

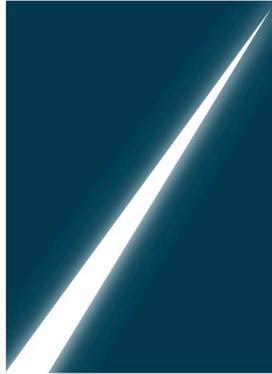
# READING PROFICIENCY RATES RISING IN SOME APPALACHIAN SCHOOLS

Scientifically based teaching, Direct Instruction  
programs driving turnaround

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A Bluegrass Institute Policy Point  
by Richard G. Innes • January 2022

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# Reading proficiency rates rising in some Appalachian schools

*Scientifically based teaching, Direct Instruction programs driving turnaround*

## Executive Summary

Results on both state and national tests raise important questions about the general lack of effectiveness of reading instruction in Kentucky's public schools. Evidence from the federal National Assessment of Educational Progress (NAEP) indicates that many Kentucky teachers struggle to provide effective reading instruction.

The dimensions of this problem are enormous. Impacts were examined in a recent Bluegrass Institute report<sup>1</sup> that indicates 200,000 of the state's public school students, about 31% of the total enrollment, are deficient readers.

But, it doesn't need to be this way. Data from some eastern Kentucky schools – including in Clay County, one of the nation's poorest counties – indicate that even in schools with large percentages of students from low-income homes, the challenge of overcoming the impact of poverty and achieving effective reading instruction can be met.

An analysis tool from the Education Consumers Foundation reveals that third grade students in several Clay County schools obtain notably better outcomes in reading on state tests than many of their fellow students achieve statewide, even including those in wealthier areas.

Clay County elementary schools benefit from an Elgin Foundation program to improve reading instruction. Elgin's main program is aligned with scientific research on reading and additionally is supplemented by elements from a program called Direct Instruction, which research shows is especially effective for disadvantaged students.

The stellar reading performance of third-graders in the high-poverty pocket of Clay County stands in stark contrast to lots of other Kentucky students in many other areas of the state failing to achieve adequate results. The impact of Elgin's program in public schools in an area with some of the state's highest poverty rates is highly noteworthy and earns the program a closer look and consideration by educators and policymakers for use statewide.

## Introduction

Reading is a critical skill that needs to be mastered early in a student's school career. As noted by the Annie E. Casey Foundation, "Up until the end of third grade, most children are learning to read. Beginning in fourth grade, however, they are reading to learn...."<sup>2</sup>

Basically, the US education system is designed with the assumption that students can adequately read to learn by the time they reach the fourth grade. So, a student who exits the third grade with weak reading skills is in danger of struggling with learning throughout the rest of their K-12 experience. As the Casey Foundation also points out, this "can be a make-or-break benchmark in a child's educational development."<sup>3</sup>

For far too many students, this end-of-third-grade challenge is a breaking point as overall reading instruction is highly problematic all across the country.

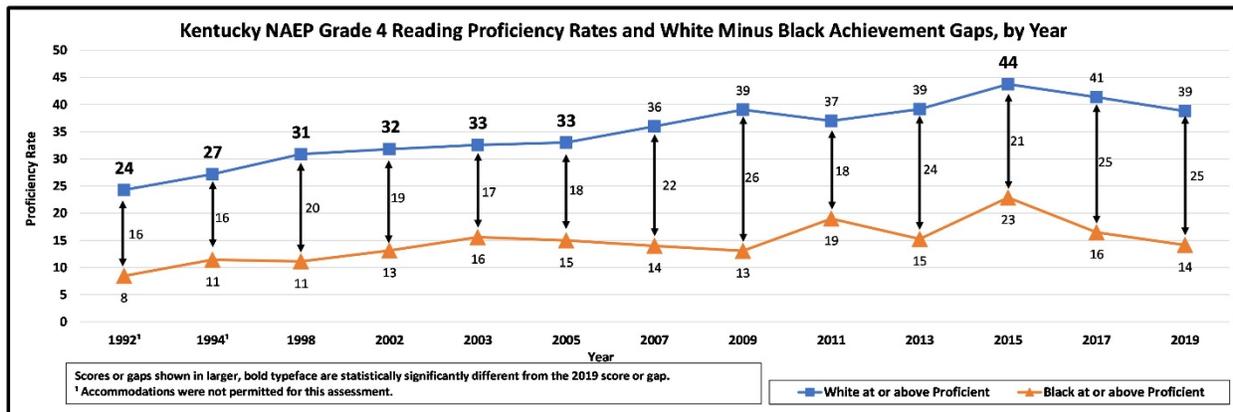
Still, there are pockets of reading excellence, and a graph-generating school performance analysis tool offered by the Education Consumers Foundation<sup>4, 5</sup> allows comparisons of third grade reading performance for all 50 states' education data to find schools that break the curve.

