Paducah; and Shelby County Public Schools, Shelbyville. Demographic information on these schools’ students are given in Table 1 (page 17).

Data Assembly

As the first step for the gap analysis, raw data on the performance scores of the three cognitive measures of Reading, Writing and Mathematics for the selected twelve school districts were assembled in elaborate tables. Data was obtained from the Kentucky Department of Education's 2002 *Kentucky Evaluator's Edition* reports. The data assembly and analysis cover all three levels of Elementary, Middle and High schools in the selected districts. The achievement scales of Distinguished & Proficient, Apprentice and Novice are used to measure the achievement gap and conduct the analysis. Although 'apprentice' (or mediocre) scores are also assembled in the tables for analysis, that performance level was not used in drawing inferences as it has proven not to be a clear indicator of achievement gap. However, the combined percentage points of 'distinguished and proficient' performance categories clearly show the achievement gap between the two related student sub-population at the higher end of their performance levels. On the other hand, percentage points of 'novice' performance levels clearly indicate the extent of students "left-behind" in the school system. Hence, these two indicators (distinguished & proficient, and novice) are used to illustrate the achievement gaps throughout this report.

While several analyses and reports on achievement gap list a 10 or more percent gap in the performance levels of various student sub-populations, this report highlights only categories that have a 20 or more percent gap in proficient & distinguished performance categories (combined) and a 10 or more percent gap in the novice category. This is due to two reasons: a) at the distinguished & proficient (combined) level and at the novice level, a majority of the student sub-populations studied have a 10 or more percent gap, b) highlighting categories with a 20 or more percent gap in distinguished &

proficient and a 10 or more percent gap in novice clearly illustrates the severity and seriousness of the achievement gaps among student sub-populations.

The analysis of assembled data looked 1,620 (12 schools x 3 levels x 5 student sub-populations x 3 performance levels x 3 subjects) individual datum to compile this report.

Sources of Data

1. The bulk of the data used in the gap analysis, in relation to the CATS' Core Content Test Scores, came from KDE's 2001-02 Evaluator's Edition for each of the 12 school districts. KDE uses the Commonwealth Accountability Testing System (CATS) to hold schools accountable for student progress. CATS has three parts: the Kentucky Core Content Tests, the national Comprehensive Test of Basic Skills (CTBS/5), and other measures of the school's performance, including attendance, retention and dropout rates. Together these three elements make up a school's CATS Performance Score for every two-year period. The Kentucky Core Content Test rates student performance in the subject areas of Reading, Science, Writing, Mathematics, Social Studies, and Arts & Humanities. Four performance categories are used: Novice, Apprentice, Proficient, and Distinguished. These categories translate into a scale of 0-140, with 100 being considered proficient. The state goal for all schools is 100 by the year 2014. CATS reading tests are conducted at the grade levels of 4th (elementary), 7th (middle) and 10th (high). Writing tests are conducted at the grade levels of 4th (elementary), 7th (middle) and 12th (high). Mathematics tests are conducted at the grade levels of 5th (elementary), 8th (middle) and 11th (high).

2. The Growth Factor Report of KDE which contains school district specific information by race, gender, income level, disability and English proficiency was used to obtain numbers for the 12 school districts for this report.
3. The 12 school districts provided various reports such as School Board reports, Comprehensive Reports, and Minutes of meetings where achievement gaps were discussed. They also provided implementation plans for Senate Bill 168, which were used for the 'best practices' model.
4. Special reports such as the Report of the Minority Student Achievement Task Force were used to trace the trends in achievement gaps.
5. Extensive interviews and discussions were conducted with educators, researchers and school district officials (mostly superintendents and compliance officers) for the qualitative data.

Data Limitation

The 2002 Kentucky Core Content Test Scores were reported in a disaggregated format different from the previous reports by KDE for evaluation purposes as mandated by Senate Bill 168. The reports provided comparable data in the line of 'controlled and experimental group data sets' for only four of the five student sub-populations (race, gender, poverty and disability). In other words, data presented in the reports on performance scores are comparable enough to extract the gaps and establish patterns, if any, of lower achievement for whites vs. African Americans, whites vs. Hispanics, males vs. females, low income students vs. others, and disabled students vs. others. Although scores for students with limited English proficiency are presented in the reports, there is no comparative data on students who are proficient in English. Due to this reason,

achievement gaps identified with limited English proficiency are not illustrated in this report.

Demographics of Kentucky's public school students

Although the total enrollment of the 176 school districts is 646,830, KDE's Growth Factor Report (GFR). The GFR is the only report of the Department that breaks down students on their five sub-populations based on attendance records. Growth Factor Report has a total of 625,683 students. The following is the demographic profile of the student sub-populations pertaining to this study/report:

Total number of students in Kentucky's Public Schools	625,683	
White Students	541,903	86.6%
Minorities	83,780	13.4%
Males	324,589	51.9%
Females	301,094	48.1%
African Americans	64,229	10.3%
Hispanics	6,942	1.1%
Low income students	312,946	50%
Students with Disabilities	94,830	15.2%
Students with limited English proficiency	5,884	0.9%

Demographics Case Study Schools

In order to look into the existing gaps and school districts' attempts to close the achievement gap in a thorough manner, 12 public school districts out of the total 176 districts in Kentucky, were chosen for this case study. They were chosen after considering various representative factors (including: their size, geographical coverage,

number of African American students, number of students receiving free/reduced lunches, number of students with limited English proficiency, etc.) and discussions with educators/researchers who have done extensive research on the school systems in Kentucky. For example, 47% of all African American public school students in Kentucky go to Jefferson County Public Schools; 70% of the students in Paducah Independent School District receive free/reduced lunch, etc. Together these 12 schools have a total enrollment of 171,897, which is 27.5% of the total enrollment for the 176 public school districts. Table 1 presents the student demographics of the 12 school districts used for this research project.

Table 1: Student Demographics of the 12 School Districts

County	Total	Male	Female	White	African American	Hispanic	Free or Reduced Lunch	Limited English	Disability
Jefferson	89,081	45,507	43,574	55,459	29,393	1,142	47,045	2,193	13,094
Fayette	31,725	16,125	15,600	22,402	7,336	722	12,587	1,108	3,736
Hardin	12,584	6,549	6,035	9,875	1,864	347	5,744	108	1,883
Christian	8,794	4,557	4,237	5,343	3,120	138	5,698	74	1,714
Henderson	6,913	3,491	3,422	6,144	652	28	2,945	30	1,157
Shelby	4,891	2,522	2,369	4,095	518	167	1,702	94	693
Covington	4,665	2,412	2,253	3,685	914	19	3,731	0	831
Owensboro	3,928	2,002	1,926	3,072	680	15	2,637	5	704
Bowling Green	3,413	1,727	1,686	2,324	790	147	1,740	349	413
Paducah	3,114	1,555	1,559	1,476	1,509	42	2,177	30	443
Bardstown	1,773	910	863	1,309	436	8	1,031	20	279
Hazard	1,016	517	499	855	121	6	483	0	136

Chapter 2
IMPLICATIONS OF SENATE BILL 168

Summary

Senate Bill 168 is a Kentucky State Senate Bill sponsored by Senator Gerald Neal passing the Senate and the House in the January 2002 Legislative session. The Bill became a Kentucky Legislative Act in April 2002. This bill specifies that schools address the needs of student subpopulations (based on race, gender, poverty, English proficiency, and disability) they serve by identifying achievement gaps and setting biennial targets for improvement. Local boards of education are to set policies to identify needs and set targets. Comprehensive School Improvement Plans should reflect the activities and professional development that are planned to address the performance gaps between subpopulations.

The Bill requires School-Based Decision Making Councils in schools with substantive achievement gaps to establish and plan to close the gap every two years. The Councils are required to analyze the achievement gaps faced by their school and develop a need-based plan to close the gaps by 2014. The plan must identify and address the issues that contribute to the existing achievement gaps of each student sub-population. Targets and goals to close the gap need to be based on the extent and severity of existing achievement gaps in individual schools. If a plan does not produce the desired effect of closing the gap(s), the Council is required to revise the plan every two year. A two-year cycle is emphasized to monitor and evaluate the progress in an efficient manner. Schools failing to meet targets after the first two-year cycle must submit a revised 'closing the gaps' plans to the superintendent for review and approval. Schools failing to meet targets after two consecutive two-year cycles are reported to the Commissioner of Education for

review and approval of consolidated plans and possible assistance. Possible assistance includes technical assistance for gap analysis and developing a sound plan to close the gaps. Parents, faculty and staff of the individual schools must be involved, through public meetings and discussions, in establishing the targets and plans for closing achievement gaps. Public meetings at the school and district levels must be held on an as needed basis to report on progress and plans.

Responsibilities

Senate Bill 168 places its implementation responsibilities as follows:

Kentucky Department of Education (KDE):

KDE is required to provide disaggregated test data to schools by November 1 of each year. It is also required to provide an “equity analysis” that identifies substantive achievement gaps for individual school districts and schools. The Department will review and approve plans of schools not meeting targets after two consecutive two-year cycles and will provide technical assistance and resources to schools where needed. Further, the Department will provide professional development (such as special training to teachers) on closing achievement gaps.

Kentucky Board of Education:

The Kentucky Board of Education will adopt regulations for review of disaggregated data. The Board will use the school improvement funds for 2002-2004 to close the achievement gap.

School-based Decision Making Councils (or principals when there is no council):

SBDM Councils will review disaggregated data provided by KDE each year. They will involve parents, faculty and staff as they establish two-year targets for

eliminating gaps in achievement every two years beginning February 1, 2003. The Councils will work with their superintendent to reach agreement on two-year targets and work with parents, faculty and staff to revise their consolidated plan to meet the achievement gap closing targets. The plans for closing the gap will be presented and discussed in a public meeting at school. The councils will review test data each year and work with parents, faculty and staff to revise plans to meet achievement-closing targets and submit this plan to the superintendent and local board.

