Overview Of Achievement Gaps In Kentucky Schools

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Overview Of Achievement Gaps
In Kentucky Schools

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Foreword

For more than 25 years, the Office of Education Accountability (OEA) 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 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 because their family incomes are below or near the poverty line. Although 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, especially in highest-poverty schools. It also describes the critical role of local leaders in narrowing achievement gaps.

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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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 narrowed 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 between the performance of gap group students and the performance of all students in the state 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 between Hispanic or black students and state averages.

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. [a]

Recommendation 3.1
In revising regulations related to school accountability, the Kentucky Department of Education 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 (KDE) is required by KRS 158.649 to provide schools with an "equity analysis that shall identify the 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 its 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 be regarded by teachers and principals primarily as compliance documents.

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[a] This percentage is calculated only from the Schools of Distinction in which 10 or more black students were tested. To protect student privacy, scores are not reported for any gap group in schools in which fewer than 10 students from that group were tested.

Many of the broad gap reduction goals and strategies promoted through KRS 158.649 overlap with policies that will be required by ESSA but the laws require different actions at the state and local levels. For example, while ESSA requires the Kentucky Department of Education (KDE) to set annual goals for gap group performance and monitor whether schools meet those goals, KRS 158.649 requires each school to set gap reduction targets and requires local boards to monitor whether schools meet those targets. 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, the Kentucky Department of Education should consider specifically incorporating key elements of KRS 158.649 that are not required by the Every Student Succeeds Act. For example, the regulation should require schools and districts, through comprehensive school improvement plans and comprehensive district improvement plans, 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, the Kentucky Department of Education should consider reducing the number of specific elements that are required for inclusion in every comprehensive school improvement plan.

Recommendation 5.5
In revising 703 KAR 5:225, the Kentucky Department of Education should consider making explicit the role of district leaders in monitoring comprehensive school improvement plans (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 flexibility 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 the Every Student Succeeds Act, the Kentucky Department of Education 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 Every Student Succeeds Act 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 5 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 the Every Student Succeeds Act, 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 Every Student Succeeds Act law, regulation, or guidance, and state law or regulation.

Chapter 1

Introduction And Background

Educational policy makers, educators, and researchers have struggled to understand and address achievement gaps for more than half a century.	For more than half a century, education policy makers, 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 whom substantial gaps exist include black students, Hispanic students, and students who qualify for federal free or reduced-price lunch programs (FRPL), are in the process of learning English, or are students with disabilities who are eligible for special education and individualized education programs (IEPs). Consistent with current state regulations, this report will refer to students who are, on average, lower performing as gap group students.[a]
In addition to affecting individual students, achievement gaps affect local and national economies.	Achievement gaps have consequences not only for individual students but also for the health of the state and national economies. 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]
Outcomes have improved for gap group students but not at a pace to close gaps with higher-achieving peers. Gaps for some students have increased slightly in Kentucky.	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, these 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.

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[a] *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 an overview of Kentucky gaps compared to those of 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 an 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 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 2012 through 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 comprehensive district improvement plans (CDIPs). In addition, staff analyzed data from the National Assessment of Education Progress (NAEP), Education 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] This report refers to school years by the year in which the school year ends. For example, the 2011-2012 school year is called the 2012 school year.

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, 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 gap group 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

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[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.

data on gaps present in schools with various performance designations in the state's accountability system.

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 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

This report contains 10 major conclusions.

- At the state and national levels, achievement gaps are generally largest for students with IEPs and students in the process of learning English. 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 ineligible peers. Females outperform males in reading and math, but gaps are greater in reading, especially in high school.

- Kentucky students in most gap groups perform at higher levels than their national counterparts in reading on NAEP tests in the 4th grade, and FRPL and Hispanic students 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.

- 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.

- 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 is the schools operated by the Department of Defense for children from military families.

- 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 are their black and Hispanic counterparts in other states.

- 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. For example, about one-quarter of Schools of Distinction have gaps of 30 percentage points or more between white and black students.[d]

- 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 in attracting and retaining teachers.

- 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

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[d] This percentage is calculated only from the Schools of Distinction in which 10 or more black students were tested. To protect student privacy, scores are not reported for any gap group in schools in which fewer than 10 students from that group were tested.

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).

- 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 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.

- 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 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 three Kentucky regulations and laws relating specifically to achievement gaps are described below; Appendix A contains portions of those regulations directly relevant to achievement gaps.

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

- 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, FRPL, IEP, and limited English proficiency (LEP).

Schools with large gaps are identified as focus and required to revise school plans.

- 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.[e]

Schools must set gap reduction targets for specific student groups. These must be approved and monitored by districts.

- 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

States' assessment and accountability policies must comply with the federal Elementary and Secondary Education Act, which was formerly known as the No Child Left Behind Act (NCLB) and was reauthorized in 2015 as 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

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[e] While priority schools are not identified specifically for achievement gaps, they generally have student populations comprised primarily of gap group students.

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 gap group performance in state graduation rates and on assessments in required grades and subjects, and to publicly report these gaps.[f] As did NCLB, ESSA requires KDE to set school performance goals for student gap groups and to identify schools with overall low performance or low-performing gap groups. It also specifies state, district, and school responsibilities to improve identified schools.

Differences between ESSA and previous federal policies include those listed below.
- **States must set improvement goals for each gap group, but the goals do not have to be the same for each group.**
- **Methods for assisting low-performing schools or schools with large gaps are not federally prescribed.**
- **Local districts have primary responsibility for assisting schools with large gaps.**

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

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[f] 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.

performance, targeted assistance schools must undergo a comprehensive school improvement process.[g]

- ESSA sets additional elements required for public reporting on district and school report cards. These include reporting of each gap group's progress toward meeting interim goals and reporting progress of students in the process of learning English toward English language proficiency.

Note that, consistent with current Kentucky regulations, this report uses the term limited English proficiency to describe students in the process of learning English. ESSA refers to these students as English learners.

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 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.

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[g] KRS 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.

Specific Student Groups

Funds that support education of gap group students include, but are not limited to, Support Educational Excellence in Kentucky 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 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

A variety of federal funds support education of gap group students. The majority are from Title I to support the education of low-income children and from the Individuals with Disabilities Education Act to support the education of students with disabilities.

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, which 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 school improvement funds of more than $7 million are available for schools and districts. KDE can distribute these funds, beginning in the 2018 school year, on a formula or competitive basis.

Federal 1003 funds, which totaled more than $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 federal policy environment since 2011 may have made it difficult for states to keep stakeholders updated about the source of particular requirements or decisions. Methods used by KDE to identify focus schools and to distribute federal funds were not always the same as methods described on its website.

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 modified from the method described in 703 KAR 5:225. The number of schools identified as focus by that regulation exceeded the cap on the number of schools to be identified according to federal guidance. As a result, KDE adjusted the method described in Kentucky regulation to identify focus schools, to allow for elimination of the requisite number of identified schools. Methods used to identify priority schools as described in KRS 160.345 were also adjusted. During the waiver years, KDE also followed a process to distribute federal funds intended for focus schools (1003(a)) that was different from what was described on its website. According to the process described publicly, focus schools were to receive 1003(a) funds. However, beginning in 2011, these funds were no longer distributed directly to schools. Instead, KDE developed a system by which focus schools received assistance from KDE staff. In addition, as described later in this chapter, KDE established regional hub schools to serve as model sites from which focus schools could learn.

Under ESSA, KDE will be responsible for distributing federal school improvement funds to districts, based either on competitive grants or on 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

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 the Every Student Succeeds Act, and methods used to distribute federal funds to those schools.

Recommendation 1.2

| Recommendation 1.2 | **The Kentucky Department of Education should report to the Education Assessment and Accountability Review Subcommittee instances of conflict between Every Student Succeeds Act 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 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

| KDE's Novice Reduction for Gap Closure initiative assists districts and schools to ensure that all students have access to high-quality classroom instruction, including instruction that is differentiated to meet the needs of individual students. | Beginning in December 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. 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. |

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.

In the 2016 school year, the gap component of the accountability system was changed to award additional points to schools and districts that reduce the percentage of gap group students in the novice category.

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 for All Students," 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 it 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

Program	Description
Positive Behavioral Intervention Systems	Program supports schools in creating effective schoolwide 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 biennial Tell survey; teachers' years of experience and national board certification; and attrition.

Source: Staff interviews with Kentucky Department of Education (KDE) program officers and staff analysis of documents on KDE website.

Priority Schools

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

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 generally comprise primarily gap group students.

A previous Office of Education Accountability 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.

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.

Hub Schools. 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. Teams of educators from across the state have visited them.

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 Kentucky students are white. Of the nonwhite students, most (10.5 percent of the total) are black; 5.5 percent of the total are Hispanic.

Table 1.2 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 of the total) are black, and 5.5 percent of the total are Hispanic.

Table 1.2
Number And Percentage Of Students By Race And Ethnicity, 2015

Race Or Ethnicity	Number Of Students	Percentage Of Students
White	518,270	79.0%
Black	69,110	10.5
Hispanic	36,356	5.5
Two or more	20,224	3.1
Asian	10,270	1.6
American Indian	789	0.1
Hawaiian/Pacific Islander	623	0.1

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

Between 2005 and 2015, the percentage of nonwhite students grew from 16 to 21 percent, reflecting 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.

Change Over Time. Between 2005 and 2015, the percentage of nonwhite students in the state grew from 16 percent 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.[h] 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 program. To be eligible for LEP programs, students must have English language difficulties. These may affect their achievement on state tests and in the classroom.[i] Appendix B contains more specific definitions of eligibility for these programs. It also shows differences among gap groups in identification for special education programs.

A total of 60 percent of students are eligible for free or reduced-price lunch (FRPL). More than 13 percent of all students have an individualized education program (IEP), and 3.3 percent of all students have limited English proficiency.

Table 1.3 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. More than 13 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.

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[h] Children from families with income that is 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.
[i] According to KDE, the LEP population in Kentucky is diverse. Collectively, they speak more than 130 languages.

Table 1.3
Number And Percentage Of Students Eligible
For Free Or Reduced-Price Lunch, Special Education,
And Limited English Proficiency Programs, 2015

Program Eligibility	Number Of Students	Percent Of Students
Free lunch	356,963	54.4%
Reduced–price lunch	36,407	5.6
Individualized education program	88,090	13.4
Limited English proficiency	21,155	3.3

Note: Program eligibilities 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.

The percentage of students eligible for FRPL is 81 percent for black students, 83 percent for Hispanic students, and 55 percent for white students.

Gap Group Students Who 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, 76 percent for IEP students, and 89 percent for LEP students. In contrast, 55 percent of white students are eligible.

Students are eligible for IEP and LEP programs only if it can be shown that their disability or language acquisition has a negative impact on their academic performance.

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 include criteria that students' English language difficulties may affect their performance on state assessments and in the classroom (See Appendix B.) For these reasons, it should be expected that IEP and LEP students, on average, perform below ineligible students on state assessments. The average performance of LEP students is likely to change in the future because ESSA permits LEP students' academic performance to be included in data reporting for up to 4 years after they exit the program.

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 percent versus 50 percent) and special education (14 percent versus 13 percent), whereas fewer were eligible for LEP programs (3 percent versus 9 percent).

Demographic Distribution Of Students Among Districts And Schools

IEP And LEP. IEP students are enrolled in districts across the state. The percentage of IEP students of all students ranges from 6 percent to 27 percent among districts. LEP student enrollment is concentrated in a smaller number of districts. More than half of LEP students are enrolled in either Jefferson County or Fayette County, and the 10 districts with the greatest number of LEP students comprise 73 percent of the state's LEP enrollment. At 15 percent, Mayfield Independent has the highest percentage of LEP students. Conversely, LEP enrollment is less than 1 percent of all students in most Kentucky districts (103 out of 173).

Free Or Reduced-Price Lunch. Students eligible for free or reduced-price lunch are enrolled in districts throughout the state and are a substantial percentage of the population in almost all districts; in the overwhelming majority of districts and schools, more than 50 percent of students are eligible.

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.

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 that are majority nonwhite are are also higher-poverty schools.

Enrollment In Highest Percentage Poverty, Highest Percentage Nonwhite Schools, By Gap Group

Black students are more likely than Hispanic or white students to attend highest-poverty schools and are also more likely to attend majority nonwhite schools.

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 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 Student Group, 2015
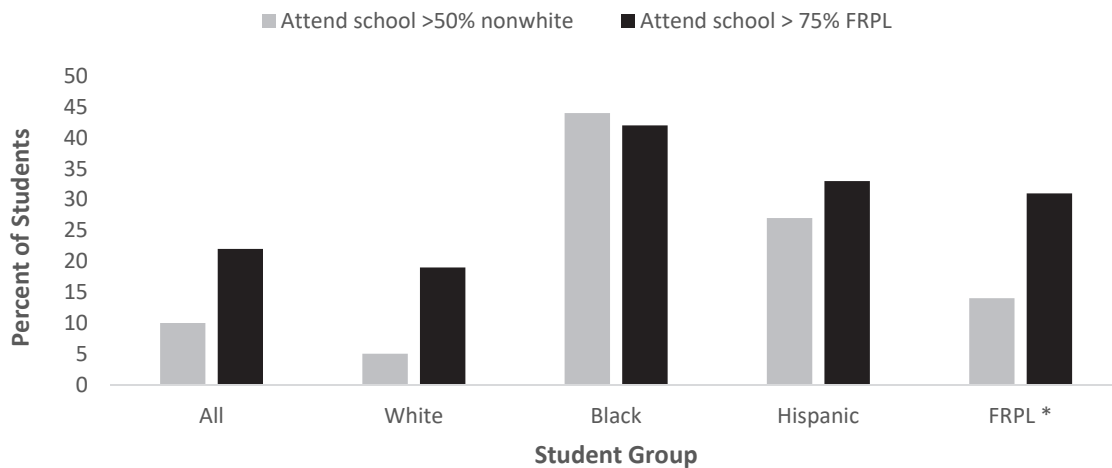
*FRPL = Eligible for free or reduced-price lunch.
Source: Staff analysis of data from the Kentucky Department of Education.

National data show that the percentage of students attending highest-poverty schools is 48 percent for black students, 48 percent for Hispanic students, and 8 percent for white students.[3] A comparison of these national data with Kentucky data shown in Figure 1.A shows that white students in Kentucky are more than twice as likely as their national counterparts to attend highest-poverty schools (19 percent versus 8 percent); black students in Kentucky are slightly less likely than their national counterparts to attend highest-poverty schools (42 percent versus 48 percent); and Hispanic students in Kentucky are much less likely than their national counterparts to attend highest-poverty schools (33 percent versus 48 percent). These comparisons provide important context for interpreting national comparitive performance data discussed in Chapter 2, which show that white students in Kentucky perform below their national counterparts, black students in Kentucky perform similar to or slightly below their national counterparts, and Hispanic students perform above their national counterparts.