In the case of the Bluegrass State, the tool incorporates Kentucky Department of Education datasets with information about reading proficiency rates from the Kentucky Performance Rating for Educational Progress (KPREP) test taken by third-grade students and other relevant data that permit calculation of the percentages of students eligible for free or reduced cost school lunches (a proxy for student poverty rates). The tool uses these data points for each school and district to create graphical performance comparisons for the commonwealth's schools. And, this information is critically needed, because:

**Many Kentucky children fail to reach the 'make-or-break benchmark.'**

Figure 1 shows the performance of Kentucky's fourth grade students on the federal National Assessment of Educational Progress (NAEP) – the nation's report card.<sup>6</sup> This figure provides compelling evidence that many Kentucky students exit the third grade as weak readers.

**Figure 1**



After nearly three decades of KERA reform efforts, NAEP results show not much more than one out of three white Kentucky students reads proficiently.

The Kentucky Education Reform Act (KERA) of 1990 promised to drastically improve education in the commonwealth, especially for students who had been historically left behind. Yet only 14% of the state's Black students read proficiently as of 2019, which isn't statistically significantly different from their performance during the first year of NAEP state level testing in reading from 1992.

ACT college entrance test results further highlight Kentucky's poor reading performance, raising questions about the instruction behind it. Only 41% of white Kentucky 2021 high school graduates and just 15% of the state's 2021 Black graduates met or exceeded the minimum ACT score that shows readiness for reading skills required for college and living wage careers.<sup>7</sup>

Those ACT numbers for high school graduates in 2021 agree very closely with the 2019 NAEP results for much-younger fourth grade students, further highlighting the fact that time doesn't seem to have brought needed improvement.

Also, the problem impacts a huge number of Kentucky's students. A recently issued Bluegrass Institute policy point<sup>8</sup> estimates that 200,000 K-12 students in Kentucky's public school system are weak readers.

The state's K-12 system currently enrolls about 648,000 students, so about 31% of the cohort – about one in three students – struggles with reading deficiencies, if they can read much at all.

### **Why does this problem exist?**

Many Kentucky educators and the staff in the education colleges that train them continue to hold on to ideas about reading and the teaching of the subject that scientific research now shows don't work well, if at all. The low effectiveness of these approaches, including guessing at the meaning of words from either sentence context or associated pictures, is attested to by many years of Kentucky's low reading proficiency rates on the NAEP, as previously noted.

In fact, many teacher preparation programs in Kentucky's college system don't even teach all five elements scientific research shows are needed in strong reading instruction programs:

- (1) Phonemic Awareness: Developing student awareness of the sounds made by spoken words;
- (2) Phonics: Systematically mapping those speech sounds onto letters and letter combinations;
- (3) Fluency: Giving students extended practice with reading so that they learn to read without a lot of effort (which critically allows students to devote their mental energy to the meaning of the text instead of struggling with word decoding);
- (4) Building Vocabulary: A skill closely associated with the final component; and
- (5) Comprehension: Developing students' understanding of what at first is being read to them and eventually what they will read themselves.<sup>9</sup>

All these elements are essential for solid reading instruction. Yet a 2020 report from the National Council on Teacher Quality shows education schools in Kentucky only cover three of the five essential items in this listing on average, raising concerns that many Kentucky teachers are inadequately prepared to teach reading.<sup>10</sup> But, it doesn't have to be this way.