Principals, apart from their role as a member of the school council will:

Principals will convene a public meeting to present and discuss the school plan to close existing gaps. They will also submit the plan to the local board for review.

Local School Boards:

School District Boards adopt policies for reviewing disaggregated data and approve school targets once school councils and superintendents agree. The boards review two-year test results to see if schools have reached their targets, and the boards may require revision in the consolidated plan for schools not meeting targets. They will also convene public meetings every two years to review schools and district plans for closing achievement gaps.

Superintendent:

The school district superintendents will work with school councils to establish targets for closing achievement gaps. They will also review and approve revised plans to close achievement gaps for schools not meeting their targets after the first two-year cycle and report schools not meeting goals after two consecutive two-year cycles to the Commissioner of Education.

Impact of Senate Bill 168

The overall goal of Senate Bill 168 is to hold individual schools accountable for closing their achievement gaps using definite targets and measures. The Bill aims to close the achievement gaps in all Kentucky public schools by the year 2014. Using the two-year cycle process of evaluation and revision, and with KDE's technical and resource assistance, it is anticipated that the Bill will close the achievement gaps faced by Kentucky's public school student sub-population substantially during the next decade.

Chapter 3 ACHIEVEMENT GAP IN KENTUCKY PUBLIC SCHOOLS

Since the major leap initiated by KERA, Kentucky's public school system has continued to produce overall progressive results in the 1990s. In the new millennium, the federal government changed its role in kindergarten – through grade 12 by asking America's schools to describe their success in terms of what each student accomplishes. The *No Child Left Behind* Act of 2001 made a major shift in the public school system by emphasizing stronger accountability from schools and districts for results on student performances. The Act allows students to transfer from poorly performing public schools to other schools of their choice. Even before the *No Child Left Behind* Act, the Commonwealth Accountability Testing System (CATS) which was created in 1998, had such a transfer provision. CATS allowed students in schools that were among the lowest performing between 2000 and 2004 to request transfer starting in Fall 2005.

According to 2001 CATS scores, 107 of Kentucky's 1,271 public schools had below-the-goal performances that allowed their students to transfer to other schools. According to the 2002 CATS scores, the number of low-performing schools in Kentucky has been reduced to 90. However, the large number of schools rated as progressive or meeting their goals still failed to reduce the number of their lowest performing students. It is alarming that major gaps in performance/achievement remain between white and black students, rich and poor students, able-bodied and disabled students, male and female students, and students with limited English proficiency.

Apparent Correlations

There are clear indications that students with limited English proficiency lag behind in their performance scores. Although the extent of their achievement gap cannot be quantified in the absence of comparable data, examination of data and discussions with various school district officials, revealed a strong correlation between students with limited English proficiency and students of Hispanic race. This could be due to the fact that a majority of the Hispanic population in Kentucky are new immigrants. According to Census figures, the Hispanic population of Kentucky grew by 300% between 1990 and 2000 (Census 2000).

Similarly, there is a strong apparent correlation between students in poverty and African American students. This is especially the case in Paducah Independent School District where the majority of African American students (48% of the total enrollment) are also among the students (70% of enrollment) who receive free/reduced lunch. In other words, most of the African American students received free and reduced lunch.

Proving the existence of these correlations is beyond the purview of this research report and requires much more elaborately disaggregated data than provided by KDE.

Major Observations

The extent and severity of achievement gaps for students with disabilities from the 12 school districts have alarmingly wide achievement gaps compared to students who are not disabled across all cognitive measures, school grade and performance levels. The next group with wide achievement gaps is students receiving free/reduced lunch who are from low-income families. Closely following the income status is race, with African American students having the widest gaps compared to their white counterparts, followed

by the Hispanic students. Finally, male students are slightly behind female students across all three cognitive measures and performance levels. The following is the order of student sub-populations and their range of achievement gap percentage points in all subjects in all three levels in the 12 school districts:

1. Disabled students: The range of percentage gap faced by disabled students (compared to non-disabled students) is between 4% and 69% in distinguished & proficient (combined); The range of gap in novice category is 3% – 75% .
2. Low income students: The range of percentage gap faced by low income students (compared to students not receiving free & reduced lunch) is between 4% and 51% in distinguished & proficient (combined); The range of gap in novice category is 4% – 47% .
3. African American students: The range of percentage gap faced by African American students (compared to white students) is between 4% and 41% in distinguished & proficient and between 3% and 42% in novice.
4. Hispanic students: 3% – 46% behind their white counterparts in distinguished & proficient (combined); 0% – 49% in novice.
5. Male students: 1% – 26% behind their female counterparts in distinguished & proficient (combined); 0% – 30% in novice.

The following table shows the percentages of student sub-populations with a 20 or more percent gap. For example, under reading scores, 91% of disabled students under the distinguished & proficient category had achievement gaps of 20 or more percent compared to non-disabled students. A table showing the proportional data for Table 2 is given in the appendix (Table 8).

Table 2: Percentage of categories with more than 20% gap

Student Sub-population	Reading		Mathematics		Writing	
	Distinguished & proficient	Novice	Distinguished & proficient	Novice	Distinguished & proficient	Novice
Disabled	91%	84%	75%	94%	63%	93%
Low income	75%	36%	69%	72%	56%	47%
African American	70%	30%	74%	89%	40%	42%
Hispanic	47%	27%	60%	47%	29%	50%
Male	3%	0%	0%	3%	8%	14%

Chapter 4

ACHIEVEMENT GAP ANALYSIS

This chapter deals with an in-depth analysis of the extent of achievement gaps between various student sub-groups. Gap analysis for the sub-groups is presented in the following order reflecting the extent and severity of existing gaps: Disabled students, low-income students, African American students, Hispanic students, and male students. Although students with limited English proficiency is a sub-group discussed in this report and dealt with by Senate Bill 168, analysis could not be done for this sub-group due to lack of data on the reference group of students who are proficient in English.

In the following pages, achievement gaps for each sub-population are illustrated by two sets of tables. The first set presents mean scores of the particular sub-group and its reference group (for example, African American students and their white counterparts) for the 12 school districts. This table also has an index score developed for easy comparison of each sub-group, combining proficient & distinguished, apprentice and novice performance levels into a 13 – 100 scale. The index scores were calculated by the formula used by KDE which weigh distinguished and proficient performance level at 1.0, apprentice at 0.6, and novice at 0.13.

The second set of tables (three in all) for each sub-group give detail gap scores for each performance category of distinguished & proficient and novice. Although apprentice performance levels were considered for the index scale in the previous table, the second set of tables do not have these scores due to the fact that distinguished & proficient and novice categories are stronger indicators of achievement gaps. In the tables, gaps exceeding 20 percent for distinguished & proficient category, and gaps exceeding 10 percentage points for novice, and index gaps exceeding 5 points are highlighted to show

their significance/seriousness. Tables 9 – 23 in the appendices (appendix IV) are also highlighted to show their significance.

Disabled Student Achievement Gap

As mentioned before, disabled students have the widest achievement gaps in Kentucky's public schools. Table 3 shows the mean scores of the percentage gaps for each category and corresponding index scores and gaps for disabled students and their counterparts. For example, 50% of able-bodied students in the 12 school districts are distinguished & proficient in reading, while only 16% of the disabled students are distinguished & proficient. This shows a severe gap of 34%. Also, it is deeply alarming to observe that the mean score gaps faced by disabled students with reference to non-disabled students are more than 25% for all subjects in distinguished & proficient and novice performance categories. Their index scale score gaps in three subjects are nearly 30 points, much higher than the 5-point gap which is considered a substantial gap. Disabled students have a gap of 44 percentage points in the index scores in mathematics.

Tables 9 - 11 (appendix) detail the bleak picture of achievement gaps faced by disabled students for all categories in the 12 school districts. Except for two cases (Owensboro middle schools and Paducah high schools), disabled students have more than a 20% gap in distinguished & proficient performance levels of reading scores, with two cases exceeding gaps of 50%. With the exception of three cases in the novice category for reading, gaps exceed 20%. In nine cases – all at the high school levels – the novice gap for disabled students in reading is more than 50%.

Table 3: Disabled Student Achievement Gap and Index (mean scores)

Subject	Reading			Mathematics			Writing		
	A	D	Gap	A	D	Gap	A	D	Gap
Distinguished & Proficient	50%	16%	34%	33%	7%	26%	28%	4%	24%
Apprentice	36%	35%	1%	36%	18%	18%	48%	31%	17%
Novice	14%	49%	-35%	31%	75%	-44%	24%	65%	-41%
INDEX	73	43	30	59	28	31	60	31	29

A-Students without Disability; D-Students with Disability

Similar trends exist for mathematics and writing scores, with high school students showing the widest gaps. Such poor reading scores, at high school levels, will have an obvious negative impact on the graduation rate of disabled students, contributing toward further complications in their educational attainment.

Low income Student Achievement Gap

This research project indicates that poverty/low income is the second factor affecting the educational achievement levels of Kentucky's public school students. Table 4 presents the mean scores for the percentage gaps for each category and corresponding index scores and gaps for low-income students and their counterparts. Students receiving free and reduced lunches (the indicator of low income levels and/or poverty) are more than 20% behind students not eligible in mean scores for three subjects in the proficient & distinguished category. The novice mean score gap for low income students exceeds 10% in all subjects, with mathematics and writing having steep gaps of 26% and 30%.

The scale score index gap for all subjects also is more than 15 points, higher than the 5 points which is considered a substantial gap.

Table 4: Low Income Student Achievement Gap and Index (mean scores)

Subject	Reading			Mathematics			Writing		
	N	F&R	Gap	N	F&R	Gap	N	F&R	Gap
Distinguished & Proficient	57%	32%	25%	42%	16%	26%	34%	12%	22%
Apprentice	31%	42%	-11%	34%	34%	0	44%	36%	8%
Novice	12%	26%	-14%	24%	50%	-26%	22%	52%	-30%
INDEX	77	61	16	66	43	23	63	40	23

N- Students not eligible for Free & Reduced Lunch;
 F&R –Students receiving Free & Reduced Lunch

In about two-thirds of the cases, low-income students fell more than 20% behind their counterparts in the distinguished & proficient category of reading. In the novice category, more than three-fourth of the cases had gaps exceeding 10%. Mathematics and writing scores also have similar gap levels.