Effects Of Poverty On Performance

Figure 1.A also provides context for school performance data described in Chapter 3. That 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.

Effects of poverty on performance have been associated with poor nutrition and health, access to learning opportunities outside of school, and exposure to conditions that can increase stress and affect psychological well-being.

For more than 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 ends of the income gap.[4] 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-being.[5] These stressors may affect the way children think and learn. For example, psychologists have focused recently on the negative association between poverty and the "growth mindset" characterized by faith in the relationship between effort and reward.

Poor children are less likely to have a "growth mindset" that associates success with skill or practice.

Students living in poverty are less likely to believe that they can develop strength through skill and practice and more likely to have a fixed mindset that interprets temporary setbacks as permanent.[6]

Data showing strong and persistent effects of poverty on performance have sparked debates among researchers, policy makers, and advocates about the degree to which achievement gaps are likely to be closed entirely by what happens in schools.

Data showing strong and persistent effects of poverty on performance have sparked debates among researchers, policy makers, 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[j]; schools clearly matter, but additional policies are necessary to address the labor markets and social conditions that appear to be affecting educational performance. 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.[7]

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[j] Berea College was awarded a 4-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 well-being. 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.

Chapter 2

State Data And National Comparative Data

Kentucky gap group students generally compare favorably to their national counterparts in reading but perform similar to or below them in math.

National comparative data show that most gap group students outperform their national counterparts in reading in the 4th grade and FRPL and Hispanic students do so in the 8th grade, but gap group students generally perform similar to or slightly below their national counterparts in math.

While Hispanic students in Kentucky generally outperform Hispanic students in other states, black students in the commonwealth generally score similar to or below black students in other states.

While Hispanic students in Kentucky generally outperform Hispanic students in other states, black students in the commonwealth score similar to or below black students 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, which serve children from military families.

All Kentucky gap group students graduate at higher rates than their national counterparts. High graduation rates are not always mirrored by rates of success on academic measures.

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, just more than half of black student graduates and less than one-tenth of LEP graduates were college or career ready.

Although gap group outcomes have improved over time, they are not improving at rates sufficient to close gaps. Some gaps have increased slightly in recent years.

Although 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 2 decades on NAEP tests. 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 tests.

State assessment data mirror national data in the performance of gap groups relative to each other.

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

National Assessment of Educational Progress (NAEP) data show that Kentucky gap group students score higher than national counterparts 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.

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 more favorably in reading than in math. White 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.[a][8]

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.[b]

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

	All	White	Black	Hispanic	FRPL	IEP	LEP
Kentucky	228*	231	212*	216*	219*	203*	201
Nation	223	232	206	208	209	187	189

Note: FRPL = students eligible for free or reduced-price lunch; IEP = students with individualized education programs; LEP = students with limited English proficiency; * = statistically significant difference;.
Source: National Center for Education Statistics.

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[a] While 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 in Kentucky are 1.8 times as likely to live in poverty as those in the nation.
[b] 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.

Table 2.2
NAEP 4th-Grade Math, By Gap Group, Kentucky And Nation, 2015

	All	White	Black	Hispanic	FRPL	IEP	LEP
Kentucky	242	244	226	234	234*	222	220
Nation	240	248*	224	230	229	218	218

Note: FRPL = students eligible for free or reduced-price lunch; IEP = students with individualized education programs; LEP = students with limited English proficiency; * = statistically significant difference.
Source: National Center for Education Statistics.

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

Tables 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

	All	White	Black	Hispanic	FRPL	IEP	LEP
Kentucky	268*	271	247	266*	259*	236	236
Nation	265	274	248	253	253	233	223

Note: FRPL = students eligible for free or reduced-price lunch; IEP = students with individualized education programs; LEP = students with limited English proficiency; * = statistically significant difference.
Source: National Center for Education Statistics.

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

	All	White	Black	Hispanic	FRPL	IEP	LEP
Kentucky	278	281	257	274	268	247	—
Nation	281*	292*	260	270	268	249	224

Note: FRPL = students eligible for free or reduced-price lunch; IEP = students with individualized education programs; LEP = students with limited English proficiency; — = insufficient data; * = statistically significant difference.
Source: National Center for Education Statistics.

Kentucky Gaps Versus Nation And Change Over Time

Kentucky has smaller
achievement gaps between white
students and black or Hispanic
students than does the nation.
However, gaps between white and
black students have increased
slightly in Kentucky over the last 2
decades but decreased slightly in
the nation.

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.

Of all jurisdictions, 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 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. The table also shows that, compared
to other jurisdictions, the DoDEA schools have the smallest or
among the smallest gaps between white students and black or
Hispanic students.

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.

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

Subject	Grade	Black				Hispanic			
		Highest-Scoring Juris.	Highest-Scoring State	KY Score Rank	Lowest White-Black Gap*	Highest Scoring Juris.	Highest Scoring State	KY Score Rank	Lowest White-Hispanic Gap**
Math	4th	DoDEA	TX	15	DoDEA	DoDEA	IN	14	LA
	8th	DoDEA	AZ	24	WV	DoDEA	VA	7	KY
Reading	4th	DoDEA	MA	10	WV	DoDEA	FL	7	DoDEA
	8th	DoDEA	SD	25	DoDEA	DoDEA	KY	2	KY

Note: Jurisdiction rank includes all states, the District of Columbia, and Department of Defense Education Activity schools (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 three jurisdictions with the lowest white/Hispanic gaps in every grade and subject.
Source: Staff calculation based on data from the US Department of Education.

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.[9] 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 to which the success of these schools has been attributed include some in-school factors and many out-of-school factors.

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, including: less regulation than most public schools, stability of at least one family member employed, employer support for education, and less segregated home and work environments than are common in the civilian world.[10] 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.[11] 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 parental involvement.[12]

DoDEA schools were not subject to NCLB and will not be subject to ESSA.

At a time when educators and policy makers 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. Although 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.[13]

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.[c] 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 new students.

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.

Kentucky Gap Groups Versus Other States On ACT

Because all Kentucky students take the ACT college readiness test, Kentucky's ACT scores can be validly compared only to ACT scores in other states that require all students to take the test.[d] In 2015, these 12 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.

On the ACT, 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.

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[c] When looking for site visit high schools, staff did not include schools with very small gap group populations or selective admissions criteria.
[d] All Kentucky students must take the ACT in the 11th grade.

Table 2.6
Percentage Of Graduates Meeting ACT College Readiness Benchmarks In English
Kentucky And Comparison States, 2015

	Black	Hispanic	White	All Students
Kentucky	32	47	65	60
Average	33	44	68	58
Highest Performing (State)	42	59	77	63
	(Montana)	(Louisiana)	(Illinois)	(Colorado/Illinois)

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.
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 Reading
Kentucky And Comparison States, 2015

	Black	Hispanic	White	All Students
Kentucky	15	31	43	39
Average	17	27	47	39
Highest Performing (State)	26	35	55	44
	(Wyoming)	(Louisiana)	(Colorado)	(Montana/Utah)

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.

Table 2.8
Percentage Of Graduates Meeting ACT College Readiness Benchmarks In Math
Kentucky And Comparison States, 2015

	Black	Hispanic	White	All Students
Kentucky	11	23	35	32
Average	11	21	41	33
Highest Performing (State)	19	26	54	42
	(Colorado)	(Illinois/Louisiana)	(Illinois)	(North Dakota)

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.

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.[e]

Graduation Rates

Kentucky's graduation rate of
88 percent exceeds the national
average of 82. Students in all
Kentucky gap groups graduate at
higher rates than those in the
nation.

Table 2.9 shows that Kentucky's graduation rate of 88 percent
exceeds the national average of 82 percent. Kentucky's rate is
among the highest in the nation. Kentucky's graduation rates
exceed those of 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
Adjusted Cohort Graduation Rates, By Gap Group
Kentucky And Nation, 2015

	All	IEP	LEP	FRPL	Hispanic	Black	White
Kentucky	88	71	66	84	84	79	89
Nation	82	63	63	75	76	73	87

Note: IEP = individualized education program; LEP = limited English proficiency;
FRPL = free or reduced-price lunch.
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 who are not in any gap groups.

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[e] 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.A shows the percentage of students scoring either proficient or distinguished on K-PREP math tests during the 2014-2015 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, and LEP is 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. Nongap 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
Percentage Of Students Scoring Proficient Or Distinguished In Math, 2015
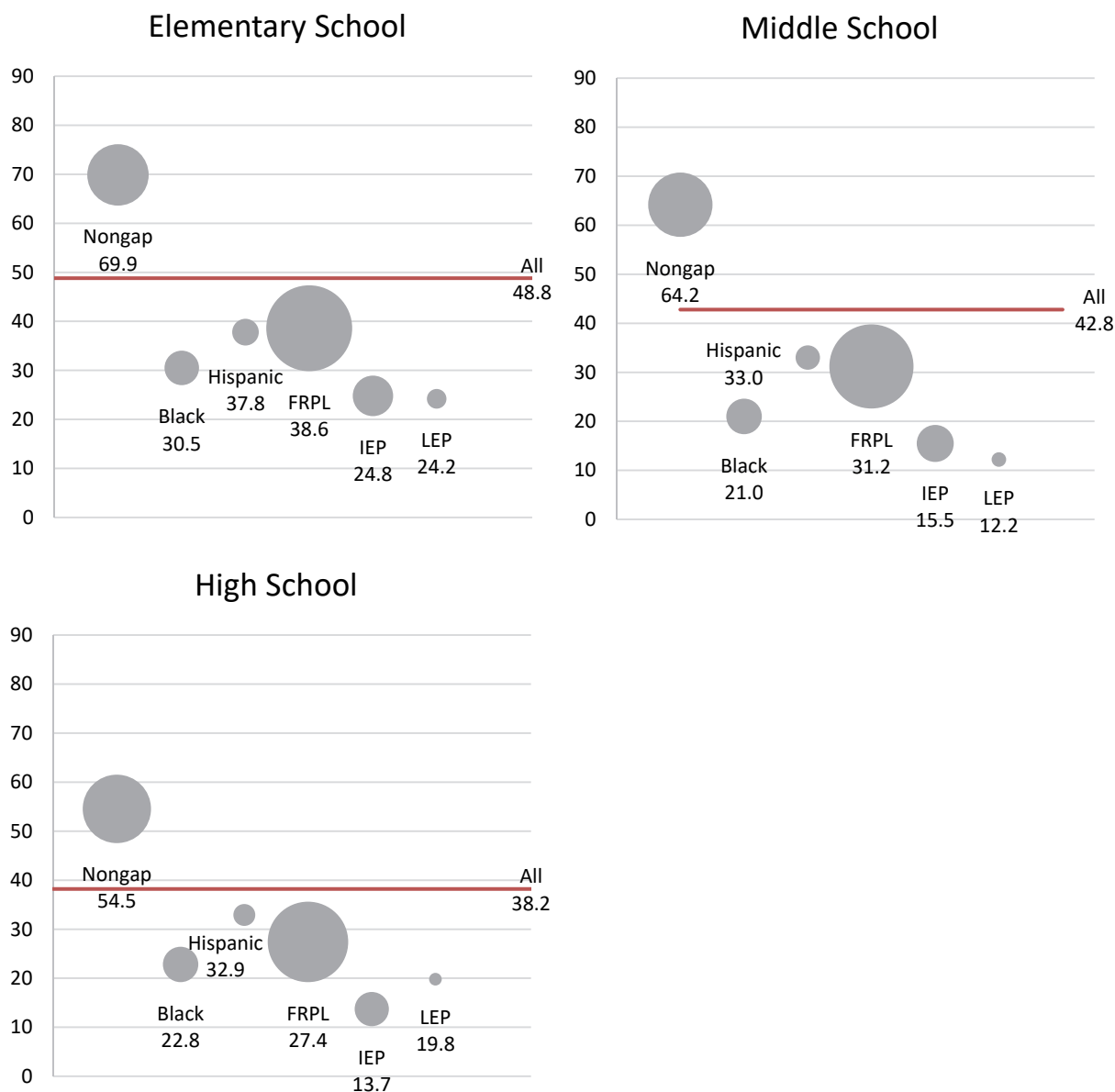
Elementary School

Nongap 69.9
All 48.8
Hispanic 37.8
Black 30.5
FRPL 38.6
IEP 24.8
LEP 24.2

Middle School

Nongap 64.2
All 42.8
Hispanic 33.0
Black 21.0
FRPL 31.2
IEP 15.5
LEP 12.2

High School

Nongap 54.5
All 38.2
Hispanic 32.9
Black 22.8
FRPL 27.4
IEP 13.7
LEP 19.8

Note: FRPL = free and reduced-price lunch; IEP = individualized education program; LEP = limited English proficiency.
Source: Staff analysis of Kentucky Department of Education 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. Nongap students had higher proficiency rates than their peers, while IEP students and LEP students were the two lowest-performing groups. Nongap students experienced a larger increase in elementary and middle school over the 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 4 years in high school; additionally, black and FRPL students decreased less than nongap students in high school, reducing the gap.