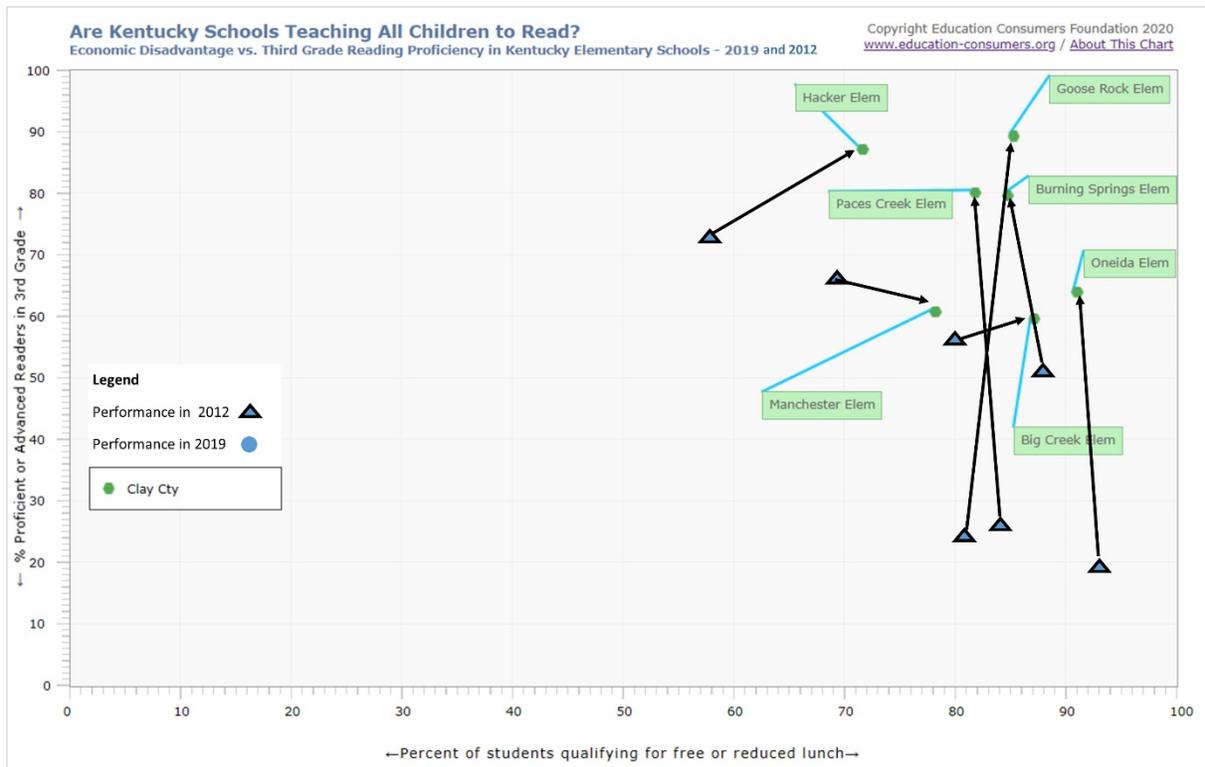
### **Clay County shows schools with poor students can improve**

Evidence from the Education Consumers Foundation data tool shows poor reading results or ineffective instruction doesn't have to continue being Kentucky's norm, even amidst poverty.

The tool highlights how even schools with a significant percentage of students from low-income homes benefit from scientifically based professional development programs for teachers. This effort apparently has prepared teachers in some eastern Kentucky schools to become effective reading instructors.

The graph in Figure 2 plots the reading proficiency rate versus the school lunch eligibility rate of each Clay County school in 2012, the first year of KPREP testing, and in 2019. Black pointed arrows show the trend between each school's 2012 results and that of 2019.

Figure 2<sup>11</sup>



Notice that Goose Rock Elementary School's 2019 KPREP reading results plot on the high right side of the graph with an 89.7% proficiency rate despite 85% of its students being eligible for the federal free or reduce price lunch program. In 2012, only 23.1% of Goose Rock Elementary School's third-grade students scored proficient on the KPREP reading test, which wasn't much different from many other Kentucky schools with similar poverty rates.

