Overview Of Achievement Gaps In Kentucky Schools

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Foreword

For over 25 years, the Office of Education Accountability has played an important role in reporting on education reform in the Commonwealth of Kentucky. Today, the 16 employees of OEA strive to provide fair and equitable accountability, documenting the challenges and opportunities confronting Kentucky’s education system.

In December of 2015, the Education Assessment and Accountability Review Subcommittee approved the OEA 2016 study agenda, which included the report you’re reading now. This report discusses differences in educational outcomes that are associated with students’ race, ethnicity, economic background, and learning disabilities. Students who are, on average, lower achieving include black students, Hispanic students, students with disabilities, students in the process of learning English, and students who are eligible for free or reduced-price lunch (FRPL) because their family incomes are below or near the poverty line. While outcomes have improved for most of these groups in recent years, none have improved at a rate sufficient to close achievement gaps with their higher-achieving peers; gaps between some groups have widened slightly. This report discusses some of the challenges that make it difficult to close gaps, and some strategies that have been successful in Kentucky schools.

The Legislative Research Commission comprises more than 400 professionals who work to make the legislative process accessible, informative, and relevant to the citizens of the Commonwealth. OEA is an important part of that mission. Thank you for your interest in this report and for your interest in achievement gaps in Kentucky.

David A. Byerman
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Legislative Research Commission
Frankfort, Kentucky
<date>
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Summary

Policy makers and educators in Kentucky and the nation have long struggled to understand and address differences in educational outcomes that are associated with students’ race, ethnicity, economic background, and learning disabilities. Students who are, on average, lower achieving include black students, Hispanic students, students with disabilities, students in the process of learning English, and students eligible for free or reduced-price lunch (FRPL) because their family incomes are below or near the poverty line. While outcomes have improved for most of these groups in recent years, none have improved at a rate sufficient to close achievement gaps with their higher-achieving peers; gaps between some groups have widened slightly.

As required by the federal Every Student Succeeds Act of 2015 (ESSA), Kentucky educators, policy makers, and other stakeholders are in the process of revising existing accountability and assessment policies that are designed to close achievement gaps. This process provides a good opportunity to review Kentucky data related to achievement gaps.

This study provides a broad overview of achievement gaps in Kentucky, including:
- National, state, school, and district data for specific student groups;
- Factors—especially strong district and school leaders—that appear to influence gap reduction in Kentucky districts and schools; and
- Challenges—such as student mobility, homelessness, and teacher attrition—that have a disproportionate impact on “gap group” students; that is, students from groups that are, on average, lower-achieving.

The study shows that many schools have narrowed achievement gaps between the state average for all students and averages for students in the school who are FRPL, Hispanic, or black. The percentage of schools that have closed gaps is greater for Hispanic students (26 percent) and FRPL students (19 percent) than it is for black students (10 percent). The study also shows that, whereas Hispanic students in Kentucky are outperforming their national counterparts in most grades, black students are not.

Data included in this study show clearly that schools can have great impact on the outcomes of gap group students, even in the highest-poverty schools. However, gaps are much more likely to be closed in lower- versus higher-poverty schools. No highest-poverty middle or high schools (those with greater than 75 percent FRPL) in the Commonwealth have closed gaps for Hispanic or black students. Highest-poverty schools have high percentages of students who are considered homeless (11 percent), are chronically absent (18 percent), or move among schools in the same academic year (17 percent). Some scholars suggest that the social and economic challenges experienced by students in highest-poverty schools affect educational outcomes to such an extent that achievement gaps cannot be closed by policies focused on schools alone. These scholars argue that policies must address issues such as economic opportunity, intergenerational poverty, housing, health care, and nutrition.

Social and economic context may be affecting outcomes of Kentucky gap group students in ways not yet understood. For example, it is unclear why Hispanic students in Kentucky are
outperforming their national counterparts, whereas black students in Kentucky are not. However, it is notable that, statewide, a greater percentage of black students (42 percent) attend highest-poverty schools compared to Hispanic students (33 percent). Also, Hispanic students are more geographically dispersed among Kentucky districts than are black students; Hispanic students are less likely than black students to attend majority nonwhite schools (27 percent versus 44 percent).

In schools that have higher overall achievement, gap group students, too, have higher achievement relative to the state average. However, gaps are often large when comparing gap students to nongap students within the same schools. Many higher-achieving schools have in-school gaps of greater than 30 percentage points between white and black or white and Hispanic students attending the same school. In these schools, black or Hispanic students may be performing at higher levels than black or Hispanic students in the state but at much lower levels than white students in the school. About one fourth of schools recognized as schools of distinction have in-school gaps of greater than 30 percentage points between black and white students. Under the state’s current system of identifying schools with large achievement gaps, schools with large in-school gaps are not likely to be identified if their overall performance is high.

Recommendation 3.1

In revising regulations related to school accountability, KDE may wish to consider establishing criteria for identifying a highest reward category that recognizes schools with high performance and small in-school achievement gaps. The department may also wish to consider establishing a consequence category, in addition to the targeted assistance category, for schools with in-school achievement gaps that far exceed the state’s.

Recommendation 5.1

The Kentucky Department of Education is required by KRS 158.649 to provide schools with an “equity analysis that shall identify substantive differences among the various groups” of students identified in the statute. This analysis should clearly identify specific in-school gaps among these groups and might provide comparisons with in-school gaps typical in the state. In addition, KDE should share with each local board the equity reports for their district’s schools.

Annual district and school planning is a central component of state policies aimed at reducing achievement gaps. Staff analysis of annual school planning documents required of Kentucky schools and districts indicates that many are not complying with the requirements of KRS 158.649 to establish gap reduction targets and associated strategies for particular student groups. For example, while females substantially outperform males in reading, especially at the high school level, none of the plans analyzed for this report mentioned gender gaps. Further, because of the many components required by regulation for inclusion in each plan, plans are often lengthy and can regarded by teachers and principals primarily as compliance documents. Many of the broad gap reduction goals and strategies promoted through KRS 158.649 overlap with
policies that will be required by ESSA. However, the specific ways in which local leaders are required to implement these goals may differ slightly. To the extent that multiple and overlapping requirements present a burden to local leaders, it may be beneficial to align the requirements of the new accountability system, ESSA, and KRS 158.649 and to reduce the specific elements required in all planning documents.

Recommendation 5.2

In revising 703 KAR 5:225, KDE should consider specifically incorporating key elements of KRS 158.649 that are not required by ESSA. For example, the regulation should require schools and districts, through CSIPs and CDIPs, to identify in-school achievement gaps and include strategies to address them.

Recommendation 5.3

After the new accountability system is finalized, the General Assembly may wish to revise KRS 158.649 to align requirements and reduce duplication and overlap with the new accountability system.

Recommendation 5.4

In revising 703 KAR 5:225, KDE should consider reducing the number of specific elements that are required for inclusion in every CSIP.

Recommendation 5.5

In revising 703 KAR 5:225, KDE should consider making explicit the role of district leaders in monitoring CSIPs, especially those of schools identified for consequence. Some of the elements currently required in all CSIPs could instead be included as elements that must be systematically monitored in all schools.

OEA site visits to Kentucky districts and schools suggest that, absent strong district and school leadership, annual planning in itself is unlikely to promote changes that reduce gaps. Consistent with national research, this study finds that strong local leadership is the factor most likely to affect school outcomes, including gap closure. Schools and districts with effective leaders take advantage of KDE assistance—including assistance available from KDE’s extensive, cross-agency effort to reduce the number of students identified as novice in the state assessment system—and use all available resources inside and outside schools to improve learning.

Leaders in highest-poverty schools may require skills and dispositions that go beyond what is necessary in other schools. It is especially important, for example, that these leaders are able to build relationships, hold teachers and students accountable even as they face great challenges, and support teachers and students in meeting the particular challenges they face. Strong school leadership is also a critical factor affecting teachers’ willingness to remain in a school from one year to another. Thus, it might be especially important in schools with higher percentages of
nonwhite students; teachers leave these schools at almost twice the rate that they leave schools with lower percentages of nonwhite students.

Recognizing the critical role of local leaders, ESSA provides flexibility within several funds for districts or other entities to develop programs to attract, retain, and support leaders working in schools with large achievement gaps. This provides an opportunity for stakeholders across the state to address the challenges of leaders in these schools. The Kentucky Department of Education might encourage these efforts by identifying leadership programs as one of the criteria considered in the disbursement of various ESSA funds. It might also encourage districts, universities, and other eligible identities to apply for national priority grants available to support leaders in highest need schools.

**Recommendation 5.6**

In establishing decision criteria for awarding Title I school improvement grant awards under ESSA, KDE should consider the degree to which districts and other entities propose to recruit, prepare, and support principals and other school leaders in highest poverty schools.

**Recommendation 5.7**

The Kentucky Department of Education should encourage eligible entities to apply for ESSA national priority grant awards available under Section 2243 to fund school leadership recruitment and support.

Any criteria established in connection with allocation of federal funds through ESSA should be easily accessible on the KDE website. This report describes the complex policy environment that may have, in the last five years, made it difficult for KDE to keep stakeholders updated about the source of actions taken by the department in carrying out federal regulations or guidance.

**Recommendation 1.1**

The Kentucky Department of Education should include up-to-date information on its website about methods used to identify schools for comprehensive improvement or targeted assistance under ESSA, and methods used to distribute federal funds to those schools.

**Recommendation 1.2**

The Kentucky Department of Education should report to the Education Assessment and Accountability Review Subcommittee instances of conflict between ESSA law, regulation, or guidance, and state law or regulation.
Chapter 1

Introduction And Background

For over half a century, education policymakers, educators, and researchers have struggled to understand and address differences in educational outcomes among various student groups. The difference between educational outcomes of traditionally lower-achieving student groups and their higher-achieving peers is commonly called the achievement gap. Students for which substantial gaps exist include black students, Hispanic students, and students who qualify for federal free or reduced-price lunch programs (FRPL), have limited English proficiency (LEP), or are students with disabilities who are eligible for special education and individualized education plans (IEP). Consistent with current state regulations, this report will refer to students who are, on average, lower performing as gap group students.¹

Achievement gaps have consequences not only for individual students but also for the health of the state and national economy. In a global labor market that demands increasing levels of education to compete, low-achieving students face reduced economic opportunities. Researchers have estimated that achievement gaps may account for one half or more of income wage gaps.¹ Moreover, communities in which students are low-achieving suffer economic disadvantages.²

Policies and programs aimed at improving the performance of low-income students or students with disabilities have been in place for decades. Beginning in the early 21st century, both state and federal policies became more focused on holding schools and districts accountable for closing gaps by setting achievement goals for gap group students and assessing progress towards those goals. Despite these efforts, little progress has been made in the commonwealth or the nation toward closing achievement gaps in recent decades. While gap group students in Kentucky and the nation have made steady progress in reading and math, they are not progressing at rates sufficient to close achievement gaps; in fact, gaps between black and white students have widened slightly in the commonwealth.

¹ Excellence with Equity, a recent report on the achievement gap by the Prichard Committee For Academic Excellence, has suggested that the term “gap group” fails to adequately recognize students’ needs or strengths. The report suggests consideration of alternative terms such as “scholars” or “children of promise.”
This study provides a broad overview of Kentucky gaps compared to the nation and uses Kentucky data to examine policy issues identified in national research. It also describes factors that appear to affect gap closure in Kentucky districts and schools.

This study provides a broad overview of achievement gaps at the state and national levels and looks in greater detail at differences in gap group students’ performance among Kentucky schools and districts. In addition, it describes Kentucky data relevant to issues that have been associated with achievement gaps in the national literature. These issues include distribution of highly qualified teachers, student homelessness and mobility, and chronic absence. The study also describes the role of Kentucky’s assessment and accountability system in identifying schools with achievement gaps. Finally, the study describes factors that appear to affect gap closure in districts and schools, including the extent to which local leaders focus on gap group data in the development and implementation of annual planning documents.

Description of the Study

In December of 2015, the Education Assessment and Accountability Review Subcommittee requested that the Office of Education Accountability (OEA) analyze Kentucky’s educational achievement gaps and compare them to gaps found in other states. The committee also requested that OEA examine gaps existing in schools classified as Proficient, Distinguished, or Schools of Distinction, analyze Kentucky data related to policy issues associated with the achievement gap, and compare gap group outcomes with respect to high school graduation and other achievement measures.

Data Used For The Study

In conducting the report, staff relied primarily on data from the Kentucky Department of Education (KDE). These included state, district, and school-level data taken from KDE’s school report cards from the 2011-2012 through 2014-2015 school years; student-level data on assessment outcomes, demographic characteristics, attendance, and course enrollment from the Kentucky Student Information System; educator staffing data from KDE’s Professional Staff Data and Classified Staff Data; and Comprehensive School Improvement Plans (CSIPs) and district plans (CDIPs). In addition, staff analyzed data from the National Assessment of Educational Progress (NAEP), Educational Professional Standards Board (EPSB), and Kentucky’s Teaching, Empowering, Leading and Learning (TELL) survey of Kentucky educators. Staff also interviewed KDE staff who support districts and schools in closing achievement gaps, interviewed educators in
10 Kentucky schools within 6 districts, and observed classroom instruction in 6 schools.

Unless otherwise noted, school- and district-level data in this report include only Kentucky public school students enrolled in A1 elementary or secondary schools for which student outcomes are reported in the state’s accountability system.\(^b\)

**Limitations**

It is impossible in a single report to address the many policy issues associated with achievement gaps.\(^c\) It is also not possible to do justice to efforts made currently or in the past by the Kentucky Department of Education (KDE), school districts, philanthropies, and citizen groups to address achievement gaps. The study does not attempt to do so, but instead focuses primarily on the range of issues requested by the committee.

**Organization of the Report**

The remainder of Chapter 1 describes state and federal policies related directly to achievement gaps, state and federal funding relevant to gap group students, and KDE’s role in assisting schools and districts to close gaps. The chapter also provides numbers, percentages, and distribution of gap group students among districts and schools in the commonwealth.

Chapter 2 reports state-level graduate rates and assessment rates for gap group students and compares educational outcomes of Kentucky gap group students with those in the nation.

Chapter 3 describes variations in performance among FRPL, black, and Hispanic students in Kentucky schools. The chapter also describes relationships between school-level poverty and outcomes for these student groups. It concludes by describing the state’s current system for identifying schools with achievement gaps and provides data on gaps present in schools with various performance designations in the state’s accountability system.

\(^b\) A1 schools are those not operated by or as part of another school. Examples of schools that are not A1 schools are alternative schools or career and technical schools.

\(^c\) Two issues of particular interest to scholars and advocates that are not addressed by this report are early childhood education and course assignment of gap group students to advanced courses.
Chapter 4 provides Kentucky data on policy challenges that have been demonstrated in national literature to be associated with achievement gaps. These include equitable distribution of teachers; disproportionate disciplinary consequences for some students; and chronic absence, homelessness, and student mobility, especially in the state’s highest-poverty schools.

Chapter 5 describes implementation issues associated with KRS 158.649, which requires schools to address gaps by setting targets and by implementing and monitoring strategies through comprehensive school improvement plans (CSIPs). It also describes key factors related to gap closure—especially school and district leadership—as identified in OEA site visits, as well as ongoing challenges reported by educators.

**Major Conclusions**

1. At the state and national levels, achievement gaps are generally largest for IEP and LEP students. On average, gaps are smaller for Hispanic students than they are for black students. Among all student groups, those eligible for free or reduced-price lunch are lower-performing than their non-eligible peers. Females outperform males in reading and math, but gaps are greater in reading, especially in high school.

2. Kentucky students in most gap groups perform at higher levels than their national counterparts in reading on National Assessment of Education Progress (NAEP) tests in the 4th grade, and FRPL and Hispanic outperform their national counterparts in 8th grade reading. Hispanic students in Kentucky outperform the national average for Hispanics on almost every measure, including ACT college readiness measures. Compared to national averages for black students, the performance of Kentucky’s black students is significantly higher on NAEP’s 4th grade reading test, similar on other NAEP tests, and slightly lower on the ACT.

3. Kentucky’s high school graduation rates for gap group students are among the highest in the nation, and the commonwealth has among the smallest graduation gaps between FRPL and all students.

4. Achievement gaps exist in every state and virtually all districts in the US. At the state level, Kentucky’s gaps are smaller than are most states’, especially gaps between Hispanic and white students; however, in the past several decades, while gaps between white
and black students closed slightly at the national level, these gaps increased somewhat in Kentucky. The jurisdiction with the highest performance for black and Hispanic students as well as some of the smallest achievement gaps are the schools operated by the Department of Defense for children from military families.

5. Kentucky data show that, on average, gap group students perform better in lowest- versus highest-poverty schools. Among schools with the highest poverty levels (those exceeding 75 percent lunch eligibility), there are relatively few schools where students in gap groups perform at or above the state average for all students, and there are no middle or high schools in which black or Hispanic students do so. Black and Hispanic students are more likely than whites to attend highest-poverty schools; however, they are less likely to attend highest-poverty schools than their black and Hispanic counterparts in other states.

6. Social and economic context may be affecting outcomes of Kentucky gap group students in ways not yet understood. For example, it is unclear why Hispanic students in Kentucky are outperforming their national counterparts whereas black students in Kentucky are not. However, it is notable that, statewide, a greater percentage of black students (42 percent) attend highest-poverty schools compared to Hispanic students (33 percent). Also, enrollment of Hispanic versus black students is more dispersed among Kentucky districts and Hispanic students are less likely than black students to attend majority nonwhite schools (27 percent versus 44 percent).

7. In-school gaps tend to be larger in higher performing schools. Gaps between white students and black or Hispanic students in the same school are, on average, greater in schools with positive classifications in the state’s accountability system. Any classification system that identifies achievement gaps based on state rankings of individual gap groups’ performance may fail to identify schools with large in-school gaps.

8. Higher-poverty schools have much higher rates of homelessness, chronic absence, and student mobility, all of which are associated with lower educational outcomes. In addition, higher poverty schools that also have higher percentages of nonwhite students experience challenges attracting and retaining teachers.

9. Districts and schools do not appear to comply fully with the requirements of KRS 158.649 to set biennial achievement gap reduction targets for various gap groups and to describe related
strategies on consolidated district and school improvement plans (CDIPs and CSIPs). Most set goals based on the unduplicated gap group which combines students from all gap groups in the state’s accountability system, and many do not report goals for specific gap groups, even when substantial gaps exist.

10. Site visit data indicate that, while CDIPS and CSIPS can be valuable improvement tools, they do not appear sufficient, absent other factors, to generate improvement. Consistent with education research and several previous OEA studies, effective school and district leadership explain schools’ success, including success in closing achievement gaps, more than any other factor. Schools and districts with effective leaders take advantage of KDE assistance and all available resources inside and outside schools to improve learning. Schools lacking effective leadership are much less likely to benefit from interventions and assistance efforts.

State Policies

Many Kentucky statutes and regulations are broadly related to the challenge of closing achievement gaps by ensuring that all students have access to rigorous curricula and well-trained teachers, and that students who struggle are provided with supports.

Kentucky laws related specifically to achievement gaps are primarily those associated with the state’s assessment and accountability system. Kentucky law also requires, independent of the accountability system, that schools and districts set and monitor gap reduction goals.

The performance of gap group students is calculated separately in the state accountability system.

The three Kentucky regulations and laws relating specifically to achievement gaps are described below; portions of the text directly relevant to achievement gaps are provided in Appendix A.

- 703 KAR 5:200 includes, in the state accountability system for districts and schools, a separate measure—the unduplicated gap group—for students who belong to one or more of the following groups: Black, Hispanic, American Indian or Native American, Limited English Proficiency, students eligible for free or reduced-price lunch; and students with IEPs.

- 703 KAR 5:225 describes the system to identify schools and districts with large gaps as “focus” and establishes consequences for focus status (mostly associated with comprehensive planning) and conditions for exiting focus status. Schools can be identified as focus according to two
methods: one based on the performance of students in the unduplicated gap group, and the other on the performance of individual gap groups. The regulation also describes methods to identify as “priority” the state’s lowest-performing schools\textsuperscript{d}.

- KRS 158.649, independent of the state accountability system, requires schools to set, and districts to approve and monitor, gap reduction goals for particular student groups. It also requires CSIPs to include gap-reducing strategies, boards to monitor schools’ progress toward meeting goals, and superintendents to report to the Commissioner of Education those schools not meeting goals.

**Federal Policies**

The federal government funds a number of programs, described later in this chapter, related to improving learning outcomes for various gap group students. As with state policies, federal policies related specifically to achievement gaps are associated primarily with assessment and accountability policies.

**The Every Student Succeeds Act (ESSA)**

States’ assessment and accountability policies must comply with the federal Elementary and Secondary Education Act (ESEA), which was formerly known as the No Child Left Behind Act (NCLB) and was reauthorized in 2015 as the Every Student Succeeds Act (ESSA). Prior to reauthorization and beginning in 2011, Kentucky and most states were exempted from some of the requirements of NCLB in exchange for conditions described in a waiver from the United States Department of Education (USED).

Like NCLB, ESSA requires states to implement assessment and accountability systems that measure achievement gaps in state graduation rates and on assessments in required grades and subjects, and to publicly report these gaps.\textsuperscript{e} As did NCLB, ESSA requires KDE to set school performance goals for student gap groups and to identify schools with overall low performance or

\textsuperscript{d} While priority schools are not identified specifically for achievement gaps of particular gap groups, they generally have student populations comprised primarily of gap group students.

\textsuperscript{e} Unlike NCLB, ESSA requires that the system include at least one nonacademic measure of school or student success, such as student or educator engagement or student access to advanced coursework.
low-performing gap groups. It also specifies state, district, and school responsibilities to improve identified schools.

However, ESSA’s requirements differ from NCLB and the USED waiver in several ways:

- NCLB required that students from all gap groups meet the same long-term goals at the same rate, whereas ESSA allows states to set goals and rates separately for each gap group; these goals must take into account the significant progress needed to close gaps in some groups.
- The USED waiver allowed states to set goals based on an unduplicated gap group that combined students from all gap groups into a single measure; ESSA requires that goals be set and monitored for each gap group.
- NCLB required schools identified as lowest-achieving to implement one of several prescriptive intervention options; ESSA places responsibility for developing plans for lowest-achieving schools (now called comprehensive improvement schools) on districts; districts and states are charged with monitoring plans.
- ESSA requires schools identified for targeted assistance because of the persistent low performance of one of their gap groups to develop and implement plans to address gap group performance; districts must monitor these plans. If schools fail to improve after a number of years, KDE can intervene to require more specific actions. If gap groups sustain very low performance, targeted assistance schools must undergo a comprehensive school improvement process.¹
- ESSA sets additional elements required for public reporting on district and school report cards. These include reporting of each gap group’s progress towards meeting interim goals and reporting LEP students’ progress towards English language proficiency.

Optional Elements. ESSA provides states with some policy options that are relevant to gap group populations:

- KDE may elect to reserve up to 3 percent of Title I funds in order to provide districts with grants to implement direct

¹KRS 160.345 outlines methods to identify persistently low-achieving schools and requires that schools so identified implement one of four prescribed intervention options. This statute is aligned with guidelines associated with federal 1003 (g) funds for school improvement under NCLB. These funds and specific intervention options do not exist in ESSA. Rather, the act gives identified schools the authority to design their own improvement plans to be approved by KDE. Thus, KRS 160.345 requires schools to implement options for which there will no longer be dedicated funding in 2017-2018.
student services. These could include tutoring, increasing students’ access to advanced courses through online courses or other means, or facilitating enrollment of students in low-performing schools in other higher-performing public schools.

- All students must be tested on grade-level standards, but KDE can elect to use computer adaptive tests that allow students also to be tested on below- or above-grade level items in order to measure student growth.
- States may include extended-year adjusted cohort graduation rates as one component of the accountability system. Many students with disabilities are included in the extended-year rates.