Figure 2.B
Percentage Of Students Scoring Proficient Or Distinguished In Math, 2012-2015
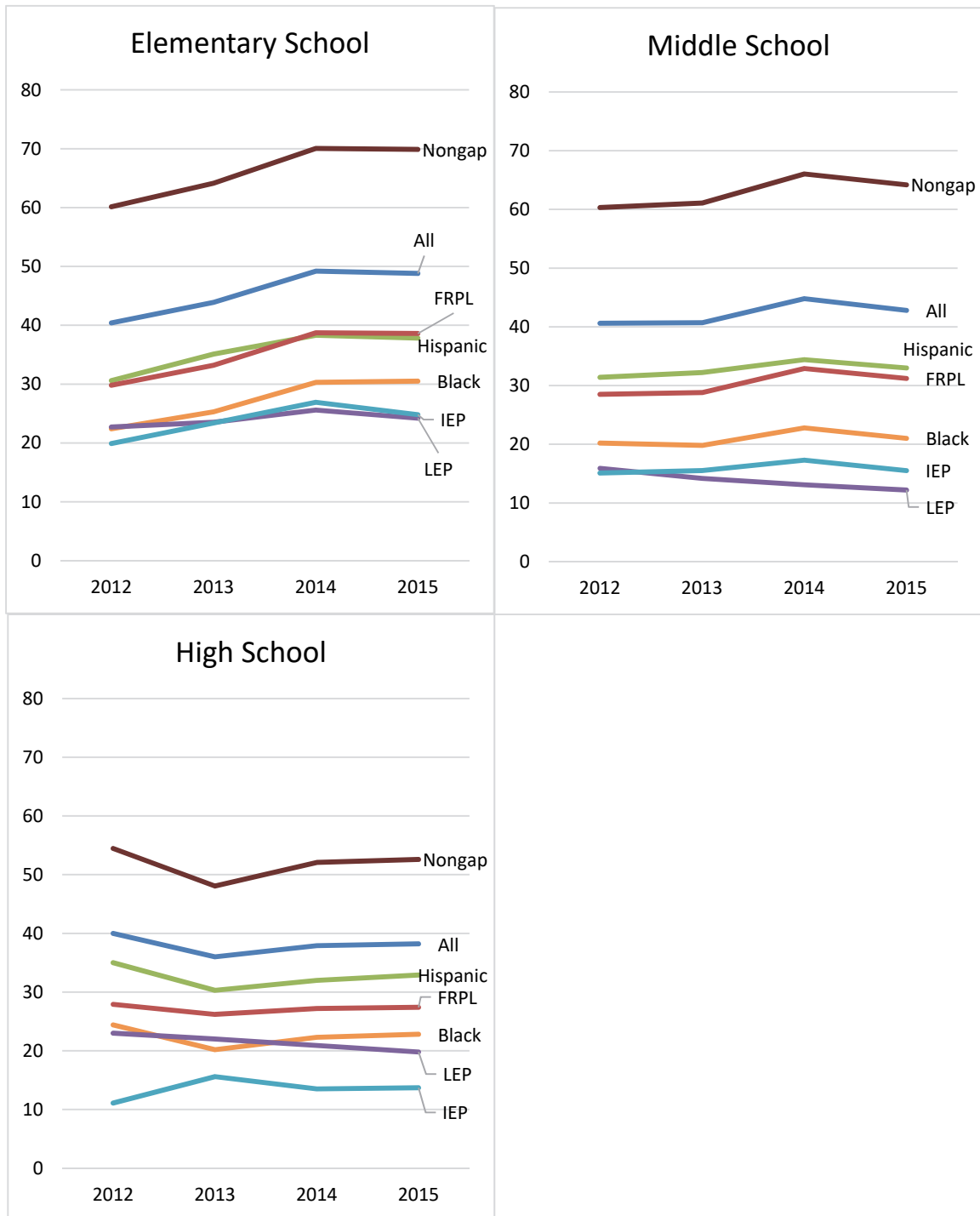
Note: FRPL = free and reduced-price lunch; IEP = individualized education program; LEP = limited English proficiency.
Source: Staff analysis of Kentucky Department of Education Open House data.

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 to 2015. In elementary and middle school, the gap widened between all student gap groups and nongap students in math. In high school, the black, FRPL, and IEP students made gains relative to nongap students in math.

Table 2.10
Change In Proficiency Rates Of Select Student Groups
Relative To The Proficiency Rates Of All Students
In K-PREP Math, 2012-2015

Group	Elementary Change	Middle Change	High Change
Nongap	1.4	1.7	-0.1
Black	-0.3	-1.4	0.2
Hispanic	-1.2	-0.6	-0.3
FRPL	0.4	0.5	1.3
IEP	-3.5	-1.8	4.4
LEP	-6.9	-5.9	-1.4

Note: FRPL = free and reduced-price lunch; IEP = individualized education program; LEP = limited English proficiency.
Source: Staff analysis of Kentucky Department of Education 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 nongap 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
Novice-Distinguished Math Ratio, 2015

Student Group	Elementary	Middle	High
Nongap	0.2	0.2	1.0
All students	1.1	1.5	2.8
Black	5.0	12.6	14.8
Hispanic	2.7	3.6	5.0
FRPL	2.5	4.4	7.9
IEP	6.5	16.1	17.4
LEP	7.6	23.4	12.7

Note: FRPL = free and reduced-price lunch; IEP = individualized education program; LEP = limited English proficiency.
Source: Staff analysis of Kentucky Department of Education Open House data.

Gender Gap. Table 2.12 shows math proficiency rates 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 percentage points). 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

Level	Male	Female
Elementary school	48.4%	49.3%
Middle school	40.3	45.4
High school	36.9	39.5

Source: Staff analysis of Kentucky Department of Education 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; nongap students do considerably better than gap students, and FRPL students are the highest-achieving gap student group except in middle school, where Hispanics are the highest-achieving gap group. The math proficiency rates for high school students are similar to the proficiency rates for middle and elementary school students.

Figure 2.C
Percentage Of Students Scoring Proficient Or Distinguished In Reading, 2015
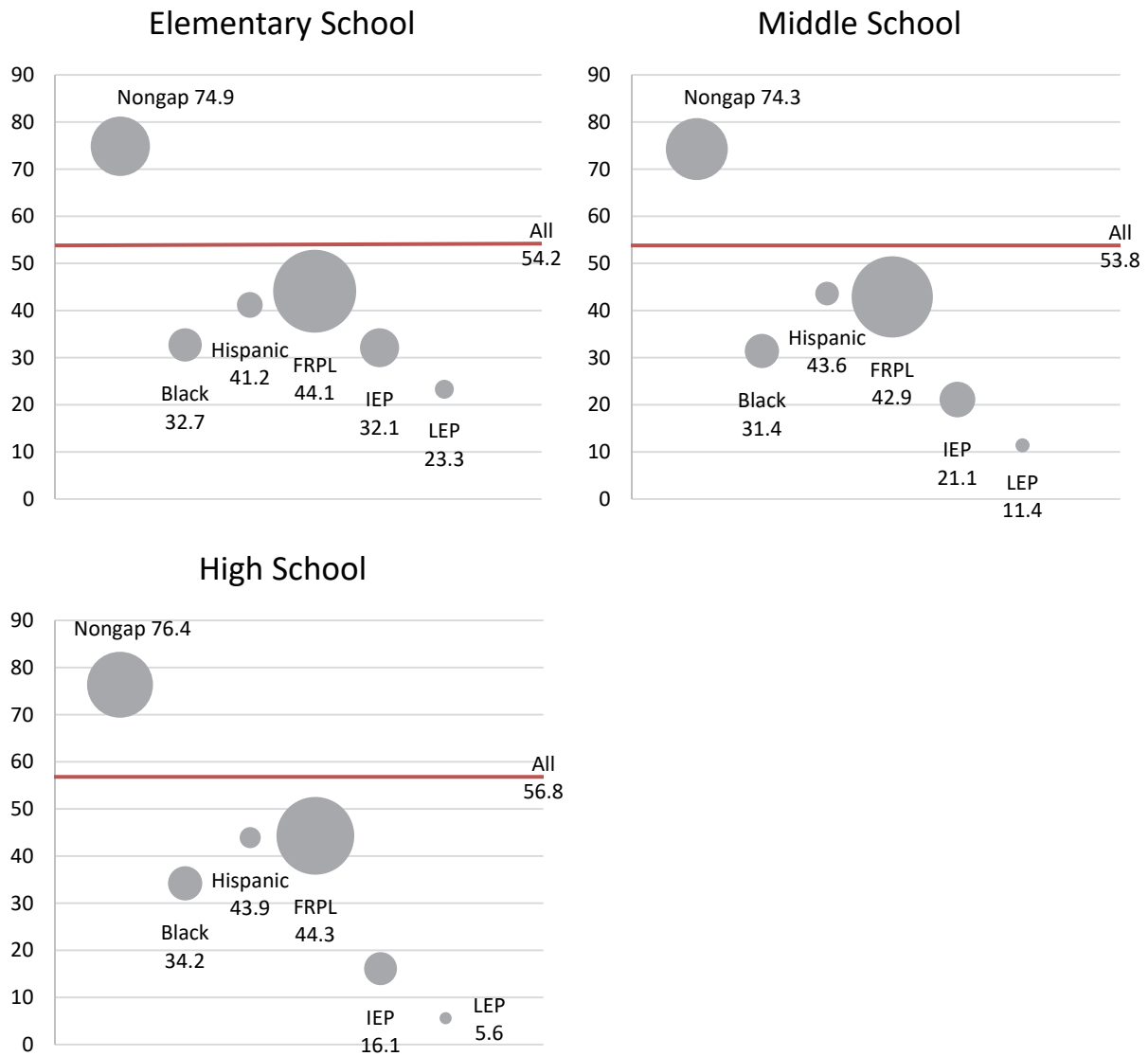
Elementary School

Nongap 74.9

All
54.2

Hispanic
41.2   FRPL
              44.1
Black   IEP
32.7   32.1   LEP
                                              23.3

Middle School

Nongap 74.3

All
53.8

Hispanic
43.6   FRPL
              42.9
Black
31.4
                          IEP
                          21.1   LEP
                                            11.4

High School

Nongap 76.4

All
56.8

Hispanic
43.9   FRPL
              44.3
Black
34.2

              IEP   LEP
              16.1   5.6

Note: FRPL = free and reduced-price lunch; IEP = individualized education program; LEP = limited English proficiency.
Source: Staff analysis of Kentucky Department of Education Open House data.

Longitudinal Analysis. Figure 2.D shows the trends of students meeting proficiency over the previous 4 years. All groups at every level, excluding LEP elementary and high students, showed increases in proficiency rates over the 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. Figures 2.B and 2.D examine only reading and math proficiency rates, but similar trends occurred in language mechanics, social studies, and writing.

Figure 2.D
Percent Of Students Scoring Proficient Or Distinguished In Reading, 2012-2015
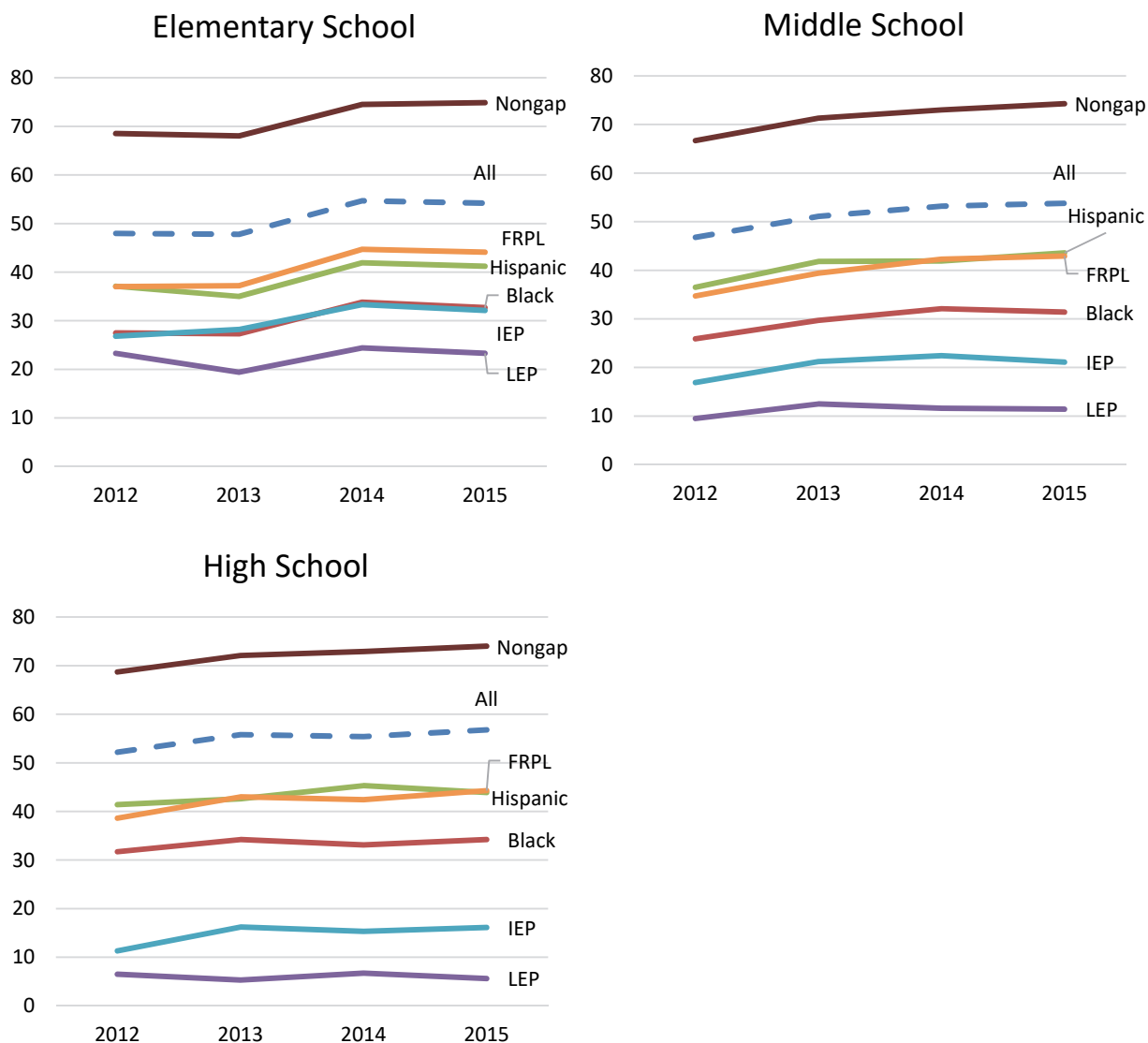
Note: FRPL = free and reduced-price lunch; IEP = individualized education program; LEP = limited English proficiency.
Source: Staff Analysis of Kentucky Department of Education Open House data.

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 to 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, 2012-2015

| Group	Elementary Change	Middle Change	High Change
Nongap	0.1	0.6	0.7
Black	-1.0	-1.5	-2.1
Hispanic	-2.1	0.1	-2.1
FRPL	0.9	1.2	1.1
IEP	-0.9	-2.8	0.2
LEP	-6.2	-5.1	-5.5

Note: FRPL = free and reduced-price lunch; IEP = individualized education program; LEP = limited English proficiency.
Source: Staff analysis of Kentucky Department of Education Open House data.

Novice-Distinguished Ratio. Figure 2.D displays the percentage of students scoring either proficient or distinguished,but it does not measure the percentage scoring novice or distinguished. Table 2.14 further examines the relationship between gap group membership and student performance. It shows that, in high school reading, for every nongap student scoring distinguished, 0.7 students are scoring novice. On the opposite end of the spectrum, 112 LEP students are scoring novice to every 1 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 appears in Appendix D.

Table 2.14
Novice-Distinguished Reading Ratio, 2015

Group	Elementary Change	Middle Change	High Change
Nongap	0.2	0.3	0.7
All students	1.2	1.3	2.7
Black	6.4	6.9	16.4
Hispanic	3.0	2.8	6.6
FRPL	2.6	2.9	7.2
IEP	5.1	12.8	34.7
LEP	14.7	64.3	112.4

Note: FRPL = free and reduced-price lunch; IEP = individualized education program; LEP = limited English proficiency.
Source: Staff analysis of Kentucky Department of Education Open House data.

Gender Gap. Table 2.15 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 2.15
Percentage Of Male And Female Students
Proficient In Reading, 2015

Level	Male	Female
Elementary school	51.1%	57.4%
Middle school	48.7	59.3
High school	50.6	63.3

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

ACT

Table 2.16 shows that nongap students have higher ACT scores than gap group students in math, reading, and English. The relative ranking of the groups is the same as seen on K-PREP tests. The nongap group is the only group to have an average greater than the Council on Postsecondary Education's benchmarks in any subject.