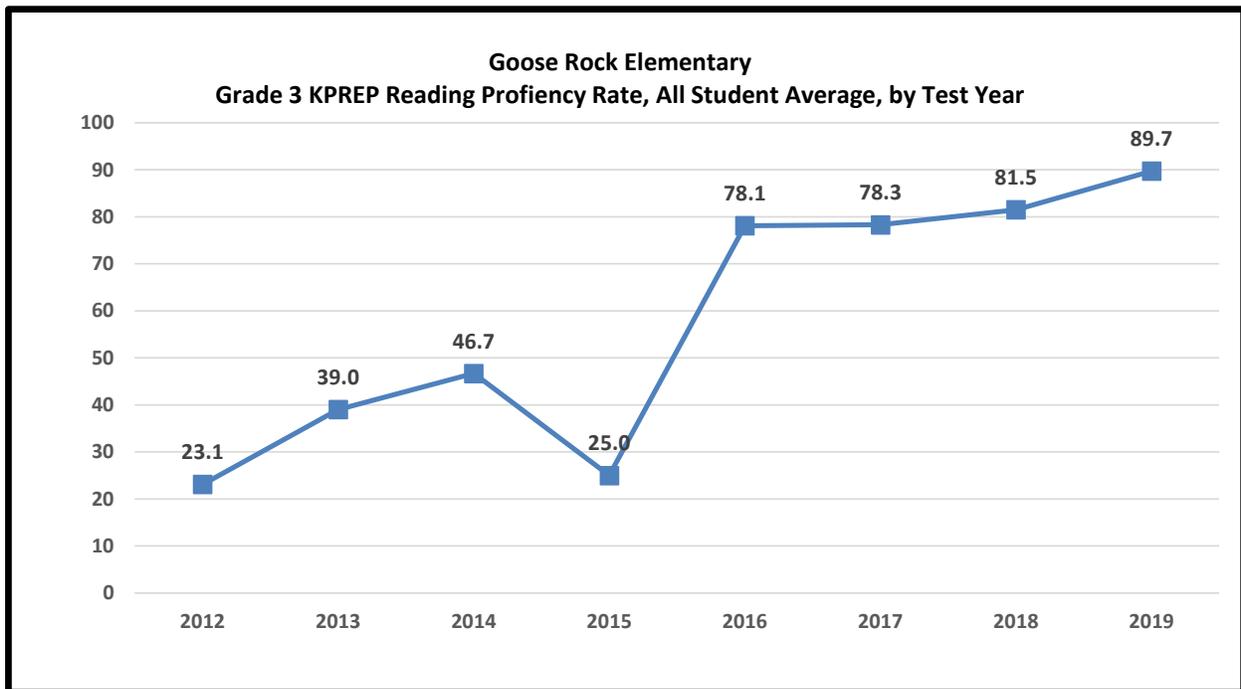
Goose Rock's not alone. Most Clay County elementary schools didn't perform nearly as well in 2012 as they did in 2019, the last year of KPREP testing before the COVID-19 chaos. Between 2012 and 2019, reading proficiency increased at all but one of the county's elementary schools.

Hacker Elementary School increased its reading proficiency rates from 72.2% to 87.5% during that same time period even though its student poverty rate rose notably from 58% to 71%. Normally, reading proficiency rates would be expected to decline with that amount of poverty increase.

Nearly every other school in the district saw notable increases in reading proficiency despite high lunch eligibility rates, as well.

Figure 3 takes a year-by-year look at how Goose Rock Elementary School's third grade reading proficiency increased over time

Figure 3<sup>12</sup>



Looking at Goose Rock’s reading proficiency rate improvement by year offers a needed reminder: Although Clay County schools began using the Elgin program’s scientifically-aligned system for teaching reading during the 2010-11 school year,<sup>13</sup> changing reading instruction takes time. Schools have to stay the course with these reforms.

Using Elgin’s approach, Goose Rock shows a general upward trend in reading performance despite a one-year dip in 2015, which could be due to several mitigating factors.<sup>14</sup>

#### **Direct instruction or ‘guide on the side’?**

Retired professor J.E. Stone, Ph.D., who heads the Education Consumers Foundation, says the Elgin Foundation sent specially trained instructors to help Clay County teachers with reading instruction in accordance with scientifically-based best practices.

Then-doctoral student Tim Rogers, who was among those who studied the Elgin effort in Appalachia, confirmed in his 2015 dissertation that Elgin used the scientifically sound Open Court, Imagine It! program published by McGraw Hill which “focuses on five key components of effective reading instruction: phonological and phonemic awareness, systemic phonics, fluency, vocabulary, and comprehension. Research by the National Reading Panel (2000) identified these as essential components to any program of reading instruction.”<sup>15</sup>

Thus, the Elgin program was built around what the scientific research on reading shows works best.