It must be noted that if the income status of students dramatically affects the performance of public school students receiving a free education, their chances of succeeding in college or a vocational school, where education is more difficult and expensive, the success rate of low income students will be extremely low.

African American Student Achievement Gap

Unfortunately, race continues to be a major factor affecting the achievement levels of Kentucky’s public school students. Mean scores and the scale score indexes and gaps (Table 5) show that African American students are more than 15% behind their white counterparts in all subjects in both proficient & distinguished and novice performance levels. Mean scores for mathematics, especially, show higher gaps, indicating the poor analytical skills/training received by African American students.

Table 5: African American Student Achievement Gap and Index (mean scores)

Subject	Reading			Mathematics			Writing		
	W	AA	Gap	W	AA	Gap	W	AA	Gap
Distinguished & Proficient	53%	29%	24%	37%	13%	24%	30%	12%	18%
Apprentice	34%	41%	-7%	35%	30%	5%	46%	44%	2%
Novice	13%	30%	-17%	28%	57%	-29%	24%	44%	-20%
INDEX	75	58	17	62	38	24	61	44	17

W- White; AA-African American

Tables 13 – 15 in the Appendix IV clearly show that while the gaps for African American students in proficient & distinguished categories uniformly decrease from elementary to middle to high schools in all case districts; however, novice gaps increased from elementary to middle to high schools. This explains why African American students face a severe negative impact in the forms of low graduation and high dropout rates at high school levels.

Hispanic Student Achievement Gap

Only 6,942 (1.1%) of Kentucky’s public school students are Hispanic and the Kentucky Department of Education does not disaggregate the KCCT scores if there are fewer than ten Hispanic students in a school district. Although only six of the case study districts have Hispanic students, mean scores and index gaps show that they, similar to African American students, suffer high achievement gaps with reference to their white counterparts. Table 6 shows the mean scores and indexes for the Hispanic students in the case districts for reading, mathematics and writing.

Table 6: Hispanic Student Achievement Gap and Index (mean scores)

Subject	Reading			Mathematics			Writing		
	W	H	Gap	W	H	Gap	W	H	Gap
Distinguished & Proficient	53%	37%	16%	37%	22%	15%	30%	13%	17%
Apprentice	34%	39%	-5%	35%	31%	4%	46%	46%	0
Novice	13%	24%	-11%	28%	47%	-19%	24%	41%	-17%
INDEX	75	64	11	62	57	5	61	46	15

W- White; H-Hispanic

Tables 17 – 19 in the Appendix IV give detail scores for all the cases for subjects for the performance categories of distinguished & proficient and novice. These data show that Hispanic students have substantial achievement gaps especially in mathematics, but also in reading and writing.

Male Student Achievement Gap

Several studies on achievement gaps show that there are serious gender differences in educational achievement for public school students. Mean score and index gaps (Table 7) shows that although the gaps faced by male students with reference to their female counterparts are not as severe as the gaps affecting the student sub-groups discussed above, there are substantial gaps existing between male and female students in most of the cases across the three subjects. While male students have negligible gap in mean scores for mathematics, their gap levels for reading and writing scores are at about 10%. Scaled score index gaps also show this trend with a gap of one point in mathematics and ten or more points for reading and writing.

Table 7: Male Student Achievement Gap and Index (mean scores)

Subject	Reading			Mathematics			Writing		
	M	F	Gap	M	F	Gap	M	F	Gap
Distinguished & Proficient	40%	52%	-12%	30%	31%	-1%	20%	30%	-10%
Apprentice	38%	35%	3%	33%	35%	-2%	44%	47%	-3%
Novice	22%	13%	-9%	37%	34%	-3%	36%	23%	-13%
INDEX	66	75	-11	55	56	-1	51	61	10

M - Male; F- Female

Detail scores presented in Tables 21 – 23 (Appendix IV) indicate that most of the gaps faced by male students are higher at high school levels than at elementary and middle school levels.

Chapter 5

MEASURES TO CLOSE THE GAPS

Realizing the extent and seriousness of achievement gaps among their various student sub-populations even before the enactment of Senate Bill 168, several of the 12 school districts studied have devised some strategies and followed measures to reduce these gaps. Also, several external organizations such as civic/community agencies and non-profit organizations have joined these districts in the battle to close the achievement gaps. This chapter highlights some of the promising initiatives

1. Concerned about the seriousness of the gap between its African American students (about 50% of the total, the highest percentage in the state), and their white counterpart, Paducah Independent School District, long before Senate Bill 168, formed a bi-level task force called 'Paducah Public Schools Closing the Gap Committee' (at the community level and the school level) to address the issue. This committee monitored programs, assessed progress and developed new efforts where current efforts were failing. Exhaustive gap and impact analyses on KCCT scores were conducted for 1999, 2000 and 2001 to understand the issues involved. The committee took the following major initiatives: (i) African American Head Start and Kindergarten students deemed academically or socially at risk were placed into a specific personal development plan to prepare them to succeed at grade level by the end of third grade. Their performances were assessed at the end of each school year and adjustments were made to ensure program success; (ii) Beginning August 2001, African American students entering the sixth grade level received individual and group counseling on 'goal setting' and career

development for successful graduation from school and for the transition to higher education or vocational training; (iii) professional development training was provided to administrators and teachers to help them develop better techniques working with the academic and behavioral needs of African American students; and (iv) specific information programs were developed to effectively reach African American parents to increase their involvement, which is crucial for closing their children's achievement gap. These programs covered the following areas: churches, families, individual parents, local media and concerned neighborhoods. During the past two years, these measures have helped in reducing the gap, slowly but steadily.

2. Jefferson County Public Schools have a 'Safety-Net Program' specifically geared towards low-achieving students. The Safety-Net programs have been put in place to support students who experience difficulty in all areas of their school lives. These programs include successful project components such as: Extended School Services (ESS), Linking Instruction to Neighborhood Kids (LINK), Urban League Rising Fifth Graders/Saturday Program, Rising Star Summer Program, Neighborhood Based Programs, and the Louisville Education and Employment Partnership (LEEP). Additional academic care and personal training provided through these programs have boosted the CATS scores of a considerable number of the students. Through these programs and other need-based measures, the Jefferson County Public Schools have made impressive strides in reducing the achievement gaps faced by its minority and low-income students. These efforts are recognized nationally through the recent selection of JCPS as one of the five

finalists for the prestigious \$1 million Urban Education Award, by the Los-Angeles-based Broad Foundation.

3. Henderson County Public School district has been conducting community forums to increase the awareness of achievement gaps. Considering the crucial element of educating the community, the district has even hired a local community activist to be a liaison. While most of the focus elsewhere is on improving the teachers' capacity and parental involvement, this district, along with measures, listened to its customers (students) for their input in the process of gap reduction.
4. Bowling Green Independent School District has implemented an innovative program called 'African American Heroes Mentoring Program.' In collaboration with the local housing authority, the district has invited a panel of prominent African American leaders for regular mentoring sessions with low-performing African American students. This program has yielded promising positive results in the past few years.

The other eight school districts considered for this case study (Fayette County Public Schools, Bardstown Independent Schools, Covington Independent Schools, Christian County Public Schools, Hardin County Public Schools, Hazard Independent Schools, Owensboro Independent Schools, and Shelby County Public Schools), have carried-out some preliminary measures, but have not done any notable initiatives to either close the gaps or devise a plan to do so in a methodical manner.

5. External Agencies: Besides individual school districts, a few civic/community and non-profit agencies have done laudable work toward closing Kentucky's public

school student achievement gaps. The chief among them is the Kentucky Association of School Councils (KASC). Operating from Danville, this non-profit educational agency seeks ‘a Kentucky where every child achieves at high levels and every community unites to lift its students higher still.’ Through a variety of publications, symposiums, conferences and technical assistance including personalized gap-analysis for individual schools, and educating the SBDM councils in their understanding and responsibilities in gap reduction, KASC advocates strategies to close the gaps.

The Urban League of Lexington – Fayette County has also done considerable work in closing achievement gaps faced by African American students. Forging an unusual alliance with the Greater Lexington Chamber of Commerce, the Urban League actively participated in the Fayette County Public Schools Equity Council. Frustrated with the lack of the school district’s progress in closing the gap, the Urban League spearheaded a ‘no-confidence campaign,’ urging the district to implement initiatives to close gaps. It was movements like this that caught the attention of the Kentucky legislature to focus on the issue and resulted in the enactment of Senate Bill 168. In 2001, the Urban League of Lexington – Fayette County released a detailed report entitled ‘Our Children – Our Destiny,’ with a major focus on education.

The Louisville Urban League has also played a considerable role in bringing the public’s attention to the issue of minority student achievement gaps. Since 1999, the agency has been conducting a ‘Campaign for African American Achievement.’ One of the outcomes of the Campaign was an extensive report

entitled ‘The State of African American Youth in Metropolitan Louisville,’ which, among other factors, has a major focus on school education.