Table 2.16
ACT Averages, 2015

Group	Math	Reading	English
Nongap	21.0	22.2	21.9
All students	18.9	19.8	19.0
Black	16.5	16.7	15.4
Hispanic	17.6	18.1	16.8
FRPL	17.3	18.0	16.8
IEP	15.3	15.0	12.5
LEP	15.2	13.2	11.5

Note: FRPL = free and reduced-price lunch; IEP = individualized education program; LEP = limited English proficiency.
Source: Staff analysis of Kentucky Department of Education Open House data.

College And Career Readiness And Graduation Rates

Table 2.17 shows college and career readiness (CCR) and graduation rates for the groups analyzed.[f] More than 80 percent of nongap students were college and/or career ready in the most recent school year. More than 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 (nongap students), graduation rates are much less varied. Nongap 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 5 years if needed, leading to a lower 4-year graduation rate. The differences between graduation and CCR rates appear in the last column in the table. The graduation rate for nongap students is slightly higher than their CCR rate; for IEP and LEP students, the graduation rate are much higher than their CCR rates.

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[f] College readiness is the percentage of graduates who met the Kentucky Council on Postsecondary Education systemwide benchmarks for reading, English, and mathematics on any administration of the ACT or on approved college placement tests (Compass or Kentucky Online Testing). Career readiness is the percentage of graduates meeting benchmarks on Armed Services Vocational Aptitude Battery or WorkKeys and Kentucky Occupational Skills Standards Assessment or industry certificate.

Table 2.17
Graduation Rates And CCR Rates, 2015

| Group	Graduation	CCR	Difference
Nongap	93.7%	81.5%	12.2
White	89.3	70.4	18.9
Black	80.3	43.0	37.3
Hispanic	83.3	56.3	27.0
FRPL	84.8	55.4	29.4
IEP	66.0	25.8	40.2
LEP	67.2	5.7	61.5

Note: CCR= college and/or career readiness; FRPL = free and reduced-price lunch;
IEP = individualized education program; LEP = limited English proficiency.
Source: Staff analysis of Kentucky Department of Education Open House data.

Chapter 3

School-Level Gaps And School Classifications

This chapter identifies schools in which gap group students perform at or above state averages. Gap group students perform better in lower- versus higher-poverty schools.

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.

There are some examples of highest-poverty schools in which FRPL students perform at or above state averages, but there are no such examples for black or Hispanic students at the middle and high school levels.

Gap group students—especially those in the middle and upper grades— are much less likely to perform at or above state averages if they attend highest-poverty schools in which greater than 75 percent of students are FRPL. There are few examples of highest-poverty high schools in which FRPL students perform at or above state averages, and no examples of highest-poverty middle or high schools in which black or Hispanic students do so.

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 shows that, while average gap group performance is generally higher in schools with higher performance designations and rewards, these schools also tend to have higher in-school gaps.

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

Differences in performance between the state average for all students is greatest for IEP and LEP students. Gaps are smaller for FRPL and Hispanic students than they are for black students.

Figure 3.A shows state-level differences between the percentage of all students and students in particular gap groups who 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. 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.[a]

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[a] 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 who took the Algebra II EOC was lower than the percentage of high school students who 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 who are tested.

Figure 3.A
Percentage Points Below All State Students By Gap Group
Percentage Proficient Or Distinguished In Reading And Math Combined, 2015
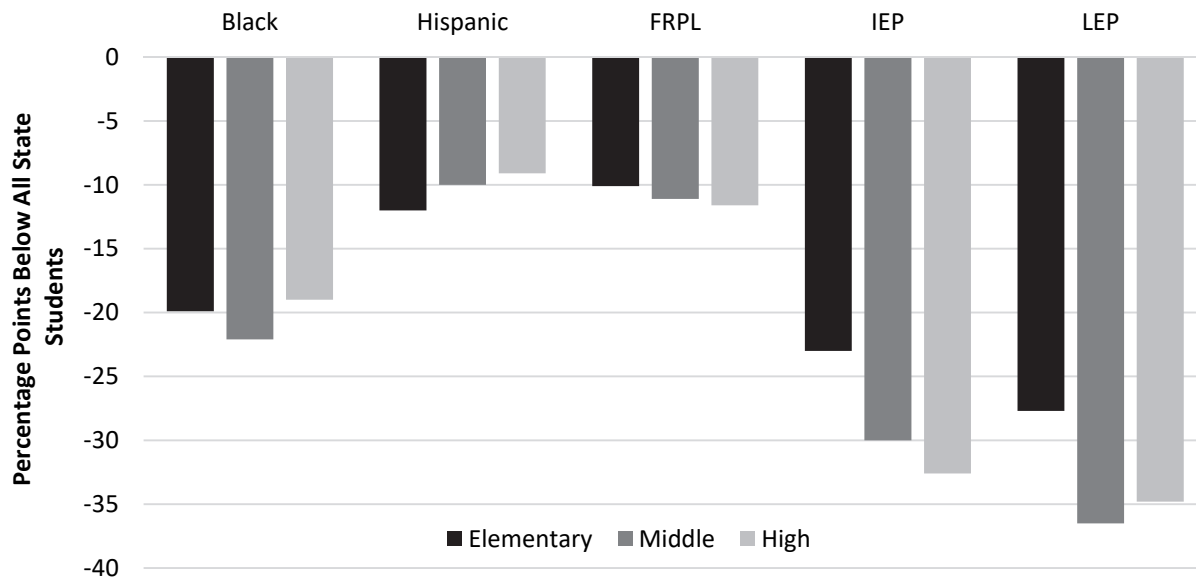
Note: FRPL = free and reduced-price lunch; IEP = individualized education program; LEP = limited English proficiency.
Source: Staff analysis of Kentucky Department of Education Open House data.

Schools With Higher- And Lower-Performing Gap Groups

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

Hispanic students score at or above state averages in 26 percent of schools, and FRPL students do so in 19 percent of schools. In only 10 percent of schools do black students score at or above state averages, and IEP students do so in only 8 percent of schools.

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. Approximately 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.

The percentage of schools in which gap group students perform 30 percentage points or more below state averages is 56 percent for LEP students, 44 percent for IEP students and 15 percent for black students.

Gap Group Students Well Below State Average. Figure 3.B also shows the percentages of schools in which gap groups perform 30 percentage points below all students. 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).

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
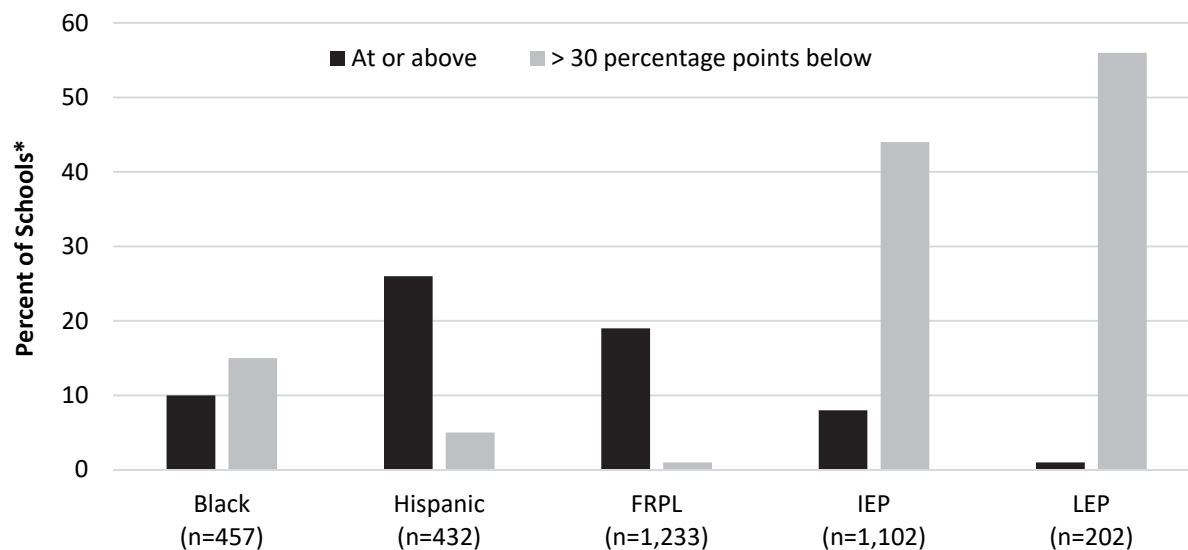
Note: FRPL = free and reduced-price lunch; IEP = individualized education program; LEP = limited English proficiency.
* The Kentucky Department of Education reports school scores for gap groups with 10 or more tested students. Percentages of schools for each gap group are calculated based on the total number of schools that contain sufficient numbers of gap group students to have reportable data. As shown in the figure, the total number of schools varies among gap groups. While the overwhelming majority of schools have reportable numbers of FRPL and IEP students, 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 LEP students.
Source: Staff analysis of Kentucky Department of Education Open House data.

Interpreting School-Level Differences In IEP And LEP Performance

It is not surprising that IEP and LEP students score below state averages in most schools because eligibility for these programs is based in part on students' academic difficulties. Variation among schools in the performance of IEP students may be associated in part with schools' identification and accommodation practices.

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 students are eligible for program services only if it can be demonstrated that their disability has negatively affected their academic outcomes. LEP students' English language skills may also affect their classroom performance. In addition, the cause of variation among schools in IEP performance may be associated with differences among schools in the percentages of all students who 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.

Teachers interviewed for this study noted concerns with the use of grade-level assessments to measure growth of some IEP students.

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. Although 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 who may be several years or more below grade level.

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.

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 national discussions about the use of computer-adaptive assessments to measure growth, policy makers, educators, and special education advocates are weighing the potential benefits of these computer-adaptive assessments against the concern that they may lead to reduced expectations for some IEP students. [14]

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

On average, the proficiency rates for each gap group are substantially higher in lowest-poverty schools than in highest-poverty schools.

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 in 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
By Student Gap Group And School Percentage Of Students
Eligible For Free Or Reduced-Price Lunch, 2015

Percentage Of School's Students Eligible For FRPL	All Students	FRPL	Black	Hispanic	IEP	LEP
0-25%	73%	49%	52%	56%	33%	37%
26-50	59	45	39	46	23	22
51-75	49	41	30	42	24	20
76-100	40	37	26	35	27	17

Note: With the exception of FRPL students, differences in proficiency rates in lower- versus higher-poverty schools reflect differences in the percentage of students in each gap group who 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. FRPL = free and reduced-price lunch; IEP = individualized education program; LEP = limited English proficiency.
Source: Staff analysis of Kentucky Department of Education Open House data.

Gap group performance in lower- versus higher-poverty schools is affected by the fact that students who are black, Hispanic, IEP, or 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 at that school's level.

As poverty rates increase, the number of schools in which gap groups are performing at or above the state average decreases, especially for black and Hispanic students. There are no highest- poverty middle or high schools in which black or Hispanic students perform at or above the average state level, and relatively few in which FRPL students do so.

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 average state level, and the percentage of highest-poverty high schools in which FRPL 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 Proficiency Of FRPL Students Compared To All State Students
Reading and Math Combined
By School Percentage Of FRPL Students, 2015
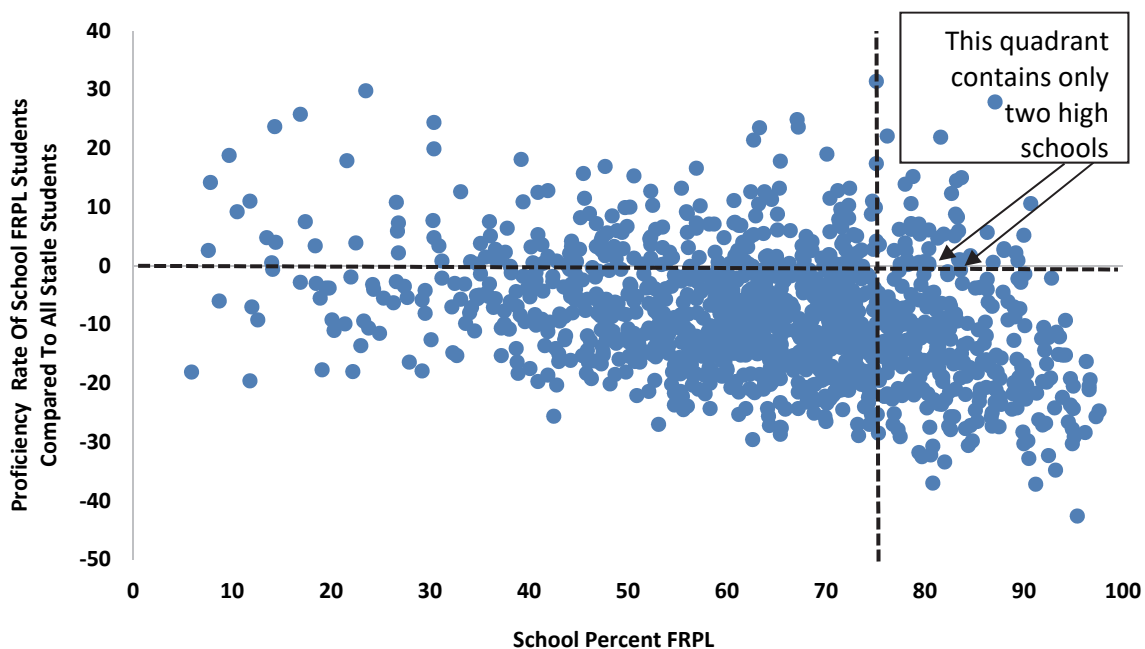
Note: The dotted horizontal line represents the state average performance for all students. Each dot above the line represents an individual school in which the FRPL students score above the state average, and each dot below the line represents a school in which they perform below the state average. The dotted vertical line separates highest-poverty schools with greater than 75 percent FRPL students from other schools.
Source: Staff analysis of data from the Kentucky Department of Education.