**State Funds Relevant To Closing Achievement Gaps**

No state funds are allocated for the specific purpose of assisting schools and districts to close achievement gaps, but many funding streams are relevant to teaching and learning of gap group students.

**Specific Student Groups**

Funds that support education of gap group students include but are not limited to: Support Educational Excellence in Kentucky (SEEK) allocations to districts that provide additional per-pupil funding for IEP, LEP, and FRPL students; Family Resource and Youth Services Centers (FRYSC) funding to support schools’ efforts to remove nonacademic barriers to learning; Read to Achieve and Math Achievement Funds that support intervention programs for struggling learners in higher-poverty schools; Extended School Services (ESS) that fund additional support for struggling students; and preschool grants that support education of lower-income students (4-year-old students only) and those with disabilities (3- and 4-year-old students).

**School Improvement**

The Commonwealth School Improvement Fund (CSIF) was created to support improvement strategies in lower-achieving schools. Beginning in 2008, the General Assembly permitted the Commissioner of Education, through budget language, to use the funds to support schools or meet federal requirements. In 2015, funds allocated to the CSIF were $1,358,800.
In the past, the state’s Highly Skilled Educator (HSE) program provided assistance to many lower achieving schools; the HSE program last received funding in 2011, when $5.2 million was allocated. Since then, KDE has supported its school improvement efforts primarily with Title I federal school improvement funds, described below.

**Federal Funds Relevant To Closing Achievement Gaps**

**Specific Student Groups**

The majority of federal funding for gap group students comes from Title I funding provided to districts and schools with high numbers or percentages of low-income children and from federal Individuals with Disabilities Education Act funds for students with disabilities. Additional sources of federal funds include the following programs: Title II that aims to increase teacher and principal quality, with special emphasis on ensuring that gap group students are not taught at higher rates by new, inexperienced, or out-of-field teachers; Title III to support LEP students; McKinney-Vento Homeless Assistance Act to support homeless students; and 21st Century Community Learning Centers which provide out-of-school learning opportunities to lower-income students.

**School Improvement**

Federal 1003 funds, which totaled over $7.4 million in 2016, are allocated to support schools identified as low-performing (priority) or schools with low-performing gap groups (focus) in the state’s accountability system. Federal guidelines provide KDE with some discretion in the way these funds are allocated within the state to support schools. As stipulated by ESSA, federal methods for funding school improvement will change in 2017-2018. Beginning in that year, KDE must reserve 7 percent of federal Title I allocations for school improvement. Of that 7 percent, at least 95 percent must be distributed to districts or other local entities to support school improvement efforts for schools identified for comprehensive improvement or targeted assistance. KDE can elect to distribute funds by formula or on a competitive basis.
Accessibility Of Information About KDE Implementation Of ESEA

As described above, KDE must comply with federal law in the way it identifies schools for school improvement and distributes school improvement funds. It is important that state stakeholders understand the implementation of these federal requirements and associated regulations and guidance, even when they are independent of state laws or regulations.

Beginning in 2011, federal guidance for implementation of NCLB changed, as Kentucky and other states were granted waivers from some of the accountability and assessment requirements of the law. The conditions associated with waivers changed during this period, as did associated federal guidance. During these years, USED also created incentives, in the form of Race To The Top grants, for states to pass legislation aligned with priorities established by USED.

The complex policy environment created by NCLB, USED waiver requirements, and Race To The Top incentives may have made it difficult for states to keep stakeholders updated about the source of particular requirements or decisions. For example, the methods KDE used to identify focus schools and distribute federal funding were not always the same as methods described on its website.

Under ESSA, KDE will be responsible for distributing federal school improvement funds to districts, based either on competitive grants or formula awards. Districts may use the school improvement funds for locally-developed evidence-based
strategies or to pay for assistance from KDE-approved providers. Districts can also elect that KDE use district-allocated funds to pay for KDE school intervention and support staff. It is important that districts with schools identified for comprehensive improvement or targeted assistance be aware of all options available. The flexibility afforded districts according to the new law is inconsistent with KRS 160.345, which requires specific intervention options for identified schools.

**Recommendation 1.1**

The Kentucky Department of Education should include up-to-date information on its website about methods used to identify schools for comprehensive improvement or targeted assistance under ESSA, and methods used to distribute federal funds to those schools.

**Recommendation 1.2**

The Kentucky Department of Education should report to the Education Assessment and Accountability Review Subcommittee instances of conflict between ESSA law, regulation, or guidance, and state law or regulation.

**KDE Role In Supporting Districts And Schools To Close Gaps**

KDE staff across many divisions assist districts and schools to improve teaching, learning and other support of gap group students. KDE assistance includes, but is not limited to, support for comprehensive school and district planning; curriculum, instruction and assessment; students with disabilities; career and technical education programs; alternative education; Family Resource and Youth Service Centers; Extended School Services; and math and reading interventions.

**Novice Reduction**

Beginning in December of 2014, KDE initiated an extensive cross-agency effort, involving 45 staff, to focus the department’s efforts to help close achievement gaps. This effort resulted in the department’s Novice Reduction for Gap Closure initiative which is intended to assist districts and schools in ensuring that all students have access to high quality classroom instruction, including instruction that is differentiated to meet the needs of individual students.
students. While the effort is intended to improve outcomes for all students, it focuses specifically on those classified as novice, which is the lowest performance category on state assessments. Novice students are disproportionately gap group students.

**KDE’s Role.** In developing the program, the department reviewed all Kentucky statutes and regulations relevant to the achievement gap. This review concluded that, because Kentucky allows districts and schools substantial control over educational decisions, KDE’s role is to assist districts and schools in their efforts to close gaps, while accountability for and control over educational programming for gap group students resides at the local level.

**Change in the Accountability System.** To encourage local leaders to focus on novice reduction, KDE made changes, effective in the 2016 school year, to the gap component of the accountability system, to award additional points to schools and districts that reduce the percentage of gap group students in the novice category. Appendix A contains the novice reduction calculation as described in 703 KAR 5:225.

**Novice Reduction Staff.** KDE’s novice reduction program is housed in its Office of Continuous Improvement and Support. This office has a novice reduction coordinator and five regional novice reduction coaches to assist schools upon request, especially those identified as focus because they have large achievement gaps. In addition, the cross-agency novice reduction team has provided training to 3,500 educators and has coached leadership teams. Training is focused on the essential elements of high quality instruction, including how to help teachers improve instruction. In addition, it supports districts and schools in carrying out essential elements of school and district planning, including data disaggregation and analysis, curriculum alignment, goal-setting, and implementing goals through 30-60-90-day plans.

**KDE Guidance.** KDE’s Commissioner’s Raising Achievement/Closing Gaps Council produced “Guidelines for Closing The Gaps of All Children,” a guidance document intended to assist districts, schools, and school council members in comprehensive planning to close gaps. This guidance is referenced in the administrative regulation that guides comprehensive district and school planning (703 KAR 5:225) and has been made available to school councils in a variety of formats. The document encourages all school and community stakeholders to work together in ensuring the following: data are disaggregated; students have access to challenging curriculum with appropriate supports;
there is a culture of high expectations; and there is open communication among schools, districts and the department. The document includes guidance for schools to collect data on nonacademic indicators, such as attendance, and to work together with community groups to address concerns.

Table 1.1 provides examples of some of the programs and supports coordinated by KDE to assist schools in closing achievement gaps.

Table 1.1
Examples Of KDE Programs/Supports That Assist Districts And Schools In Novice Reduction And Gap Closure

| Positive Behavioral Intervention Systems | Program supports schools in creating effective school-wide disciplinary practices. Educators in more than 500 schools have been trained in this system. |
| Teacher and Principal Professional Growth And Effectiveness Systems | Systems assist local leaders in using fair evaluation systems that promote professional growth and improvements in the quality of instruction in all classrooms and in the quality of school leadership. In connection with these systems, KDE is also assisting schools in the collection of student survey data related to instruction and school climate. |
| Math/Literacy Design Collaboratives | Instructional program uses collaboratively designed teaching modules that challenge students to use knowledge from many disciplines to accomplish work tasks. |
| Co-teaching For Gap Reduction; | Training program assists schools interested in making special education co-teaching models more effective through coaching by principals. |
| School Report Cards | In addition to disaggregated outcome, discipline, and program identification data for all gap group students, school report cards provide data on many issues related to equity among schools. These include teacher working conditions as described on the biannual TellKY survey; teachers’ years of experience and national board certification; and attrition. |

Source: Staff interviews with KDE program officers and staff analysis of documents on KDE website.

KDE education recovery staff provide more intensive assistance in priority schools that have been identified for sustained low performance. These schools comprise mostly gap group students.

Priority Schools

KDE education recovery staff provide more intensive assistance in priority schools that have been identified for sustained low performance. While these schools are not identified because of gap group performance, the populations in these schools are generally comprised primarily of gap group students.
A previous OEA report concluded that assistance was most effective when it led to changes in school leadership and culture. The report also noted that existing forms of assistance failed to address key challenges facing schools with deep, systemic challenges.

Priority school interventions and support are not addressed in this report, but are described in OEA’s 2010 report, *Assistance to Low-achieving Schools and Districts*. The report concluded that assistance was most effective when it led to changes in school leadership and culture. The report also noted that existing forms of assistance failed to address key challenges facing schools with deep, systemic challenges. These challenges included attraction and retention of teachers and leaders with requisite skills, and difficulties taking steps necessary to raise academic expectations absent strong community support.

**Hub Schools.** KDE has established three regional hub schools to serve as demonstration sites that can provide guidance to focus schools and others struggling to close achievement gaps. KDE has established three regional hub schools, which are former priority schools that have been successful at reducing achievement gaps: East Carter High School, Pulaski County High School, and Franklin-Simpson High school. These schools serve as demonstration sites that can provide guidance to focus schools and others struggling to close achievement gaps. They have been visited by teams of educators from across the state.

**State Demographic Data**

This report analyzes achievement gaps based on students’ racial or ethnic group as well as their eligibility for federal free or reduced-price lunch, limited English proficiency, and special education programs. For context, this section discusses the percentages of Kentucky students who fall into these categories.

**Race and Ethnicity**

The overwhelming majority (79 percent) of students are white. Of the nonwhite students, the majority (10.5 percent) are black, and 5.5 percent are Hispanic. Table 1.1 shows the number and percentage of Kentucky public school students by race and ethnicity. The overwhelming majority (79 percent) of students are white. Of the nonwhite students, the majority (10.5 percent) are black, and 5.5 percent are Hispanic.
Table 1.2
Number and Percentage Of Students
By Race And Ethnicity, 2015

<table>
<thead>
<tr>
<th></th>
<th>Number of Students</th>
<th>Percentage of Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>White</td>
<td>518,270</td>
<td>79.0</td>
</tr>
<tr>
<td>Black</td>
<td>69,110</td>
<td>10.5</td>
</tr>
<tr>
<td>Hispanic</td>
<td>36,356</td>
<td>5.5</td>
</tr>
<tr>
<td>Two or more</td>
<td>20,224</td>
<td>3.1</td>
</tr>
<tr>
<td>Asian</td>
<td>10270</td>
<td>1.6</td>
</tr>
<tr>
<td>American Indian</td>
<td>789</td>
<td>0.1</td>
</tr>
<tr>
<td>Hawaiian</td>
<td>623</td>
<td>0.1</td>
</tr>
</tbody>
</table>

Source: Staff calculation based on data from the Kentucky Department of Education

Change Over Time. Between 2005 and 2015, the percentage of nonwhite students in the state grew from 16 to 21 percent. That increase reflects a 3.5 percentage point increase in the percentage of students who are Hispanic and a slight increase in the percentage of students of other races. The percentage of students who are black did not change substantially during this time period.

Program Eligibility

Eligibility for free or reduced-price lunch is often considered a proxy measure for students living in poverty. To be eligible for special education programs, students must be identified with a disability that is demonstrated to have an adverse effect on educational performance; eligible students are entitled to specialized instruction that includes an individualized education plan (IEP). To be eligible for LEP programs, students must have English language difficulties that affect their achievement on state tests or in the classroom. Appendix B contains more specific definitions of eligibility for these programs. It also shows differences among gap groups in identification for special education programs.

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Between 2005 and 2015, the percentage of nonwhite students in the state grew from 16 to 21 percent. That increase reflects a 3.5 percentage point increase in the percentage of students who are Hispanic and a slight increase in the percentage of students of other races.
Table 1.2 shows the number and percentage of students eligible for federal free or reduced-price lunch, special education, or limited English proficiency programs. A total of 60 percent of students are eligible for free or reduced-price lunch, with the overwhelming majority of these students eligible for free lunch. Over thirteen percent, or about 1 in 6, of Kentucky students are IEP students, while only a small portion (3.3 percent) are LEP students. Students can be eligible for one or more of these programs.

### Table 1.3

Number and Percentage Of Students Eligible For Free Or Reduced-price Lunch, Special Education And Limited English Proficiency Programs, 2015

<table>
<thead>
<tr>
<th>Program Eligibility</th>
<th>Number of Students</th>
<th>Percent of Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Free or reduced-priced lunch (FRPL)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Free</td>
<td>356,963</td>
<td>54.4</td>
</tr>
<tr>
<td>Reduced</td>
<td>36,407</td>
<td>5.6</td>
</tr>
<tr>
<td>Individualized Education Program (IEP)</td>
<td>88,090</td>
<td>13.4</td>
</tr>
<tr>
<td>Limited English Proficiency (LEP)</td>
<td>21,155</td>
<td>3.3</td>
</tr>
</tbody>
</table>

Note: Program eligibilities reported in the table are not mutually exclusive. A student can be eligible for one or more of the programs.

Source: Staff analysis of data from the Kentucky Department of Education.

**Gap Group Students That Are Eligible For Free or Reduced-price Lunch.** Most gap group students are counted in more than one category. For example the percentage of students counted in a gap group but also eligible for free or reduced-price lunch is 81 percent for black students, 83 percent for Hispanic students and 55 percent for white students.

**IEP And LEP Students Are, By Definition, Affected By Conditions That Negatively Impact Performance.** Because this report examines the relationship between program eligibility and educational outcomes, it is important to note that program eligibility for IEP and LEP students is based, in part, on the fact that students have a disability or have language issues that negatively impact their school performance. As required by 707 KAR 1:300, students are not eligible for special education until they have been provided three successively intensified tiers of reading and math intervention, after which they are still not making appropriate academic progress. Federal eligibility criteria for LEP students require that students’ English language difficulties affect their performance on state assessments and in the
classroom. (See Appendix B). For this reason, it should be expected that these students, on average, perform below non-eligible students on state assessments.

**Kentucky Percentage Of Gap Group Students Compared To Nation**

Compared to the nation, a greater percentage of Kentucky students are white and a smaller percentage are racial or ethnic minorities. In 2013, 80 percent of Kentucky students were white, compared to 50 percent in the nation; 11 percent of Kentucky students were black, compared to 16 percent for the nation; 5 percent of Kentucky students were Hispanic, compared to 24 percent for the nation; and 4 percent of Kentucky students were other races, or two or more races, compared to 9 percent for the nation.

Compared to the nation in 2013, a greater percentage of Kentucky students were eligible for free or reduced-price lunch (55 versus 50 percent) and special education (14 versus 13 percent), whereas fewer were eligible for LEP programs (3 versus 9 percent).

**Demographic Distribution of Students Among Districts And Schools**

**IEP and LEP.** IEP students are enrolled in districts across the state but LEP students are concentrated largely in 10 districts.

**Free or Reduced-price Lunch.** Students eligible for free or reduced-price lunch are enrolled in districts throughout the state and are a majority of students in most districts.

**Nonwhite Students.** Nonwhite students are enrolled primarily in a small percentage of the state’s districts. The state’s two largest districts, Jefferson County and Fayette County, enroll half of the state’s nonwhite students, while nonwhite students make up less than 10 percent in the majority of districts and schools.

Compared to the nation, a greater percentage of Kentucky students are white and a smaller percentage are racial or ethnic minorities.
While most black and Hispanic students are enrolled in a small number of districts, Hispanic students are more dispersed among the state’s districts than are black students. Together, the 10 districts with the greatest number of black students enroll 78 percent of the state’s black students. Together, the 10 districts with the greatest number of Hispanic students enroll 59 percent of those students.

**Demographic Differences Among Schools In Large Districts.** Students eligible for free or reduced-price lunch and nonwhite students are often enrolled at much different rates among schools within the state’s larger districts. For example, a single district might contain an elementary school in which greater than 75 percent of students are both nonwhite and FRPL, as well as an elementary school in which fewer than 25 percent of students are nonwhite or FRPL. Because nonwhite students are enrolled primarily in certain districts and, within those districts, are often enrolled in schools with higher percentages of nonwhite students, they are much more likely to attend majority nonwhite schools than are white students. Most schools are majority nonwhite are also higher poverty schools.

**Enrollment in Highest Percentage Poverty, Highest Percentage Nonwhite Schools, By Gap Group**

Figure 1.A shows the percentage of students, by gap group, who are enrolled in schools in which greater than 50 percent of students are nonwhite and also shows the percentage of students enrolled in the highest poverty schools in which greater than 75 percent of students are eligible for free or reduced-price lunch. Black students are much more likely than other groups to attend schools with greater than 50 percent of nonwhite students and also much more likely to attend the highest-poverty schools. Hispanic students are less likely than black students to attend schools in which greater than 50 percent of students are nonwhite and much less likely than black students to attend the highest-poverty schools. Students eligible for free or reduced-price lunch are also less likely than black students to attend the highest-poverty schools.
Figure 1.A
Enrollment in Majority Nonwhite And Highest-poverty Schools
By Gap Group, 2015

Source: Staff analysis of data from the Kentucky Department of Education.

Kentucky has a much smaller percentage of schools in which greater than 75 percent of students are nonwhite than the nation. Only 2 percent of Kentucky schools (28 schools) schools meet this criterion, compared to 16 percent in the nation.³

Effects Of Poverty On Performance

Figure 1.A, above, provides context for school performance data described in Chapter 3. The Chapter shows that students from any gap group who attend higher-poverty schools are much less likely to achieve at or above state averages than are students from lower-poverty schools. Also related to Figure 1.A are Chapter 4 data showing higher rates of student mobility, homelessness, and chronic absence in highest-poverty schools.

For over half a century, researchers have documented strong relationships between parent income and student achievement. These effects, which are strongest in the highest-poverty schools and pronounced by the time children enter kindergarten, may be getting stronger, especially for students at the highest and lowest end of the income gap. Factors linked in research to the effects of poverty on performance include poor nutrition and health; access to resources such as books, computers, museums, and economic and social opportunities through family and friends; and exposure to conditions, such as homelessness, violence, and parental stress and depression, that harm children’s psychological well-
Data showing strong and persistent effects of poverty on performance have sparked debates among researchers, policymakers, and advocates about the degree to which achievement gaps are likely to be closed entirely by what happens in schools. Education advocates for gap group students cite examples of higher-poverty, higher-performing schools as evidence of progress that can be made in all schools to close gaps. Some scholars argue that disparities in educational outcomes cannot be addressed entirely by actions taken by educators; schools clearly matter, but additional policies are necessary to address the labor markets and social conditions that appear to be affecting educational performance.²

² Recognizing the many social and environmental factors that can affect educational performance, the federal government created the Federal Promise Neighborhood fund to support community wraparound supports for education. Berea College was awarded a four-year grant totaling nearly $60 million. Grant funds support early childhood specialists who work with families and early childhood educators to promote kindergarten readiness and general wellbeing. Program materials indicate that, since the grant was implemented, kindergarten readiness in the Eastern Kentucky districts supported by the grant has more than doubled from 16 percent in 2013 to 36 percent in 2016.
National comparative data show that most gap group students outperform their national counterparts in 4th grade reading, but results are mixed in higher grades. While Hispanic students in Kentucky generally outperform those in other states, black students in the commonwealth score similar to or below those in other states, with the exception of 4th grade reading. The jurisdiction with the highest performance of black and Hispanic students on NAEP mathematics and reading tests is the Department of Defense Educational Authority schools that serve children from military families.

All Kentucky gap group students graduate at higher rates than their national counterparts. The high graduation rates of Kentucky's gap group students is not mirrored by high performance on academic indicators. For example, while the overwhelming majority of non-gap group students who graduated in 2015 were also college or career ready, just over half of black student graduates and less than one tenth of LEP graduates were college or career ready.

While gap group outcomes have improved over time, they are not improving at rates sufficient to close gaps. In fact, gaps between Kentucky white and black students have increased slightly in the last two decades on NAEP. Further, with the exception of FRPL students, the difference in performance between most gap group students and all students in the state widened slightly between 2012 and 2016, following introduction of the state's new standards and assessments. It is not clear what accounts for these widening gaps. Compared to the nation, Kentucky continues to have smaller gaps between white and black or Hispanic students on NAEP.

State assessment data mirror national data in the lower performance of FRPL students and much lower performance of IEP and LEP students relative to all students. In Kentucky as in the nation, Hispanic students generally outperform black students but do not perform as well as white students. In Kentucky, females generally outperform males, especially in reading at the high school level.
National Assessment of Educational Progress

Tables 2.1 through 2.4 show 2015 NAEP reading and math data for Kentucky gap group students compared to the nation. Compared to their national counterparts, Kentucky gap group students score higher in 4th grade reading and similarly to or above them in 8th grade reading. Like the state as a whole, Kentucky gap group students compare less favorably in 8th grade math. While students in Kentucky generally perform at slightly lower levels than white students in the nation; this may stem from their much higher poverty rate, a well-known predictor of lower educational outcomes.17

Tables 2.1 and 2.2 show 4th grade reading and math scale scores, by gap group, for Kentucky and the nation. Kentucky students in general outperform the nation in 4th grade reading and are not statistically distinguishable from the nation in 4th grade math.

Not all apparent differences shown in the table are statistically significant; statistical significance considers not only the difference between scores but also the sample sizes and variation in scores. In particular, differences for LEP students are often not statistically significant because the sample sizes are small. Groups with statistically significant differences are indicated with an asterisk.

Table 2.1
NAEP 4th Grade Reading, By Gap Group, Kentucky And Nation, 2015

<table>
<thead>
<tr>
<th></th>
<th>All</th>
<th>White</th>
<th>Black</th>
<th>Hispanic</th>
<th>FRPL</th>
<th>IEP</th>
<th>LEP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kentucky</td>
<td>228*</td>
<td>231</td>
<td>212*</td>
<td>216*</td>
<td>219*</td>
<td>203*</td>
<td>201</td>
</tr>
<tr>
<td>Nation</td>
<td>223</td>
<td>232</td>
<td>206</td>
<td>208</td>
<td>209</td>
<td>187</td>
<td>189</td>
</tr>
</tbody>
</table>

Note: NAEP scores are based on samples of students; therefore, differences were tested for statistical significance at the p < .05 level (95% confidence). An asterisk (*) next to Kentucky’s average score indicates that it is significantly higher than that of the nation, while an asterisk next to the nation’s score indicates it is significantly higher than that of Kentucky. All other differences are not statistically significant.

Source: National Center for Education Statistics

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1While each racial and ethnic group has a higher child poverty rate in Kentucky than in the nation, the difference for white children is largest, with 22 percent in poverty in Kentucky compared to 12 percent for the nation. Thus, white children are 1.8 times as likely to live in poverty as those in the nation.
Table 2.2
NAEP 4th Grade Math, By Gap Group, Kentucky And Nation, 2015

<table>
<thead>
<tr>
<th></th>
<th>All</th>
<th>White</th>
<th>Black</th>
<th>Hispanic</th>
<th>FRPL</th>
<th>IEP</th>
<th>LEP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kentucky</td>
<td>242</td>
<td>244</td>
<td>226</td>
<td>234</td>
<td>234*</td>
<td>222</td>
<td>220</td>
</tr>
<tr>
<td>Nation</td>
<td>240</td>
<td>248*</td>
<td>224</td>
<td>230</td>
<td>229</td>
<td>218</td>
<td>218</td>
</tr>
</tbody>
</table>

Note: NAEP scores are based on samples of students; therefore, differences were tested for statistical significance at the p < .05 level (95% confidence). An asterisk (*) next to Kentucky’s average score indicates that it is significantly higher than that of the nation, while an asterisk next to the nation’s score indicates that it is significantly higher than that of Kentucky. All other differences are not statistically significant.