Issues and Concerns About Student Achievement Gaps and Senate Bill 168

During the qualitative interviews with school officials, several issues and concerns regarding achievement gaps, and about Senate Bill 168 were raised. The following are the issues and concerns expressed by a majority of the school officials:

1. ‘Achievement’ and ‘gap’ need to be defined clearer with proper measurement scales. Although Senate Bill 168 defines achievement gap as ‘substantial’ differences in the performance levels of student sub-groups, there is no measure to indicate the point from which a gap level can be derived.
2. While Senate Bill 168 focuses only on reducing the achievement gap, it does not insist on increasing the overall achievement levels. For instance, a school/district which has low gaps may also have a low overall achievement level. The Bill and/or the follow-up measures should address the need for increasing the overall student achievement levels beyond just reducing the existing gaps.
3. Under KERA, it is the Site Based Decision Making Councils that wield the authority to make decisions on curriculum and allocation of resources. However, the Bill holds the school/district administrations responsible for reducing the gap. Discussions with a few district superintendents revealed this as a major problem in the implementation of the Bill.
4. As proven by several national level studies, high stake test scores such as CATS affect minority students disproportionately. The National Research Council has

recently stated that group differences in test performance may be due to a lack of access to a high-quality curriculum and instructions and thus, finding of group differences calls for a careful effort to determine their causes. According to the Harvard Civil Rights Project, high stakes decisions should not be made on the basis of test scores alone – other factors must be considered. Multiple sources of assessment information should be used when making high-stakes decisions. No single high-stakes test should be used for making decisions about the tracking, promotion, or graduation of individual children. Instruction and curriculum should be considered equally in assessing students' performance.

5. African American teachers are under represented in Kentucky's public school system. Of the 41,000 public school teachers in the state, only 4% are African Americans (while 10.3% of the students are African American), only six principals are African American, and the state's public school system has never had an African American superintendent. Minority teacher recruitment and retention needs to be addressed aggressively.
6. Several superintendents/officials feel that KDE needs to disseminate more information and technical assistance in the wake of Senate Bill 168 and its implementation. A 'best practices' manual highlighting successful gap reduction by public school systems from across the county would be a great tool in assisting the districts.

CONCLUSIONS AND RECOMMENDATIONS

The analysis performed for this research project shows that the of severity of achievement gaps for students with a disability from the 12 school districts is the highest in all cognitive measures, school grade and performance levels. Students from low-income families (students receiving free/reduced lunch) are the second highest sub-population experiencing achievement gaps detrimental to education equality. Closely following income status is race, with African American students having wider gaps than white students, followed by the Hispanic students. Male students are next, falling slightly behind female students across all three cognitive measures and performance levels.

Gap data analyzed show that:

1. Disabled students have a negative gap in the distinguished & proficient category compared to non-disabled students. In other words, fewer disabled students scored in the distinguished & proficient category. The range of the percentage point gaps is 4% - 69%. Also of significance, is the fact that a high percentage of disabled students scored in the novice performance category, indicating more disabled students scored at the lowest level with a gap range of 3% - 75%. It is to be noted that a negative gap in the distinguished & proficient level and a positive gap at the novice level for student sub-populations, mean that they are doing poorly in higher performance scores and increasingly performing at the lowest score level.
2. The majority of low-income students did not score in the distinguished & proficient category. The range of the percentage point gap was 4% - 51%, meaning that they also have a positive gap for the novice performance category with a range of 4% - 47%.

3. African American students have a negative gap in the distinguished & proficient category compared to white students in all but one case. The range of the percentage point gap was 4% - 41%. They also have a positive gap for novice performance category for all but one case with a range of 3% - 42%.
4. Hispanic students have a negative gap in the distinguished & proficient category compared to white students in all but two cases. The range of the percentage point gap was 3% - 46%. They also have positive gap for the novice performance category for all but two cases with a range of 0% - 49%.
5. Male students have a negative gap in the distinguished & proficient category compared to female students in all but 14 cases. The range of the percentage point gap was 1% - 26%. They also have positive gap for the novice performance category for all but 8 cases with a range of 0% - 30%.
6. Examination of data and the discussions with various school district officials revealed a strong correlation between students with limited English proficiency and students of Hispanic race. Similarly there is a strong apparent correlation between students in poverty and African American students.

Recommendations

After the research, gap analysis and drawing conclusions, this report posits the following recommendations. KCHR believes that following these recommendations will help in redressing the serious problem of achievement gaps faced by Kentucky's public school students.

Kentucky Department of Education

1. In its attempts and approaches to close the achievement gaps, the Kentucky Department of Education seems to be more 'passive' than 'active'. The Department needs to take a pro-active approach by transforming its current role as more of a 'clearing house for information' to an organization that spearheads a concerted statewide battle to close the gaps.
2. In its endeavors to close student achievement gaps in Kentucky's public school districts, KDE should devise a systematic, long-term approach for closing the gaps and speak with "one voice" in the dissemination of information regarding gap reduction to individual school districts. Information disseminated on an ad-hoc manner seems to confuse school district officials in their attempt to close the gaps.
3. Several educators and school district officials feel that it would be a great help if KDE compiles a 'Best Practices' manual, culling successful strategies from across the country in closing achievement gaps, and make them available to school districts that are facing serious gaps. KDE should attempt, either through a consultant or through its offices, to develop such a best practices collection. It would also help the struggling school districts if KDE conducts forums or workshops involving speakers from school districts across the country where successful strategies have been implemented in closing gaps.
4. KDE should conduct further research to identify correlations between factors that cause achievement gap and devise solutions to address them in a practical and

- wholistic manner. Also further research is needed on sub-groups of students affected to identify other issues such as cultural and social factors.
5. The problems of achievement gap needs to be looked in the context of civil rights, as a majority of the affected students are from protected groups. To this end, KDE should develop an ongoing working partnership with civil rights agencies and leaders from across the state to address the problem from “rights to equal opportunity” context.
 6. Senate Bill 168 seems like a good legislative tool, but the success of its implementation lies of proper and continuous technical and other supports from KDE to school districts that are struggling to close the gaps.

Public School Districts

1. Although the issue of achievement gap and its nature/extent differ from school district to school district, it is important that individual school districts take a unified and proven approach to tackle the issue. If not on a larger collective manner, at least the school districts in neighboring counties can combine their expertise in strategic planning and methodical implementation of various measures.
2. Many school districts, although have some initiatives in place, need to adopt accelerated approaches, preferably concerted with several other school districts so that resources and expertise can be combined for better results.
3. In closing the gap, what is needed is a pro-active approach. Unfortunately most school districts currently have a reactive approach where planning and implementation are followed only when the gaps are wide.

4. Promising strategies include early interventions, individual tutoring, intensive instruction in basic skills combined with high school level academics, better counseling and support services, and breaking up large high schools into smaller units. All of these share the same goal - identifying and reaching out to struggling students before they face the prospect of flunking a grade, dropping out of school and becoming an adult left behind in a society requiring a quality education for a chance at the better jobs.

Civic Organizations and the Business Community

1. Drawing from the example of the Urban League of Lexington – Fayette County and the Greater Lexington Chamber of Commerce, civic/community organizations and the business communities across the state should take a keen interest on the performance of public school students. As achievement gap will have dire consequences on the future of the area youth, civic organizations and business communities have a stake in closing the achievement gaps at present.
2. Civic and business organizations have the capacity and network to increase public awareness on the evils of achievement gaps at the grass roots levels. Increasing such awareness will be a major step towards closing the gaps.

This study found that there are significant achievement gaps among various student sub-groups in Kentucky's public schools. This study also found that KDE and school districts are striving, through various measures, to reduce achievement gaps. A more concerted effort on closing the gap, combined with legislative tools such as Senate Bill 168 seems promising for Kentucky's public school districts. However, closing the

gaps is a long and arduous task that needs to be given a higher priority. Allowing gaps to continue will have disastrous consequences on the success of students from protected classes. It is the responsibility of the public school system to provide a high quality education for all its students. It is very important that the school system, educators, and various educational policy making agencies take a hard look at the serious issue of student achievement gaps in Kentucky and streamline the process of closing the gaps and improving the overall achievement level.

APPENDICES

Appendix I

DEFINITION OF TERMS

The following are the definitions of key terms used in this report:

Achievement Gap

The Kentucky Department of Education defines achievement gap as the “substantive performance difference on each of the tested areas, by grade level, of the Commonwealth Accountability Testing System (CATS) between various group of students, including minority and non-minority students, male and female students, students who are eligible for free and reduced lunch and those who are not eligible, students with and without disabilities, and students with and without English proficiency.”

Commonwealth Accountability Testing System (CATS)

CATS is an annual statewide standardized testing system designed by the Kentucky Board of Education to accurately and reliably measure public school progress in educating students and to provide a way to let parents and other Kentuckians interested in education know how individual students and public schools are performing. The tests are administered in a 10-day testing window in the Spring of each year. CATS includes:

- The CTBS/5 –Survey Edition (Comprehensive Test of Basic Skills Survey Edition) – A national multiple-choice test covering reading, language, arts and math.
- The Kentucky Core Content Tests (KCCT) – A mixture of multiple-choice and open-response (essay-like) questions in reading, science, mathematics, social studies, arts and humanities and practical living/vocational studies.
- Writing Portfolio – A collection of a student’s best writing samples over time.
- Writing Prompts – Writing tests that measure skills developed from writing instruction.
- Alternate Portfolio – A collection of the best works of students with severe to profound disabilities.

At the end of the testing process, a single index of scores ranging between zero and 140 points for each school are released in September of every year. The Kentucky Board of Education expects every school to reach or pass an index score of 100 (or proficiency) by the year 2014. CATS was implemented in 1998 and Kentucky’s students first took CATS tests in the spring of 1999.

Comprehensive School Improvement Plan

In 1997, the Kentucky Department of Education introduced the Comprehensive School Improvement Plan, a consolidated planning process which is a joint effort between the Department of Education, local schools and district stakeholders that provide a single tool for both planning and applying for categorical funds. This planning process was designed to enhance student achievement and focus school and district resources on students in a different way, changing the culture of schools and districts from a 'special programs' orientation to a 'students needs' orientation.

Index Score

This report utilizes an index score developed for easy comparison of the performance levels of each sub-group of students, combining proficient & distinguished, apprentice and novice performance levels into a 13 – 100 scale. The index scores were calculated by the formula used by KDE which weigh distinguished and proficient performance level at 1.0, apprentice at 0.6, and novice at 0.13.

Minority students

KDE and all the public school districts follow the federal definition for minority students as “students belonging to ethnic/racial minority groups of African, Asian, Hispanic or Indian descent.”