Figure 3.D
School Proficiency Of Black Students Compared To All State Students
Reading And Math Combined
By School Percentage Of FRPL Students, 2015
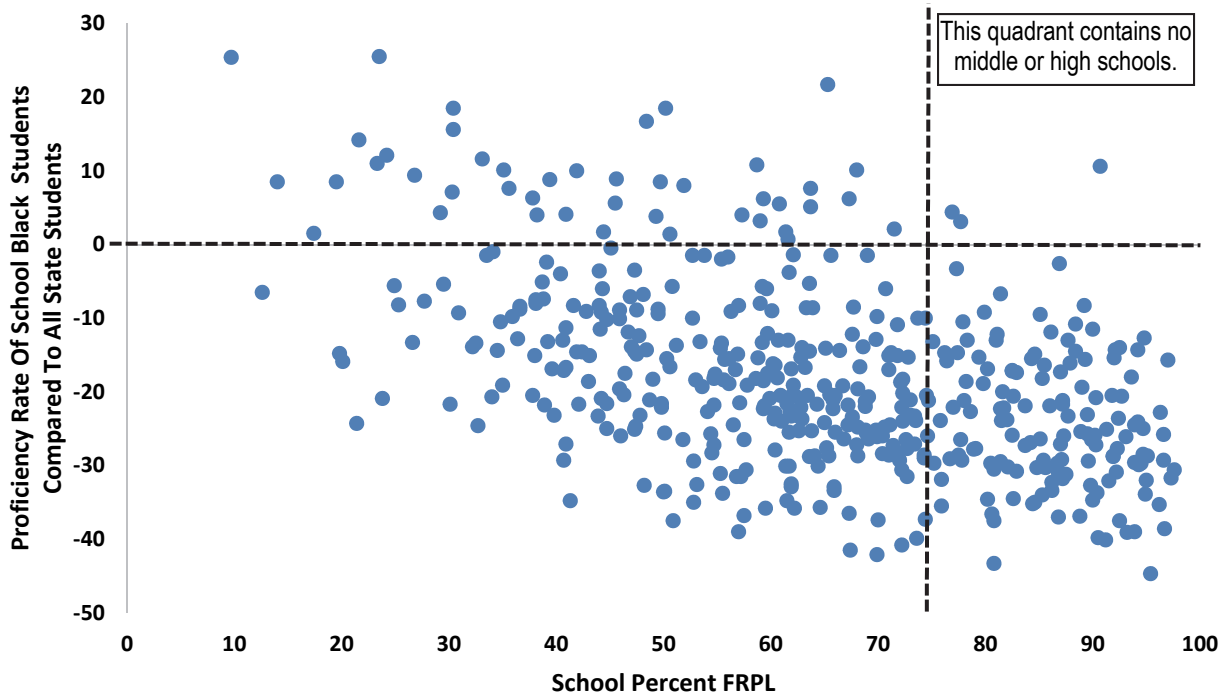
Note: The dotted horizontal line represents the state average performance for all students. Each dot above the line represents an individual school in which black students score above the state average, and each dot below the line represents a school in which they perform below the state average. The dotted vertical line separates highest-poverty schools with greater than 75 percent FRPL students from other schools. This figure includes only those schools that have 10 or more tested black students.
Source: Staff analysis of data from the Kentucky Department of Education.

Figure 3.E
School Proficiency Of Hispanic Students Compared To All State Students
Reading And Math Combined
By School Percentage Of FRPL Students, 2015
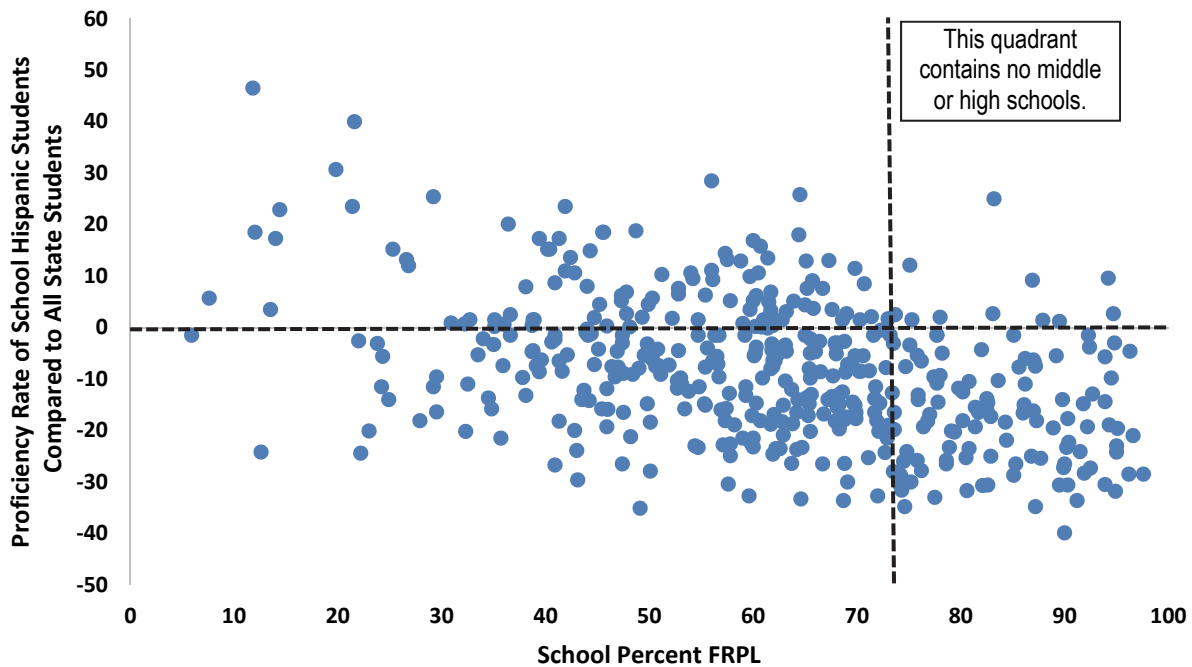
Note: The dotted horizontal line represents the state average performance for all students. Each dot above the line represents an individual school in which Hispanic students score above the state average, and each dot below the line represents a school in which they perform below the state average. The dotted vertical line separates highest-poverty schools with greater than 75 percent FRPL students from other schools. This figure includes only those schools that have 10 or more tested Hispanic students.
Source: Staff analysis of data from the Kentucky Department of Education.

Data in this report provide examples of higher-poverty schools that have been successful at narrowing gaps, especially at the elementary level. Data also suggest a need for further attention to the challenge of closing gaps in higher-poverty schools, especially middle and high schools.

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 schools with higher classification and reward categories have higher average gap group performance than schools identified for consequence. However, many of the schools in these reward categories also have in-school gap group gaps that are, on average, larger than the gaps in schools in lower classifications or those identified for consequence.

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.[b]

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, and 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

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[b] 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.

and districts identified for consequence because of the low performance of gap group students are identified as Focus Schools.

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.

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

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

Note: School averages for each gap group are based only on those schools with 10 or more students tested from that gap group. 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. FRPL = free and reduced-price lunch; IEP = individualized education program; LEP = limited English proficiency.
Source: Staff analysis of data from the Kentucky Department of Education.

Average within-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.

Within-School Gaps. Achievement gaps based on school classifications 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 points 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

	Percentage-Point Gap	
	White And Black Students	White And Hispanic Students
School Classification		
Distinguished	24	16
Proficient	25	12
Needs Improvement	19	10
School Reward Or Consequence		
School of Distinction	24	15
Highest-Performing School	29	15
High-Progress School	25	13
Focus School	21	10
Priority School	16	8

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 small percentage of schools in which Hispanic students score at or above the level of white students in the same school, even in schools in the higher classifications and rewards categories. Percentages of schools in which black students score at or above their white peers is even smaller.

More than a quarter of Distinguished Schools or Schools of Distinction have in-school gaps between white and black students of 30 percentage points or more.

It is more common for schools in the higher recognition categories to have in-school gaps of 30 percentage points or more. Twenty-six percent of Distinguished Schools and Schools of Distinction have these large in-school gaps between white and black students.

Table 3.4
Percentage Of Schools In Which Black And Hispanic Students Perform At Or Above Or Far Below White Students 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%
Highest-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 that have large in-school gaps 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 white students in the same school, 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, only one-tenth were identified with a consequence.

Gap Group Performance By District

The report finds similar patterns of gap group performance among districts and schools.

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.

National data show that achievement gaps exist not only at the state level but in the overwhelming majority of the nation's 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 and smaller in lower-achieving districts.[15][c]

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 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.

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.

Recommendation 3.1

Recommendation 3.1

In revising regulations related to school accountability, the Kentucky Department of Education 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.

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[c] Districts with smaller gaps tend to be districts in which the scores of white students are low.

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[a]

- 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 FRPL) 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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[a] 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 also indicated that attendance is a challenge in afterschool programs. While more than 38,000 Kentucky students were served in 176 cities in 58 counties, only about one-third attended the program regularly. However, 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.[16] [b] Researchers do not entirely
understand the reasons for that disparity, but this chapter provides
examples of challenges more likely to be faced by students in
higher-poverty schools.

Student Mobility, Homelessness, And Chronic Absence

Students are considered mobile if
they enroll in two or more schools
during the same academic year. In
Kentucky, 6.8 percent of students
were mobile in 2015. Student
mobility is associated with lower
academic outcomes and is often
caused by parents' employment
issues or other financial instability.

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.[17] 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.[18] At the state level, 6.8 percent of Kentucky
students were mobile in 2015.

Students who are sharing housing
due to economic hardship or living
in various types of temporary or
unsafe housing are considered
homeless. In Kentucky,
4.1 percent of students were
considered homeless in 2015.

Homeless Students. Homeless students are defined by the US
Department of Education 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 were considered homeless because
they were 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.[19]

Students who are chronically
absent (those who miss
10 percent or more of school
days) are particularly at risk for
lower 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, regardless of whether absences are excused or
unexcused.[20] Common causes of chronic absence include difficulty
getting to school and family responsibilities at home, such as
caring for younger siblings.[21] Educators in several high schools

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[b] Nationally, some districts have attempted to address this problem through
housing policies that place low-income students in schools with less
concentrated poverty, 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 were positive in Montgomery County,
Maryland, for lower-income students placed in higher-income schools through
low-income housing policies. Academic outcomes for students given vouchers
to move to higher-income neighborhoods have been mixed.

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 measurement 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.[22] 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 were 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 FRPL students (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 10 times as great (11 versus 1 percent); the percentage chronically absent is more than 4 times as great (18 percent versus 4 percent), and the percentage who are mobile is also more than 4 times as great (17 percent versus 4 percent).

Figure 4.A
Average Percentage Of Students Homeless,
Chronically Absent, Or Mobile
By Range Of Students FRPL, 2015

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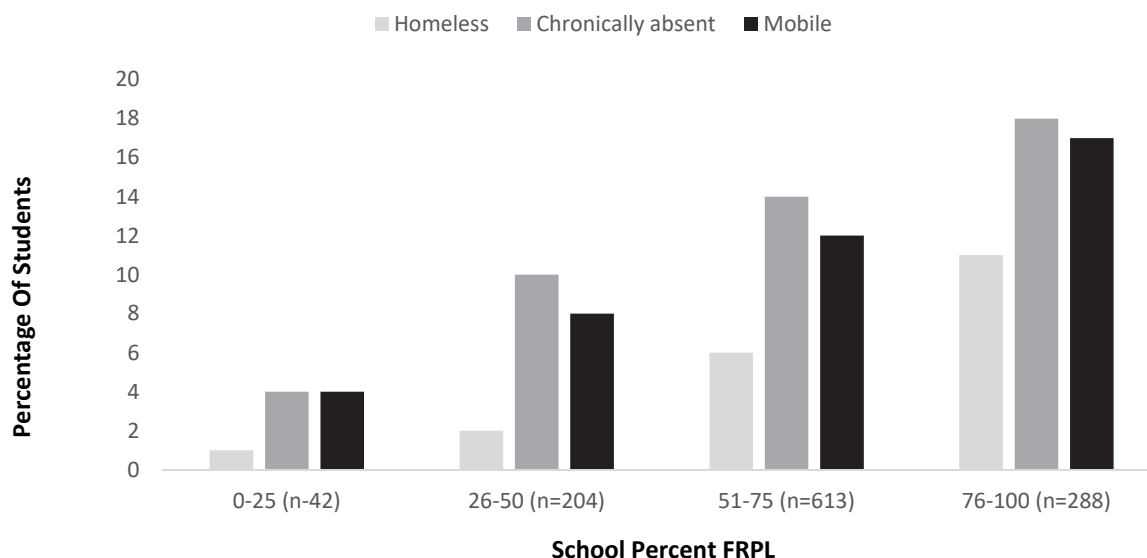
Note: Mobility analysis includes only those students who moved among A1 schools. Chronic absence was calculated at the individual student level as a percentage of total absent days, excused or unexcused, of total days enrolled in the school. School-level chronic absence rates are the total number of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

Nonacademic Challenges Described
In Site Visit Schools

Educators and administrators in higher-poverty schools who were interviewed for this study identified many ways in which students' home environments and living situations present challenges to academic learning. These include poor nutrition, inadequate sleep, and lack of time to complete homework by students who work after school to 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.

Given the instability in many students' lives, interviewees in higher-poverty schools stressed the importance of building positive relationships among educators and students and trust and community in the school.

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.

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.[23]

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.

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 3 or more years of experience and teachers who have met the standards to be certified by the National Board for Professional Teaching Standards (NBPTS) have been shown, on average, to improve student outcomes more than their

less-experienced or non-board-certified peers.[c] Consistent with national data and previous data published by OEA and KDE, current school-level data show that students in higher-poverty schools or schools with higher percentages of nowhite students are less likely to be taught by experienced teachers or by NBPTS-certified teachers than are students in lower-poverty schools or schools with lower percentages of nonwhite students.[24]

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

Students in higher-poverty schools are more likely to be taught by less experienced teachers and less likely to be taught by teachers certified by the National Board for Professional Teaching Standards.

On average, the percentage of teachers with less than 3 years of experience is almost twice as high in highest-poverty schools as it is in lowest-poverty schools (19 versus 10 percent), and the percentage who are NBPTS-certified is four times as high (16 percent versus 4 percent) in lower-poverty schools as it is in higher-poverty schools.

Students in schools with higher percentages of nonwhite students are even more likely to be taught by less experienced teachers.

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 less than 3 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 teachers than by returning teachers.[d]

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[c] 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 $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.
[d] 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 FRPL Students, 2015

School Percentage Of FRPL Students	Percentage Of Teachers In School			
	In First Year	With Less Than 3 Years' Experience	Who Leave School Annually (Attrition)	Who Are National Board-Certified
0-24	4%	10%	16%	16%
25-49	4	13	16	9
50-74	5	15	17	6
75-100	6	19	19	4
All schools	5	16	17	6

Note: FRPL = free and reduced-price lunch; National Board = National Board for Professional Teaching Standards.
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

School Percentage Of Nonwhite Students	Percentage Of Teachers In School			
	In First Year	With Less Than 3 Years' Experience	Who Leave School Annually (Attrition)	Who Are National Board-Certified
0-24	5%	15%	16%	6%
25-49	5	17	19	7
50-74	6	18	21	6
75-100	10	27	27	4
All schools	5	16	17	6

Note: National Board = National Board for Professional Teaching Standards.
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 less than 3 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

Student Subgroup	New Teachers	Teachers With Less Than 3 Years' Experience
All students	5.4%	15.4%
White	5.2	14.8
Black	6.6	18.2
Hispanic	6.6	18.2
FRPL	6.1	16.6
LEP	7.6	19.2
IEP	5.1	15.3

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

Most schools attended by black or Hispanic students do not assign these students disproportionately to less-experienced teachers.