Source: National Center for Education Statistics

Hispanic and FRPL students outperform their national counterparts in reading in the 8th grade, but all gap group students perform similar to or below the nation in 8th grade math.

Table 2.3 and 2.4 show that Hispanic and FRPL students outperform their national counterparts in reading in the 8th grade, while white 8th graders perform less well in both reading and math. Other differences are not significant.

Table 2.3
NAEP 8th Grade Reading, By Gap Group, Kentucky And Nation, 2015

<table>
<thead>
<tr>
<th></th>
<th>All</th>
<th>White</th>
<th>Black</th>
<th>Hispanic</th>
<th>FRPL</th>
<th>IEP</th>
<th>LEP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kentucky</td>
<td>268*</td>
<td>271</td>
<td>247</td>
<td>266*</td>
<td>259*</td>
<td>236</td>
<td>236</td>
</tr>
<tr>
<td>Nation</td>
<td>265</td>
<td>274</td>
<td>248</td>
<td>253</td>
<td>253</td>
<td>233</td>
<td>223</td>
</tr>
</tbody>
</table>

Note: NAEP scores are based on samples of students; therefore, differences were tested for statistical significance at the p < .05 level (95% confidence). An asterisk (*) next to Kentucky’s average score indicates that it is significantly higher than that of the nation, while an asterisk next to the nation’s score indicates that it is significantly higher than that of Kentucky. All other differences are not statistically significant.

Source: National Center for Education Statistics

Table 2.4
NAEP 8th Grade Math, By Gap Group, Kentucky And Nation, 2015

<table>
<thead>
<tr>
<th></th>
<th>All</th>
<th>White</th>
<th>Black</th>
<th>Hispanic</th>
<th>FRPL</th>
<th>IEP</th>
<th>LEP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kentucky</td>
<td>278</td>
<td>281</td>
<td>257</td>
<td>274</td>
<td>268</td>
<td>247</td>
<td>--</td>
</tr>
<tr>
<td>Nation</td>
<td>281*</td>
<td>292*</td>
<td>260</td>
<td>270</td>
<td>268</td>
<td>249</td>
<td>224</td>
</tr>
</tbody>
</table>

Note: NAEP scores are based on samples of students; therefore, differences were tested for statistical significance at the p < .05 level (95% confidence). An asterisk (*) next to Kentucky’s average score indicates that it is significantly higher than that of the nation, while an asterisk next to the nation’s score indicates that it is significantly higher than that of Kentucky. All other differences are not statistically significant.

Source: National Center for Education Statistics

Caution should be exercised in interpreting differences between the performance of IEP students in Kentucky versus the nation because of differences among states in the percentage of students identified and the rate at which these students receive testing accommodations.
Kentucky Gaps Versus Nation And Change Over Time

As shown in Appendix C, NAEP achievement gaps between white and black or Hispanic students are smaller in Kentucky than in the nation, especially gaps between white and Hispanic students. Appendix C also shows that scores for both white and black students have increased over time; however, in the past several decades, gaps between white and black students decreased slightly in the nation but increased for 8th graders in the commonwealth.

Highest Ranking Jurisdiction (DoDEA) And Kentucky Rank, Black And Hispanic Students

It is helpful to examine jurisdictions in which achievement gaps are small, to consider whether any policies or practices in those jurisdictions might be effective and feasible for reducing gaps in Kentucky.

Table 2.5 shows that in both 4th and 8th grade reading and math, the Department of Defense Education Activity (DoDEA) schools have the highest average NAEP scores in reading and math for Hispanic and black students and among the smallest gaps between these students and white students.

Table 2.5 shows that Kentucky’s average score for Hispanic students ranks relatively high compared to that of other states, and in the 8th grade, Kentucky has the smallest gaps between white and Hispanic students in the nation. As noted above, however, Kentucky’s white/Hispanic achievement gaps should be interpreted in light of the relatively low performance of Kentucky’s white students compared to the nation.
Table 2.5
Jurisdiction With Highest Black And Hispanic Scale Scores
And Kentucky Rank Relative To Other Jurisdictions
NAEP Reading And Math, 4th and 8th Grade, 2015

<table>
<thead>
<tr>
<th>Subject</th>
<th>Grade</th>
<th>Highest Scoring Jurisdiction</th>
<th>Highest Scoring State</th>
<th>KY Score Rank</th>
<th>Lowest White-Black Gap*</th>
<th>Highest Scoring Jurisdiction</th>
<th>Highest Scoring State</th>
<th>KY Score Rank</th>
<th>Lowest White-Hispanic Gap**</th>
</tr>
</thead>
<tbody>
<tr>
<td>Math</td>
<td>4th</td>
<td>DoDEA</td>
<td>TX</td>
<td>15</td>
<td>DoDEA</td>
<td>DoDEA</td>
<td>IN</td>
<td>14</td>
<td>LA</td>
</tr>
<tr>
<td></td>
<td>8th</td>
<td>DoDEA</td>
<td>AZ</td>
<td>24</td>
<td>WV</td>
<td>DoDEA</td>
<td>VA</td>
<td>7</td>
<td>KY</td>
</tr>
<tr>
<td>Reading</td>
<td>4th</td>
<td>DoDEA</td>
<td>MA</td>
<td>10</td>
<td>WV</td>
<td>DoDEA</td>
<td>FL</td>
<td>7</td>
<td>DoDEA</td>
</tr>
<tr>
<td></td>
<td>8th</td>
<td>DoDEA</td>
<td>SD</td>
<td>25</td>
<td>DoDEA</td>
<td>DoDEA</td>
<td>KY</td>
<td>2</td>
<td>KY</td>
</tr>
</tbody>
</table>

Note: Jurisdiction rank includes all states, the District of Columbia and the DoDEA.

*The DoDEA ranks 3rd for smallest white/black gap in 4th grade reading and 8th in 8th grade math.

**The DoDEA is among the top 3 jurisdictions with the lowest white/Hispanic gaps in every grade and subject.

Source: Staff calculation based on data from the US Department of Education.

Education researchers have not yet definitively established factors that explain the higher performance and lower gaps of black and Hispanic students in the DoDEA schools. Factors that have been attributed to the success of these schools include some in-school factors and many out-of-school factors.

DoDEA Schools. The DoDEA schools enroll more than 73,000 students in 168 schools that are housed on military bases in foreign countries and also in the US. These schools were founded in 1946, in part, to ensure that children from military families in the US would not have to attend racially segregated schools. Education researchers have not yet definitively established factors that explain the higher performance and lower gaps of black and Hispanic students in the DoDEA schools. Factors that have been attributed to the success of these schools include some in-school factors and many out-of-school factors. These include: stability of at least one family member employed, employer support for education, and relatively less regulation than most public schools. Additional factors include access to high quality health care, nutritional programs and housing; higher rates of teachers with advanced degrees compared to public schools; and mandatory parental involvement. Students in DoDEA schools face challenges, such as frequent moves and separation from parents and family members because of deployment. DoDEA schools may help students face these challenges by serving as community hubs that foster parent involvement.

At a time when educators and policymakers are focusing on how to craft assessment and accountability policies that reduce achievement gaps, it is notable that, as the jurisdiction with the highest-performing black and Hispanic students in the nation, DoDEA schools were not subject to NCLB and will not be subject to ESSA. While DoDEA schools use standardized tests to monitor student learning, including disaggregated reporting by gap groups.
on school report cards, it does not appear to have a system of targets, rewards and consequences based on standardized tests. The DoDEA also monitors school performance using surveys of parents and students.\textsuperscript{12}

It is also interesting to note that, of the high schools in Kentucky with the highest-performing black and Hispanic students, two are in a county that formerly housed a military base.\textsuperscript{j} OEA visited these schools in connection with this study. Unsolicited, educators did not associate the relatively higher performance of their black and Hispanic students with the county’s historical military association. However, when asked, educators reported that the county was popular with ex-military families, many of whom chose to return to the county and raise families after retiring from the military. Educators also observed relatively little social tension and division among white, black, and Hispanic students. They noted a culture in which students were genuinely curious about and welcoming to newcomers in the community.

### Kentucky Gap Groups Versus Other States On ACT

All Kentucky 11\textsuperscript{th} graders take the ACT. While national comparison data are not available for all students in high school, Kentucky students’ scores on the ACT can be compared to other states in which all students take the ACT college readiness test. In 2015, these twelve comparison states were Alabama, Colorado, Illinois, Louisiana, Michigan, Mississippi, Montana, North Carolina, North Dakota, Tennessee, Utah, and Wyoming.

Tables 2.6 through 2.8 show that Kentucky students as a group perform slightly above comparison states in English, at the same level as comparison states in reading, and slightly below comparison states in math. Hispanic students in Kentucky perform above the average for Hispanic students in comparison states whereas black students in Kentucky perform at or below the average for those in comparison states. As with NAEP data, white Kentucky students do not perform as well as those in other states.

\textsuperscript{j} When looking for site visit high schools, staff did not include schools with very small gap group populations or selective admissions criteria.
Table 2.6
Percentage of Graduates Meeting ACT College Readiness Benchmarks in English
Kentucky and Comparison States, 2015

<table>
<thead>
<tr>
<th></th>
<th>Black</th>
<th>Hispanic</th>
<th>White</th>
<th>All Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kentucky</td>
<td>32</td>
<td>47</td>
<td>65</td>
<td>60</td>
</tr>
<tr>
<td>Average</td>
<td>33</td>
<td>44</td>
<td>68</td>
<td>58</td>
</tr>
<tr>
<td>Highest-Performing</td>
<td>(Montana)</td>
<td>(Louisiana)</td>
<td>(Illinois)</td>
<td>(Colorado/Illinois)</td>
</tr>
</tbody>
</table>

Note: College readiness percentages reported in this table are based on the ACT college readiness benchmarks which, at 18 in English are the same as the benchmarks for college readiness in Kentucky, as established by the Council on Postsecondary Education (18).
Source: Staff compilation of state data from ACT College and Career Readiness State Reports, 2015

Table 2.7
Percentage of Graduates Meeting ACT College Readiness Benchmarks in Math
Kentucky and Comparison States, 2015

<table>
<thead>
<tr>
<th></th>
<th>Black</th>
<th>Hispanic</th>
<th>White</th>
<th>All Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kentucky</td>
<td>11</td>
<td>23</td>
<td>35</td>
<td>32</td>
</tr>
<tr>
<td>Average</td>
<td>17</td>
<td>27</td>
<td>41</td>
<td>33</td>
</tr>
<tr>
<td>Highest-Performing</td>
<td>(Colorado)</td>
<td>(Illinois/Louisiana)</td>
<td>(Illinois)</td>
<td>(North Dakota)</td>
</tr>
</tbody>
</table>

Note: College readiness percentages reported in this table are based on the ACT college readiness benchmarks which, at 22 are higher in math than are the benchmarks for college readiness in Kentucky, as established by the Council on Postsecondary Education (19).
Source: Staff compilation of state data from ACT College and Career Readiness State Reports, 2015

Table 2.8
Percentage of Graduates Meeting ACT College Readiness Benchmarks in Reading
Kentucky and Comparison States, 2015

<table>
<thead>
<tr>
<th></th>
<th>Black</th>
<th>Hispanic</th>
<th>White</th>
<th>All Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kentucky</td>
<td>15</td>
<td>31</td>
<td>43</td>
<td>39</td>
</tr>
<tr>
<td>Average</td>
<td>17</td>
<td>27</td>
<td>47</td>
<td>39</td>
</tr>
<tr>
<td>Highest-Performing</td>
<td>(Wyoming)</td>
<td>(Louisiana)</td>
<td>(Colorado)</td>
<td>(Montana/Utah)</td>
</tr>
</tbody>
</table>

Note: College readiness percentages reported in this table are based on the ACT college readiness benchmarks. ACT benchmarks are higher in reading (22) than the benchmarks for college readiness in Kentucky, as established by the Council on Postsecondary Education (20).
Source: Staff compilation of state data from ACT College and Career Readiness State Reports, 2015.

In interpreting high school achievement differences on the ACT among comparison states, it is important to note that, with the exception of Alabama, Kentucky’s graduation rates are higher (including, in almost all cases, for black and Hispanic students) than are those in most comparison states. This means that some of
the students more likely to have lower ACT scores may not be included in the scores for comparison states.\textsuperscript{k}

**Graduation Rates**

Table 2.9 shows that Kentucky’s graduation rate of 88 percent exceeds the national average of 82 percent and that Kentucky’s rate is among the highest in the nation. Graduation rates exceed the nation for every gap group and are especially notable for students eligible for free or reduced-priced lunch. The graduation rate for lunch-eligible students of 84 percent is 9 percentage points higher than the national rate of 75 percent.

**Table 2.9**

<table>
<thead>
<tr>
<th></th>
<th>IEP</th>
<th>LEP</th>
<th>FRPL</th>
<th>Hispanic</th>
<th>Black</th>
<th>White</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Kentucky</strong></td>
<td>88</td>
<td>71</td>
<td>66</td>
<td>84</td>
<td>84</td>
<td>79</td>
</tr>
<tr>
<td><strong>Nation</strong></td>
<td>82</td>
<td>63</td>
<td>63</td>
<td>75</td>
<td>76</td>
<td>73</td>
</tr>
</tbody>
</table>

Source: Staff analysis of data from US Department of Education

**State Assessment and Graduation Data**

In the section that follows, state-level gaps are reported for major student gap groups. Gaps are calculated based on KDE’s measure of students scoring proficient or distinguished in reading and math on the Kentucky Performance Rating for Educational Progress (K-PREP) tests for elementary and middle schools and high school End-of-Course exams in Algebra II and English II for high schools. State-level gaps shown in this section represent the difference between the performance of individual gap groups and the performance of all students in the state. Further comparisons are made with students that are not in any gap groups.

\textsuperscript{k} For state graduation rates by gap group, see National Center for Education Statistics, Public high school 4-year adjusted cohort graduation rate (ACGR), by selected student characteristics and state, 2010-11 through 2013-14. Web. Aug 1, 2016.
**K-PREP Math Results**

**2015 Performance of Gap Groups.** Figure 2.1A below shows the percentage of students scoring either proficient or distinguished on K-PREP math tests during the 2014-15 school year. The figure also shows the relative population sizes associated with the groups; the larger the circle, the larger the population of students. For example, the FRPL group is the largest population, while LEP the smallest. Elementary schools have higher proficiency rates than middle and high schools in reading; the relation between the groups remains fairly consistent in all school levels. Non-Gap students, those not falling in any of the gap classifications, score considerably higher than their peers. Hispanics score consistently higher than their black peers. IEP and LEP students score below their peer groups.
Figure 2.A
Percent of Students Scoring Proficient or Distinguished in Math 2015

Source: Staff analysis of KDE Open House data.

**Longitudinal Analysis.** Figure 2.B shows the trends in students meeting proficiency over the 2012-2015 school years. In elementary school, all groups improved. Results were much more varied for middle and high school students. Non-gap students had higher proficiency rates than their peers, while IEP students and LEP students were the two lowest performing groups. Non-gap students experienced a larger increase in elementary and middle
school over the time period examined than their peer groups, further increasing the gap compared to every other group at elementary and middle school levels. IEP students were the only student group to improve their scores over the four years in high school; additionally black and FRPL students decreased less than non-gap students in high school, reducing the gap.
Figure 2.B
1. Percent of Students Scoring Proficient or Distinguished in Math 2012-15

Source: Staff analysis of KDE Open House data.
Table 2.10 shows the change in the gap between the proficiency rates of selected student groups and the proficiency rates of the entire student population in math from 2012-2015. In elementary and middle school, the gap widened between all student gap groups and non-gap students in math. In high school, the black, FRPL and IEP students made gains relative to non-gap students in math.

<table>
<thead>
<tr>
<th>Group</th>
<th>Elementary Change</th>
<th>Middle Change</th>
<th>High Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-Gap</td>
<td>1.4</td>
<td>1.7</td>
<td>-0.1</td>
</tr>
<tr>
<td>All Students</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Black</td>
<td>-0.3</td>
<td>-1.4</td>
<td>0.2</td>
</tr>
<tr>
<td>Hispanic</td>
<td>-1.2</td>
<td>-0.6</td>
<td>-0.3</td>
</tr>
<tr>
<td>FRPL</td>
<td>0.4</td>
<td>0.5</td>
<td>1.3</td>
</tr>
<tr>
<td>IEP</td>
<td>-3.5</td>
<td>-1.8</td>
<td>4.4</td>
</tr>
<tr>
<td>LEP</td>
<td>-6.9</td>
<td>-5.9</td>
<td>-1.4</td>
</tr>
</tbody>
</table>

Source: Staff analysis of KDE Open House data.

Novice-Distinguished Ratio. Table 2.11 details the relationship between the percentages of students scoring novice compared to those scoring distinguished. For non-gap students in high school math, there is approximately one student scoring novice for every one scoring distinguished. For black students, in the same level and subject, there are almost 15 students scoring novice compared to every one scoring distinguished. For every group there are larger ratios at the high school level compared to elementary school indicating the number of students scoring novice to those scoring distinguished is higher at the high school level. For example, the Novice-Distinguished ratio for black students nearly tripled from 5 for elementary students to 14.8 for those in high school.
Table 2.11
2015 Novice-Distinguished Math Ratio

<table>
<thead>
<tr>
<th>Student Group</th>
<th>Elementary</th>
<th>Middle</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-Gap</td>
<td>0.2</td>
<td>0.2</td>
<td>1.0</td>
</tr>
<tr>
<td>All Students</td>
<td>1.1</td>
<td>1.5</td>
<td>2.8</td>
</tr>
<tr>
<td>White</td>
<td>0.9</td>
<td>1.2</td>
<td>2.5</td>
</tr>
<tr>
<td>Black</td>
<td>5.0</td>
<td>12.6</td>
<td>14.8</td>
</tr>
<tr>
<td>Hispanic</td>
<td>2.7</td>
<td>3.6</td>
<td>5.0</td>
</tr>
<tr>
<td>FRPL</td>
<td>2.5</td>
<td>4.4</td>
<td>7.9</td>
</tr>
<tr>
<td>IEP</td>
<td>6.5</td>
<td>16.1</td>
<td>17.4</td>
</tr>
<tr>
<td>LEP</td>
<td>7.6</td>
<td>23.4</td>
<td>12.7</td>
</tr>
</tbody>
</table>

Source: Staff analysis of KDE Open House data.

Gender Gap. Table 2.12 below further looks at math proficiency rates, this time between male and female students. Female students outperform their male peers at every level; the widest gap between male and female students is in middle school (5.1 percent). More than 50 percent of male and female students do not reach math proficiency at any level.

Table 2.12
Percentage of Male and Female Students Proficient Or Distinguished in Math, 2015

<table>
<thead>
<tr>
<th>Level</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elementary School</td>
<td>48.4%</td>
<td>49.3%</td>
</tr>
<tr>
<td>Middle School</td>
<td>40.3</td>
<td>45.4</td>
</tr>
<tr>
<td>High School</td>
<td>36.9</td>
<td>39.5</td>
</tr>
</tbody>
</table>

Source: Staff analysis of KDE Open House data.

K-PREP Reading Results

2015 Performance of Gap Groups. Figure 2.C, shows the percentage of students scoring proficient or distinguished on the K-PREP reading tests in 2015. Again, many of the same trends can be seen; non-gap students do considerably better than gap students and FRPL students are the highest achieving gap student group. The math proficiency rates for high school students are similar to the proficiency rates for middle and elementary school students.
Figure 2.C
Percent of Students Scoring Proficient or Distinguished in Reading, 2015

Source: Staff analysis of KDE Open House data.
Longitudinal Analysis. Figure 2.D shows the trends of students meeting proficiency over the previous four years. All groups at every level, excluding IEP elementary and high students, had higher proficiency rates over the time period examined. FRPL students had the largest gain in all levels, signaling a decreasing gap for that group; all other groups grew at smaller values, increasing their gaps. While Figures 2.B and 2.D only examine reading and math proficiency rates, similar trends are seen in language mechanics, social studies, and writing.

Figure 2.D
Percent of Students Scoring Proficient or Distinguished in Reading, 2012-15

Source: Staff Analysis of KDE Open House data.
Table 2.13 shows the change in the gap between the proficiency rates of selected student groups and the proficiency rates of the entire student population in reading from 2012-2015. In elementary, middle, and high school, except for FRPL students, the gap widened between all student gap groups and non-gap students in reading.

Table 2.13
Change In Proficiency Rates Of Select Student Groups Relative To The Proficiency Rates Of All Students in K-PREP Reading 2012-15

<table>
<thead>
<tr>
<th>Group</th>
<th>Elementary Change</th>
<th>Middle Change</th>
<th>High Change</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-Gap</td>
<td>0.1</td>
<td>0.6</td>
<td>0.7</td>
</tr>
<tr>
<td>All Students</td>
<td>--</td>
<td>--</td>
<td>--</td>
</tr>
<tr>
<td>Black</td>
<td>-1.0</td>
<td>-1.5</td>
<td>-2.1</td>
</tr>
<tr>
<td>Hispanic</td>
<td>-2.1</td>
<td>0.1</td>
<td>-2.1</td>
</tr>
<tr>
<td>FRPL</td>
<td>0.9</td>
<td>1.2</td>
<td>1.1</td>
</tr>
<tr>
<td>IEP</td>
<td>-0.9</td>
<td>-2.8</td>
<td>0.2</td>
</tr>
<tr>
<td>LEP</td>
<td>-6.2</td>
<td>-5.1</td>
<td>-5.5</td>
</tr>
</tbody>
</table>

Source: Staff analysis of KDE Open House data.

**Novic-Distinguished Ratio.** While Figure 2.D displays the percentage of students scoring either proficient or distinguished, it does not measure the percent scoring Novice or Distinguished. Table 2.14 aims to further examine the relationship between gap group membership and student performance. As shown, in high school reading, for every non-gap student scoring distinguished, 0.7 students are scoring novice. On the opposite end of the spectrum 112 LEP students are scoring novice to every one LEP student scoring distinguished on high school reading. This could be expected at the high school level as these students are being tested on reading in a language they have limited proficiency in. Additional information can be seen in Appendix D.

Table 2.14
2015 Novice-Distinguished Reading Ratio

<table>
<thead>
<tr>
<th>Student Group</th>
<th>Elementary</th>
<th>Middle</th>
<th>High</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-Gap</td>
<td>0.2</td>
<td>0.3</td>
<td>0.7</td>
</tr>
<tr>
<td>All Students</td>
<td>1.2</td>
<td>1.3</td>
<td>2.7</td>
</tr>
<tr>
<td>White</td>
<td>0.9</td>
<td>1.0</td>
<td>2.2</td>
</tr>
<tr>
<td>Black</td>
<td>6.4</td>
<td>6.9</td>
<td>16.4</td>
</tr>
<tr>
<td>Hispanic</td>
<td>3.0</td>
<td>2.8</td>
<td>6.6</td>
</tr>
<tr>
<td>FRPL</td>
<td>2.6</td>
<td>2.9</td>
<td>7.2</td>
</tr>
<tr>
<td>IEP</td>
<td>5.1</td>
<td>12.8</td>
<td>34.7</td>
</tr>
<tr>
<td>LEP</td>
<td>14.7</td>
<td>64.3</td>
<td>112.4</td>
</tr>
</tbody>
</table>

Source: Staff analysis of KDE Open House data.
Gender Gap. Table 2.15 below shows the percentages of male and female students scoring proficient or distinguished in reading. The gap for elementary students was 6.3 percent and was more than double (12.7 percent) in high school.