Performance Levels

The following are summaries of the language used to describe Novice, Apprentice, Proficient and Distinguished performance levels of students. These categories are used in reporting student results within CATS.

- Novice: Student demonstrates minimal, limited, underdeveloped and at times inaccurate content knowledge and reasoning. Student's communication is ineffective and lacks detail with no evidence of connections within or between content areas. Student uses strategies that are inappropriate.
- Apprentice: Student demonstrates some basic content knowledge and reasoning ability. Student communicates reasonably well but draws weak conclusions or only partially solves or describes. Student attempts appropriate strategies with limited success.
- Proficient: Student demonstrates broad content knowledge and is able to apply it. Student's communication is accurate, clear and organized with relevant details and evidence. Student uses appropriate strategies to solve problems and make decisions. Student demonstrates effective use of critical thinking skills.
- Distinguished: Student demonstrates and in-depth, extensive or comprehensive knowledge of content. Student's communication is complex, concise and sophisticated with thorough support, explicit examples, evaluations and

justifications. Student uses and consistently implements a variety of appropriate strategies. Student demonstrates insightful connections and reasoning.

School-Based Decision Making Councils (SBDMs)

The Kentucky Education Reform Act (KERA) of 1990 established SBDM Councils. According to KERA, each school must have a council composed of two parents, three teachers, and an administrator to adopt policies relating to instructional material, personnel, curriculum, extracurricular programs, and other aspects of school management.

Students from low income families

KDE and school districts consider students' eligibility to receive free or reduced lunch in their school's National School Lunch Program, as an indicator of poverty and classify those students as students from low-income families. According to KDE officials, the U.S Department of Agriculture provides (annually in April) a scale to determine the income levels of students for their eligibility to receive free or reduced lunch. KDE passes these guidelines to individual school districts who evaluate applications to determine students' eligibility. Current eligibility criteria are as follows:

1. Children whose parents are receiving Food Stamps or Kentucky Transitional Assistance (K-TAP) are eligible for free lunch.
2. Children whose total household income is at or below the amount on the Income Chart are eligible for free or reduced lunch (Income Chart: \$15,892 annually for one-person-income household; with an addition of \$5,587 for each additional earning family member).
3. Children who are in foster care are eligible for free or reduced lunch.

Students with disabilities

KDE follows the definition 'child with a disability' of the federal Individuals with Disabilities Education Act (IDEA), which lists 13 different disability categories under which a child may be found eligible for special education and related services. These federal categories are: Autism, Deafness, Deaf-blindness, Hearing Impairment, Mental Retardation, Multiple disabilities, Orthopedic impairment, Other health impairment, Serious emotional disturbance, Specific learning disability, Speech or language impairment, Traumatic brain injury, and Visual impairment. According to IDEA, the disability must affect the child's educational performance in order to be eligible for special education.

Students with limited English proficiency

In order to meet the language proficiency assessment needs for limited English proficient students in Grades Pre-K through grade 12 and to identify appropriate placements in or exit from bilingual/ESL programs, school districts have adopted various Language Assessment Scales (LAS) products. They use pre-LAS products which

measure the oral language proficiency and pre-literacy skills in children of preschool, kindergarten, and first-grade age (3 1/2 to 6 1/2 years old). They also use LAS Oral and LAS Reading/Writing products which identify a student for placement in or exit from a bilingual or English as Second Language (ESL) program.

In order to determine oral language, reading and writing proficiency in English for ease of placement or for determining a redesignation category, specific cut-off levels of the LAS Scores and Levels of Competency are used as the measurement.

Appendix II

Appendix III

Table 8: Categories with more than 20% gap

Student Sub-population	Reading		Mathematics		Writing	
	Distinguished & proficient	Novice	Distinguished & proficient	Novice	Distinguished & proficient	Novice
Disabled	29/32	27/32	24/32	30/32	19/30	28/20
Low income	27/36	13/36	25/36	26/36	20/36	17/36
African American	23/33	10/33	26/35	31/35	13/33	14/33
Hispanic	7/15	4/15	9/15	7/15	4/14	7/14
Male	1/26	0/36	0/36	1/36	3/36	5/36

Appendix IV

**Table 9: Reading - Disability Achievement Gap (Student without Physical Disability vs. Students with Disability)
*Distinguished & Proficient***

	JCPS		Fayette		Hardin		Christian		Hendersn		Shelby		Covingtn		Ownsbro		B.Green		Paducah		Bardstwn		Hazard	
	A	D	A	D	A	D	A	D	A	D	A	D	A	D	A	D	A	D	A	D	A	D	A	D
Elementary	58	29	63	28	64	34	58	10	73	44	60	37	41	17	78	61	70	23	68	37	38	26	55	-
Gap		-29		-35		-30		-48		-29		-23		-24		-17		-46		-31		-12		-
Middle	53	10	66	17	61	14	49	11	64	13	61	16	39	6	69	14	78	9	57	12	37	-	64	-
Gap		-43		-49		-47		-38		-51		-45		-33		-55		-69		-35		-		-
High	31	2	45	6	28	2	29	2	26	2	32	0	20	0	42	0	39	0	36	26	27	0	41	-
Gap		-29		-39		-26		-27		-24		-32		-20		-42		-39		-10		-27		-

A – Without Physical Disability; D – With Disability

Novice

	JCPS		Fayette		Hardin		Christian		Hendersn		Shelby		Covingtn		Ownsbro		B.Green		Paducah		Bardstwn		Hazard	
	A	D	A	D	A	D	A	D	A	D	A	D	A	D	A	D	A	D	A	D	A	D	A	D
Elementary	18	43	12	36	13	36	17	64	7	16	16	33	31	44	7	10	13	27	11	34	30	30	29	-
Gap		25		24		23		47		9		17		13		3		14		23		0		-
Middle	14	57	8	41	5	42	11	50	6	33	7	39	22	47	5	51	2	24	5	53	22	-	7	-
Gap		43		33		37		39		27		32		25		46		22		48		-		-
High	16	70	11	61	14	71	16	76	12	61	7	61	28	78	5	57	14	76	14	53	25	79	2	-
Gap		54		50		57		60		49		54		50		52		62		39		54		-

A – Without Physical Disability; D – With Disability

Table 10: Mathematics - Disability Achievement Gap (Student without Physical Disability vs. Students with Disability)
Distinguished & Proficient

	JCPS		Fayette		Hardin		Christian		Hendersn		Shelby		Covingtn		Ownsbro		B.Green		Paducah		Bardstwn		Hazard	
	A	D	A	D	A	D	A	D	A	D	A	D	A	D	A	D	A	D	A	D	A	D	A	D
Elementary	37	13	47	14	34	17	30	4	35	14	45	9	23	9	35	32	49	15	45	13	21	8	32	-
Gap		-24		-33		-17		-26		-21		-36		-14		-3		-34		-32		-13		-
Middle	24	2	41	6	25	3	20	4	25	2	36	6	10	0	36	0	31	7	27	10	21	-	43	-
Gap		-22		-35		-22		-16		-23		-30		-10		-36		-26		-17		-		-
High	35	4	50	5	29	1	29	2	28	2	36	-	15	0	36	6	37	0	33	10	50	13	34	-
Gap		-31		-45		-28		-27		-26		-		-15		-30		-37		-23		-32		-

A – Without Physical Disability; D – With Disability

Novice

	JCPS		Fayette		Hardin		Christian		Hendersn		Shelby		Covingtn		Ownsbro		B.Green		Paducah		Bardstwn		Hazard	
	A	D	A	D	A	D	A	D	A	D	A	D	A	D	A	D	A	D	A	D	A	D	A	D
Elementary	31	67	23	62	27	60	35	80	26	62	25	60	42	79	33	52	29	69	35	63	46	80	33	-
Gap		36		39		33		45		36		35		37		19		40		28		34		-
Middle	36	82	21	74	27	77	38	79	26	76	17	55	56	98	18	79	25	62	26	71	28	22	8	-
Gap		46		53		50		41		50		38		42		61		37		45		-6		-
High	35	89	22	86	35	93	39	91	31	88	28	-	57	93	31	75	28	93	37	70	12	35	31	-
Gap		54		64		58		52		57		-		35		44		65		33		23		-

A – Without Physical Disability; D – With Disability

Table 11: Writing - Disability Achievement Gap (Student without Physical Disability vs. Students with Disability)
Distinguished & Proficient

	JCPS		Fayette		Hardin		Christian		Hendersn		Shelby		Covingtn		Ownsbro		B.Green		Paducah		Bardstwn		Hazard	
	A	D	A	D	A	D	A	D	A	D	A	D	A	D	A	D	A	D	A	D	A	D	A	D
Elementary	31	10	24	4	24	5	22	2	38	25	19	4	7	0	51	26	47	4	36	14	27	-	44	-
Gap		-21		-2-		-19		-20		-8		-15		-4		-25		-43		-22		-		-
Middle	12	1	17	4	7	0	10	1	14	0	24	1	5	0	33	0	35	3	12	0	24	0	22	-
Gap		-11		-13		-7		-9		-14		-23		-5		-33		-32		-12		-24		-
High	32	5	38	2	29	0	24	0	34	8	46	0	32	0	27	-	42	0	31	-	24	13	45	-
Gap		-27		-36		-29		-24		-26		-46		-32		-		-42		-		-11		-

A – Without Physical Disability; D – With Disability

Novice

	JCPS		Fayette		Hardin		Christian		Hendersn		Shelby		Covingtn		Ownsbro		B.Green		Paducah		Bardstwn		Hazard	
	A	D	A	D	A	D	A	D	A	D	A	D	A	D	A	D	A	D	A	D	A	D	A	D
Elementary	14	35	24	62	15	37	22	76	6	25	20	48	55	87	1	18	10	35	11	53	44	-	8	-
Gap		21		38		22		54		19		28		22		17		25		42		-		-
Middle	54	88	40	71	47	87	52	83	40	73	25	67	70	97	6	70	17	70	55	88	36	70	22	-
Gap		34		31		40		31		33		42		27		54		53		33		34		-
High	18	62	19	70	14	75	27	88	13	62	4	52	22	76	35	-	8	83	29	-	11	35	7	-
Gap		44		41		61		61		49		48		54		-		75		-		24		-