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 less than 3 years of experience. Results shown in Appendix H show that disprortionate assignment of black or Hispanic students to newer teachers within schools does not exist in the majority of schools.

Factors Affecting Teacher Labor Markets

Research suggests that teachers choose schools based on working conditions, location, and demographic characteristics of students in a school.

Research shows that working conditions, location, and school demographics are the factors that most influence 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.[25]

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 the two lower-poverty schools were those who had transferred from other higher-poverty schools in the district. Most of the newer teachers in the two higher-poverty schools were new to the district or the profession.

Consistent with education research, this study found that teachers transferred from higher-poverty to lower-poverty schools not only for better locations, but also for more favorable working conditions and professional recognition.

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 who 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 survey results: managing student conduct, community engagement and support, and school leadership. Appendix I shows 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 noted extreme difficulty finding teachers of high school math, foreign language, and English as a second language (ESL).

Principals and superintendents in site visit schools and districts mentioned extreme difficulty finding high school math teachers. High school principals were especially concerned about the lack of math teachers, noting that, because of the lack of high-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.

> 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.

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.[26] Table 4.4 shows that these disproportionate discipline rates exist in the commonwealth. The table provides ratios of the suspension rate for each of these subgroups 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.

> Black students, FRPL students, and special education students are more likely to receive in-school and out-of-school suspensions than are other students.

Table 4.4
Disproportionate Rates Of Suspensions:
Black, FRPL, Male, And Special Education Students, 2015

Resolution	Black/ White	FRPL/ Not FRPL	Male/ Female	IEP/ Not IEP
Out-of-school suspensions	3.86	2.5	2.4	1.6
In-school suspensions	3.29	3.8	2.5	2.1

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.[27]

While the comprehensive causes of disproportional discipline data are not yet clear, it is likely that they affect the education of disproportionately disciplined groups to the extent that suspended students or those removed in school are likely to miss instructional time. OCR provides districts and schools with resources to help them 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.[28]

> While the comprehensive causes of disproportional discipline data are not yet clear, it is likely that they affect the education of disproportionately disciplined groups to the extent that suspended students or those removed in school are likely to miss instructional time.

Some scholars note that subconscious reactions may cause educators to be more likely to interpret black students' behavior as challenging or threatening.[29] These subconscious reactions may 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.

> Some scholars note that subconscious reactions may cause educators to be more likely to interpret black students' behavior as challenging or threatening.

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 the percentage of teachers and administrators who are nonwhite is smaller than the percentage of students who are nonwhite.

> To the extent that cultural differences lead to disproportionate discipline, underrepresentation of nonwhite populations among school staff may increase the challenge of understanding and addressing cultural gaps in schools.

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 for discipline more than 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 affect 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 affect 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.

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).

This chapter reviews implementation of required annual comprehensive school improvement plans and comprenhensive district improvement plans. 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.

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.

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.

Comprehensive planning can play an important role in gap closure but is unlikely, in itself, to have impact absent local leaders with the commitment, skills, and dispositions necessary to effect cultural and programmatic changes in schools with large gaps.

Site visit data suggest that the comprehensive planning process, if fully implemented, can play an important role in school improvement. 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 and 42 CSIPs.

Staff analyzed 25 CDIPs. Of those,18 were from Focus districts, 5 were from Districts of Distinction, and 2 were 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 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 6 superintendents or district administrators; 20 principals or school instructional leaders; and more than 50 reading, math, or special education teachers.[a] 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. Although documents were chosen from a relatively small subset of the state's districts and schools, 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—suggests that this finding is likely to be representative of CSIPs and CDIPs statewide.

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[a] Superintendents and district administrators were interviewed in only three districts; principals were interviewed in all 12 schools, and teachers were interviewed in 8 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 lunch and those who are not eligible for free and reduced 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 more than a dozen additional required CSIP components, including those required only for Focus Schools and Focus 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 following gaps were examined:

- In-school gaps of more than 10 percentage points between males and females

KRS 158.649 identifies gap group students similar to those identified in the state accountability system but also includes males and females.

The statute requires schools to propose, and local boards to adopt, biennial targets to reduce gaps in various groups.

- 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. Note that this differs from what is required in the statute (IEP and non-IEP or LEP and non-LEP). KDE does not disaggregate data for non-IEP and non-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.

Staff analysis of CSIPs and CDIPs suggests that many schools may not be setting gap reduction goals for specific student groups; rather they focus on the unduplicated gap group that is used in the state accountability system.

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, 2015

CSIPs	All Schools (Total of 42)		Focus Schools (Total of 24)		Other Schools (Total of 18)	
	Gaps	Goals	Gaps	Goals	Gaps	Goals
Gap Group	42	37	24	20	18	17
Gender	14*	0	10	0	4	0
Black	11**	4	7	1	4	3
Hispanic	9	1	7	1	2	0
IEP	42	17	24	6	18	11
LEP	6	0	5	0	1	0

CDIPs	All Districts (Total of 25)		Focus Districts (Total of 18)		Other Districts (Total of 7)	
	Gaps	Goals	Gaps	Goals	Gaps	Goals
Gap Group	25	24	18	18	7	6
Gender	2	0	2	0	0	0
Black	12	6	9	4	3	0
Hispanic	4	0	4	0	4	0
IEP	25	17	18	13	7	4
LEP	4	0	4	0	0	0

Note: 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. CSIP = comprehensive school improvement plan; IEP = students with individualized education programs; LEP = students with limited English proficiency; CDIP = comprehensive district improvement plan.
*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 several factors that might explain inconsistent implementation of KRS 158.649. 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. 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 2 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 schools' progress towards meeting these goals.

KDE recently initiated a process by which schools are required through the ASSIST platform to report their achievement gaps and biennial targets by October 1 of each year.

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 1 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.

KRS 158.649(2) requires KDE to provide each school with an "equity analysis that shall identify the substantive differences among the various groups of students" identified in the statute.

KRS 158.649(2) requires KDE to provide each school with an "equity analysis that shall identify the 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 those in schools with similar demographic characteristics in the state.

Recommendation 5.1

Recommendation 5.1

The Kentucky Department of Education (KDE) is required by KRS 158.649 to provide schools with an "equity analysis that shall identify the 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 its district's schools.

Overlapping Federal And State Requirements

Many of the broad gap reduction goals and strategies promoted through KRS 158.649 overlap with policies that will be required by ESSA, but the laws require different actions at the state and local levels. For example, while ESSA requires KDE to set annual goals for gap group performance and monitor whether schools meet those goals, KRS 158.649 requires each school to set gap reduction targets and requires local boards to monitor whether schools meet those targets. While ESSA charges KDE with the responsibility of identifying schools with large achievement gaps for improvement, KRS 158.649 requires superintendents to report to KDE those schools not meeting their self-set gap reduction targets.

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.

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 toward 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

Recommendation 5.2

In revising 703 KAR 5:225, the Kentucky Department of Education should consider specifically incorporating key elements of KRS 158.649 that are not required by the Every Student Succeeds Act. For example, the regulation should require schools and districts, through comprehensive school improvement plans and comprehensive district improvement plans, to identify in-school achievement gaps and include strategies to address them.

Recommendation 5.3

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.

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.[b]

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.[c] 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.

> 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.

Some Strategies For Gap Groups Not Reported On CSIPs. While CSIP and CDIP document analysis did not indicate many instructional strategies oriented toward 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 time was provided because 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 it believed that physical activity combined with associated vocabulary aided language acquisition.

> 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. These strategies are not always described on CSIPs.

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[b] 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.

[c] IEP students were an exception to this rule. Most plans referred to steps taken at the school level to ensure that they complied with the IEP and other requirements for special education students.

An elementary teacher described purchasing classroom literature that 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 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 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. Challenges considered critical by educators but not addressed on CSIPs included the following:
- **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, especially 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.

Staff analysis of CSIPs and CDIPs revealed no systematic

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 and those in Focus Schools or Focus 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 dramatically improved 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 difficult to use. 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, which makes it difficult to describe how certain challenges relate to each other.

CSIPs and CDIPs are lengthy, reflecting the many components required in each plan. Several interviewees wondered whether their school plans are read.

Because of the many components required in each comprehensive plan, plans are lengthy, ranging from 54 pages to 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 unusual consumer products, to describe improvement strategies, as a way of checking whether the plan would be read.[d]

Recommendation 5.4

Recommendation 5.4

In revising 703 KAR 5:2225, the Kentucky Department of Education should consider reducing the number of specific elements that are required for inclusion in every comprehensive school improvement plan.

Recommendation 5.5

Recommendation 5.5

In revising 703 KAR 5:225, the Kentucky Department of Education should consider making explicit the role of district leaders in monitoring comprehensive school improvement plans (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.

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[d] OEA staff did note several cases in which CSIPs contained phrases such as "whatever" or "wah, wah, wah" to describe improvement strategies.

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 in the absence of strong local leadership.

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.[e] While particular state or local technical assistance or grant programs can be very helpful, they are less likely, in themselves, to effect change absent effective local leaders.[f]

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. However, previous research has shown that school improvement is linked strongly with school leadership.[30]

Leadership 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, and
- strategic use of resources.

While literature has not demonstrated a single model of effective local leadership for gap closure, qualities observed in this study, and previous OEA studies, and supported by literature include
- high expectations/accountability for staff and students,
- high support for staff and students,
- relationship building, and
- strategic use of resources.

High Expectations/Accountability
For Staff And Students

Principals in schools that narrowed gaps had raised expectations for staff and encouraged teachers who were unwilling to change to work elsewhere.

Improving outcomes for any group of students requires raising expectations for students and staff. 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

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[e] As an exception to this rule, OEA visited one middle school in which the relatively high performance of Hispanic students compared to state averages did not appear to be associated with strong leadership within the school. None of the educators interviewed in this district were able to explain the higher performance of Hispanic students compared to the state and to other students in the school, though one suggested that most of the Hispanic students had attended a higher-performing elementary school.

[f] While not a subject of this report, OEA's 2010 report on *Assistance To Low-Achieving Schools And Districts* noted the critical role of local board leaders 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.

for supportive relationships with students. Principals identified teachers already in the building who were meeting these expectations, and they 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.

OEA observed very low levels of academic rigor in one site visit school.

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 accomplished or exemplary on the state's Professional Growth and Effectiveness System (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 by sufficient support; otherwise, staff or students can become demoralized or resistant.

Principals' efforts to raise expectations for staff or students must be accompanied by 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 more than 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 1st-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.

The superintendent in a higher-poverty district that had seen substantial improvements worked on a daily basis with principals in the district to improve the quality of their instructional leadership. The superintendent also informed principals that those unwilling to improve would be removed.

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 a 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 4 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 from KDE district and education recovery staff.

Building Relationships Among Teachers, Students, And Community

Relationship building is a priority for principals in gap-closing schools.

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 they 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 strengths.[g] 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 in gap-closing schools take advantage of all available resources.

Principals and teachers in several schools demonstrated flexible and creative uses of time and resources to meet students' needs. For example, principals enlisted teachers with particular talents to assist colleagues or lead workshops, and staff were 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 resist adopting new programs that have not been critically examined and are not clearly superior to what is already in place.

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

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[g] 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.

teachers from the churn in policies and practices that are common, especially in schools under pressure to improve.

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 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.

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 develop internship programs to supervise, assist, and assess beginning principals. This program is not currently funded.

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 pay for several programs that support leadership development.

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.

The Kentucky Chamber of Commerce supports a leadership institute.

Responding to what it 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.

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."[31]

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

Recommendation 5.6

In establishing decision criteria for awarding Title I school improvement grant awards under the Every Student Succeeds Act, the Kentucky Department of Education 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

Recommendation 5.7

The Kentucky Department of Education should encourage eligible entities to apply for Every Student Succeeds Act 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 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. Calculations for Reporting Categories.

… (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) 1. 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. …

(6)(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:

Grade Range	Achievement	Gap	Growth	Readiness	Graduation Rate	Total
Elementary	33.3	33.3	33.3	n/a	n/a	99.9
Middle	28	28	28	16	n/a	100
High	20	20	20	20	20	100

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. …

(5) "Focus district" means a district that has a non-duplicated student gap group score in the bottom ten (10) percent of non-duplicated student gap group scores for all districts. Focus calculations shall combine two (2) years of data.

(6) "Focus school" means a school that has a non-duplicated student gap group score in the bottom ten (10) percent of non-duplicated student gap group scores for all elementary, middle, and high schools; schools with an individual student subgroup by level that falls in the bottom five (5) percent for individual subjects; or high schools that have a graduation rate that has been less than eighty (80) percent for two (2) consecutive years. Focus calculations shall combine two (2) years of data; focus calculations for new or reconfigured schools shall use one (1) year of data. …

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.)

Tables A.1 and A.2 summarize criteria contained in 703 KAR 5:225 for schools identified for consequence or reward.

Table A.1
Criteria And Consequences For Priority And Focus Schools, 703 KAR 5:225

Category	Criteria	Consequence
Priority	In the bottom 5 percent of overall scores by level for all schools that have failed to meet the annual state achievement goals for the last 3 consecutive years.	Must implement one of several prescribed, intensive, intervention options
Focus	Based on 2 years of data: • has a non-duplicated student gap group score in the bottom 10 percent of nonduplicated student gap group score; or • has an individual student subgroup by level that falls in the bottom 5 percent for individual subjects; or • is a high school that has a graduation rate that has been less than 80 percent for 2 consecutive years	Must revise comprehensive school improvement plan to address low performance of subgroup(s)

Source: Staff analysis of 703 KAR 5:225.

Table A.2
Criteria For Reward Schools, 703 KAR 5:225

Category	Criteria
School of Distinction	At or above the 95th percentile in the state accountability system, meets criteria for all reward categories and is not a Focus School
Highest-Performing School	At or above the 90th percentile in the state accountability system and meets criteria for all reward categories
High-Progress School	In the top 10th percentile of improvement compared to other schools and meets the criteria for all reward categories
All Reward Categories	Meets state graduation, performance and participation rate goals and has a graduation rate above 80 percent

Note: Percentile rank benchmarks are established based on performance associated with ranks in a single year and then remain the same for a 5-year interval.
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
History: Amended 2014 Ky. Acts ch. 14, sec. 5, effective July 15, 2014. -- Amended 2010 Ky. Acts ch. 146, sec. 3, effective April 13, 2010. -- Amended 2009 Ky. Acts ch. 101, sec. 7, effective March 25, 2009. -- Created 2002 Ky. Acts ch. 302, sec. 1, effective July 15, 2002.