<table>
<thead>
<tr>
<th>Level</th>
<th>Male</th>
<th>Female</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elementary School</td>
<td>51.1%</td>
<td>57.4%</td>
</tr>
<tr>
<td>Middle School</td>
<td>48.7</td>
<td>59.3</td>
</tr>
<tr>
<td>High School</td>
<td>50.6</td>
<td>63.3</td>
</tr>
</tbody>
</table>

Source: Staff analysis of KDE Open House data.

ACT

As seen in Table 2.16 below, in regards to ACT scores in math, reading, and English, non-gap students have higher ACT scores than gap group students in every subject. The order of the groups is the same as seen on K-PREP tests. The non-gap group is the only group to have an average greater than the Council on Postsecondary Education’s benchmarks in any subject.

<table>
<thead>
<tr>
<th>Group</th>
<th>Math</th>
<th>Reading</th>
<th>English</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-Gap</td>
<td>21.0</td>
<td>22.2</td>
<td>21.9</td>
</tr>
<tr>
<td>All Students</td>
<td>18.9</td>
<td>19.8</td>
<td>19.0</td>
</tr>
<tr>
<td>White</td>
<td>19.2</td>
<td>20.2</td>
<td>19.5</td>
</tr>
<tr>
<td>Black</td>
<td>16.5</td>
<td>16.7</td>
<td>15.4</td>
</tr>
<tr>
<td>Hispanic</td>
<td>17.6</td>
<td>18.1</td>
<td>16.8</td>
</tr>
<tr>
<td>FRPL</td>
<td>17.3</td>
<td>18.0</td>
<td>16.8</td>
</tr>
<tr>
<td>IEP</td>
<td>15.3</td>
<td>15.0</td>
<td>12.5</td>
</tr>
<tr>
<td>LEP</td>
<td>15.2</td>
<td>13.2</td>
<td>11.5</td>
</tr>
</tbody>
</table>

Source: Staff analysis of KDE Open House data.
College and Career Readiness (CCR) and Graduation Rates

Table 2.17 below shows College and Career Readiness (CCR) and graduation rates for the groups analyzed. Over 80 percent of non-gap students were college and/or career ready in the most recent school year. Over 70 percent of white students met CCR requirements. The highest achieving gap group was Hispanic students (56 percent). While the CCR rates range from 6 percent (LEP students) to 82 percent (Non-Gap students), graduation rates are much less varied. Non-gap students are graduating at a rate of nearly 94 percent, followed by 85 percent of FRPL students. Again, IEP and LEP students are the lowest; IEP students are allowed to take five years if needed, leading to a lower four-year graduation rate. The differences between graduation and CCR rates are shown in the last column in the table. The graduation rate for non-gap students is slightly higher than their CCR rate; for IEP and LEP students the graduation rate are much higher than their CCR rates.

Table 2.17
Graduation Rates and CCR Rates, 2015

<table>
<thead>
<tr>
<th>Group</th>
<th>Graduation</th>
<th>CCR</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-Gap</td>
<td>93.7</td>
<td>81.5</td>
<td>12.2</td>
</tr>
<tr>
<td>White</td>
<td>89.3</td>
<td>70.4</td>
<td>18.9</td>
</tr>
<tr>
<td>Black</td>
<td>80.3</td>
<td>43.0</td>
<td>37.3</td>
</tr>
<tr>
<td>Hispanic</td>
<td>83.3</td>
<td>56.3</td>
<td>27.0</td>
</tr>
<tr>
<td>FRPL</td>
<td>84.8</td>
<td>55.4</td>
<td>29.4</td>
</tr>
<tr>
<td>IEP</td>
<td>66.0</td>
<td>25.8</td>
<td>40.2</td>
</tr>
<tr>
<td>LEP</td>
<td>67.2</td>
<td>5.7</td>
<td>61.5</td>
</tr>
</tbody>
</table>

Source: Staff analysis of KDE Open House data.

---

1 College readiness is the percent of graduates who met the Kentucky Council on Postsecondary Education (CPE) System wide Benchmarks for Reading, English, and Mathematics on any administration of the ACT or on approved college placement tests (Compass or KYOTE). Career readiness is the percent of graduates meeting benchmarks on ASVAB or WorkKeys and KOSSA or Industry Certificate.
Chapter 3

School-Level Gaps And School Classifications

Whereas Chapter 2 reported generally lower-achievement of students from specific gap groups compared to all students, this chapter identifies schools in which those lower-performing gap groups perform at or above state averages. The chapter shows that, on average, students from lower-achieving gap groups perform better in lower- versus higher-poverty schools. While there are some examples of highest-poverty schools in which FRPL students perform at or above state averages, there are no such examples for black or Hispanic students at the middle and high school levels. Chapter 4 describes some challenges, such as student mobility, homelessness, and teacher attrition that are much more prevalent in higher-poverty schools. Taken together, these data raise concerns that highest-need schools face challenges that are not entirely addressed through existing policies.

This chapter also looks at achievement gaps in schools with various classifications and reward or consequence categories under the state’s accountability system. While average gap group performance is generally above the state average in schools with higher performance designations and rewards, these schools also tend to have higher in-school gaps. For example, nearly one-fourth of schools identified as a School of Distinction (the state’s highest reward category), have achievement gaps of greater than 30 percentage points between white and black students attending the same school.

School-Level Gap Group Performance Compared To All Students In the State

In the section that follows, school-level gaps are reported for major student gap groups. Gaps are calculated based on KDE’s measure of students scoring proficient or distinguished in reading and math combined. This measure averages reading and math proficiency rates based on the K-PREP tests for elementary and middle schools and high school End-of-Course exams in Algebra II and English II for high schools. School-level gaps shown in this section represent the difference between the performance of individual gap groups in each school and the performance of all students in the state.
Later in the chapter, gaps are calculated based on differences between the proficiency rates of different gap groups within schools. This is because gap group students in some schools perform relatively well compared to all students in the state but far below their school-level peers.

**State-Level Gaps By Gap Group**

Figure 3.A shows state-level differences between the percentage of all students and students in particular gap groups that are proficient or distinguished on reading and math combined. Mirroring state data reported in Chapter 2, the gaps are largest for IEP and LEP students and relatively smaller for FRPL and Hispanic students. At every school level, gaps are larger for black students than they are for Hispanic or for FRPL students.
Figure 3.A
Percentage Points Below State All Students By Gap Group
Percentage Proficient Or Distinguished In Reading And Math Combined, 2015

Source: Staff analysis of Open House data from the Kentucky Department of Education.

It is unclear whether apparent differences in the magnitude of gaps between students at the elementary and high school levels reflect differences in performance or differences in the populations of students that are tested.

Figure 3.A shows an apparent increase in achievement gaps of IEP and LEP students in high school and decreases in achievement gaps of Hispanic high school students. However, it is unclear whether the gap differences shown in the table are caused by school effects versus changes in the populations that are tested. For example, the tested population of IEP students in high school comprises a higher percentage of more severe disabilities categories than does the tested population in elementary school; elementary school students are more likely to be identified with speech language disabilities than are high school students. Also, since high school end-of-course exams can be taken by students in different grades, high school proficiency rates may reflect differences in the tested populations in a given year. For example, in 2015 the percentage of Hispanic students that took the Algebra II EOC was lower than the percentage of high school students that were Hispanic. In addition, staff noted unusual fluctuations from year to year in the percentage of high school students identified as various races and ethnicities. It is unclear, therefore, whether apparent changes in the gaps of Hispanic students from elementary to middle or high school are caused by school effects versus the population of students that are tested.
**Schools With Higher- And Lower-Performing Gap Groups**

While Figure 3.A, above, shows gaps between proficiency rates of all students and those of the gap groups shown, Figure 3.B, below shows that, for each gap group, there are schools in which students are performing at or above all students in the state.

**Gap Group Students At Or Above State Average.** Figure 3.B shows the percentage of schools, by gap group, in which students from that gap group perform at or above state averages. The figure shows that there are a greater percentage of schools (26 percent) in which Hispanic students perform at or above state averages than there are for any other gap group. About one fifth (19 percent) of schools had FRPL populations scoring at or above state averages and one tenth of schools had black students scoring above state averages. The figure also shows smaller percentages of schools in which IEP students scored at or above state averages, and almost no schools in which LEP students did so.

**Gap Group Students Well Below State Average.** Figure 3.B also shows the percentages of school in which gap groups perform 30 percentage points or more below state averages. The percentage of schools that do so is highest for LEP students (56 percent) and for IEP students (44 percent). The percentage of schools in which black students perform 30 points or more below the state is greater than the percentage of schools in which they perform at or above the state (15 versus 10 percent).

<table>
<thead>
<tr>
<th>Gap Group Students At Or Above State Average</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Hispanic students</strong></td>
</tr>
<tr>
<td><strong>FRPL students</strong></td>
</tr>
<tr>
<td><strong>Black students</strong></td>
</tr>
<tr>
<td><strong>IEP students</strong></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Gap Group Students Well Below State Average</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Hispanic students</strong></td>
</tr>
<tr>
<td><strong>FRPL students</strong></td>
</tr>
<tr>
<td><strong>Black students</strong></td>
</tr>
<tr>
<td><strong>IEP students</strong></td>
</tr>
</tbody>
</table>
Figure 3.B  
Percentage Of Schools In Which Gap Groups Perform At Or Above Or Well Below State Average For All Students Percentage Proficient Or Distinguished In Reading And Math Combined, 2015

* Percentages of schools for each gap group are calculated based on the total number of schools that contain sufficient numbers of gap group students to have reportable data. This varies for gap groups. While the overwhelming majority of schools have reportable numbers of students eligible for free or reduced-price lunch and for special education students who have individualized education plans, only about one third of schools have reportable numbers for black or Hispanic students, and less than one sixth of schools have reportable numbers for Limited English Proficiency students.

Source: Staff analysis of Open House data from the Kentucky Department of Education.

Interpreting School-Level Differences In IEP And LEP Performance

Figure 3.B shows relatively small percentages of schools in which IEP and LEP students score at or above state averages. This is not surprising given the fact, as described in Chapter 1, that IEP and LEP students are only eligible for program services if it can be demonstrated that their disability or English language proficiency has negatively impacted their academic outcomes. In addition, the cause of variation among schools in IEP performance may be associated with differences among schools in the percentages of all students that are identified for services, the types of disabilities that are common in the schools and the rates at which IEP students receive various testing accommodations.

It is not surprising that IEP and LEP students score below state averages in most schools because eligibility for these programs is based on part on students’ academic difficulties. Variation among schools in the performance of IEP students may be associated in part by schools’ identification and accommodation practices.
Teachers interviewed for this study noted concerns with the use of grade-level assessments to measure growth of some IEP students.

ESSA allows states to use computer adaptive tests that include items below or above grade level standards, to include as growth measures in accountability systems.

On average, the proficiency rates for each gap group are substantially higher in lowest poverty schools (those in which 25 percent or less of students are eligible) than they are for highest-poverty schools (those in which greater than 75 percent of students are eligible).

**Educators’ Views In OEA Site Visits.** Most special education and regular education teachers interviewed during OEA site visits noted concerns with the way that schools and teachers are currently held accountable for the performance of IEP students. While teachers expressed a willingness to be accountable for the learning of IEP students they opined that grade-level assessments are not the best instruments to measure learning of students that may be several years or more below grade level.

**Computer Adaptive Tests.** As reported in Chapter 1, ESSA allows states to use computer adaptive tests that include items below or above grade level standards, to include as growth measures in accountability systems. Kentucky’s current accountability system incorporates a growth measure that compares student performance of comparably scoring students from one year to the next but growth must be measured using questions on grade-level standards. In considering the use of computer adaptive assessments to measure growth, policy makers, educators, and special education advocates are weighing the potential benefits of these computer adjusted assessments against the concern that they may lead to reduced expectations for some IEP students.¹³

**Gap Group Performance By Schools’ Percentage Of Students Eligible For Free Or Reduced-Price Lunch**

Table 3.1 shows differences in the average performance of students in particular gap groups that are associated with students’ attendance in lower- versus higher-poverty schools. On average, the proficiency rates for each gap group are substantially higher in lowest poverty schools (those in which 25 percent or less of students are eligible) than they are for highest-poverty schools (those in which greater than 75 percent of students are eligible).
Table 3.1
Average Percentage Proficient Or Distinguished in Reading and Math Combined, 2015
By Student Gap Group And School Percentage Of Students Eligible for Free or Reduced-Price Lunch

<table>
<thead>
<tr>
<th>Percentage Of School’s Students Eligible For Free Or Reduced-Price Lunch</th>
<th>All Students</th>
<th>FRPL</th>
<th>Black</th>
<th>Hispanic</th>
<th>IEP</th>
<th>LEP</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-25</td>
<td>73</td>
<td>49</td>
<td>52</td>
<td>56</td>
<td>33</td>
<td>37</td>
</tr>
<tr>
<td>26-50</td>
<td>59</td>
<td>45</td>
<td>39</td>
<td>46</td>
<td>23</td>
<td>22</td>
</tr>
<tr>
<td>51-75</td>
<td>49</td>
<td>41</td>
<td>30</td>
<td>42</td>
<td>24</td>
<td>20</td>
</tr>
<tr>
<td>76-100</td>
<td>40</td>
<td>37</td>
<td>26</td>
<td>35</td>
<td>27</td>
<td>17</td>
</tr>
</tbody>
</table>

Notes: With the exception of FRPL students, differences in proficiency rates in lower- versus higher-poverty schools reflect differences in the percentage of each gap group that are also lunch eligible. It is unclear what explains slightly higher average performance of IEP students in highest-poverty schools versus schools with FRPL rates between 26 and 75 percent.

Source: Staff analysis of Open House data from the Kentucky Department of Education.

Gap group performance in lower- versus higher-poverty schools is affected by the fact that students who are black, Hispanic, IEP, and LEP are more likely to also be eligible for free or reduced-price lunch students in higher- versus lower-poverty schools.

While examples of schools in which gap groups perform at or above state averages for all students exist in both lower- and higher-poverty schools, the percentage of schools in which gap groups perform at or above state averages is much higher in lower-versus higher-poverty schools.

Figures 3.C, 3.D, and 3.E plot achievement gaps of FRPL, black, and Hispanic students in individual schools against the percentage of all students in the school who are eligible for free or reduced-price lunch. The gaps are calculated as the difference between the gap group students’ performance in each individual school compared to the performance of all students in the state. The dotted horizontal line in each figure represents the state average performance for all students. Each dot above the line represents an individual school in which the FRPL, black, or Hispanic students score above state averages, and each dot below the line represents a school in which they perform below state averages. The dotted vertical line in each figure separates highest-poverty schools with greater than 75 percent FRPL students from other schools.

The figures show that, as poverty rates increase, the number of schools in which these gap groups are performing at or above the state average decreases, especially for black and Hispanic students. The figures also show relatively few schools in the quadrant of
highest-poverty schools scoring at or above state averages. There are no highest poverty (75 percent or greater) middle or high schools in which black or Hispanic students perform at or above the state, and the percentage of highest-poverty high schools in which free or reduced-price lunch students do is also small (only 2 schools out of 30). Appendix E shows the number and percentage of schools in various ranges of FRPL students where gap group students score at or above state averages.

**Figure 3.C**

School Performance Of FRPL Students Compared To State All Students

By School Percentage Of FRPL Students

Reading and Math Combined, 2015

Source: Staff analysis of data from the Kentucky Department of Education.
Figure 3D
School Performance Of Black Students Compared To State All Students
By School Percentage Of FRPL Students
Reading and Math Combined, 2015

Note: This figure includes only those schools that have reportable numbers of black students.
Source: Staff analysis of data from the Kentucky Department of Education.
Chapter 3

Figure 3.E
School Performance Of Hispanic Students Compared To State All Students
By School Percentage Of FRPL Students
Reading and Math Combined, 2015

Note: This figure includes only those schools that have reportable numbers of Hispanic students.
Source: Staff analysis of data from the Kentucky Department of Education.

Challenge Of Closing Gaps In Highest-Poverty Schools. Given that all gap groups are not performing as well in higher poverty schools, it is important to note that, as reported in Chapter 1, a greater percentage of black versus Hispanic and white students are enrolled in highest-poverty schools (44 percent versus 27 percent and 19 percent, respectively). Chapter 1 also describes debates among policy makers, advocates and researchers about whether it is possible to close achievement gaps through educational practices alone. While many point to positive examples of higher-performing higher-poverty schools as what is possible, others suggest that gaps for students in greatest need are unlikely to be closed through educational policies alone. Data shown above provide evidence to support aspects of both positions. The figures show many examples of schools that have been much more successful at narrowing gaps than others with similar demographic characteristics. This suggests that more can be done to narrow gaps in other schools. On the other hand, the data also show fewer examples of highest-poverty schools that have closed gaps, and no
examples of middle and high schools that have closed gaps for black and Hispanic students.

**Gaps In Schools By Classifications, Rewards, And Consequences**

Kentucky’s assessment and accountability system establishes a system of school classifications that ranks schools according to overall performance. Schools can also be identified in reward or consequence categories. Data provided in this section show that average gap group performance is generally higher in schools that that are in the state’s higher classification and rewards categories. However, many of the schools in these reward categories also have in-school gap group gaps that are, on average, larger than schools in lower classifications or those identified for assistance.

**Criteria For Classification, Reward, Or Consequence**

As described in regulation and shown in Appendix A, Kentucky’s assessment and accountability system classifies schools into overall performance categories based on all components of the state’s accountability system. Schools with the highest classification (at or above the 90th percentile) are distinguished, followed by schools that are proficient (above the 70th percentile). All schools below the 70th percentile are identified as Needs Improvement.

**Gaps By Accountability Reward Categories.** As described in Table A.1 in Appendix A, Kentucky schools are identified for reward or consequence according to criteria that include state percentile rates on overall accountability measures, graduation rates, and performance of gap group students. Schools in the highest reward category are designated Schools of Distinction, the next reward category is called Highest-Performing Schools. Schools identified for consequences because of overall low performance are designated as Priority Schools, whereas schools and districts identified for consequence because of the low performance of gap group students and schools that are identified for low gap group performance are designated as Focus Schools.

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n Within each classification, schools can also be identified as “progressing” if they meet state-established performance targets in reading and math and graduation rates and have at least 95 percent of students from each gap group participating in state assessments.
Average gap group performance is generally higher in schools that have been labeled with higher classifications or identified as reward schools in the state’s accountability system.

**Gaps By School Accountability Classification.** As shown in Table 3.2, average gap group performance is generally higher in schools with higher classifications (Distinguished, Proficient) and in reward schools (School of Distinction, Highest Performing School, High Progress School) than it is in schools classified as Needs Improvement or in schools identified as Priority or Focus. Thus, gap group students in schools with higher classifications or rewards score, on average, closer to all students in the state than do gap group students in schools identified for consequence or improvement.

**Table 3.2**
Average Percent Proficient And Distinguished, Reading And Math Combined, By Gap Group And School Classification, 2015

<table>
<thead>
<tr>
<th>Classification</th>
<th>All</th>
<th>White</th>
<th>Black</th>
<th>Hispanic</th>
<th>FRPL</th>
<th>IEP</th>
<th>LEP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distinguished</td>
<td>62</td>
<td>65</td>
<td>45</td>
<td>51</td>
<td>51</td>
<td>34</td>
<td>27</td>
</tr>
<tr>
<td>Proficient</td>
<td>52</td>
<td>55</td>
<td>34</td>
<td>46</td>
<td>43</td>
<td>27</td>
<td>23</td>
</tr>
<tr>
<td>Needs Improvement</td>
<td>40</td>
<td>44</td>
<td>26</td>
<td>35</td>
<td>34</td>
<td>19</td>
<td>16</td>
</tr>
<tr>
<td>School of Distinction</td>
<td>65</td>
<td>68</td>
<td>48</td>
<td>54</td>
<td>54</td>
<td>38</td>
<td>29</td>
</tr>
<tr>
<td>Highest Performing School</td>
<td>56</td>
<td>61</td>
<td>37</td>
<td>51</td>
<td>48</td>
<td>33</td>
<td>30</td>
</tr>
<tr>
<td>High Progress School</td>
<td>47</td>
<td>51</td>
<td>34</td>
<td>46</td>
<td>42</td>
<td>29</td>
<td>28</td>
</tr>
<tr>
<td>Focus School</td>
<td>41</td>
<td>46</td>
<td>26</td>
<td>38</td>
<td>33</td>
<td>14</td>
<td>15</td>
</tr>
<tr>
<td>Priority School</td>
<td>30</td>
<td>35</td>
<td>17</td>
<td>23</td>
<td>26</td>
<td>11</td>
<td>10</td>
</tr>
</tbody>
</table>

Note: School averages for each gap group are based only on those schools with sufficient numbers to be reported at the school level by KDE. This includes most schools for FRPL, IEP, and white students, less than half of schools for black and Hispanic students, and a small minority of schools for LEP students.

Source: Staff analysis of data from the Kentucky Department of Education.
Within School Gaps. Achievement gaps based on school classification look different, however, when gaps are calculated by comparing performance of gap group students within the school rather than comparing gap group students’ performance to state averages. Table 3.3 shows that the average in-school gaps between white and black students or white and Hispanic students are greater in schools in higher classifications or reward categories than in those classified Needs Improvement or identified for consequence. The average in-school gap between white and black students is 24 percentage in both Distinguished Schools and Schools of Distinction.

Table 3.3
Gaps Between Black And White Students
Percentage Proficient And Distinguished,
Reading And Math Combined,
By School Classification, 2015

<table>
<thead>
<tr>
<th>School Classification</th>
<th>White And Black Students</th>
<th>White And Hispanic Students</th>
</tr>
</thead>
<tbody>
<tr>
<td>Distinguished</td>
<td>24</td>
<td>16</td>
</tr>
<tr>
<td>Proficient</td>
<td>25</td>
<td>12</td>
</tr>
<tr>
<td>Needs Improvement</td>
<td>19</td>
<td>10</td>
</tr>
<tr>
<td>School Reward Or Consequence</td>
<td></td>
<td></td>
</tr>
<tr>
<td>School of Distinction</td>
<td>24</td>
<td>15</td>
</tr>
<tr>
<td>Highest Performing School</td>
<td>29</td>
<td>15</td>
</tr>
<tr>
<td>High Progress School</td>
<td>25</td>
<td>13</td>
</tr>
<tr>
<td>Focus School</td>
<td>21</td>
<td>10</td>
</tr>
<tr>
<td>Priority School</td>
<td>16</td>
<td>8</td>
</tr>
</tbody>
</table>

Note: This table includes only schools that had reportable scores for both black and white students or Hispanic and white students in 2015. Source: Staff analysis of data from the Kentucky Department of Education.