A – Without Physical Disability; D – With Disability

**Table 12: Reading - Poverty Achievement Gap (Student Not Receiving Free/Reduced Lunch vs. Students who Receive)
*Distinguished & Proficient***

	JCPS		Fayette		Hardin		Christian		Hendersn		Shelby		Covingtn		Ownsbro		B.Green		Paducah		Bardstwn		Hazard	
	<i>NP</i>	<i>P</i>	<i>NP</i>	<i>P</i>	<i>NP</i>	<i>P</i>	<i>NP</i>	<i>P</i>	<i>NP</i>	<i>P</i>	<i>NP</i>	<i>P</i>	<i>NP</i>	<i>P</i>	<i>NP</i>	<i>P</i>	<i>NP</i>	<i>P</i>	<i>NP</i>	<i>P</i>	<i>NP</i>	<i>P</i>	<i>NP</i>	<i>P</i>
Elementary	72	40	73	36	68	51	68	40	77	58	70	40	58	32	82	69	88	43	93	54	47	29	61	37
Gap		-32		-37		-17		-28		-19		-30		-26		-13		-45		-39		-18		-24
Middle	65	31	74	36	63	44	53	36	69	39	65	30	46	28	73	48	87	51	72	43	40	17	76	34
<i>Gap</i>		-34		-38		-19		-17		-30		-35		-18		-25		-36		-29		-23		-42
High	38	13	50	17	31	16	34	18	28	10	33	7	19	15	55	21	46	22	58	13	31	13	54	9
<i>Gap</i>		-25		-33		-15		-16		-18		-26		-4		-34		-24		-45		-18		-45

NP – Not in Poverty; *P* – In Poverty

Novice

	JCPS		Fayette		Hardin		Christian		Hendersn		Shelby		Covingtn		Ownsbro		B.Green		Paducah		Bardstwn		Hazard	
	<i>NP</i>	<i>P</i>	<i>NP</i>	<i>P</i>	<i>NP</i>	<i>P</i>	<i>NP</i>	<i>P</i>	<i>NP</i>	<i>P</i>	<i>NP</i>	<i>P</i>	<i>NP</i>	<i>P</i>	<i>NP</i>	<i>P</i>	<i>NP</i>	<i>P</i>	<i>NP</i>	<i>P</i>	<i>NP</i>	<i>P</i>	<i>NP</i>	<i>P</i>
Elementary	9	30	7	27	12	20	12	32	5	12	10	30	20	37	3	10	3	26	4	18	22	36	22	48
Gap		21		20		8		20		7		20		17		7		23		14		14		26
Middle	9	28	6	21	5	17	12	23	6	17	5	25	17	30	7	19	3	7	7	11	22	49	6	17
<i>Gap</i>		19		15		12		11		11		20		13		12		4		4		27		11
High	14	32	10	31	15	29	15	31	11	35	9	32	29	39	3	16	9	35	9	24	23	44	3	10
<i>Gap</i>		18		21		14		16		24		21		10		13		26		15		21		7

NP – Not in Poverty; *P* – In Poverty

Table 13: Mathematics - Poverty Achievement Gap (Student Not Receiving Free/Reduced Lunch vs. Students who Receive)
Distinguished & Proficient

	JCPS		Fayette		Hardin		Christian		Hendersn		Shelby		Covingtn		Ownsbro		B.Green		Paducah		Bardstwn		Hazard	
	<i>NP</i>	<i>P</i>	<i>NP</i>	<i>P</i>	<i>NP</i>	<i>P</i>	<i>NP</i>	<i>P</i>	<i>NP</i>	<i>P</i>	<i>NP</i>	<i>P</i>	<i>NP</i>	<i>P</i>	<i>NP</i>	<i>P</i>	<i>NP</i>	<i>P</i>	<i>NP</i>	<i>P</i>	<i>NP</i>	<i>P</i>	<i>NP</i>	<i>P</i>
Elementary	52	21	58	20	39	23	41	19	40	21	48	26	30	17	55	24	67	20	70	20	27	11	39	16
Gap		-31		-38		-16		-22		-19		-22		-13		-31		-47		50		-16		-23
Middle	33	8	47	11	29	13	28	9	31	10	39	15	13	5	41	22	62	11	54	19	26	13	55	24
<i>Gap</i>		-25		-36		-16		-19		-21		-24		-8		-19		-51		-33		-13		-31
High	43	12	53	18	30	16	34	14	30	11	37	7	21	7	49	20	46	10	49	8	59	31	38	17
<i>Gap</i>		-31		-35		-14		-20		-19		-30		-14		-29		-36		-41		-28		-21

NP – Not in Poverty; *P* – In Poverty

Novice

	JCPS		Fayette		Hardin		Christian		Hendersn		Shelby		Covingtn		Ownsbro		B.Green		Paducah		Bardstwn		Hazard	
	<i>NP</i>	<i>P</i>	<i>NP</i>	<i>P</i>	<i>NP</i>	<i>P</i>	<i>NP</i>	<i>P</i>	<i>NP</i>	<i>P</i>	<i>NP</i>	<i>P</i>	<i>NP</i>	<i>P</i>	<i>NP</i>	<i>P</i>	<i>NP</i>	<i>P</i>	<i>NP</i>	<i>P</i>	<i>NP</i>	<i>P</i>	<i>NP</i>	<i>P</i>
Elementary	21	48	15	49	25	42	25	49	24	43	22	44	29	54	15	48	12	59	17	48	45	58	27	52
Gap		27		34		17		24		9		22		25		33		47		31		13		25
Middle	26	59	17	50	24	47	30	56	21	48	14	44	45	72	16	37	13	46	16	43	22	30	6	14
<i>Gap</i>		33		33		23		26		27		30		27		21		33		27		8		8
High	30	62	19	50	35	56	32	62	32	54	31	48	50	69	25	44	18	61	24	61	13	18	25	48
<i>Gap</i>		32		31		21		30		22		17		19		19		43		37		5		23

NP – Not in Poverty; *P* – In Poverty

**Table 14: Writing - Poverty Achievement Gap (Student Not Receiving Free/Reduced Lunch vs. Students who Receive)
*Distinguished & Proficient***

	JCPS		Fayette		Hardin		Christian		Hendersn		Shelby		Covingtn		Ownsbro		B.Green		Paducah		Bardstwn		Hazard	
	<i>NP</i>	<i>P</i>	<i>NP</i>	<i>P</i>	<i>NP</i>	<i>P</i>	<i>NP</i>	<i>P</i>	<i>NP</i>	<i>P</i>	<i>NP</i>	<i>P</i>	<i>NP</i>	<i>P</i>	<i>NP</i>	<i>P</i>	<i>NP</i>	<i>P</i>	<i>NP</i>	<i>P</i>	<i>NP</i>	<i>P</i>	<i>NP</i>	<i>P</i>
Elementary	39	19	29	9	26	17	28	13	42	27	24	8	7	6	67	36	64	22	60	23	29	12	49	30
Gap		-20		-20		-11		-15		-15		-16		-1		-31		-42		-37		-17		-19
Middle	17	4	21	4	9	4	13	4	18	4	28	7	12	1	45	13	48	11	25	3	32	9	32	6
<i>Gap</i>		-13		-17		-5		-9		-14		-21		-11		-32		-37		-22		-23		-26
High	35	17	42	11	30	15	30	12	38	9	45	17	39	19	40	8	50	14	43	0	32	15	50	16
<i>Gap</i>		-18		-31		-15		-18		-29		-28		-20		-32		-36		-42		-17		-34

NP – Not in Poverty; *P* – In Poverty

Novice

	JCPS		Fayette		Hardin		Christian		Hendersn		Shelby		Covingtn		Ownsbro		B.Green		Paducah		Bardstwn		Hazard	
	<i>NP</i>	<i>P</i>	<i>NP</i>	<i>P</i>	<i>NP</i>	<i>P</i>	<i>NP</i>	<i>P</i>	<i>NP</i>	<i>P</i>	<i>NP</i>	<i>P</i>	<i>NP</i>	<i>P</i>	<i>NP</i>	<i>P</i>	<i>NP</i>	<i>P</i>	<i>NP</i>	<i>P</i>	<i>NP</i>	<i>P</i>	<i>NP</i>	<i>P</i>
Elementary	8	22	19	45	16	20	21	37	6	14	13	38	48	63	1	6	3	21	0	23	39	58	4	19
Gap		14		26		4		16		8		25		15		5		19		23		19		15
Middle	42	73	31	68	44	62	47	65	31	63	24	49	66	78	10	24	10	38	31	74	30	53	13	46
<i>Gap</i>		31		37		18		18		32		25		12		14		28		43		23		33
High	17	32	17	44	18	23	23	46	12	37	4	31	19	34	26	54	7	23	23	47	11	18	7	26
Gap		15		27		5		23		25		27		15		28		16		24		7		19

NP – Not in Poverty; *P* – In Poverty

Table 15: Reading - Race Achievement Gap (White vs. African American)
Distinguished & Proficient

	JCPS		Fayette		Hardin		Christian		Hendersn		Shelby		Covington		Ownsbro		B.Green		Paducah		Bardstwn		Hazard	
	W	A	W	A	W	A	W	A	W	A	W	A	W	A	W	A	W	A	W	A	W	A	W	A
Elementary	64	38	68	35	61	46	61	32	71	38	63	39	43	23	79	65	78	38	68	57	39	32	58	-
Gap		-26		-33		-15		-29		-33		-24		-20		-14		-40		-11		-7		-
Middle	59	30	70	37	57	44	51	30	60	36	59	21	36	22	62	47	80	52	70	35	39	18	65	-
Gap		-29		-33		-13		-21		-24		-38		-14		-15		-28		-35		-21		-
High	36	12	48	18	29	16	34	13	25	8	31	3	17	12	43	19	46	22	54	16	32	7	42	-
Gap		-24		-30		-13		-21		-17		-28		-5		-24		-24		-38		-25		-