Appendix B

Program Eligibility Requirements

Free and Reduced-Price Lunch: Children from families with incomes at or below 130 percent of the poverty level are eligible for free lunches. Those from families with incomes between 130 percent and 185 percent of the poverty level are eligible for reduced-price lunches.
Source: Kentucky. Dept. of Educ. *School Report Card*. Web. March 30, 2015.

LEP: Limited English proficiency refers to an individual
- who is age 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.
Source: Kentucky. Dept. of Educ. *FY2014-2015 Final SEEK*. Web. March 30, 2015.

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.

Source: Kentucky. Dept. of Educ. *FY2014-2015 Final SEEK*. Web. March 30, 2015.

Appendix C

NAEP Results

Table C.1
Kentucky Gaps Versus Nation In Scale Scores
On NAEP 4th- And 8th-Grade Reading And Math Tests, 2015

	White-Black	White-Hispanic	FRPL Ineligible-Eligible	All-LEP
4th-Grade Reading				
Kentucky	19	15	22	27
Nation	26	24	28	34
8th-Grade Reading				
Kentucky	24	5	20	32
Nation	26	21	23	42
4th-Grade Math				
Kentucky	18	10	21	22
Nation	24	18	24	22
8th-Grade Math				
Kentucky	24	7	23	n/a
Nation	32	22	28	57

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

Table C.2 shows 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 Scores,
White And Black Students, 1992 And 2015

	1992			2015		
	White	Black	Gap	White	Black	Gap
Kentucky	214	196	18	231	212	19
Nation	223	191	32	232	206	26

Source: 1992 data from National Center for Education Statistics, *Achievement Gaps: How Black And White Students In Public Schools Perform In Mathematics And Reading On The National Assessment Of Educational Progress,* 2009; 2015 data from DeCandia, Mark, *2015 NAEP Reading.* Web. July 14, 2016.

Table C.3
NAEP 4th-Grade Math Scores,
White And Black Students, 1992 And 2015

	1992			2015		
	White	Black	Gap	White	Black	Gap
Kentucky	217	200	17	244	226	18
Nation	227	192	35	248	224	24

Source: 1992 data from National Center for Education Statistics, *Achievement Gaps: How Black And White Students In Public Schools Perform In Mathematics And Reading On The National Assessment Of Educational Progress,* 2009; 2015 data from DeCandia, Mark, *2015 NAEP Mathematics.* Web. July 14, 2016.

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

	1998			2015		
	White	Black	Gap	White	Black	Gap
Kentucky	264	246	19	271	247	24
Nation	268	242	26	274	248	26

Source: 1998 data from National Center for Education Statistics, *Achievement Gaps: How Black And White Students In Public Schools Perform In Mathematics And Reading On The National Assessment Of Educational Progress,* 2009; 2015 data from DeCandia, Mark, *2015 NAEP Reading.* Web. July 14, 2016.

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

	1990			2015		
	White	Black	Gap	White	Black	Gap
Kentucky	259	240	18*	281	257	24
Nation	269	236	33	292	260	32

*Difference due to rounding.
Source: 1990 data from National Center for Education Statistics, *Achievement Gaps: How Black And White Students In Public Schools Perform In Mathematics And Reading On The National Assessment Of Educational Progress,* 2009; 2015 data from DeCandia, Mark, *2015 NAEP Mathematics.* Web. July 14, 2016.

Appendix D

K-PREP Results

Percent Novice, Apprentice, Proficient, And Distinguished
Elementary School Math, 2015

Student Group	Number Tested	Percent Novice	Percent Apprentice	Percent Proficient	Percent Distinguished	Novice-Distinguished Ratio
Nongap	48,442	6.0%	23.8%	40.4%	29.8%	0.2
All	151,604	18.1	33.0	32.7	16.2	1.1
Black	15,355	31.2	38.3	24.2	6.3	5.0
Hispanic	9,148	23.6	38.7	28.9	8.9	2.7
FRPL	94,857	23.9	37.6	29.1	9.5	2.5
IEP	21,031	40.6	34.6	18.6	6.2	6.5
LEP	4,933	34.0	41.8	19.7	4.5	7.6

Note: FRPL = eligible for free or reduced-priced lunch; IEP = individualized education program, LEP = limited English proficiency.
Source: Staff analysis of Kentucky Department of Education Open House data.

Percent Novice, Apprentice, Proficient, And Distinguished, Middle School Math, 2015

Student Group	Number Tested	Percent Novice	Percent Apprentice	Percent Proficient	Percent Distinguished	Novice-Distinguished Ratio
Nongap	52,541	4.9%	30.9%	44.1%	20.1%	0.2
All	150,251	16.1	41.1	32.4	10.4	1.5
Black	16,033	32.8	46.2	18.4	2.6	12.6
Hispanic	7,595	20.3	46.7	27.3	5.7	3.6
FRPL	90,131	22.0	46.8	26.2	5.0	4.4
IEP	17,434	43.6	40.9	12.8	2.7	16.1
LEP	2,700	44.4	43.4	10.3	1.9	23.4

Note: FRPL = eligible for free or reduced-price lunch; IEP = individualized education program; LEP = limited English proficiency.
Source: Staff analysis of Kentucky Department of Education Open House data.

Percent Novice, Apprentice, Proficient, And Distinguished, High School Math, 2015

Student Group	Number Tested	Percent Novice	Percent Apprentice	Percent Proficient	Percent Distinguished	Novice-Distinguished Ratio
Nongap	19,912	14.4%	33.3%	38.5%	14.1%	1.0
All	46,671	23.5	38.4	29.9	8.3	2.8
Black	4,924	35.6	41.6	20.4	2.4	14.8
Hispanic	1,713	25.3	41.7	27.8	5.1	5.0
FRPL	24,154	30.1	42.5	23.6	3.8	7.9
IEP	3,781	48.6	37.8	10.9	2.8	17.4
LEP	486	42.0	38.3	16.5	3.3	12.7

Note: FRPL = eligible for free or reduced-price lunch; IEP = individualized education program; LEP = limited English proficiency.
Source: Staff analysis of Kentucky Department of Education Open House data.

Percent Novice, Apprentice, Proficient, And Distinguished
Elementary School Reading, 2015

Student Group	Number Tested	Percent Novice	Percent Apprentice	Percent Proficient	Percent Distinguished	Novice-Distinguished Ratio
Nongap	48,442	6.8%	18.3%	44.1%	30.7%	0.2
All	151,604	19.6	26.2	37.3	16.9	1.2
Black	15,355	37.5	29.8	26.9	5.9	6.4
Hispanic	9,148	27.0	31.8	32.1	9.0	3.0
FRPL	94,857	25.9	30.0	34.1	10.0	2.6
IEP	21,031	39.0	28.9	24.4	7.7	5.1
LEP	4,933	41.2	35.5	20.5	2.8	14.7

Note: FRPL = eligible for free or reduced-price lunch; IEP = individualized education program; LEP = limited English proficiency.
Source: Staff analysis of Kentucky Department of Education Open House data.

Percent Novice, Apprentice, Proficient, And Distinguished, Middle School Reading, 2015

Student Group	Number Tested	Percent Novice	Percent Apprentice	Percent Proficient	Percent Distinguished	Novice-Distinguished Ratio
Nongap	52,541	7.5%	18.4%	44.8%	29.5%	0.3
All	150,251	21.1	25.1	37.2	16.7	1.3
Black	16,033	39.8	28.8	25.6	5.8	6.9
Hispanic	7,595	27.7	28.6	33.6	10.0	2.8
FRPL	90,131	28.3	28.9	33.3	9.6	2.9
IEP	17,434	52.5	26.4	17.0	4.1	12.8
LEP	2,700	64.3	24.3	10.4	1.0	64.3

Note: FRPL = eligible for free or reduced-price lunch; IEP = individualized education program; LEP = limited English proficiency.
Source: Staff analysis of Kentucky Department of Education Open House data.

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

Student Group	Number Tested	Percent Novice	Percent Apprentice	Percent Proficient	Percent Distinguished	Novice-Distinguished Ratio
Nongap	19,652	16.3%	7.4%	54.0%	22.1%	0.7
All	49,674	34.0	9.2	44.1	12.6	2.7
Black	5,279	55.7	10.1	30.8	3.4	16.4
Hispanic	2,007	45.8	10.3	37.0	6.9	6.6
FRPL	27,282	45.4	10.3	38.0	6.3	7.2
IEP	4,925	72.8	11.0	14.1	2.1	34.7
LEP	664	89.9	4.5	4.8	0.8	112.4

Note: FRPL = eligible for free or reduced-price lunch; IEP = individualized education program; LEP = limited English proficiency.
Source: Staff analysis of Kentucky Department of Education Open House data.

Novice-Distinguished Ratio, Reading, 2015

Student Group	Elementary	Middle	High
Nongap	0.2	0.3	0.7
All	1.2	1.3	2.7
Black	6.4	6.9	16.4
Hispanic	3.0	2.8	6.6
FRPL	2.6	2.9	7.2
IEP	5.1	12.8	34.7
LEP	14.7	64.3	112.4

Note: FRPL = eligible for free or reduced-price lunch; IEP = individualized education program; LEP = limited English proficiency.
Source: Staff analysis of Kentucky Department of Education Open House data.

Novice-Distinguished Ratio, Math, 2015

Student Group	Elementary	Middle	High
Nongap	0.2	0.2	1.0
All	1.1	1.5	2.8
Black	5.0	12.6	14.8
Hispanic	2.7	3.6	5.0
FRPL	2.5	4.4	7.9
IEP	6.5	16.1	17.4
LEP	7.6	23.4	12.7

Note: FRPL = eligible for free or reduced-price lunch; IEP = individualized education program; LEP = limited English proficiency.
Source: Staff analysis of Kentucky Department of Education Open House data.

Elementary School Math, Percent Proficient Or Distinguished Gaps

Group	2012 Gap	2015 Gap	Change
Nongap	19.7	21.1	1.4
Black	-18.0	-18.3	-0.3
Hispanic	-9.8	-11	-1.2
FRPL	-10.6	-10.2	0.4
IEP	-20.5	-24	-3.5
LEP	-17.7	-24.6	-6.9

Note: FRPL = eligible for free or reduced-price lunch; IEP = individualized education program; LEP = limited English proficiency.
Source: Staff analysis of Kentucky Department of Education Open House data.

Middle School Math, Percent Proficient Or Distinguished Gaps

Group	2012 Gap	2015 Gap	Change
Nongap	19.7	21.4	1.7
Black	-20.4	-21.8	-1.4
Hispanic	-9.2	-9.8	-0.6
FRPL	-12.1	-11.6	0.5
IEP	-25.5	-27.3	-1.8
LEP	-24.7	-30.6	-5.9

Note: FRPL = eligible for free or reduced-price lunch; IEP = individualized education program; LEP = limited English proficiency.
Source: Staff analysis of Kentucky Department of Education Open House data.

High School Math, Percent Proficient Or Distinguished Gaps

Group	2012 Gap	2015 Gap	Change
Nongap	14.5	14.4	-0.1
Black	-15.6	-15.4	0.2
Hispanic	-5	-5.3	-0.3
FRPL	-12.1	-10.8	1.3
IEP	-28.9	-24.5	4.4
LEP	-17.0	-18.4	-1.4

Note: FRPL = eligible for free or reduced-price lunch; IEP = individualized education program; LEP = limited English proficiency.
Source: Staff analysis of Kentucky Department of Education Open House data.

Elementary School Reading, Percent Proficient Or Distinguished Gaps

Group	2012 Gap	2015 Gap	Change
Nongap	20.5	20.7	0.1
Black	-20.5	-21.5	-1.0
Hispanic	-10.9	-13	-2.1
FRPL	-11.0	-10.1	0.9
IEP	-21.2	-22.1	-0.9
LEP	-24.7	-30.9	-6.2

Note: FRPL = eligible for free or reduced-price lunch; IEP = individualized education program; LEP = limited English proficiency.
Source: Staff analysis of Kentucky Department of Education Open House data.

Middle School Reading, Percent Proficient or Distinguished Gaps

Group	2012 Gap	2015 Gap	Change
Nongap	19.9	20.5	0.6
Black	-20.9	-22.4	-1.5
Hispanic	-10.3	-10.2	0.1
FRPL	-12.1	-10.9	1.2
IEP	-29.9	-32.7	-2.8
LEP	-37.3	-42.4	-5.1

Note: FRPL = eligible for free or reduced-price lunch; IEP = individualized education program; LEP = limited English proficiency.
Source: Staff analysis of Kentucky Department of Education Open House data.

High School Reading, Percent Proficient Or Distinguished Gaps

Group	2012 Gap	2015 Gap	Change
Nongap	16.5	17.2	0.7
Black	-20.5	-22.6	-2.1
Hispanic	-10.8	-12.9	-2.1
FRPL	-13.6	-12.5	1.1
IEP	-40.9	-40.7	0.2
LEP	-45.7	-51.2	-5.5

Note: FRPL = eligible for free or reduced-price lunch; IEP = individualized education program; LEP = limited English proficiency.
Source: Staff analysis of Kentucky Department of Education Open House data.

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

School % FRPL	Total Number Of Schools			Number Of Schools At Or Above State Average			Percent Of Schools At Or Above State Average		
	Elem	Middle	High	Elem	Middle	High	Elem	Middle	High
0-25	24	8	7	8	4	3	33	50	43
26-50	96	49	66	37	13	12	39	27	18
51-75	360	188	117	72	31	10	20	16	9
76-100	213	75	30	32	11	2	15	15	7

Note: FRPL = free or reduced-price lunch.
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

School % FRPL	Total Number Of Schools			Number Of Schools At Or Above State Average			Percent Of Schools At Or Above State Average		
	Elem	Middle	High	Elem	Middle	High	Elem	Middle	High
0-25	13	1	1	7	0	1	54	0	100
26-50	44	33	28	10	5	5	23	15	18
51-75	96	75	27	8	5	2	8	7	7
76-100	103	25	11	3	0	0	3	0	0

Note: This table includes only those schools that have reportable numbers of black students. FRPL = free or reduced-price lunch.
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**

School % FRPL	Total Number Of Schools			Number Of Schools At Or Above State Average			Percent Of Schools At Or Above State Average		
	Elem	Middle	High	Elem	Middle	High	Elem	Middle	High
0-25	10	6	3	6	3	1	60	50	33
26-50	44	38	22	16	14	10	36	37	45
51-75	109	86	12	25	28	2	23	33	17
76-100	77	18	5	8	0	0	10	0	0

Note: This table includes only those schools that have reportable numbers of Hispanic students. FRPL = free or reduced-price lunch.
Source: Staff analysis of data from the Kentucky Department of Education.

Appendix F

District Achievement Gaps

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 average is lower than the state average of 60 percent.