Reading Mastery, a Direct Instruction program, was used as an additional intervention program for students two to three years behind grade level.<sup>16</sup> As its name implies, Direct Instruction is focused on teachers doing explicit instruction rather than engaging in the sort of “guide on the side” discovery-learning activities heavily promoted today by many educators. Those discovery learning approaches

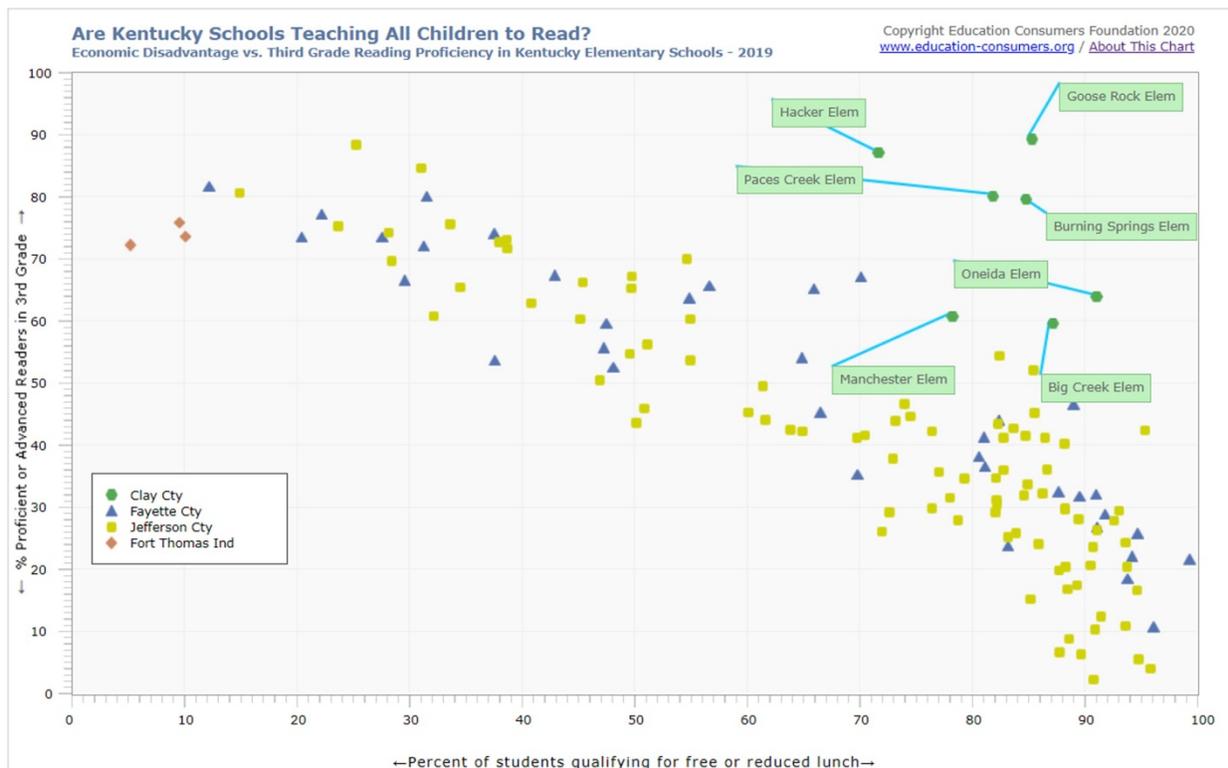
don't have the long-term track record and supporting evidence of success that Direct Instruction has collected over many years.<sup>17</sup>

Elgin's program certainly seems to be working. All but one of Clay County's elementary schools saw reading proficiency increases between 2012 and 2019. Only one school saw a performance decline.

### Reading performance in Clay compared to other regions of the state

Clay County's elementary schools are obvious curve breakers compared to most of the other schools in Kentucky, even those with much less poverty. Most of Clay County's elementary schools' reading proficiency versus lunch eligibility performances plot notably above the performances in Figure 4 for elementary schools in Jefferson and Fayette counties' school districts and are even better than the upscale Fort Thomas Independent School District's performances. The schools in those other districts follow the usual trend that higher poverty is associated with lower test scores.