W – White; A – African American

Novice

	JCPS		Fayette		Hardin		Christian		Hendersn		Shelby		Covington		Ownsbro		B.Green		Paducah		Bardstwn		Hazard	
	W	A	W	A	W	A	W	A	W	A	W	A	W	A	W	A	W	A	W	A	W	A	W	A
Elementary	13	33	10	27	15	22	17	37	6	25	13	29	28	42	5	20	8	26	11	19	26	47	27	-
Gap		20		17		7		20		19		16		14		15		18		8		21		-
Middle	12	29	7	23	10	13	12	28	9	21	9	28	24	33	12	26	5	3	5	14	24	46	7	-
Gap		27		16		3		16		12		19		9		14		-2		9		22		-
High	14	33	10	30	17	26	14	38	16	38	11	32	31	48	7	19	14	30	8	26	23	53	6	-
Gap		19		20		9		24		22		21		17		12		16		18		30		-

W – White; A – African American

Table 16: Mathematics - Race Achievement Gap (White vs. African American)
Distinguished & Proficient

	JCPS		Fayette		Hardin		Christian		Hendersn		Shelby		Covingtn		Ownsbro		B.Green		Paducah		Bardstwn		Hazard	
	W	A	W	A	W	A	W	A	W	A	W	A	W	A	W	A	W	A	W	A	W	A	W	A
Elementary	44	18	52	17	35	15	35	14	32	18	47	14	25	10	41	10	58	18	58	16	22	9	25	30
Gap		-26		-35		-20		-21		-24		-33		-15		-31		-40		-42		-13		5
Middle	29	7	43	11	26	12	24	6	25	6	35	13	11	0	33	13	48	13	51	17	20	19	43	-
Gap		-22		-32		-14		-18		-19		-22		-11		-20		-35		-34		-1		-
High	43	12	54	16	30	9	34	8	29	5	36	9	15	9	40	12	42	6	50	9	49	25	37	8
Gap		-31		-38		-21		-26		-25		-27		-6		-28		-36		-41		-24		-29

W – White; A – African American

Novice

	JCPS		Fayette		Hardin		Christian		Hendersn		Shelby		Covingtn		Ownsbro		B.Green		Paducah		Bardstwn		Hazard	
	W	A	W	A	W	A	W	A	W	A	W	A	W	A	W	A	W	A	W	A	W	A	W	A
Elementary	25	53	18	54	30	46	31	58	32	50	25	64	40	68	32	57	22	64	24	52	48	63	36	50
Gap		28		36		16		27		18		39		28		25		42		28		15		14
Middle	31	60	19	52	29	51	35	62	29	62	18	41	53	90	26	39	21	47	19	45	20	45	7	-
Gap		29		33		22		27		33		22		37		13		26		26		25		-
High	28	65	19	52	34	64	32	71	32	71	30	57	57	69	27	63	23	59	22	60	11	31	24	75
Gap		37		33		30		39		39		27		12		36		36		38		20		51

W – White; A – African American

Table 17: Writing - Race Achievement Gap (White vs. African American)
Distinguished & Proficient

	JCPS		Fayette		Hardin		Christian		Hendersn		Shelby		Covingtn		Ownsbro		B.Green		Paducah		Bardstwn		Hazard	
	W	A	W	A	W	A	W	A	W	A	W	A	W	A	W	A	W	A	W	A	W	A	W	A
Elementary	34	19	25	8	23	18	25	9	35	41	19	11	7	3	47	43	54	22	37	27	36	5	45	-
Gap		-15		-17		-5		-16		6		-8		-4		-4		-32		-10		-31		-
Middle	15	4	19	3	8	3	9	6	13	7	24	0	5	0	29	19	41	15	20	2	23	6	21	-
<i>Gap</i>		-11		-16		-5		-3		-6		-24		-5		-10		-26		-18		-17		-
High	37	16	43	10	30	13	32	5	35	12	45	22	34	11	33	5	48	11	49	8	23	18	42	-
<i>Gap</i>		-21		-33		-17		-27		-23		-23		-23		-28		-37		-41		-5		-

W – White; A – African American

Novice

	JCPS		Fayette		Hardin		Christian		Hendersn		Shelby		Covingtn		Ownsbro		B.Green		Paducah		Bardstwn		Hazard	
	W	A	W	A	W	A	W	A	W	A	W	A	W	A	W	A	W	A	W	A	W	A	W	A
Elementary	12	22	24	44	16	24	27	39	9	11	19	34	56	65	5	2	9	18	11	23	36	55	6	-
Gap		10		20		8		12		2		15		9		-3		9		12		19		-
Middle	48	74	35	68	49	64	51	67	41	66	26	65	74	82	18	21	18	30	45	69	36	61	19	-
<i>Gap</i>		26		33		15		16		25		39		8		3		12		24		26		-
High	16	32	15	46	17	27	21	51	14	37	6	19	22	45	29	74	7	31	14	47	15	21	9	-
Gap		16		31		10		30		23		13		23		45		24		33		6		-

W – White; A – African American

Table 18: Reading - Race Achievement Gap (White vs. Hispanic)
Distinguished & Proficient

	JCPS		Fayette		Hardin		Christian		Hendersn		Shelby		Covingtn		Ownsbro		B.Green		Paducah		Bardstwn		Hazard	
	W	H	W	H	W	H	W	H	W	H	W	H	W	H	W	H	W	H	W	H	W	H	W	H
Elementary	64	50	68	38	61	58	61	73	71	-	63	25	43	-	79	-	78	33	68	-	39	-	58	-
Gap		-14		-30		-3		12		-		-38		-		-		-45		-		-		-
Middle	59	43	70	35	57	46	51	-	60	-	59	23	36	-	62	-	80	-	70	-	39	-	65	-
Gap		-16		-35		-11		-		-		-36		-		-		-		-		-		-
High	36	17	48	27	29	24	34	-	25	-	31	31	17	-	43	-	46	0	54	-	32	-	42	-
Gap		-19		-21		-5		-		-		0		-		-		-46		-		-		-

W – White; H – Hispanic

Novice

	JCPS		Fayette		Hardin		Christian		Hendersn		Shelby		Covingtn		Ownsbro		B.Green		Paducah		Bardstwn		Hazard	
	W	H	W	H	W	H	W	H	W	H	W	H	W	H	W	H	W	H	W	H	W	H	W	H
Elementary	13	19	10	39	15	21	17	18	6	-	13	43	28	-	5	-	8	50	11	-	26	-	27	-
Gap		6		29		6		1		-		30		-		-		42		-		-		-
Middle	12	21	7	22	10	19	12	-	9	-	9	23	24	-	12	-	5	-	5	-	24	-	7	-
Gap		9		15		9		-		-		14		-		-		-		-		-		-
High	14	21	10	18	17	27	14	-	16	-	11	8	31	-	7	-	14	41	8	-	23	-	6	-
Gap		7		8		10		-		-		-3		-		-		27		-		-		-

W – White; H – Hispanic

Table 19: Mathematics - Race Achievement Gap (White vs. Hispanic)
Distinguished & Proficient

	JCPS		Fayette		Hardin		Christian		Hendersn		Shelby		Covingtn		Ownsbro		B.Green		Paducah		Bardstwn		Hazard	
	W	H	W	H	W	H	W	H	W	H	W	H	W	H	W	H	W	H	W	H	W	H	W	H
Elementary	44	22	52	27	35	8	35	47	32	-	47	36	25	-	41	-	58	36	58	-	22	-	25	-
Gap		-22		-25		-27		12		-		-11		-		-		-22		-		-		-
Middle	29	25	43	20	26	17	24	-	25	20	35	7	11	-	33	-	48	0	51	-	20	-	43	-
Gap		-4		-23		-9		-		-5		-28		-		-		-		-		-		-
High	43	17	54	25	30	29	34	-	29	-	36	-	15	-	40	-	42	-	50	-	49	-	37	-
Gap		-26		-29		-11		-		-		-		-		-		-		-		-		-

W – White; H – Hispanic

Novice

	JCPS		Fayette		Hardin		Christian		Hendersn		Shelby		Covingtn		Ownsbro		B.Green		Paducah		Bardstwn		Hazard	
	W	H	W	H	W	H	W	H	W	H	W	H	W	H	W	H	W	H	W	H	W	H	W	H
Elementary	25	33	18	43	30	46	31	29	32	-	25	36	40	-	32	-	22	45	24	-	48	-	36	-
Gap		8		25		16		-2		-		1		-		-		23		-		-		-
Middle	31	47	19	32	29	46	35	-	29	50	18	64	53	-	26	-	21	70	19	-	20	-	7	-
Gap		16		13		17		-		21		42		-		-		49		-		-		-
High	28	53	19	54	34	46	32	-	32	-	30	-	57	-	27	-	23	-	22	-	11	-	24	-
Gap		25		33		12		-		-		-		-		-		-		-		-		-

W – White; H – Hispanic

Table 20: Writing - Race Achievement Gap (White vs. Hispanic)
Distinguished & Proficient

	JCPS		Fayette		Hardin		Christian		Hendersn		Shelby		Covingtn		Ownsbro		B.Green		Paducah		Bardstwn		Hazard	
	W	H	W	H	W	H	W	H	W	H	W	H	W	H	W	H	W	H	W	H	W	H	W	H
Elementary	34	32	25	11	23	0	25	10	35	-	19	4	7	-	47	-	54	25	37	-	36	-	45	-
Gap		-2		-14		-23		-15		-		-15		-		-		-29		-		-		-
Middle	15	2	19	9	8	0	9	-	13	-	24	0	5	-	29	-	41	-	20	-	23	-	21	-
<i>Gap</i>		-13		-10		-8		-		-		-24		-		-		-		-		-		-
High	37	30	43	35	30	20	32	10	35	-	45	-	34	-	33	-	48	-	49	-	23	-	42	-
<i>Gap</i>		-7		-8		-10		-22		-		-		-		-		-		-		-		-