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

Gap Group	Level	Percent Of Districts	Average FRPL Rate
FRPL	Elem (n=173)	14	60
	Middle (n=173)	12	54
	High (n=168)	11	56
Black	Elem (n=52)	6	57
	Middle (n=67)	4	58
	High (n=36)	8	59
Hispanic	Elem (n=61)	13	49
	Middle (n=71)	27	58
	High (n=19)	11	48

Note: The table contains data only for those districts with reportable scores. FRPL = free or reduced-price lunch.
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.

Appendix G

Homelessness, Mobility, And Chronic Absences

Table G.1
Percentage Of Students Mobile Among Schools
By Student Group, 2015

	Percent Mobile (Enrolled In More Than One School)	Percent Highly Mobile (Enrolled In More Than Two Schools)
All	7.3	2.4
Male	7.7	2.6
Female	6.9	2.2
White	6.7	2.2
Black	11.9	3.9
Hispanic	8.5	1.9
Asian	3.5	0.6
Other	9.4	3.1
FRPL	10.2	3.4
Non FRPL	3.3	1.0
IEP	12.4	5.2
LEP	8.9	1.3

Note: These data include only those students that took one or more state assessment in 2015. FRPL = free or reduced-price lunch; IEP = individualized education program; LEP = limited English proficiency.
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

Category	Number	Percent Of Total
Runaway shelter	231	0.7
Motel	1,256	4.1
Nighttime shelter	1,171	3.8
Care facilities	1,438	4.6
Abuse center	198	0.6
Uninhabited places	1,360	4.4
Friends or relatives	23,198	74.9
Foster care	1,203	3.9
Other	916	3.0
Total homeless students	30,971	100.0

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 substantial differences with the FRPL category in the percentages of white, black, and Hispanic FRPL 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
Percentage Of Students Chronically Absent By Student Group, 2015
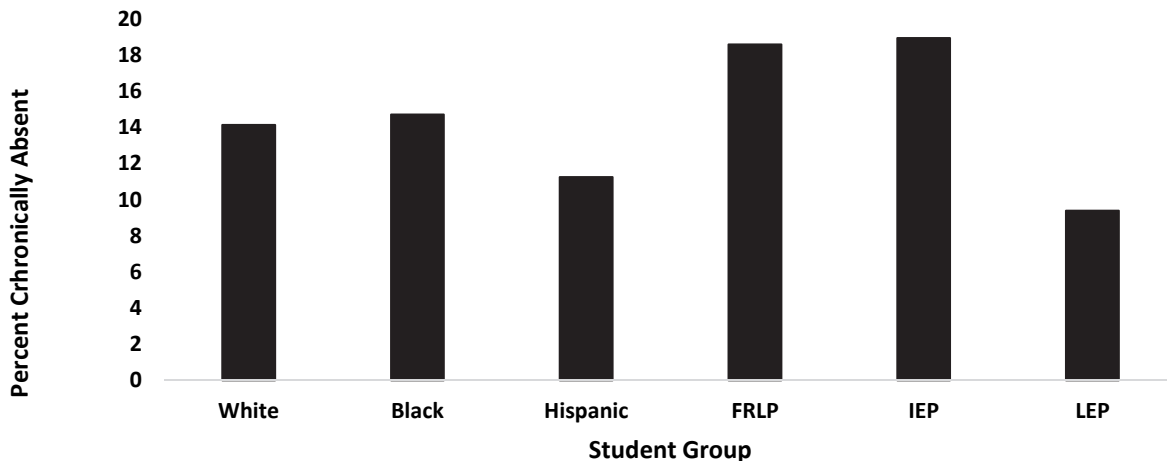
Note: These data include only those students that took one or more state assessment in 2015. Chronic absence is calculated at the student level as absences (excused or unexcused) as a percent of total days enrolled. FRPL = free or reduced-price lunch; IEP = individualized education program; LEP = limited English proficiency.
Source: Staff analysis of data from the Kentucky Department of Education.

Appendix H

Teacher Assignment Within Schools

Figures H.A and H.B show differences in individual schools in the percentages of white students versus black students (Figure H.A) or white students versus Hispanic students (Figure H.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 (1.1 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. 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
**Percentage Of Schools In Which The Percentage Of White And Black Students
Assigned To Newer Teachers Differed, By Ratio Of Difference**
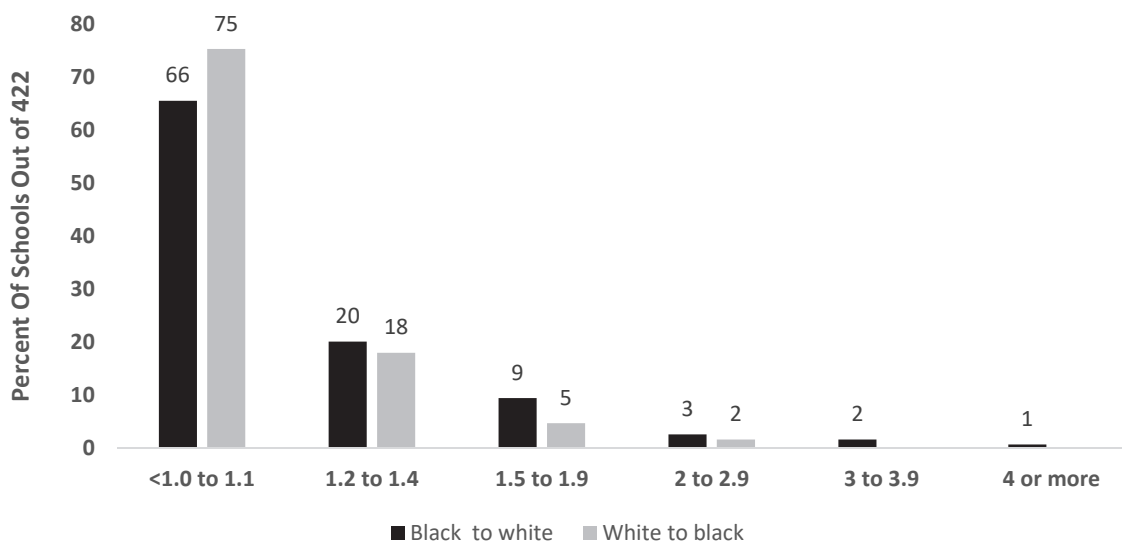
Note: Schools in which there were fewer than five total enrollments in a class with a teacher with 2 years of experience or less were excluded from this analysis.
Source: Staff analysis of course enrollment, student demographic, and teachers' years of experience data from Kentucky Department of Education.

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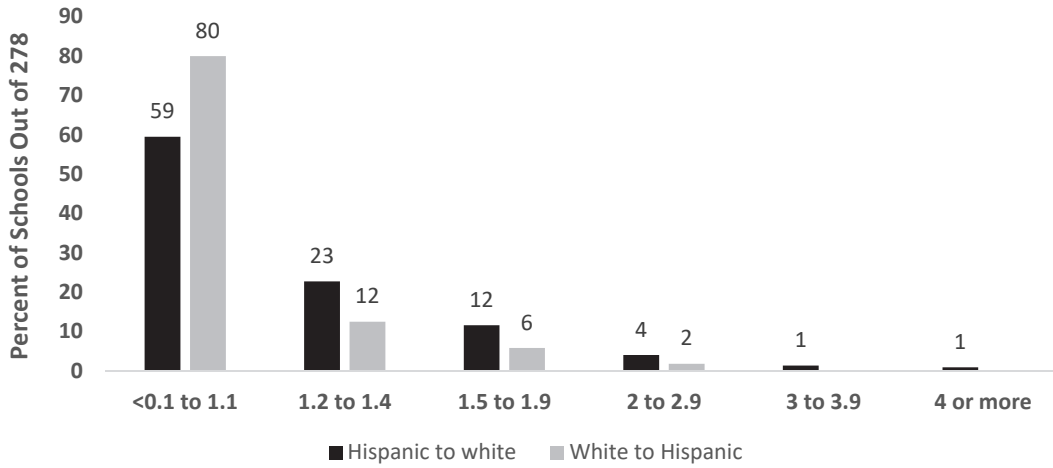
Note: Schools in which there were fewer than five total enrollments in a class with a teacher with 2 years of experience or less were excluded from this analysis.
Source: Staff analysis of course enrollment, student demographic, and teachers' years of experience data from Kentucky Department of Education.

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 who 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 minimize paperwork is 35 percent in lower-nonwhite schools versus 45 percent in higher-nonwhite schools, and that instructional time is sufficient to meet student needs is 20 percent in lower-nonwhite schools versus 35 percent in higher-nonwhite schools.

Teachers in schools with higher versus lower percentages of 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. Also high were the 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
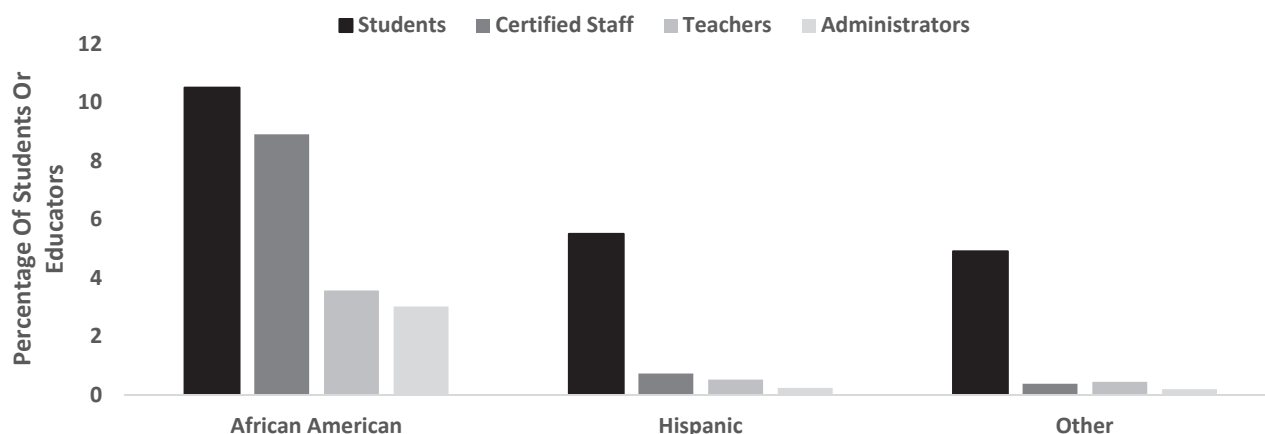
Source: Staff analysis of data from the Kentucky Department of Education.

Table J.1 shows the average percentage of nonwhite staff by range of the percentage of nonwhite students in a district. On average, districts with higher percentages of nonwhite students have higher percentages of nonwhite staff than do districts with lower percentages of nonwhite students.

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

District Percent Nonwhite Students	Number Of Districts	Percentage Nonwhite Classified	Percentage Nonwhite Certified	Percentage Nonwhite Administrators
5 or less	55	0.9	0.5	0.4
6 to 10	54	1.8	1.2	0.4
11 to 20	35	5.5	3.3	1.7
21 to 40	18	10.7	6.9	4.3
41 to 60	11	22.9	13.8	8.5

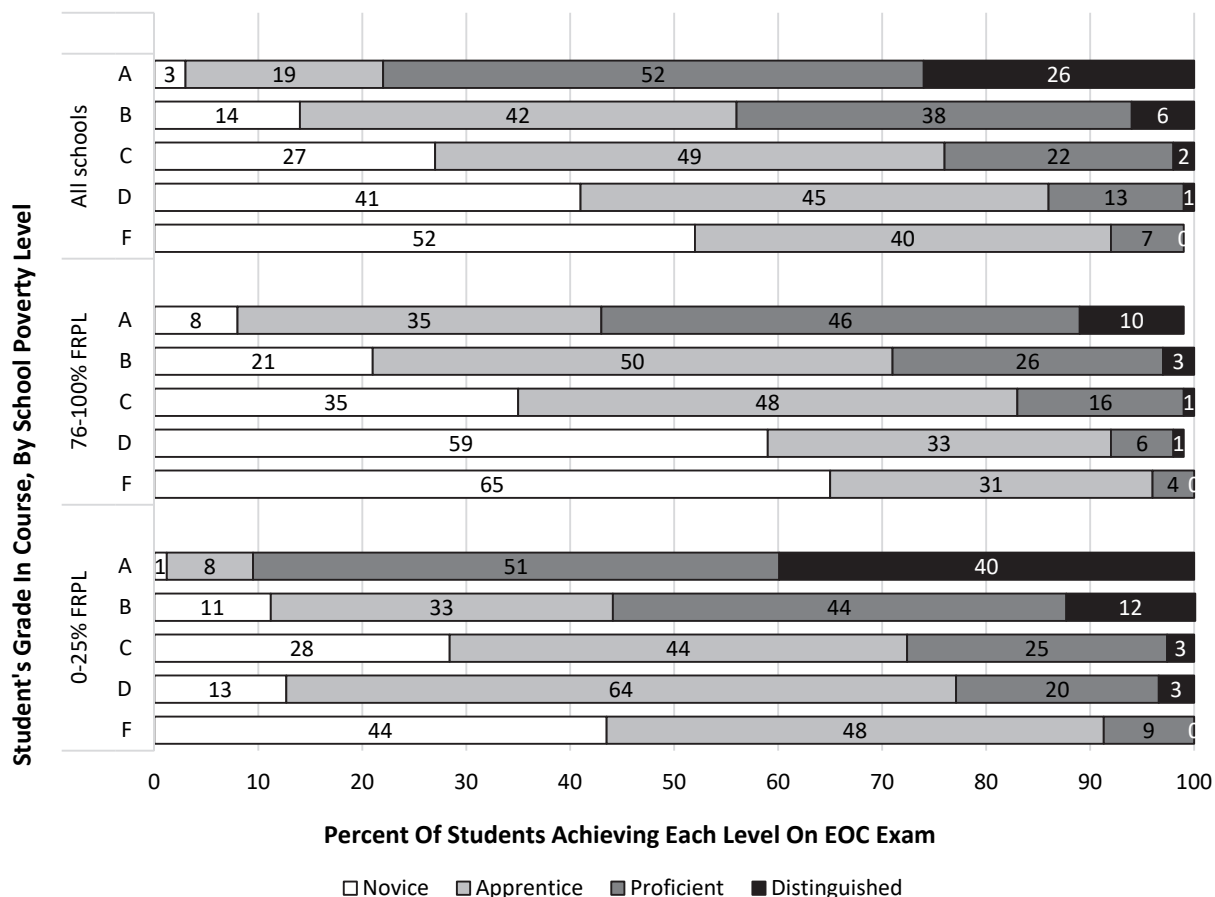Source: Staff analysis of data from the Kentucky Department of Education.

Appendix K

Algebra II End-Of-Course And Grades

Figure K.1 shows the K-PREP performance designations received by students on Algebra II end-of-course (EOC) exams, disaggregated by students who 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 FRPL students).

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 who received an A in their Algebra II course were proficient or distinguished on the Algebra II EOC. Only 56 percent of students who 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
By School Poverty Level, 2015

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

Endnotes

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