Schools With Small Or Very Large Gaps, By Classification And Reward/Consequence

Table 3.4 shows a very small percentage of schools in which black students score at or above the level of white students in the same school, even in schools in the higher classifications and rewards categories. There are more schools in which Hispanic students perform at or above white students in the same school; however, a relatively small percentage of schools identified with higher classification and rewards have closed in-school proficiency gaps between white and Hispanic students.
In contrast, schools in the more recognized categories commonly have in-school gaps of 30 percentage points or greater. Twenty-six percent of Distinguished Schools and Schools of Distinction have these large in-school gaps between white and black students.

| Table 3.4 | Percent Of Schools In Which Black And Hispanic Students Perform At Or Above Or Far Below White Students In The Same School By School Classification, Reward, Or Consequence Percentage Proficient and Distinguished, Reading and Math Combined, 2015 |
| Percent of Schools In Which Black Or Hispanic Students Perform At Or Above Or Far Below White Students | At Or Above White Students | >30 Percentage Points Below White Students |
| Black Students | Hispanic Students | Black Students | Hispanic Students |
| School Classification | | | |
| Distinguished | 1 | 12 | 26 | 14 |
| Proficient | 3 | 16 | 28 | 6 |
| Needs Improvement | 3 | 21 | 13 | 5 |
| School Reward Or Consequence | | | |
| School of Distinction | 3 | 14 | 26 | 14 |
| High Performing School | 0 | 5 | 38 | 5 |
| High Progress School | 0 | 10 | 29 | 0 |
| Focus School | 3 | 21 | 16 | 6 |
| Priority School | 0 | 33 | 5 | 17 |

Note: This table includes only schools that had reportable scores for both black and white students or Hispanic and white students in 2015. Source: Staff analysis of data from the Kentucky Department of Education.

Many schools have large in-school gaps that are not identified with any consequence. This is because schools with large in-school gaps tend to be higher performing overall, and thus do not meet the criteria to be identified for consequence. In 2015, of the 90 schools in which black students performed 30 percentage points or more below whites, less than one third were identified as either Focus or
Priority. Of the 33 schools that had white-Hispanic gaps of greater than 30 percentage points, 90 percent were not labeled with a consequence.

**Gap Group Performance By District**

Appendix F shows that, as with schools, there are districts in which black, Hispanic, or FRPL students perform at or above state averages for all students. The percentage of districts that do so are highest for FRPL students and higher for Hispanic students than for black students. As with schools, districts with higher-performing gap group students tend, on average, to be lower-poverty districts whereas districts with larger gaps compared to the state tend to be higher-poverty districts.

**Achievement Gaps In All US Districts.** Using data from all of the nation’s school districts, a 2016 study demonstrated that achievement gaps among gap groups exist not only at the state level but in the overwhelming majority of the nation’s districts. Mirroring Kentucky data, the study also showed that gaps among gap groups in particular districts were greater in higher-achieving, higher-income districts with smaller gaps in lower-achieving districts.\(^ {14}\)

**Revision Of School Classifications, Rewards, And Consequences In Compliance With ESSA**

The Kentucky Department of Education is in the process of revising school assessment and accountability regulations to comply with the ESSA. The state must establish a system to distinguish performance among schools. This system must identify schools that need comprehensive improvement because of overall low-performance and schools that need targeted assistance because of consistently low performance of gap groups.

Data in this chapter show that a system that classifies schools as higher performing based on overall performance and identifies schools for consequence based on overall low performance of all students or student gap groups may fail to identify schools with large in-school achievement gaps. While gap group students in the lowest-performing schools may be in greater need of assistance than their peers in the state, it is also important to identify students who are performing at much lower levels than their school-level peers.

\(^ {14}\) Districts with smaller gaps tend to be districts in which the scores of white students are low.
Recommendation 3.1

In revising regulations related to school accountability, KDE may wish to consider establishing criteria for identifying a highest reward category that recognizes schools with high performance and small in-school achievement gaps. The department may also wish to consider establishing a consequence category, in addition to the targeted assistance category, for schools with in-school achievement gaps that far exceed the state’s.
Chapter 4

State-Level Data On Challenges Affecting Higher-Poverty Schools And Gap Group Students

This chapter discusses challenges that, according to the national literature, make it difficult for schools to close achievement gaps. Kentucky data are presented regarding:

- higher percentages of FRPL and nonwhite students who are homeless, mobile among schools, and chronically absent;
- unequal access of poor or nonwhite students to experienced and National Board-certified teachers; and
- disproportionately high rates of poor, black, special education, and male students subject to disciplinary actions.

Challenges Disproportionately Affecting Highest-Poverty Schools

Chapter 3 showed that few of the highest-poverty schools (those in which greater than 75 percent of students are eligible for free or reduced-price lunch) have closed gaps for lunch-eligible students, and no middle or high schools in this group have closed gaps for Hispanic or black students.

Researchers have suggested that the effects of poverty on educational outcomes are not captured by individual student data alone, and that these effects may be amplified in communities with concentrated poverty. Taking other factors into consideration, poor and nonwhite students in higher-poverty schools perform less well.

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The study as proposed was to include an analysis of statewide data on afterschool learning opportunities. However, Kentucky schools are no longer required to indicate in the student information system whether a student receives instruction outside of the regular school day. Thus, statewide data were not available. Two previous studies provided some insights: OEA’s 2008 review of the Extended School Services program reported a trend towards providing intervention for struggling students during the regular school day, which educators said was to ensure the consistent attendance required for interventions to be effective. Programs outside of the regular school day have low attendance because of transportation issues and scheduling conflicts, such as with sports or family responsibilities. KDE’s commissioned Evaluation of the Kentucky 21st Century Community Learning Centers Initiative 2014-2015 indicated that, while more than 38,000 Kentucky students were served in 176 cities in 58 counties, just over one-third attended the program regularly. Of those attending regularly, grades improved for about one-third of elementary school students and one quarter of middle and high school students.
than those in lower-poverty schools. The reasons for this are not entirely understood by researchers but this chapter provides examples of challenges more likely to be faced by students in higher-poverty schools.

### Student Mobility, Homelessness, And Chronic Absence

**Student Mobility.** Students are considered mobile if they enroll in two or more schools during the same academic year. Student mobility is often caused by parents’ employment issues or other financial instability. At the national level, student mobility disproportionately affects poor and black students. Research has linked both student mobility and the proportion of students in a school who are mobile with lower academic outcomes, including lower outcomes for nonmobile students in schools with highly mobile populations. At the state level, 6.8 percent of Kentucky students had enrolled in more than one school in 2015.

**Homeless Students.** Homeless students are defined by the US Department of Education (USED) as those who are sharing housing due to economic hardship or living in various types of temporary or unsafe housing. In Kentucky, 4.1 percent of students were considered homeless in 2015. As shown in Appendix G, about three quarters of these students are considered homeless because they are living with friends or family. National research shows that homeless students are often highly mobile and poor, and that homelessness compounds the effects of poverty on educational outcomes.

**Chronic Absence.** Research shows relationships between school attendance and academic outcomes, including high school graduation. Students who are chronically absent (those who miss 10 percent or more of school days) are particularly at risk for lower outcomes. Common causes of chronic absence include difficulty getting to school and family responsibilities at home, such as caring for younger siblings. Educators in several high schools also noted that many students hold one or more jobs to help support their families.

School attendance is often measured as the average of daily percentages of students who attend school, but this can mask chronic absence of some students. USED has encouraged states to monitor and report chronic student absence and to develop early warning signs to identify and intervene with chronically absent students. At the state level, 14 percent of Kentucky students were
chronically absent in 2015. Appendix G shows percentages of Kentucky students by gap group who are chronically absent.

Figure 4.A shows that students in higher-poverty schools are much more likely to be homeless, chronically absent, or mobile. The figure groups schools into four categories based on the percentage of students eligible for free or reduced-price lunch (0 to 25 percent, 26 to 50 percent, 51 to 75 percent, and 76 to 100 percent). Comparing highest- (greater than 75 percent FRPL) and lowest-poverty (25 percent or less FRPL) schools, the percentage of students who are homeless is more than ten times as great (11 versus 1 percent); the percentage chronically absent is more than four times as great (18 versus 4 percent), and the percentage who are mobile is also more than four times as great (17 versus 4 percent).
Figure 4.A
Average Percentage Of Students Homeless, Chronically Absent, Or Mobile
By Range Of Students Eligible For Free Or Reduced-Price Lunch, 2015

Note: Mobility analysis includes only those students who moved among A1 schools. Chronic absence was calculated at the individual student level as a percentage of total absent days, excused or unexcused, of total days enrolled in the school. School-level chronic absence rates are the total number of students absent 10 percent or more of the days enrolled in the school as a percentage of the total number of students that were enrolled in the school. In each category, many individual students count towards school-level averages in more than one school.
Source: Staff analysis of data from the Kentucky Department of Education.

Nonacademic Challenges Described In Site Visit Schools

Educators and administrators interviewed for this study identified many ways in which students’ home environments and living situations presented challenges to academic learning. These included poor nutrition and inadequate sleep. Educators at higher-poverty high schools reported that many students do not have time after school to complete homework because they are working jobs to help support their families.

Educators also reported some students’ difficulties with forming the trusting relationships that can be preconditions for learning. One superintendent noted dramatic changes over the past decade in the social and environmental challenges affecting the relationship between the community and schools in his rural district. He explained that economic instability and the breakdown of family relationships had undermined the strength of the community as a
whole and the “ties that bind,” including what had once been a strong and trusting relationship between the community and its schools.

Interviewees in higher-poverty schools stressed the great importance, given the instability in living situations experienced by many students, of building positive relationships among educators and students and a sense of trust and community in the school as a whole. Chapter 5 describes some of these efforts in schools visited by OEA for this study.

Educators also described personal stress associated with the daily challenge of attempting to meet both the emotional and academic needs of students who face economic hardship or instability of living arrangements. In several schools, educators reported that multiple children were separated from parents each year because of incarceration or death from drug overdose. Educators also reported that it was not uncommon for many students to arrive at school in the morning crying. Some educators described tension between the need to ensure that all students meet academic targets and the desire to preserve time during the instructional day for students to explore broader interests that might motivate them to learn and help form relationships among students and teachers. Previous OEA research has documented the tendency of higher-performing high-poverty schools to focus intensively on test preparation and practice, at the expense of nontested academic content.\(^2\)

As will be described in Chapter 5, school leaders can play a critical role in ensuring that both teachers and students receive the support necessary to maintain high standards of teaching and learning in challenging environments. One principal in a higher-performing higher-poverty school explained that although the students were her first priority, faculty were a close second because students could not be successful if faculty did not feel supported.

### Access to Highly Qualified Teachers

Teachers with three or more years of experience and teachers who have met the standards to be certified by the National Board for Professional Teaching Standards (NBTS) have been shown, on average, to improve student outcomes more than their less-experienced or non-board-certified peers.\(^3\) Consistent with national

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\(^3\) The National Board for Professional Teaching Standards (NBPTS) is a nonprofit, nonpartisan, independent organization that recognizes accomplished teaching in 25 subject areas. As required by KRS 157.395, Kentucky teachers who have received NBPTS certification receive an annual salary supplement of
data and previous data published by OEA and KDE, current school-level data show that students in higher-poverty or higher-minority schools are less likely to be taught by experienced teachers or by National-Board-certified teachers certified than are students in lower-poverty schools.23

Table 4.1 compares teacher experience, attrition, and National Board certification in lower- and higher-poverty schools. Table 4.2 shows the same information for schools with lower- and higher-percentages of nonwhite students.

On average, the percentage of teachers with fewer than three years of experience is almost twice as high in highest versus lowest-poverty schools (19 versus 10 percent), and the percentage who are National Board-certified is four times as high (16 versus 4 percent) in lower- versus higher-poverty schools.

The percentage of new and less experienced teachers is even greater in schools with the highest percentages of nonwhite students than it is in highest-poverty schools. In schools with greater than 75 percent nonwhite student populations, 10 percent of teachers are in their first year, and 27 percent have fewer than three years of experience. The percentage of teachers who leave schools annually is much greater in schools with the highest percentages of nonwhite students than it is in schools with the lowest percentages of nonwhite students (27 percent versus 16 percent). Schools with higher teacher attrition rates are also more likely to have higher percentages of new or less experienced teachers because, statewide, vacant positions are more likely to be filled by new than by returning teachers.9

$2,000. In recent years, the funds appropriated by the General Assembly have not been sufficient to fully reimburse districts for the cost of these salary supplements. In 2015, for example, the cost to districts of paying the salary supplements would have been $4,473,724 but $2,750,000 was appropriated to reimburse districts for this cost.

9 OEA’s 2012 report on teacher shortages showed that, statewide, almost two thirds of vacant slots were filled by new versus returning teachers (p.38)
Table 4.1
Average Percentage Of New And Less Experienced Teachers, Attrition, And National Board-Certified Teachers
By Percentage of Students Eligible For Free Or Reduced-Price Lunch, 2015

<table>
<thead>
<tr>
<th>School Percentage Of FRPL Students</th>
<th>Percentage Of Teachers in School</th>
<th>First Year</th>
<th>Fewer Than 3 Years’ Experience</th>
<th>Leave School Annually (Attrition)</th>
<th>National Board-Certified</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-24</td>
<td></td>
<td>4</td>
<td>10</td>
<td>16</td>
<td>16</td>
</tr>
<tr>
<td>25-49</td>
<td></td>
<td>4</td>
<td>13</td>
<td>16</td>
<td>9</td>
</tr>
<tr>
<td>50-74</td>
<td></td>
<td>5</td>
<td>15</td>
<td>17</td>
<td>6</td>
</tr>
<tr>
<td>75-100</td>
<td></td>
<td>6</td>
<td>19</td>
<td>19</td>
<td>4</td>
</tr>
<tr>
<td>All Schools</td>
<td></td>
<td>5</td>
<td>16</td>
<td>17</td>
<td>6</td>
</tr>
</tbody>
</table>

Source: Staff analysis of teacher experience data from the Kentucky Department of Education and National Board-certified teachers from Kentucky’s Education Professional Standards Board.

Table 4.2
Average Percentage Of New And Less Experienced Teachers, Attrition, And National Board-Certified Teachers
By Percentage of Nonwhite Students, 2015

<table>
<thead>
<tr>
<th>School Percentage Of Nonwhite Students</th>
<th>Percentage Of Teachers in School</th>
<th>First Year</th>
<th>Fewer Than 3 Years’ Experience</th>
<th>Leave School Annually (Attrition)</th>
<th>National Board-Certified</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-24</td>
<td></td>
<td>5</td>
<td>15</td>
<td>16</td>
<td>6</td>
</tr>
<tr>
<td>25-49</td>
<td></td>
<td>5</td>
<td>17</td>
<td>19</td>
<td>7</td>
</tr>
<tr>
<td>50-74</td>
<td></td>
<td>6</td>
<td>18</td>
<td>21</td>
<td>6</td>
</tr>
<tr>
<td>75-100</td>
<td></td>
<td>10</td>
<td>26</td>
<td>25</td>
<td>4</td>
</tr>
<tr>
<td>All Schools</td>
<td></td>
<td>5</td>
<td>16</td>
<td>17</td>
<td>6</td>
</tr>
</tbody>
</table>

Source: Staff analysis of teacher experience data from the Kentucky Department of Education and National Board-certified teachers from Kentucky’s Education Professional Standards Board.

As would be expected from the school-level data shown above, nonwhite students or students eligible for free or reduced-price lunch are more likely than all students to be taught by new or less experienced teachers.

Table 4.3 shows that, statewide, 5.4 percent of all students enrolled in reading and math classes had new teachers and 15.4 percent had teachers with fewer than three years of experience. Percentages of students taught by new or less experienced teachers were highest
for LEP students but also higher for black, Hispanic and lunch-eligible students.

Table 4.3
Percentage of Students Enrolled in Reading Or Math Classes Taught By New Or Less-Experienced Teachers
By Race/Ethnicity and Program Eligibility, 2015

<table>
<thead>
<tr>
<th>Student Subgroup</th>
<th>New Teachers</th>
<th>Teachers With Fewer Than 3 Years’ Experience</th>
</tr>
</thead>
<tbody>
<tr>
<td>All students</td>
<td>5.4</td>
<td>15.4</td>
</tr>
<tr>
<td>White</td>
<td>5.2</td>
<td>14.8</td>
</tr>
<tr>
<td>Black</td>
<td>6.6</td>
<td>18.2</td>
</tr>
<tr>
<td>Hispanic</td>
<td>6.6</td>
<td>18.2</td>
</tr>
<tr>
<td>FRPL</td>
<td>6.1</td>
<td>16.6</td>
</tr>
<tr>
<td>LEP</td>
<td>7.6</td>
<td>19.2</td>
</tr>
<tr>
<td>IEP</td>
<td>5.1</td>
<td>15.3</td>
</tr>
</tbody>
</table>

Note: LEP=limited English proficiency. FRPL=free or reduced-price lunch. IEP=individualized education program for special education and related services. Source: Staff analysis of data from the Kentucky Department of Education.

Distribution of New And Less Experienced Teachers Within Schools

To determine whether the distribution of new and less experienced teachers among gap group students is influenced by teacher assignments within schools in addition to the distribution of teachers across schools, OEA analyzed school-level ratios of white to black and white to Hispanic students assigned to teachers with fewer than 3 years of experience. Results shown in Appendix H show that disproportionate assignment of black or Hispanic students to newer teachers within schools does not exist in the majority of schools attended by these students; however, white students are assigned to new teachers at disproportionate levels in 15 percent of schools attended by black students and 18 percent of schools attended by Hispanic students.

Factors Affecting Teacher Labor Markets

Research shows that working conditions, location, and school demographics are the factors that most impact teachers’ willingness to teach in particular schools. Teachers prefer to teach near their undergraduate institution, their current residence, or where they grew up. Teachers also prefer schools in which they perceive favorable working conditions and in which the demographic characteristics of students most closely resemble their own. Working conditions considered important by teachers...
include family and community support, student discipline, and the quality of the leadership in the school building.

OEA site visit data mirror the research on teacher labor markets. As stipulated by site visit interviewee selection protocols, approximately one fourth of the teachers interviewed for this study were new to the site visit schools. By design, OEA selected two sets of schools located in the same district; two schools were higher-poverty schools with higher percentages of nonwhite students and higher attrition rates and the other two were lower-poverty schools with lower percentages of nonwhite students and lower attrition rates. In these two sets of schools, most of the newer teachers in lower-poverty schools were those who had transferred from other higher-poverty schools in the district. Most of the newer teachers in higher-poverty schools were new to the district or the profession.

Consistent with education research, factors cited by teachers who had transferred from higher- to lower-poverty schools within the same district included school location close to their homes or where they grew up and favorable working conditions in the form of strong building leadership, supportive communities, and students they felt were ready to learn when they arrived in school. Most of the teachers also mentioned that their decision to transfer was also motivated by a desire to work in a less stressful environment, in which they could feel more able to meet students’ needs and more effective as educators. These teachers noted that, despite their strongest efforts and professional dedication, students in their previous, higher-poverty schools scored below other district students on state tests. This was frustrating for teachers, and made them feel that their efforts did not lead to success or professional recognition. In contrast, the same level of dedication led to better results in their current schools, giving them a greater sense of professional accomplishment.

To assist districts and schools in analyzing conditions that might affect equitable distribution of teachers, KDE includes several measures in school report cards. These include teacher attrition rates and three composite measures based on TELL KY survey results: managing student conduct, community engagement and support, and school leadership. Appendix I show differences in working conditions reported by educators in schools with higher and lower percentages of nonwhite students. These include sufficient instructional time, minimal interruptions and paperwork, supportive parents and community, and an atmosphere of trust and mutual respect.
Shortages Of Qualified Teachers Affecting All Schools

Principals and superintendents in site visit schools and districts mentioned extreme difficulty with finding high school math teachers as well as ESL and foreign language teachers. High school principals were especially concerned about the lack of math teachers, noting that, because of the lack of quality candidates, they had been forced to hire teachers who did not meet their high standards. These difficulties were reported in both higher- and lower-poverty schools. Principals also mentioned shortages of teachers of English as a Second Language (ESL) and foreign languages.

OEA’s 2012 report on teacher shortages noted much lower supplies of high school math, science, ESL, and (to a lesser extent) foreign language teachers compared to teachers of other subject areas. As the report discusses, challenges finding high school math and science teachers are likely to increase as high school teachers certified to teach multiple subjects in science retire and must be replaced by teachers who, under more recent requirements, must be specifically certified in individual content areas. This shortage of high school math and science teachers is likely to disproportionately affect higher-poverty schools that have difficulty attracting and retaining teachers.

Disproportionate Disciplinary Actions

Nationwide, the ratio of students who are suspended is much higher, beginning in preschool, for black versus white students, males versus females, and IEP versus non-IEP students. Table 4.4 shows that these disproportionate discipline rates exist in the commonwealth. The table provides ratios of the suspension rate for each subgroup to the suspension rate for other students. The percentage of black students with out-of-school suspensions is 3.86 times the percentage for white students. The table also shows disproportionate suspensions for students eligible for FRPL, males, and, to a lesser extent, special education students. In the commonwealth, suspension rates for Hispanic students are not disproportionate to those of white students.
Table 4.4
Disproportionate Rates Of Suspensions:
Black, FRPL, Male, And Special Education Students

<table>
<thead>
<tr>
<th>Resolution</th>
<th>Black/ White</th>
<th>FRPL/ Not FRPL</th>
<th>Male/ Female</th>
<th>IEP/ Not IEP</th>
</tr>
</thead>
<tbody>
<tr>
<td>Out-of-school suspensions</td>
<td>3.86</td>
<td>2.5</td>
<td>2.4</td>
<td>1.6</td>
</tr>
<tr>
<td>In-school suspensions</td>
<td>3.29</td>
<td>3.8</td>
<td>2.5</td>
<td>2.1</td>
</tr>
</tbody>
</table>

Source: Staff analysis of data from the Kentucky Department of Education

Office Of Civil Rights Monitoring Discipline Data

The United States Office of Civil Rights (OCR) has drawn attention to the issue of disproportionate discipline rates for nonwhite and IEP students. Since 2000, OCR has collected school-level discipline data biennially in an effort to identify states, districts and schools with disproportionate rates.  

While the comprehensive causes of disproportional discipline data are not yet clear, it is likely that they impact the education of disproportionately disciplined groups to the extent that suspended students or those removed in school are likely to miss instructional time. OCR encourages districts and schools identified with disproportionate rates to examine school environments and attempt to understand whether and why students from disproportionate groups take actions or are perceived to take actions that warrant stringent disciplinary consequences.  

Some scholars note that subconscious reactions may cause educators to be more likely to interpret black students’ behavior as challenging or threatening. These subconscious reactions have consequences that go far beyond student discipline, and prevent the establishment of relationships that can promote learning. Chapter 5 describes a Kentucky school in which the academic performance of black students increased after school leaders encouraged teachers to understand and address unconscious differences in the way they were treating black versus white students.  

To the extent that cultural differences between students and educators lead to disproportionate discipline, underrepresentation of nonwhite populations among teachers and administrators may increase the challenge of understanding and addressing cultural gaps in schools. Appendix J shows that nonwhite educators are a much smaller percentage of teachers and administrators than are nonwhite students.
Chapter 5 provides examples of teachers and administrators in site visit schools who made systematic and sustained attempts to understand and address unconscious educator behavior that might negatively impact students.

Site visit data also suggest that the current policy focus on disproportionate data may have unintended consequences in some schools to the extent that administrators become reluctant to enforce school discipline or fail to record discipline data.

**Intended Versus Unintended Consequences.** As described above, OCR’s intent in identifying schools with disproportionate disciplinary data is to encourage educators to reflect on school practices that may unintentionally identify some students over others. Chapter 5 provides examples of teachers and administrators in site visit schools who made systematic and sustained attempts to understand and address unconscious educator behavior that might negatively impact students.

Site visit data also suggest that the current policy focus on disproportionate data may have unintended consequences in some schools. Teachers in several schools noted that, as a result of the scrutiny placed on disproportionate discipline data, their principals had been very reluctant to subject black or IEP students to suspension or in-school removal. Teachers felt that, as a result, these students could become violent or disruptive but face no consequence. This undermined teachers’ efforts to ensure their classrooms were safe. In some schools, teachers reported that the school discipline numbers do not always reflect the actual resolutions that occurred in the school because incidents were not always reported for some populations.
Chapter 5

Factors Affecting School And District Efforts To Close Achievement Gaps: Comprehensive Planning and Local Leadership

This chapter reviews implementation of annual comprehensive improvement plans required of schools (CSIPs) and districts (CDIPs). Through these plans, districts and schools are to set and monitor goals to reduce achievement gaps, and describe specific steps that will be taken to achieve those goals. In theory, the data analysis, strategic planning, and implementation of these plans will help reduce gaps in all schools and districts, not just those identified for assistance.