W – White; H – Hispanic

Novice

	JCPS		Fayette		Hardin		Christian		Hendersn		Shelby		Covingtn		Ownsbro		B.Green		Paducah		Bardstwn		Hazard	
	W	H	W	H	W	H	W	H	W	H	W	H	W	H	W	H	W	H	W	H	W	H	W	H
Elementary	12	17	24	46	16	39	27	40	9	-	19	50	56	-	5	-	9	17	11	-	36	-	6	-
Gap		5		22		23		13		-		31		-		-		8		-		-		-
Middle	48	57	35	65	49	73	51	-	41	-	26	55	74	-	18	-	18	-	45	-	36	-	19	-
<i>Gap</i>		9		30		24		-		-		29		-		-		-		-		-		-
High	16	20	15	15	17	24	21	50	14	-	6	-	22	-	29	-	7	-	14	-	15	-	9	-
Gap		4		0		7		29		-		-		-		-		-		-		-		-

W – White; H – Hispanic

Table 21: Reading - Gender Achievement Gap (Male vs. Female)
Distinguished & Proficient

	JCPS		Fayette		Hardin		Christian		Hendersn		Shelby		Covingtn		Ownsbro		B.Green		Paducah		Bardstwn		Hazard	
	<i>M</i>	<i>F</i>	<i>M</i>	<i>F</i>	<i>M</i>	<i>F</i>	<i>M</i>	<i>F</i>	<i>M</i>	<i>F</i>	<i>M</i>	<i>F</i>	<i>M</i>	<i>F</i>	<i>M</i>	<i>F</i>	<i>M</i>	<i>F</i>	<i>M</i>	<i>F</i>	<i>M</i>	<i>F</i>	<i>M</i>	<i>F</i>
Elementary	49	60	55	63	54	65	46	57	66	69	57	56	34	42	67	85	57	72	58	68	30	47	43	62
Gap		11		8		11		11		3		-1		8		18		15		10		17		19
Middle	40	56	55	67	44	66	34	53	48	65	48	61	25	43	49	58	65	73	42	61	38	40	52	67
<i>Gap</i>		16		12		22		19		17		13		18		9		9		19		2		15
High	23	36	34	50	18	35	20	33	18	30	22	35	13	20	31	44	27	46	35	34	25	22	34	43
<i>Gap</i>		13		16		17		13		12		13		7		13		19		-1		-3		9

M – Male; *F* – Female

Novice

	JCPS		Fayette		Hardin		Christian		Hendersn		Shelby		Covingtn		Ownsbro		B.Green		Paducah		Bardstwn		Hazard	
	<i>M</i>	<i>F</i>	<i>M</i>	<i>F</i>	<i>M</i>	<i>F</i>	<i>M</i>	<i>F</i>	<i>M</i>	<i>F</i>	<i>M</i>	<i>F</i>	<i>M</i>	<i>F</i>	<i>M</i>	<i>F</i>	<i>M</i>	<i>F</i>	<i>M</i>	<i>F</i>	<i>M</i>	<i>F</i>	<i>M</i>	<i>F</i>
Elementary	25	17	17	13	19	12	27	21	8	8	18	18	33	30	10	4	18	12	17	13	35	25	38	26
Gap		-8		-4		-7		-6		0		0		-3		-6		-6		-4		-10		-12
Middle	23	13	15	7	14	6	23	14	13	7	16	6	32	20	17	10	6	3	14	5	38	23	16	4
<i>Gap</i>		-10		-8		-8		-9		-6		-10		-12		-7		-3		-9		-15		-12
High	26	13	20	10	25	11	30	13	24	11	19	6	40	28	15	4	26	12	24	9	30	34	8	4
<i>Gap</i>		-13		-10		-14		-17		-13		-13		-12		-11		-14		-15		4		-4

M – Male; *F* – Female

Table 22: Mathematics - Gender Achievement Gap (Male vs. Female)
Distinguished & Proficient

	JCPS		Fayette		Hardin		Christian		Hendersn		Shelby		Covingt		Ownsbro		B.Green		Paducah		Bardstwn		Hazard	
	<i>M</i>	<i>F</i>	<i>M</i>	<i>F</i>	<i>M</i>	<i>F</i>	<i>M</i>	<i>F</i>	<i>M</i>	<i>F</i>	<i>M</i>	<i>F</i>	<i>M</i>	<i>F</i>	<i>M</i>	<i>F</i>	<i>M</i>	<i>F</i>	<i>M</i>	<i>F</i>	<i>M</i>	<i>F</i>	<i>M</i>	<i>F</i>
Elementary	34	35	43	45	29	35	26	27	32	31	42	39	19	21	31	39	50	42	34	38	24	11	24	33
Gap	-1		-2		-6		-1		1		3		-3		-8		8		-4		13		-9	
Middle	21	22	35	36	23	22	16	20	25	20	34	29	8	7	30	32	35	37	28	39	13	27	37	47
<i>Gap</i>	-1		-1		1		-4		5		5		-1		-2		-2		-11		-14		-10	
High	33	33	48	46	27	27	24	28	26	26	32	34	16	12	39	30	29	39	39	28	39	50	29	36
<i>Gap</i>	0		2		0		-4		0		-2		4		9		-10		11		-11		-7	

M – Male; *F* – Female

Novice

	JCPS		Fayette		Hardin		Christian		Hendersn		Shelby		Covingt		Ownsbro		B.Green		Paducah		Bardstwn		Hazard	
	<i>M</i>	<i>F</i>	<i>M</i>	<i>F</i>	<i>M</i>	<i>F</i>	<i>M</i>	<i>F</i>	<i>M</i>	<i>F</i>	<i>M</i>	<i>F</i>	<i>M</i>	<i>F</i>	<i>M</i>	<i>F</i>	<i>M</i>	<i>F</i>	<i>M</i>	<i>F</i>	<i>M</i>	<i>F</i>	<i>M</i>	<i>F</i>
Elementary	36	35	27	28	35	29	43	39	35	32	29	30	48	48	43	29	32	36	38	39	52	52	34	40
Gap	1		-1		6		4		3		-1		0		14		4		-1		0		-6	
Middle	42	41	29	25	36	29	46	43	34	30	23	20	63	63	30	25	32	28	37	26	36	13	3	10
<i>Gap</i>	1		4		7		3		4		3		0		5		4		11		23		-7	
High	39	38	25	25	43	37	49	40	38	35	39	27	57	62	36	33	32	32	39	39	22	8	36	27
<i>Gap</i>	1		0		6		9		3		12		-5		3		0		0		14		9	

M – Male; *F* – Female

Table 23: Writing - Gender Achievement Gap (Male vs. Female)
Distinguished & Proficient

	JCPS		Fayette		Hardin		Christian		Hendersn		Shelby		Covingtn		Ownsbro		B.Green		Paducah		Bardstwn		Hazard	
	<i>M</i>	<i>F</i>	<i>M</i>	<i>F</i>	<i>M</i>	<i>F</i>	<i>M</i>	<i>F</i>	<i>M</i>	<i>F</i>	<i>M</i>	<i>F</i>	<i>M</i>	<i>F</i>	<i>M</i>	<i>F</i>	<i>M</i>	<i>F</i>	<i>M</i>	<i>F</i>	<i>M</i>	<i>F</i>	<i>M</i>	<i>F</i>
Elementary	24	33	17	25	18	26	14	26	33	36	14	20	6	7	44	49	33	52	23	42	13	35	35	49
Gap	-9		-8		-8		-12		-3		-6		-1		-5		-19		-9		-22		-14	
Middle	8	14	12	19	4	10	5	11	9	15	15	29	2	7	19	35	28	32	9	13	20	20	12	30
<i>Gap</i>	-6		-7		-6		-6		-6		-14		-5		-26		-4		-4		0		-8	
High	25	37	31	41	19	34	15	28	29	35	31	52	25	34	23	31	39	39	21	42	22	23	40	45
<i>Gap</i>	-12		-10		-15		-13		-6		-21		-9		-8		0		-21		-1		-5	

M – Male; *F* – Female

Novice

	JCPS		Fayette		Hardin		Christian		Hendersn		Shelby		Covingtn		Ownsbro		B.Green		Paducah		Bardstwn		Hazard	
	<i>M</i>	<i>F</i>	<i>M</i>	<i>F</i>	<i>M</i>	<i>F</i>	<i>M</i>	<i>F</i>	<i>M</i>	<i>F</i>	<i>M</i>	<i>F</i>	<i>M</i>	<i>F</i>	<i>M</i>	<i>F</i>	<i>M</i>	<i>F</i>	<i>M</i>	<i>F</i>	<i>M</i>	<i>F</i>	<i>M</i>	<i>F</i>
Elementary	19	12	33	25	20	15	36	25	11	8	28	18	64	54	7	2	18	7	22	14	60	30	8	10
Gap	7		8		5		11		3		10		10		5		11		8		30		-2	
Middle	65	50	50	37	62	41	67	48	55	35	37	25	80	69	23	13	25	24	63	52	48	35	40	13
<i>Gap</i>	15		13		21		19		20		12		11		10		1		11		13		27	
High	26	16	26	18	27	11	43	22	27	8	12	2	30	22	44	30	14	9	39	19	21	9	18	5
<i>Gap</i>	10		8		16		21		19		10		8		14		5		20		12		13	

M – Male; *F* – Female

COMMONWEALTH OF KENTUCKY
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Louisville

Beverly L. Watts
Executive Director

Under the Kentucky Civil Rights Act of 1966, KRS 344.190 (11), the KCHR has the duty “to make studies appropriate to effectuate the purpose and policies of this chapter and to make the results thereof available to the public.



Kentucky Commission on Human Rights
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<http://www.state.ky.us/agencies2/kchr/>