Staff analysis of a sample of CDIPs and CSIPs suggests that, statewide, schools are unlikely to be in full compliance with KRS 158.649, which requires that plans include goals and strategies for specific student gap groups; instead, most of the plans analyzed for this study had collective goals and strategies for the combined unduplicated gap group.

Site visit data suggest that the comprehensive planning process, if fully implemented, can play an important school improvement role. However, the planning process is unlikely, in itself, to promote substantial improvements for gap group populations, absent local leaders with the commitment, skills, and dispositions necessary to effect cultural and programmatic changes in schools with large gaps. In addition, some of the challenges affecting schools with large gaps—such as attracting and retaining high-quality high school math/science teachers—may be difficult or impossible to address through school policies alone.

Data

Data reported in this chapter are based on staff analysis of CSIP and CDIP documents and site visit data that include educator interviews and classroom observations.

CDIPs and CSIPs

Staff analyzed 25 CDIPs, 18 of which were from Focus districts, 5 from Districts of Distinction, and 2 chosen because of large
improvements in proficiency rates for gap students between 2012 and 2015. In addition, staff analyzed 42 CSIPs; 24 from Focus schools and the remainder from schools in which one or more of the specific gap groups that make up gap populations had made gains in proficiency rates that far exceeded state gains between 2012 and 2015.

**OEA Site Visits**

Staff conducted 1-day visits to 10 schools located in six districts. Site visit schools were chosen either because they had closed or narrowed gaps for specific student groups (7 of the 10 schools) or because they were focus schools (3 schools). Staff also chose schools to represent different school levels and regions of the state.

Site visits were designed to explore the role of comprehensive planning versus other factors in closing achievement gaps in site visit schools, and to tap educators’ views on successful practices and continuing challenges in closing achievement gaps. Site visits included interviews, analysis of CDIPs and CSIPs, and classroom observations. Staff interviewed a total of six superintendents or district administrators; 20 principals or school instructional leaders; and over 50 reading, math, or special education teachers. In addition, staff observed classes in eight schools. These observations included advanced classes as well as classes comprising primarily students in the novice category on state assessments.

**Limitations**

Data gathered from the small number of schools and districts visited for this study are not necessarily representative of schools and districts in the state. Site visit data are used to provide context for trends observed in CSIP and CDIP analysis. Planning documents were chosen from a relatively small subset of the state’s districts and schools. However, the consistency of primary findings from CSIP and CDIP document analysis—that most focus on goals and strategies for unduplicated gap group and IEP students rather than all student gap groups—suggest it is unlikely that, statewide, CSIPs address the specific gaps of every gap group.

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Superintendents and district administrators were interviewed in only three districts; principals were interviewed in all 12 schools, and teachers were interviewed in eight schools.
State Laws Requiring Local Planning To Address Achievement Gaps

KRS 158.649 Achievement Gaps Defined

KRS 158.649 defines achievement gap as:

a substantive performance difference on each of the tested areas by grade level of the state assessment program between the various groups of students including male and female students, students with and without disabilities, students with and without English proficiency, minority and nonminority students, and students who are eligible for free and reduced-price lunch and those who are not eligible for free and reduced-price lunch.

The statute requires schools to propose, and local boards to adopt, biennial targets to reduce gaps in various groups. As detailed in Appendix A, the statute requires CSIPs to include strategies and activities in a number of areas to reduce gaps. 703 KAR 5:225 includes over a dozen additional required CSIP components, including those required only for focus schools and districts.

Gap Group Goals Suggested By The Kentucky Department Of Education

Although the statute allows schools to set and districts to approve these targets, schools and districts can use, as a reference, goals set by KDE in reading and math for all school subgroups with reportable numbers of students. These goals are published on each school report card, along with trend data and an indication of whether schools and districts have met goals suggested by KDE for individual subgroups.

Biennial Targets Included On CSIPs And CDIPs

Staff analyzed CSIPs to determine whether schools were complying with KRS 158.649, which requires school improvement plans to include biennial targets to reduce any existing gaps among various groups. For each school, staff first used assessment data to identify which subgroups had significant gaps. Next, staff determined whether the school’s CSIP provided target goals for each of those subgroups. The gaps examined were:

- In-school gaps of more than 10 percentage points between males and females
- In-school gaps of more than 10 percentage points between white students and black or Hispanic students
• In-school gaps of more than 10 percentage points between all students and IEP or LEP students.

Staff also analyzed CDIPs to see whether districts reported data and strategies to reduce achievement gaps, as required by 703 KAR 5:225.

**CSIP And CDIP Analysis.** Table 5.1 shows the number of CSIPs and CDIPs that included gap reduction goals for particular subgroups, compared to the number of schools or districts that had substantial gaps. As the table shows, all schools and districts had substantial achievement gaps for the unduplicated gap group, and almost all of their plans included goals for reducing those gaps. However, both schools and districts were less likely to report goals for other subgroups mentioned in KRS 158.649. Of the schools and districts with substantial gaps in specific subgroups, half or fewer reported goals for these subgroups. No districts or schools reported goals for LEP or gender gaps. The table also shows that focus schools were less likely than other schools to report goals for black and IEP students.
Table 5.1
Schools And Districts Including Biennial Targets
In Comprehensive Plans For Groups With Substantial Gaps

<table>
<thead>
<tr>
<th>CSIPs</th>
<th>All Schools (Total of 42)</th>
<th>Focus Schools (Total of 24)</th>
<th>Other Schools (Total of 18)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gap Group</td>
<td>Gaps 42</td>
<td>Gaps 24</td>
<td>Gaps 18</td>
</tr>
<tr>
<td>Gender</td>
<td>Goals 37</td>
<td>Goals 20</td>
<td>Goals 17</td>
</tr>
<tr>
<td>Black</td>
<td>14*</td>
<td>24</td>
<td>18</td>
</tr>
<tr>
<td>Hispanic</td>
<td>11**</td>
<td>7</td>
<td>18</td>
</tr>
<tr>
<td>IEP</td>
<td>42</td>
<td>24</td>
<td>18</td>
</tr>
<tr>
<td>LEP</td>
<td>5</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>CDIPs</th>
<th>All Districts (Total of 25)</th>
<th>Focus Districts (Total of 18)</th>
<th>Other Districts (Total of 7)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gap Group</td>
<td>Gaps 25</td>
<td>Gaps 18</td>
<td>Gaps 7</td>
</tr>
<tr>
<td>Gender</td>
<td>Goals 24</td>
<td>Goals 18</td>
<td>Goals 6</td>
</tr>
<tr>
<td>Black</td>
<td>2</td>
<td>9</td>
<td>4</td>
</tr>
<tr>
<td>Hispanic</td>
<td>12</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>IEP</td>
<td>25</td>
<td>18</td>
<td>7</td>
</tr>
<tr>
<td>LEP</td>
<td>0</td>
<td>4</td>
<td>0</td>
</tr>
</tbody>
</table>

Notes: In three cases, CSIPs included targets for subgroups that were not identified with substantial gaps by the methods used for this analysis; the goals in these CSIPs are not counted in the goals reported in this table. For the purpose of this analysis, a school was identified with a gap even if the traditionally underperforming group was performing substantially above other students. This was the case in four schools, three in which students with disabilities were performing 15 or 20 percentage points above students without disabilities, and one in which Hispanic students were performing 20 percentage points above white students.

*The gap between female and male performance in one high school was greater than 30 percentage points but this gap was not mentioned on the CSIP.

**In one school, the gap between white and black performance was 40 percentage points but the CSIP did not mention the gap or set a reduction goal.

Source: Staff analysis of CSIPs and CDIPs provided by the Kentucky Department of Education.

Gap Group Versus Subgroups Goals. Site visit data reinforced findings reported in Table 5.1 that schools are not setting targets to reduce gaps in particular subgroups. In some cases, school staff appeared unaware of the magnitude of gaps for some groups. For example, OEA visited a focus school in which black students were proficient at half the rate of white students; however, when asked about gap groups facing challenges in the school, staff did not address this gap. As another example, a focus school identified for the low performance of its IEP students did not include data or targets for that group, and the principal was not able to describe specific steps taken at the school for IEP students. Also, while
females substantially outperformed males in most middle and high schools, none of the administrators or teachers interviewed identified this gap or strategies to reduce it.

Site visit data suggest that while district and school administrators are quite familiar with the requirements of the state’s accountability system, especially the role of gap group students and novice reduction in the overall accountability ratings, they are less familiar with the requirement of KRS 158.649 that targets be set for individual gap groups. While 702 KAR 5:225 includes the requirement that CSIPs comply with KRS 158.649, the specific elements of that statute may not be commonly known. Also, KRS 158.649 requires schools to identify substantial gaps in particular subgroups for which schools may not have easily disaggregated data—for example students who are lunch-eligible compared to those not eligible. Further, although KRS 158.649 requires local boards to adopt biennial targets for any subgroup with substantial gaps, local leaders do not appear confident in defining what level of gap counts as “substantial” in particular subgroups or how best to set biennial targets.

Gap Group Data Including Suggested Targets Easily Available

As noted above, KDE provides each district and school with suggested annual targets for each subgroup. In addition, school and district report cards contain performance data for each subgroup for which there are reportable numbers, by grade and assessment. Local leaders’ apparent lack of awareness of gaps among certain subgroups is not explained by a lack of available data.

Local Board And District Monitoring Of School Gaps

In addition to adopting biennial goals for each school, KRS 158.649 requires that boards adopt a policy for reviewing gaps among the various student groups and monitoring schools’ progress toward meeting gap reduction goals. The statute also requires superintendents to report to the Commissioner of Education those schools that fail to meet their gap reduction targets for two consecutive years. KDE staff explained that superintendents should be reporting these schools through the CDIP process but none of the CDIPs analyzed for this study mentioned schools that had failed to meet their goals. Further, the fact that CSIPs tended not to include biennial goals for specific student subgroups suggests that local boards and district staff have not been actively monitoring school’s progress towards meeting these goals.
KDE recently initiated a process by which schools are required through an online application called ASSIST to report their achievement gaps and biennial targets by October 1st of each year. Schools can use state assessment data or their own formative data. The report requires district-level review and approval but does not require board approval. The report is consistent with language in KRS 158.649 to the extent that it allows local leaders to identify gaps and establish targets. It is possible, however, that local leaders may fail to recognize gaps among some student groups, especially between males and females because these groups are not included in the state’s accountability system.

KDE is required by KRS 158.649(2) to provide each school with an “equity analysis that shall identify substantive differences among the various groups of students” identified in the statute. This type of analysis would be helpful in ensuring that existing gaps are evident to school leaders and district leaders. It may also be helpful for local leaders to understand how gaps in their schools compare to schools with similar demographic characteristics in the state.

**Recommendation 5.1**

The Kentucky Department of Education is required by KRS 158.649 to provide schools with an “equity analysis that shall identify substantive differences among the various groups of students” identified in the statute. This analysis should clearly identify specific in-school gaps among these groups and might provide comparisons with in-school gaps typical in the state. In addition, KDE should share with each local board the equity reports for their district’s schools.

**Overlapping Federal And State Requirements**

Given the difficulty faced by local leaders in addressing the multiple and sometimes overlapping requirements of state and federal laws, it may be beneficial for KDE to propose a consolidation of these requirements in the accountability system when it is revised to comply with ESSA. Many ESSA requirements may serve the same intended purpose of KRS 158.649 in calling local leaders’ attention to achievement gaps. For example, ESSA requires KDE to set long-term and interim goals for each subgroup’s performance and to ensure that disaggregated subgroup data and progress towards goals are published on school and district report cards. KDE might incorporate in the revised
regulations those elements of KRS 158.649 that are not required by ESSA, such as local board and district oversight of schools’ progress in closing gaps and annual equity reports provided by KDE to districts and schools, identifying substantive gaps.

Recommendation 5.2

In revising 703 KAR 5:225, KDE should consider specifically incorporating key elements of KRS 158.649 that are not required by ESSA. For example, the regulation should require schools and districts, through CSIPs and CDIPs, to identify in-school achievement gaps and include strategies to address them.

Recommendation 5.3

After the new accountability system is finalized, the General Assembly may wish to revise KRS 158.649 to align requirements and reduce duplication and overlap with the new accountability system.

CSIP and CDIP Strategies And Activities

Staff analysis of CSIPs and CDIPs indicates that strategies and activities described in plans were most commonly those associated with systems of continuous improvement of instruction for all students. These strategies included analysis of individual student-level data on annual, interim, and classroom assessments; flexible grouping of students in classrooms based on skill needs; and additional instruction for students struggling with specific skills, either during regular class or during specially designated intervention periods. In most schools, classroom teachers meet periodically by grade or subject to analyze data and share instructional strategies. While intervention support is generally provided by classroom teachers, CSIPs also suggest that most schools also employ one or more subject-specific intervention teachers and use some type of intervention software program. These continuous improvement strategies were reported in schools at all levels of student performance and in focus schools as well as those that had made substantial progress in closing gaps. Thus, while these strategies may be helpful, they are so widespread that
they do not appear to explain the relative success of some schools over others. 5

Continuous Improvement Strategies For All Students. With few exceptions, superintendents, principals, and teachers interviewed for this study stated that improvement strategies should be focused on improving outcomes for all students, regardless of whether they belong to one or more subgroups. 6 In fact, principals and teachers in several schools that had successfully narrowed gaps cautioned against improvement strategies that pulled students from particular subgroups into instructional groups for additional support. These educators noted that these subgroup-specific instructional groupings reinforced separate and negative school identities for the targeted subgroups.

Some Strategies For Gap Groups Not Reported On CSIPs. While CSIP and CDIP document analysis did not indicate many instructional strategies oriented towards particular subgroups, site visit data suggest that schools successful at closing gaps do continually adjust instruction and school practices based on the needs of individual students, including the needs of students in particular subgroups. For example, one high school principal described the school’s efforts to make time during the instructional day to ensure that students could meet academic expectations, including homework. This was done in recognition of the fact that many of the school’s lower-income students held after school jobs that made homework difficult or impossible. Another school with a substantial LEP population incorporated rich verbal content into physical education classes because they believed the physical activity combined with associated vocabulary aided language acquisition. An elementary teacher described purchasing classroom literature she hoped would appeal to boys after she noticed gaps in female and male reading performance in her class. A middle school principal described steps he took to address disproportionate discipline of black boys. After learning that these boys felt unfairly targeted at school, the principal decided to increase enforcement of school rules, such as a prohibition against chewing gum, that would likely affect all students. According to

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5 Education research in general has not yet identified a single, replicable strategy or program that is likely to close achievement gaps entirely. See, for example, Fryer, Roland and Will Dobbie. “Are High Quality Schools Enough to Increase Achievement Among the Poor? Evidence from the Harlem Children’s Zone.” American Economic Journal: Applied Economics 3 July, 2011) 158-187.

6 IEP students were an exception to this rule. Most plans referenced steps taken at the school level to ensure that they complied with the IEP and other requirements for special education students.
the principal, when the black boys saw white boys being disciplined, they changed their own behavior.

The adjustments in school practice described above were not described in the schools’ CSIPs, perhaps because these kinds of adjustments were too numerous to mention. Each strategy is not necessarily important in itself, and may not always be appropriate in other schools or for students in a subsequent year in the same school. The strategies are associated, rather, with a general orientation toward understanding students’ educational and social experiences, and continuously fine-tuning strategies to enhance those experiences.

Limitations Of Annual Planning

Challenges Not Reflected In Strategies And Activities

Educators and administrators in site visit schools noted that CSIPs are not able to adequately address those challenges over which school staff can exercise little control or for which resources are lacking. These include:

- teacher shortages,
- increasing numbers of students with severe mental health issues, and
- large class sizes.

Educators and administrators in site visit schools noted that CSIPs are not able to adequately address those challenges over which school staff can exercise little control or for which resources are lacking. While these challenges can be noted as barriers in planning documents, they cannot be thoroughly addressed by strategies and activities described in the plans. Examples of challenges considered critical by educators but not addressed on CSIPs included:

- **Shortage Area Teachers.** All high school principals and superintendents described an extreme shortage of high school math teachers. Other principals described shortages of ESL and world language teachers.

- **Students With Severe Mental Health Needs.** Educators in most schools noted a substantial increase in the past decade of students with severe mental health needs. School staff—even those certified to address learning and behavior disorders—are not equipped to deal with these severely troubled students whose actions can disrupt learning for an entire class. In some cases, these students and their parents may be noncompliant with medical treatment plans. Others may not have had access to necessary medical care. Educators also described a shortage of child psychiatrists or others trained to address these challenges.

- **Class Size.** Teachers in most schools said that large class sizes make it more difficult to meet individual students’ needs. This is especially true when the class contains a broad range of student skill levels. OEA observed classes of 25 students or more in most schools, including the primary grades. Many teachers also mentioned that they
had identified numerous students who needed additional intervention assistance, but the school did not have intervention staff sufficient to serve all of their needs. Educators in all but one site visit school expressed concerns that, because they are focusing on ensuring that all students are proficient, they are not always able to meet the needs of gifted students who have already hit proficiency targets.

- Several higher poverty schools noted that children in their districts often do not enroll until after the school year begins. When districts allocate staffing based on actual rather than predicted enrollments, these higher poverty schools are not able to hire the staff they need prior to the beginning of school.

The CSIP and CDIP processes do not appear sufficient in themselves to spur changes that lead to improved outcomes for gap group students. Staff analysis of CSIPs and CDIPs revealed no systematic differences between the types of goals, strategies, and activities described in documents of schools that had successfully narrowed gaps versus focus schools or districts. In addition, site visit data suggest that both groups of schools are equally likely to report that they implemented strategies described in CSIPs.

Educators’ Views of CSIPs And CDIPs. Educators’ views on the role of CSIPs in reducing achievement gaps varied among schools. While many found the CSIP process to be helpful, others viewed it as primarily a compliance exercise. The principal in one school that had improved dramatically acknowledged that, although he had systematically worked to change key components of school practice and culture, his efforts were not described in the school’s CSIP. None of the educators interviewed for this study described the CSIP or CDIP process as the driving factor in school improvement.

Most principals and superintendents reported that the ASSIST software platform, through which schools and districts are required to submit plans, is not user friendly. Because it requires that problems and strategies be framed using preexisting prompts, many find it an inflexible tool that cannot be adjusted to reflect the particular needs or strategies in their schools or districts. Further, the software does not easily allow users to switch between screens; this makes it difficult to describe how certain challenges relate to each other.

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*While OEA did not uncover any automobile references during document analysis, staff did note several cases in which CSIPs contained phrases such as “whatever” or “wah, wah, wah” to describe improvement strategies.*
Because of the many components required in each comprehensive plan, plans are lengthy, ranging from a minimum of 54 pages to a maximum of 155 pages. The lengthiness of school plans may make them more difficult for district staff to monitor and to adjust to reflect schools’ priority needs. Several interviewees opined that their plans would never be read. In one school, administrators acknowledged that they inserted unusual language in the school’s CSIP, such as the make and model of cars, to describe improvement strategies, as a way of checking whether the plan would be read.

Recommendation 5.4

**Recommendation 5.4**

*In revising 703 KAR 5:225, KDE should consider reducing the number of specific elements that are required for inclusion in every CSIP.*

Recommendation 5.5

**Recommendation 5.5**

*In revising 703 KAR 5:225, KDE should consider making explicit the role of district leaders in monitoring CSIPs, especially those of schools identified for consequence. Some of the elements currently required in all CSIPs could instead be included as elements that must be systematically monitored in all schools.*

**District And School Leadership Critical To Gap Reduction**

Consistent with national research, with the experience of KDE intervention and support staff, and with previous OEA research, site visit data suggest strongly that substantial improvements in student outcomes, including gap group outcomes, are unlikely to happen in the absence of strong local leadership.

\[^{7}\]

\[^{7}\] Of the 10 schools visited for this study, one did not fit this pattern. OEA visited one middle school in which the performance of Hispanic students exceeded state averages though the school itself was not high performing. The school had undergone leadership changes in each of the previous three years. None of the educators interviewed were able to explain the higher performance of Hispanic students compared to other students in the school, though one suggested that most of the Hispanic students had attended a higher-performing elementary school.
helpful, they are less likely, in themselves, to effect change absent effective local leaders.\textsuperscript{w}

Recent prescriptive reforms required by the USED for persistently low-achieving schools were found, nationally, to have little impact, despite the substantial school improvement grants associated with these reforms.\textsuperscript{x} However, persistently-low achieving schools that did improve shared one thing in common—strong building leaders.\textsuperscript{29}

While literature has not demonstrated a single model of effective local leadership for gap closure, qualities observed in this study, in previous OEA studies, and supported by literature include:

- High expectations/accountability for staff and students
- High support for staff and students
- Relationship building
- Strategic use of resources

High Expectations/Accountability For Staff And Students

Improving outcomes for any group of students requires raising expectations for students and staff.\textsuperscript{y} Several principals in schools that had managed to close gaps told similar stories about how they raised expectations for staff: upon arriving in the school, the principal communicated expectations for rigorous instruction and for supportive relationships with students. Principals identified teachers already in the building who were meeting these expectations, and put them in positions to support colleagues or to lead change. Teachers unwilling to change were encouraged to work elsewhere and, after a critical mass of teachers began to embrace the new expectations, these resistant teachers generally transferred schools or retired.

\textsuperscript{w} While not a subject of this report, OEA’s 2010 report on Assistant To Low-achieving Schools And Districts, noted the critical role that local board leaders the critical in ensuring adequate focus on monitoring, support, and accountability for low-achieving schools. The report notes that, absent board support, it can be difficult for district and school leaders to hold staff and students accountable for high expectations.

\textsuperscript{x} Education research in general has not yet identified a single, replicable strategy or program that is likely to close achievement gaps entirely. See, for example, Fryer, Roland and Will Dobbie. “Are High Quality Schools Enough to Increase Achievement Among the Poor? Evidence from the Harlem Children’s Zone.” American Economic Journal: Applied Economics 3 July, 2011) 158-187.

\textsuperscript{y} KDE leadership audits of persistently low-achieving schools consistently document low levels of classroom rigor and low expectations for the behavior of staff and students.
In contrast, OEA observed very low levels of academic rigor in one site visit focus school. This school’s CSIP, like most, included the goal of increasing the percentage of teachers rated accomplish or exemplary on the state’s PGES, yet low levels of classroom instruction appeared to be tolerated. OEA observed an 8th grade advanced language arts class in which students were expected to give speeches but instead read lists of items that were not organized or in sentence format. The teacher congratulated all of the students for fulfilling the assignment. During interviews, teachers in this school reported that the principal discourages teachers from failing students. Students with failing grades are allowed to attend out-of-school make up sessions and are guaranteed passing grades in their regular school classes, whether or not they work or learn in those sessions. Appendix K provides data suggesting that, statewide, course grades may be less reflective of student learning as measured by standardized tests in highest- versus lowest-poverty schools.

High Support For Staff And Students

Principals’ efforts to raise expectations for staff or students must be accompanied with sufficient support; otherwise, staff or students can become demoralized or resistant. For example, the principal in one focus school, following improvement strategies in a CSIP that was over 150 pages long, was expecting staff to implement a series of challenging instructional reforms simultaneously, with little sustained support. Staff reported that they had not been trained in the new expectations and did not have instructional materials to support them; further, the school did not have textbooks in some grades, and teachers reported that each class had several extremely disruptive students but the principal would not enforce disciplinary consequences. One first grade teacher explained that it is not uncommon for her students to exit the class and line up in the hall while one of her extremely disruptive students throws chairs and other heavy objects.

In contrast, staff in a school that had successfully narrowed gaps reported that the principal does not ask teachers to implement any strategies that the principal is unable to model and help implement. The principal in this school explained that she places a high priority on ensuring that staff are supported and that their morale does not suffer from what can be overwhelming challenges among the students whom they serve. The principal explained that, though students are her top priority, teachers are a close second because unless teachers feel supported, they will not be able to support students.
An example of high accountability and high support at the district level can be seen in the expectations a superintendent set for principals upon taking the helm in this once-troubled district. Observing that school principals were not acting as instructional leaders, he made plans to change school leadership practices across the district. He informed the principals as a group that within four years the leadership practices in the district would be different. While he hoped that the existing crop of principals would remain, he would not hesitate to remove them if they failed to accept the challenge. After setting these high expectations, the superintendent and several district staff began regularly visiting schools and classrooms across the district, delivering resources and leaving complimentary notes when positive practices were observed. District leadership established monthly leadership academies to train principals, and continued to spend many hours a day visiting schools. This district made extensive use of the 30-60-90 day plans required by 703 KAR 5:225, for which they had received training and support by KDE district and education recovery staff.

Building Relationships Among Teachers, Students, And Community

Leaders of districts and schools that had successfully narrowed gaps consistently mentioned the importance of building strong relationships. This is especially important for students who experience instability in their family or home environments or students who may have come to believe that educators hold a negative view of their abilities. In one higher-poverty, high-performing elementary school, several staff greet all parents and students each morning, and hold a daily schoolwide morning meeting to highlight individual students’ or educators’ interests or accomplishments. In another higher-poverty high school that had recently made great academic strides, staff reported that the school first focused on building positive relationships among faculty and students. Educators in all higher-poverty schools mentioned the critical role played by FRYSC coordinators, who serve as liaisons between the school, parents, and community resources that could benefit students or their families.

In one school in which black students had made great gains, the principal described extensive efforts by school staff to understand the origin of what appeared to be a reluctance on the part of these students to enroll in higher-level classes, despite their academic
Staff came to understand subtle but pervasive differences in the way they were treating white versus black students; for example, one faculty member noted that teachers make physical contact with white students, such as clapping students on the back when they do a good job, but do not touch black students. In individual interviews, black males acknowledged that they were reluctant to enter higher-level classes because they felt loyalty to their peers who were not in those classes. To address this challenge, staff worked simultaneously to make the school a place in which black students felt they belonged and to encourage individual students to enroll in higher-level classes.

**Strategic Use Of Resources**

Principals and teachers in several schools demonstrated flexible and creative uses of time and resources to meet students’ needs. For example, principals tap teachers with particular talents to assist colleagues or lead workshops, and staff are encouraged to work together to support each other and solve school problems, regardless of their particular job descriptions. In contrast, OEA observed that a focus school principal was not taking advantage of a particular teacher’s talent for forming productive relationships with disruptive students. OEA staff observed two occasions when a student from another class was sent to sit at a desk adjacent to this teacher’s, and there was no disruptive behavior once the student got to this teacher’s room. However, the teacher reported that she has no formal role in the school in assisting other teachers with classroom discipline.

Principals in gap-closing schools described reluctance to adopt new programs until they are critically examined to ensure they are clearly superior to practices already in place. By resisting pressures to change for change’s sake, these principals actively protect teachers from the churn in policies and practices that can be disruptive and draining to teachers in less effective schools.

Principals and educators noted that regulations prescribing the use of time or resources, while often intended to improve outcomes for gap group students, can have the opposite effect. In addition to requiring processes that may not be helpful, prescriptive practices

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2 Research suggests that there is some negative social pressure, especially for black and Hispanic males, associated with being perceived as higher-achieving by peers See, for example, Fryer, Roland. “Acting White: The social price paid by the best and brightest minority students.” *Education Next*, Winter, 2006.
take teachers’ and principals’ time away from planning instruction or assisting students.

**Current Support And Potential Future Support For Local Leaders In High-need Schools**

Data analyzed for this study as well as previous OEA studies suggest that while comprehensive planning can be a valuable tool in promoting gap closure, it is not sufficient in itself to spur improvements in schools with low-performing gap populations. Absent strong district and school leadership, most of the elements required in comprehensive plans—from curriculum alignment to teacher quality, community outreach, and professional development—lack the sustained school-level accountability and support necessary to be successfully implemented. KDE, local educational cooperatives, and other agencies provide many opportunities for school leaders who elect to work with support staff.

Schools lacking strong leadership can suffer from improvement overload; in these schools, multiple and frequently changing reform efforts are initiated, but basic conditions necessary for teaching and learning are not necessarily addressed. In contrast, strong leaders may prioritize critical issues—such as consistency in expectations and support, school culture, or student/teacher morale—whether or not these issues are specifically required through comprehensive planning.

National research on school improvement, KDE district and school improvement staff, and previous OEA research have consistently identified the critical role of school leaders. While many aspects of strong leadership apply regardless of school settings, special skills and support may be required of leaders working with gap populations that face the greatest challenges.

**Existing Leadership Support**

While districts can implement their own systems for developing effective local leaders for highest-poverty schools, there is currently no statewide effort to identify, train, and support these leaders. Principals in the limited number of schools identified as priority do, however, receive intensive leadership training from KDE recovery staff placed in their schools. OEA’s 2010 report on *Assistance To Low-Performing Schools And Districts* noted the strong effects on local leaders in some schools in which KDE
support staff had provided sustained, embedded support. KDE’s current efforts to support leaders in priority schools are funded almost entirely through federal school improvement dollars, most of which, beginning in 2018, must be disbursed to districts unless the district requests that funds be used to support KDE assistance.

KRS 161.027 requires the Education Professional Standards Board to establish requirements for principal preparation programs, evaluate these programs, develop assessments for principal applicants, and develop an internship program to provide supervision, assistance, and assessment of beginning principals. However, the current state budget does not provide funding to support the Kentucky Principal Internship Program.

KDE uses general funds to sponsor the following programs to support growth of local leaders:

- The P-3 program is a collaboration between KDE and the Council of Chief State School Officers to support principals in implementing the PGES.
- The annual Continuous Improvement Summit is open to all educators.
- KDE partners with the National Institute of School Leadership to provide LEAD-KY leadership training across the state, at no cost to district and school leaders.

Responding to what they determined were limited opportunities for school leaders to receive training on par with what business leaders receive, the Kentucky Chamber Of Commerce sponsors the Leadership Institute for School Principals through a collaboration with the Center for Creative Leadership.

Opportunities Through ESSA To Support Leaders In Highest-Poverty Schools

ESSA recognizes the critical importance of school leaders by allowing districts and states to use federal funds for evidence-based activities, strategies, and interventions that support principals and other school-level leaders. These include Title I school improvement funds, Title II teacher quality funds, and Title II national grant awards, including efforts to “to improve the recruitment, preparation, placement, support, and retention of effective principals or other school leaders in high-need schools.”

Moving forward, ESSA provides potential opportunities for the state to capitalize on existing efforts and further develop programs and strategies to support leaders in the highest-need schools.
Recommendation 5.6

In establishing decision criteria for awarding Title I school improvement grant awards under ESSA, KDE should consider the degree to which districts and other entities propose to recruit, prepare, and support principals and other school leaders in highest-poverty schools.

Recommendation 5.7

The Kentucky Department of Education should encourage eligible entities to apply for ESSA national priority grant awards available under Section 2243 to fund school leadership recruitment and support.
Appendix A

State Regulations And Statutes

This appendix contains those portions of 703 KAR 5:200 directly related to achievement gap issues discussed in this report. It contains KRS 158.649 in its entirety.

703 KAR 5:200. Next-Generation Learners.

Section 1. Definitions. (1) "Achievement" means student performance described with the student performance levels of novice, apprentice, proficient and distinguished on state-required content area tests.

(3) "Gap" means the average of:

(a) The percentage of students in the non-duplicated student gap group scoring proficient or distinguished on state-required content area tests; and

(b) The percentage of novice reduction goals met for individual student gap groups in the state-required reading and mathematics tests.

Section 4

(2) Gap shall be reported in next-generation learners as established in this subsection.

(a) A single gap group called the non-duplicated gap group shall be created. This group shall consist of an aggregate, non-duplicated count of students in the following demographic categories:

1. African American;
2. Hispanic;
3. American Indian or Native American;
4. Limited English proficiency;
5. Students in poverty based on qualification for free or reduced price lunch; and
6. Students with disabilities that have an Individualized Education Program (IEP).

(b) For each tested content area, students scoring proficient or higher in the non-duplicated gap group shall be summed.

2. The sum shall yield a single gap number of students with:

a. No student counting more than one (1) time; and
b. All students in the included groups counted once.

(c) The non-duplicated gap group shall have a minimum of ten (10) students per content area in the school or district in order to report gap data.

(d) The points for the non-duplicated gap calculation shall be distributed equally among the content areas tested.

(e) Reduction of novice student calculation. Annual novice reduction targets shall be calculated for student groups with a minimum of ten (10) novice students. Points shall be awarded based on the percentage of the annual goal met in the following demographic categories and the non-duplicated gap group:
1. African American;
2. Hispanic;
3. American Indian or Native American;
4. Limited English proficiency;
5. Students in poverty based on qualification for free or reduced price lunch; and
6. Students with disabilities that have an Individualized Education Program (IEP).

(f) The calculations shall be made using the novice reduction in reading and mathematics.

(g) The novice reduction gap groups shall have a minimum of ten (10) students per content area in the school or district in order to report gap data.

(h) The points shall be distributed equally between the content areas tested in reading and mathematics.

(i) Gap shall be computed equally using non-duplicated gap group and reduction of novice calculations.

(a) The total number of points earned in each category of achievement, gap, growth, readiness, and graduation rate shall be weighted in the following manner:

<table>
<thead>
<tr>
<th>Grade Range</th>
<th>Achievement</th>
<th>Gap</th>
<th>Growth</th>
<th>Readiness</th>
<th>Graduation</th>
<th>Rate</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Elementary</td>
<td>33.3</td>
<td>33.3</td>
<td>n/a</td>
<td>n/a</td>
<td></td>
<td></td>
<td>99.9</td>
</tr>
<tr>
<td>Middle</td>
<td>28</td>
<td>28</td>
<td>16</td>
<td>n/a</td>
<td></td>
<td></td>
<td>100</td>
</tr>
<tr>
<td>High</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td>20</td>
<td></td>
<td>100</td>
</tr>
</tbody>
</table>

703 KAR 5:225. School and district accountability, recognition, support, and consequences.

Section 1. Definitions. (1) "Annual measurable objective" or "AMO" means the improvement goal for each school or district calculated from the total score of the next-generation learners component.

(2) "Comprehensive District Improvement Plan" or "CDIP" means a plan developed by the local school district with the input of parents, faculty, staff, and representatives of school councils from each school in the district, based on a review of relevant data that includes targets, strategies, activities, and a time schedule to support student achievement and student growth, and to eliminate achievement gaps among groups of students.

(3) "Comprehensive School Improvement Plan" or "CSIP" means a plan developed by the school council or successor pursuant to KRS 160.346 with the input of parents, faculty, and staff, based on a review of relevant data that includes targets, strategies, activities, and a time schedule to support student achievement and student growth, and to eliminate achievement gaps among groups of students.

(4) Section 7. Continuing Consequences for Schools and Districts that Remain in Priority or Focus Status for More Than One (1) Year.

(3)(a) A school or district that is identified as a priority school or district for two (2) or more consecutive times, or a school or district that remains in the focus school or district category for three (3) consecutive years, shall revise its CSIP or CDIP as specified in Section 9 of this administrative regulation within ninety (90) days of receiving notice from the Commissioner of Education.

(b) The superintendent and the council shall review, revise, and agree upon the CSIP.
(c) The CSIP or CDIP shall be posted to the appropriate school or district Web site.

(4)(a) In addition to the requirements of this section, a priority school or district that is identified for three (3) or more consecutive times, or a focus school or district that is identified for four (4) or more consecutive years, shall revise its CSIP or CDIP as specified in Section 9 of this administrative regulation.

(b) The superintendent and the council shall review, revise, and agree upon the CSIP, which shall then be electronically transmitted to KDE within ninety (90) days of receiving notice from the Commissioner of Education.

(c) The CSIP or CDIP shall be posted to the appropriate school or district Web site.

(d) The school or district shall engage in the following actions:
1. Participate in a set of improvement strategies outlined by an accreditation process;
2. If directed by the department, receive the assignment of a high-achieving partner school or district of similar demographics for mentor activities as directed by the department; and
3. Accept ongoing assistance and resources throughout the year as assigned or approved by the department.

Section 8. Monitoring. (1) The department shall review and approve all submissions required by this administrative regulation.

(2) The department shall monitor implementation of each CDIP or CSIP and shall provide guidance based upon information gathered from the following:
(a) Progress reports from the school through the district;
(b) Data reviews;
(c) On-site observation; and
(d) Other information supplied at the option of the district or school.

(3) In addition to the activities undertaken by the department, each school district shall monitor compliance of individual schools within the district.

Section 9. Comprehensive School and District Improvement Plan Process. (1) Each school or district shall annually develop, review, and revise a comprehensive school or district improvement plan.

(2) The structure of a school or district comprehensive improvement plan shall include:
(a) Executive summary that shall include a vision and a mission;
(b) Needs assessment that shall include:
1. A description of the data reviewed and the process used to develop the needs assessment;
2. A review of the previous plan and its implementation to inform development of the new plan; and
3. Perception data gathered from the administration of a valid and reliable measure of teaching and learning conditions;
(c) Process for development that shall include:
1. Analysis of data to determine causes and contributing factors;
2. Prioritization of needs; and
3. Development of goals, objectives, strategies, and activities based on the needs assessment and root cause analysis, that shall include targets or measures of success, timelines, persons responsible, a budget that includes resources needed and source of funding, and a process for meaningful stakeholder communications and input;
(d) A set of assurances, approved by and on file with the local board of education, with a signed declaration by the superintendent that all schools in the district are in compliance with the requirements of the statutes and administrative regulations included in those assurances; and
(e) A process for annual review and revision by the school or district.
(3) Continuous improvement and capacity building shall drive the development of the plan.
(4) Other required components in the process shall include:
(a) A standards-based process for measuring organizational effectiveness that shall include purpose and direction, governance and leadership, teaching and assessing for learning, resources and support systems, and using results for continuous improvement;
(b) A data driven self-evaluation based on the standards, including a means to gather meaningful stakeholder input;
(c) A written improvement plan based on the issues identified in the self-evaluation;
(d) A set of assurances that includes a determination of compliance with each assurance and the ability to upload any supporting documentation needed;
(e) Electronic submission of all elements of the plan;
(f) Monitoring implementation of the plan through implementation and impact checks; and
(g) Evaluation of the effectiveness based on the strategies and activities in the plan.
(5) A CSIP shall also include the elements required of schools by KRS 158.649(5).
(6) A CSIP or CDIP for a priority or focus school or district shall also address the following:
(a) Curriculum alignment for schools within the district and within each individual school, ensuring the instructional program is:
   1. Research-based;
   2. Rigorous;
   3. Aligned with the Kentucky Core Academic Standards as established in 704 KAR 3:303; and
   4. Based on student needs;
(b) Provision of time for collaboration on the use of data to inform evaluation and assessment strategies to continuously monitor and modify instruction to meet student needs and support proficient student work, if a priority or focus school;
(c) Activities to target the underperforming areas of achievement, gap, growth, readiness, or graduation rate;
(d) Activities to target demonstrators of weakness in program reviews;
(e) Activities to target areas of need identified in teacher and leader effectiveness measures;
(f) School safety, discipline strategies, and other non-academic factors that impact student achievement, such as students’ social, emotional, and health needs, if a priority or focus school;
(g) Design of the school day, week, or year to include additional time for student learning and teacher collaboration, if a priority or focus school;
(h) Specific strategies to address gaps in achievement and graduation rates between the highest-achieving student performance group and the lowest-achieving student performance group, if a focus school or district; and
(i) Short-term, monthly plans for the first ninety (90) days of implementation, and the establishment of teacher turnaround teams with intensive year-round training focused on teacher effectiveness and school improvement in the professional development component of its plan, if a priority school.
(7) A priority or focus district shall use a variety of relevant sources that shall include perception data gathered from the administration of a valid and reliable measure of teaching and
learning conditions to inform the needs assessment required by the CDIP. A district containing a priority or focus school shall assist those schools in using these data to inform the needs assessment required by the CSIP.

(8) The Commissioner’s Raising Achievement and Closing Gaps Council and the Commissioner’s Parents Advisory Council shall provide guidance to focus schools and districts as they conduct their needs assessments and revise their CSIPs and CDIPs.

(9) A priority school shall document meaningful family and community involvement in selecting the intervention strategies that shall be included in the revised CSIP.

(10) The CDIP for a district with a priority or focus school shall include the support to be provided to the priority or focus school by the district. The priority or focus school’s CSIP shall include the support that will be provided by the district to the school.

(11) The CDIP for each district shall be posted to the district's Web site. The CSIP for each school shall be posted to the school’s Web site. (38 Ky.R. 1919; Am. 39 Ky.R. 60; 480; eff. 9-10-2012; 41 Ky.R. 2037; 2240; eff. 6-8-2015.

### Table A.1
Criteria For Schools To Be Identified for Consequence or Reward
703 KAR 5:225

<table>
<thead>
<tr>
<th>Consequence</th>
<th>Reward</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Priority</strong> (must implement one of several prescribed, intensive, intervention options)</td>
<td><strong>Reward</strong> At or above the 95th percentile in the state accountability system, meets criteria for all reward categories and is not a focus school</td>
</tr>
<tr>
<td>In the bottom five percent of overall scores by level for all schools that have failed to meet the annual state achievement goals for the last three (3) consecutive years.</td>
<td><strong>School of Distinction</strong></td>
</tr>
<tr>
<td><strong>Focus</strong> (must revise CSIP to address low-performance of subgroup(s))</td>
<td><strong>Highest-performing school</strong> At or above the 90th percentile in the state accountability system and meets criteria for all reward categories</td>
</tr>
<tr>
<td>Based on two years of data; has a non-duplicated student gap group score in the bottom ten (10) percent of non-duplicated student gap group score; or has an individual student subgroup by level that falls in the bottom five (5) percent for individual subjects; or is a high school that has a graduation rate that has been less than eighty</td>
<td><strong>High Progress School</strong> In the top tenth percentile of improvement compared to other schools and meets the criteria for all reward categories</td>
</tr>
<tr>
<td>All Reward Categories</td>
<td><strong>Meets state graduation, performance and participation rate goals and has a graduation rate above 80 percent</strong></td>
</tr>
</tbody>
</table>
Note: As described in 703 KAR 5:225 in Appendix A, percentile ranks remain set for 5 year intervals.
Source: Staff analysis of 703 KAR 5:225

158.649 Achievement gaps -- Data on student performance -- Policy for reviewing academic performance -- Student achievement targets -- Reporting requirements -- Review and revision of improvement plan.

(1) "Achievement gap" means a substantive performance difference on each of the tested areas by grade level of the state assessment program between the various groups of students including male and female students, students with and without disabilities, students with and without English proficiency, minority and nonminority students, and students who are eligible for free and reduced lunch and those who are not eligible for free and reduced lunch.

(2) By November 1 of each year, the Department of Education shall provide each school council, or the principal if a school council does not exist, data on its students' performance as shown by the state assessment program described in KRS 158.6453. The data shall include, but not be limited to, information on performance levels of all students tested, and information on the performance of students disaggregated by race, gender, disability, English proficiency, and participation in the federal free and reduced price lunch program. The information from the department shall include an equity analysis that shall identify the substantive differences among the various groups of students identified in subsection (1) of this section. Beginning with the 2012-2013 school year, the reporting requirement in this subsection shall be no later than seventy-five (75) days following the first day the assessment can be administered.

(3) Each local board of education upon the recommendation of the local district superintendent shall adopt a policy for reviewing the academic performance on the state assessments required under KRS 158.6453 for various groups of students, including major racial groups, gender, disability, free and reduced price school lunch eligibility, and limited English proficiency. The local board policy shall be consistent with Kentucky Board of Education administrative regulations. Upon agreement of the school-based decision making council, or the principal if there is not a council, and the superintendent, the local board shall establish a biennial target for each school for reducing identified gaps in achievement as set out in subsection (4) of this section.

(4) By February 1, 2003, and each February 1 in odd-numbered years thereafter, the school-based decision making council, or the principal if there is not a council, with the involvement of parents, faculty, and staff shall set the school's biennial targets for eliminating any achievement gap and submit them to the superintendent for consideration. The superintendent and the school-based decision making council, or the principal if there is not a council, shall agree on the biennial targets before they are submitted to the local board of education for adoption. Beginning with the 2012-2013 school year, the reporting requirement in this subsection shall be October 1 of each year.

(5) By April 1, 2003, and each April 1 in odd-numbered years thereafter, the school council, or the principal if a school council does not exist, with the involvement of parents, faculty, and
staff, shall review the data and revise the consolidated plan to include the biennial targets, strategies, activities, and a time schedule calculated to eliminate the achievement gap among various groups of students to the extent it may exist. The plan shall include but not be limited to activities designed to address the following areas:

(a) Curriculum alignment within the school and with schools that send or receive the school's students;
(b) Evaluation and assessment strategies to continuously monitor and modify instruction to meet student needs and support proficient student work;
(c) Professional development to address the goals of the plan;
(d) Parental communication and involvement;
(e) Attendance improvement and dropout prevention; and
(f) Technical assistance that will be accessed.

Beginning with the 2012-2013 school year, the reporting requirement in this subsection shall be October 1 of each year.

(6) The principal shall convene a public meeting at the school to present and discuss the plan prior to submitting it to the superintendent and the local board of education for review, in the public meeting required under KRS 160.340.

(7) Based on the disaggregated assessment results, the local board shall determine if each school achieved its targets for each group of students. Only data for a group of students including ten (10) or more students shall be considered.

(8) Notwithstanding KRS 160.345(8) and 158.070(8), if a local board determines that a school has not met its target to reduce the identified gap in student achievement for a group of students, the local board shall require the council, or the principal if no council exists, to submit its revisions to the school improvement plan describing the use of professional development funds and funds allocated for continuing education to reduce the school's achievement gap for review and approval by the superintendent. The plan shall address how the school will meet the academic needs of the students in the various groups identified in subsection (1) of this section.

(9) The superintendent shall report to the commissioner of education if a school fails to meet its targets to reduce the gap in student achievement for any student group for two (2) consecutive years. The school's improvement plan shall be subject to review and approval by the Kentucky Department of Education and the school shall submit an annual status report. The Department of Education may provide assistance to schools as it deems necessary to assist the school in meeting its goals.

(10) The school-based decision making council, or the principal if there is not a council, shall no longer be required to seek approval of the plan under subsections (8) and (9) of this section when it meets its biennial target for reducing the gap in student achievement for the various groups of students identified in subsection (1) of this section.

Effective: July 15, 2014

Appendix B

Program Eligibility Requirements

Free & Reduced Lunch: Children from families with incomes at or below 130 percent of the poverty level are eligible for free lunches. Those with incomes between 130 percent and 185 percent of the poverty level are eligible for reduced-price lunches. 

LEP: Limited English proficiency refers to an individual
- who is between ages 3 through 21;
- who is enrolled or preparing to enroll in an elementary or secondary school;
- who was not born in the United States or whose native language is a language other than English; or
- is a Native American or Alaska Native, or a native resident of the outlying areas, and comes from an environment where a language other than English has had a significant impact on the individual’s level of English language proficiency; or
- is migratory, whose native language is a language other than English, and who comes from an environment where a language other than English is dominant; and
- whose difficulties in listening, speaking, reading, or writing the English language may be sufficient to deny the individual
  - the ability to meet the state’s proficient level of achievement on state assessments;
  - the ability to successfully achieve in classrooms where the language of instruction is English; or
  - the opportunity to participate fully in society.

Exceptional Child: A child who is evaluated in accordance with 707 KAR 1:300 as meeting the criteria listed in the definitions for autism, deaf-blindness, developmental delay, emotional-behavior disability, hearing impairment, mental disability, multiple disabilities, orthopedic impairment, other health impairment, specific learning disability, speech or language impairment, traumatic brain injury, or visual impairment that has an adverse effect on the child’s educational performance and who, as a result, needs special education and related services.

Section 3 of this regulation requires that students be provided research-based interventions prior to identification and that, despite these interventions, the student has not made adequate progress:

Section 3. Referral System. (1) An LEA shall have a referral system that explains how referrals from district or nondistrict sources will be accepted and acted upon in a timely manner.
(2) The referral system shall be conducted in such a manner as to prevent inappropriate over identification or disproportionate representation by race and ethnicity of children in special education by ensuring that each child has been provided appropriate instruction and intervention services prior to referral.

(3) The LEA shall ensure that:

(a) Prior to, or as a part of the referral process, the child is provided appropriate, relevant research-based instruction and intervention services in regular education settings, with the instruction provided by qualified personnel; and

(b) Data-based documentation of repeated assessments of achievement or measures of behavior is collected and evaluated at reasonable intervals, reflecting systematic assessment of student progress during instruction, the results of which were provided to the child’s parents.

(4) If the child has not made adequate progress after an appropriate period of time during which the conditions in subsection (3) of this section have been implemented, a referral for an evaluation to determine if the child needs special education and related services shall be considered.

Appendix C
NAEP Results

Table C.1
Kentucky Gaps Versus Nation
NAEP 4th and 8th Grade Reading And Math, 2015

<table>
<thead>
<tr>
<th></th>
<th>White-Black</th>
<th>White-Hispanic</th>
<th>FRPL Not Eligible-Eligible</th>
<th>All-LEP</th>
</tr>
</thead>
<tbody>
<tr>
<td>4th grade reading</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KY</td>
<td>19</td>
<td>15</td>
<td>22</td>
<td>27</td>
</tr>
<tr>
<td>Nation</td>
<td>26</td>
<td>24</td>
<td>28</td>
<td>34</td>
</tr>
<tr>
<td>8th grade reading</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KY</td>
<td>24</td>
<td>5</td>
<td>20</td>
<td>32</td>
</tr>
<tr>
<td>Nation</td>
<td>26</td>
<td>21</td>
<td>23</td>
<td>42</td>
</tr>
<tr>
<td>4th grade math</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KY</td>
<td>18</td>
<td>10</td>
<td>21</td>
<td>22</td>
</tr>
<tr>
<td>Nation</td>
<td>24</td>
<td>18</td>
<td>24</td>
<td>22</td>
</tr>
<tr>
<td>8th grade math</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>KY</td>
<td>24</td>
<td>7</td>
<td>23</td>
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</tr>
<tr>
<td>Nation</td>
<td>32</td>
<td>22</td>
<td>28</td>
<td>57</td>
</tr>
</tbody>
</table>

Source: Staff calculation based on NAEP data, 2015 (NAEP calculator).

Tables C.2 show that scores for both white and black students increased in recent decades. In the nation, scores for black students increased at slightly higher rates than white students whereas in Kentucky scores for white students increased at slightly higher rates than black students. Thus, gaps between Kentucky’s white and black students remained similar at the 4th grade and increased slightly at the 8th grade.

Table C.2
NAEP 4th Grade Reading
White And Black Students
1992 And 2015

<table>
<thead>
<tr>
<th></th>
<th>1992</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>white</td>
<td>black</td>
</tr>
<tr>
<td>KY</td>
<td>214</td>
<td>196</td>
</tr>
<tr>
<td>Nation</td>
<td>223</td>
<td>191</td>
</tr>
</tbody>
</table>

Source: 1990 and 1992 data from NCES, 2009; 2015 data from NAEP31
Table C.3
NAEP 4th Grade Math
White And Black Students
1992 And 2015

<table>
<thead>
<tr>
<th></th>
<th>1992</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>white</td>
<td>black</td>
</tr>
<tr>
<td>KY</td>
<td>217</td>
<td>200</td>
</tr>
<tr>
<td>Nation</td>
<td>227</td>
<td>192</td>
</tr>
</tbody>
</table>

Source: 1992 data from NCES, 2009; 2015 data from NAEP

Table C.4
NAEP 8th Grade Reading
White And Black Students
1998 And 2015

<table>
<thead>
<tr>
<th></th>
<th>1998</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>white</td>
<td>black</td>
</tr>
<tr>
<td>KY</td>
<td>264</td>
<td>246</td>
</tr>
<tr>
<td>Nation</td>
<td>268</td>
<td>242</td>
</tr>
</tbody>
</table>

Source: 1998 data from NCES, 2009; 2015 data from NAEP

Table C.5
NAEP 8th Grade Math
White And Black Students
1990 And 2015

<table>
<thead>
<tr>
<th></th>
<th>1990</th>
<th>2015</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>white</td>
<td>black</td>
</tr>
<tr>
<td>KY</td>
<td>259</td>
<td>240</td>
</tr>
<tr>
<td>Nation</td>
<td>269</td>
<td>236</td>
</tr>
</tbody>
</table>

Note: *Difference due to rounding.
Source: 1990 and 1992 data from NCES, 2009; 2015 data from NAEP
# Appendix D

## K-PREP Results

### Percent Novice, Apprentice, Proficient, and Distinguished 2015 Elementary School Math

<table>
<thead>
<tr>
<th>Student Group</th>
<th>Number Tested</th>
<th>Percent Novice</th>
<th>Percent Apprentice</th>
<th>Percent Proficient</th>
<th>Percent Distinguished</th>
<th>Novice-Distinguished Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-Gap</td>
<td>48,442</td>
<td>6.0</td>
<td>23.8</td>
<td>40.4</td>
<td>29.8</td>
<td>0.2</td>
</tr>
<tr>
<td>All Students</td>
<td>151,604</td>
<td>18.1</td>
<td>33.0</td>
<td>32.7</td>
<td>16.2</td>
<td>1.1</td>
</tr>
<tr>
<td>White</td>
<td>119,069</td>
<td>16.1</td>
<td>32.1</td>
<td>34.1</td>
<td>17.6</td>
<td>0.9</td>
</tr>
<tr>
<td>African American</td>
<td>15,355</td>
<td>31.2</td>
<td>38.3</td>
<td>24.2</td>
<td>6.3</td>
<td>5.0</td>
</tr>
<tr>
<td>Hispanic</td>
<td>9,148</td>
<td>23.6</td>
<td>38.7</td>
<td>28.9</td>
<td>8.9</td>
<td>2.7</td>
</tr>
<tr>
<td>FRPL</td>
<td>94,857</td>
<td>23.9</td>
<td>37.6</td>
<td>29.1</td>
<td>9.5</td>
<td>2.5</td>
</tr>
<tr>
<td>IEP</td>
<td>21,031</td>
<td>40.6</td>
<td>34.6</td>
<td>18.6</td>
<td>6.2</td>
<td>6.5</td>
</tr>
<tr>
<td>LEP</td>
<td>4,933</td>
<td>34.0</td>
<td>41.8</td>
<td>19.7</td>
<td>4.5</td>
<td>7.6</td>
</tr>
</tbody>
</table>

### Percent Novice, Apprentice, Proficient, and Distinguished 2015 Middle School Math

<table>
<thead>
<tr>
<th>Student Group</th>
<th>Number Tested</th>
<th>Percent Novice</th>
<th>Percent Apprentice</th>
<th>Percent Proficient</th>
<th>Percent Distinguished</th>
<th>Novice-Distinguished Ratio</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-Gap</td>
<td>52,541</td>
<td>4.9</td>
<td>30.9</td>
<td>44.1</td>
<td>20.1</td>
<td>0.2</td>
</tr>
<tr>
<td>All Students</td>
<td>150,251</td>
<td>16.1</td>
<td>41.1</td>
<td>32.4</td>
<td>10.4</td>
<td>1.5</td>
</tr>
<tr>
<td>White</td>
<td>119,995</td>
<td>13.7</td>
<td>40.3</td>
<td>34.7</td>
<td>11.3</td>
<td>1.2</td>
</tr>
<tr>
<td>African American</td>
<td>16,033</td>
<td>32.8</td>
<td>46.2</td>
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### Percent Novice, Apprentice, Proficient, and Distinguished
#### 2015 High School Math

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### Percent Novice, Apprentice, Proficient, and Distinguished
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### Percent Novice, Apprentice, Proficient, and Distinguished
#### 2015 High School Reading

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#### Reading

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### 2015 Novice - Distinguished Ratio
#### Math

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### Elementary School Math

#### Percent Proficient or Distinguished Gaps

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<th>Change</th>
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### Middle School Math

#### Percent Proficient or Distinguished Gaps

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<th>Change</th>
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### High School Math

#### Percent Proficient or Distinguished Gaps

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Percent Proficient or Distinguished Gaps

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Percent Proficient or Distinguished Gaps

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### High School Reading
Percent Proficient or Distinguished Gaps

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Appendix E

School Performance Compared To State

Number And Percentage Of Schools
In Which FRPL Students Score At Or Above State Averages
By Percentage Of All Students In School FRPL
Reading and Math Combined, 2015

<table>
<thead>
<tr>
<th>School Percentage FRPL</th>
<th>Total Number Of Schools</th>
<th>Number Schools At Or Above</th>
<th>Percent Schools At Or Above</th>
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Source: Staff analysis of data from the Kentucky Department of Education.

Number And Percentage Of Schools
In Which Black Students Score At Or Above State Averages
By Percentage Of All Students In School FRPL
Reading and Math Combined, 2015

<table>
<thead>
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<th>Number Schools At Or Above</th>
<th>Percent Schools At Or Above</th>
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</thead>
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<td>51-75</td>
<td>96</td>
<td>75</td>
<td>27</td>
</tr>
<tr>
<td>76-100</td>
<td>103</td>
<td>25</td>
<td>11</td>
</tr>
</tbody>
</table>

Note: This table includes only those schools that have reportable numbers of black students.
Source: Staff analysis of data from the Kentucky Department of Education.
### Number and Percentage of Schools
**In Which Hispanic Students Score At Or Above State Averages**
*By Percentage Of All Students In School FRPL Reading and Math Combined, 2015*

<table>
<thead>
<tr>
<th>School Percentage FRPL</th>
<th>Total Number Of Schools</th>
<th>Number Of Schools At Or Above</th>
<th>Percent Of Schools At Or Above</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Elem</td>
<td>Middle</td>
<td>High</td>
</tr>
<tr>
<td>0-25</td>
<td>10</td>
<td>6</td>
<td>3</td>
</tr>
<tr>
<td>26-50</td>
<td>44</td>
<td>38</td>
<td>22</td>
</tr>
<tr>
<td>51-75</td>
<td>109</td>
<td>86</td>
<td>12</td>
</tr>
<tr>
<td>76-100</td>
<td>77</td>
<td>18</td>
<td>5</td>
</tr>
</tbody>
</table>

Note: This table includes only those schools that have reportable numbers of black students.
Source: Staff analysis of data from the Kentucky Department of Education.
Appendix F

Table F.1 shows the percentage of districts where FRPL, black, and Hispanic students score at or above state averages. As with schools, percentages are higher for FRPL and Hispanic students than for black students. Also, with the exception of the elementary level for FRPL students, the average FRPL rates for districts in which gap groups score at or above the state is lower than the state average of 60 percent.

Table F.1  
Percentage Of Districts Where FRPL, Black, Of Hispanic Students Perform At Or Above State Average For All Students  
Reading And Math Combined, 2015

<table>
<thead>
<tr>
<th>Gap Group</th>
<th>Percent of Districts</th>
<th>Average FRPL</th>
</tr>
</thead>
<tbody>
<tr>
<td>FRPL</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elem (n=173)</td>
<td>14</td>
<td>60</td>
</tr>
<tr>
<td>Middle (n=173)</td>
<td>12</td>
<td>54</td>
</tr>
<tr>
<td>High (n=168)</td>
<td>11</td>
<td>56</td>
</tr>
<tr>
<td>Black</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elem (n=52)</td>
<td>6</td>
<td>57</td>
</tr>
<tr>
<td>Middle (n=67)</td>
<td>4</td>
<td>58</td>
</tr>
<tr>
<td>High (n=36)</td>
<td>8</td>
<td>59</td>
</tr>
<tr>
<td>Hispanic</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elem (n=61)</td>
<td>13</td>
<td>49</td>
</tr>
<tr>
<td>Middle (n=71)</td>
<td>27</td>
<td>58</td>
</tr>
<tr>
<td>High (n=19)</td>
<td>11</td>
<td>48</td>
</tr>
</tbody>
</table>

Note: The table contains data only for those districts with reportable scores.  
Source: Staff analysis of data from the Kentucky Department of Education.

In no districts do FRPL or Hispanic students score 30 percentage points or more below state averages. The percentage of districts in which black students do so is 13 percent at the elementary school level, 16 percent at the middle school level, and 8 percent at the high school level.
Table G.1  
Percent of Students Mobile Among Schools  
By Student Group, 2015

<table>
<thead>
<tr>
<th></th>
<th>Total Number Of Students</th>
<th>Mobile</th>
<th>Highly Mobile</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Number Enrolled &gt; 1 Schools</td>
<td>Percent Mobile</td>
</tr>
<tr>
<td>All</td>
<td>447,768</td>
<td>32809</td>
<td>7.3</td>
</tr>
<tr>
<td>Male</td>
<td>229685</td>
<td>17764</td>
<td>7.7</td>
</tr>
<tr>
<td>Female</td>
<td>218002</td>
<td>15024</td>
<td>6.9</td>
</tr>
<tr>
<td>White</td>
<td>357989</td>
<td>23821</td>
<td>6.7</td>
</tr>
<tr>
<td>Black</td>
<td>46675</td>
<td>5564</td>
<td>11.9</td>
</tr>
<tr>
<td>Hispanic</td>
<td>22735</td>
<td>1926</td>
<td>8.5</td>
</tr>
<tr>
<td>Asian</td>
<td>7212</td>
<td>255</td>
<td>3.5</td>
</tr>
<tr>
<td>Other</td>
<td>13157</td>
<td>1243</td>
<td>9.4</td>
</tr>
<tr>
<td>FRPL</td>
<td>260474</td>
<td>26673</td>
<td>10.2</td>
</tr>
<tr>
<td>Non FRPL</td>
<td>187294</td>
<td>6136</td>
<td>3.3</td>
</tr>
<tr>
<td>IEP</td>
<td>51356</td>
<td>6372</td>
<td>12.4</td>
</tr>
<tr>
<td>LEP</td>
<td>10287</td>
<td>913</td>
<td>8.9</td>
</tr>
</tbody>
</table>

Note: These data include only those students that took one or more state assessment in 2015.  
Source: Staff analysis of data from the Kentucky Department of Education.

Table G.2 shows that the majority of students who are considered homeless are those living with friends and relatives. Some homeless students are counted in more than one category during the same year. The unduplicated count of homeless students in 2015 was 27,843. The percentage of students who were homeless was lower for white students (3.2 percent) than for black (5.3 percent) or Hispanic students (4.6 percent).
Table G.2
Homeless Students By Category, 2015

<table>
<thead>
<tr>
<th>Category</th>
<th>Number</th>
<th>Percent of Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Runaway shelter</td>
<td>231</td>
<td>0.7</td>
</tr>
<tr>
<td>Motel</td>
<td>1256</td>
<td>4.1</td>
</tr>
<tr>
<td>Nighttime shelter</td>
<td>1171</td>
<td>3.8</td>
</tr>
<tr>
<td>Care facilities</td>
<td>1438</td>
<td>4.6</td>
</tr>
<tr>
<td>Abuse center</td>
<td>198</td>
<td>0.6</td>
</tr>
<tr>
<td>Uninhabited places</td>
<td>1360</td>
<td>4.4</td>
</tr>
<tr>
<td>Friends or relatives</td>
<td>23198</td>
<td>74.9</td>
</tr>
<tr>
<td>Foster care</td>
<td>1203</td>
<td>3.9</td>
</tr>
<tr>
<td>Other</td>
<td>916</td>
<td>3.0</td>
</tr>
<tr>
<td>Homeless Students</td>
<td>30971</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: Staff analysis of data from the Kentucky Department of Education.

Figure G.A shows the percentage of gap group students and white students who are chronically absent. Not shown in the table are substantially differences with the FRLP category in the percentages of white, black, and Hispanic FRLP students who are chronically absent. These percentages are 20 percent for white students, 16 percent for black students, and 12 percent for Hispanic students.

Figure G.A
Percent Of Students Chronically Absent
By Student Group, 2015

Note: These data include only those students that took one or more state assessment in 2015. Chronic absence is calculated at the student level as absences (excused or unexcused) as a percent of total days enrolled.
Source: Staff analysis of data from the Kentucky Department of Education.
Appendix H

Differences in Assignment Of Less Experienced Teachers To Black and Hispanic Students Within Schools

Figures A and B show differences in individual schools in the percentages of white students versus black students (Figure A) or white students versus Hispanic students (Figure B) assigned to newer teachers. Both figures show that, in the majority of schools, ratios in the percentages of black students and Hispanic students compared to white students assigned to newer teachers were relatively low (1.4 or less). Thus, disproportionate assignment of black or Hispanic students to newer teachers does not appear to be a concern in the majority of schools.

However, ratios are more disproportionate in a small percentage of schools. In a total of 15 percent of schools, black students are 1.5 times or more likely to be assigned newer teachers than are white students. In a total of 18 percent of schools, Hispanic students are more likely to be assigned newer teachers than are white students. It is important to note also that, compared to black students, white students were also 1.5 times or more likely to be assigned to newer teachers in 7 percent of schools and, compared to Hispanic students, white students were 1.5 times or more likely to be assigned to newer teachers in a total of 8 percent of schools.

Figure H.A
Percent Of Schools In Which The Percentage Of White And Black Students Assigned To Newer Teachers Differed, By Ratio Of Difference

Note: Schools in which there were fewer than 5 total enrollments in a class with a teacher with 2 years of experience or less were excluded from this analysis.
Source: Staff analysis of course enrollment, student demographic, and teachers’ years of experience data from KDE.
Figure H.B  
Percent Of Schools In Which The Percentage Of White And Hispanic Students Assigned To Newer Teachers Differed, By Ratio Of Difference

Note: Schools in which there were fewer than 5 total enrollments in a class with a teacher with 2 years of experience or less were excluded from this analysis.
Source: Staff analysis of course enrollment, student demographic, and teachers’ years of experience data from KDE.
Appendix I

TELL Kentucky Results Relevant to Achievement Gaps

Working Conditions

TELL Kentucky survey data of all Kentucky educators in 2015 show few differences in respondents’ reports of teacher working conditions between higher- and lower-poverty schools. However, educators in schools with higher percentages of nonwhite students (greater than 50 percent) are more likely to report concerns about working conditions than are those in schools with low percentages of nonwhite students (less than 10 percent). For example, related to instructional time, the percentage of teachers that disagree that they are allowed to focus on educating students with minimal interruptions is 19 percent in schools with lower percentages of nonwhite students compared to 35 percent in schools with higher percentages of nonwhite students, that efforts are made to minimized paperwork is 35 percent in lower nonwhite versus 45 percent in higher nonwhite schools, and that instructional time is sufficient to meet student needs is 20 percent in lower-nonwhite versus 35 percent in higher-nonwhite schools.

Teachers in higher versus lower-nonwhite schools are also more likely to disagree that parents support teachers (42 percent versus 21 percent), that the community supports the school (28 percent versus 10 percent), and that there is an atmosphere of trust and mutual respect in the school (32 percent versus 17 percent). Educators in schools with higher percentages of nonwhite students also indicate greater concerns with student discipline: 42 percent disagree that students follow rules versus 15 percent in lower-minority schools; 33 percent disagree that administrators enforce rules versus 18 percent in lower-minority schools. Finally, the percentage that disagree that parents are influential decision makers is 49 percent in schools with higher percentages of nonwhite students versus 22 percent in lower minority schools.

Professional Development

Across the state, teachers are more likely to identify a need for professional development in closing the achievement gap than in any other area but are relatively less likely to report receiving 10 or more clock hours in closing the achievement gap than they are in areas such as standards, assessment, and their content areas, for which they are less likely to identify need.

A greater percentage of educators (58 percent) acknowledge a need for professional development in closing achievement gaps than in any other area, including their own content area or classroom management. Reflecting perhaps, teachers’ acknowledged need for greater support in closing achievement gaps were the also high percentages of teachers expressing a need for professional development in differentiated instruction (57 percent) and integrating technology into instruction (52 percent).
Appendix J

Nonwhite Educators Compared To Nonwhite Students, 2015

Figure J.A
Percentage of Students and Educators
African American, Hispanic, or Other, 2015

Table J.1
Average Percentage Of Nonwhite Classified, Certified, and Administrative Staff
By District Percentage Of Nonwhite Students, 2015

<table>
<thead>
<tr>
<th>District Percent Nonwhite Students</th>
<th>Number of districts</th>
<th>Percentage Nonwhite Classified</th>
<th>Percentage Nonwhite Certified</th>
<th>Percentage Nonwhite Administrators</th>
</tr>
</thead>
<tbody>
<tr>
<td>5 or less</td>
<td>55</td>
<td>0.9</td>
<td>0.5</td>
<td>0.4</td>
</tr>
<tr>
<td>6 to 10</td>
<td>54</td>
<td>1.8</td>
<td>1.2</td>
<td>0.4</td>
</tr>
<tr>
<td>11 to 20</td>
<td>35</td>
<td>5.5</td>
<td>3.3</td>
<td>1.7</td>
</tr>
<tr>
<td>21 to 40</td>
<td>18</td>
<td>10.7</td>
<td>6.9</td>
<td>4.3</td>
</tr>
<tr>
<td>41 to 60</td>
<td>11</td>
<td>22.9</td>
<td>13.8</td>
<td>8.5</td>
</tr>
</tbody>
</table>
Appendix K

Figure K.1 shows the K-PREP performance designations received by students on Algebra II end-of-course exams, disaggregated by students that received course grades of A through F in Algebra II high school classes. The data are shown for all schools and separately for highest-poverty schools (greater than 75 FRPL students) and lowest-poverty schools (25 percent or less student FRPL).

The figures show that higher course grades are more likely to predict proficiency on EOC exams in lower- versus higher-poverty schools. For example, in lowest-poverty schools, 91 percent of students that received an A in their Algebra II course were proficient or distinguished on the Algebra II EOC. Only 56 percent of students that received A’s in highest-poverty schools were proficient or distinguished.

Figure K.1
Algebra II End-Of-Course Exam Level By Letter Grade In Course, 2015
By School Poverty Level

Percentage Of Students Achieving Each Level On EOC Exam

Note: Percentages may not add to 100 due to rounding error.
Source: Staff analysis of assessment data from Kentucky Department of Education.
Endnotes


8 http://www.dodea.edu/DoDEA-70-Anniversary.cfm


12 Ibid.


15 Reardon, Sean F. School Segregation and Racial Academic Achievement Gaps. Stanford Center for Education Policy Analysis. Feb 1. 2016. Some districts have attempted to address this problem through housing policies but consistent effects of these policies are not yet established. For example, as reported in US Department of Housing and Urban Development. How Housing Mobility Affects Education Outcomes for Low-Income Children, outcomes for public housing policies in Montgomery County, MD for lower-income students placed in higher income schools through low-income housing policies we re positive. Academic outcomes for students given vouchers to move to higher-income neighborhoods have been mixed.


Endnotes