Figure 4



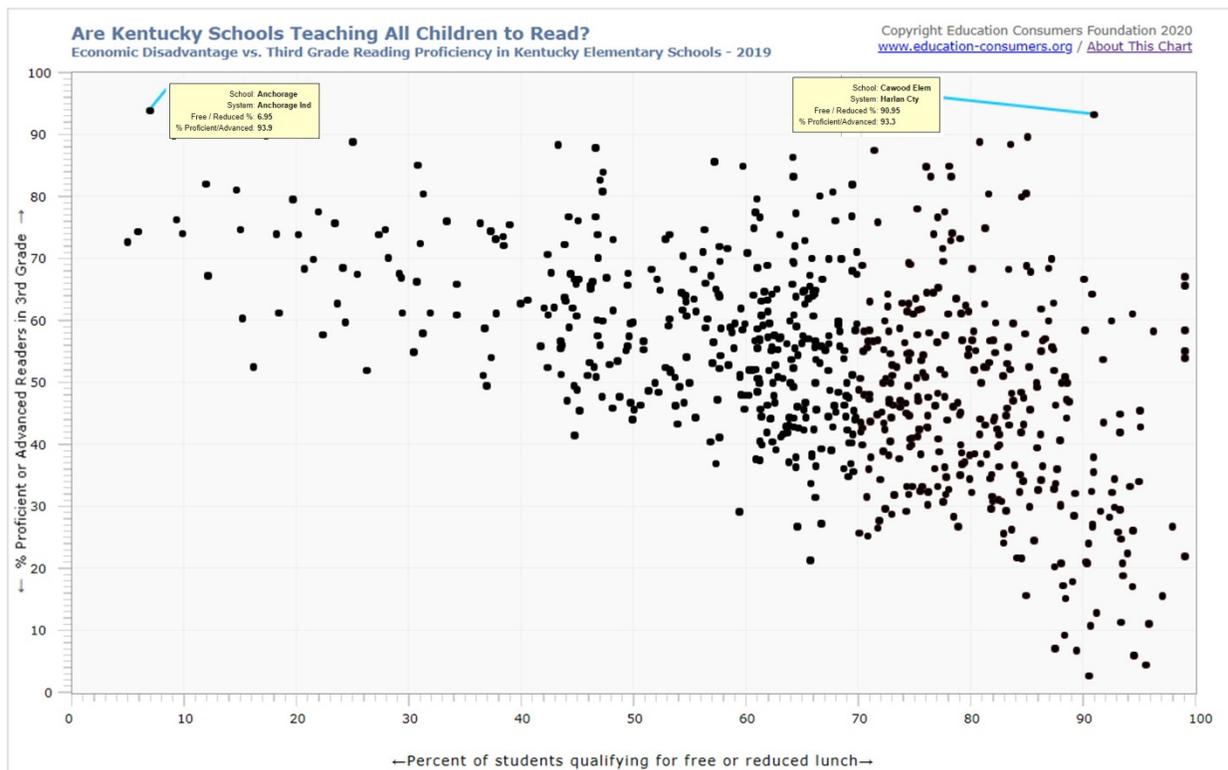
Goose Rock Elementary has the highest reading proficiency rate in 2019 of any school included in Figure 4, including all three of the upscale Fort Thomas elementary schools. Moyer Elementary, Fort Thomas' best performer, scored a reading proficiency rate of 76.3% with a lunch rate of just 9.31% while, as noted previously, Goose Rock scored notably higher at 89.7% proficient despite a massive poverty load of 85% of its students qualifying for school lunches. It also outperformed Rosa Parks Elementary School, Fayette County's best, which had 82.1% reading proficiency but only 11.9% qualified for school lunch and

Greathouse Shryock Traditional Elementary School, Jefferson County's best, which posted a reading proficiency rate of 88.9% but with poverty at only 24.96%.

### Another example

Figure 5, which includes performance plots for all the elementary schools in the state, shows that high performance despite poverty isn't limited to Clay County. The Harlan County School District's Cawood Elementary scored a 93.3% proficient rate for third grade reading in 2019.

Figure 5



Cawood's reading proficiency was nearly identical to the wealthy Anchorage School's 93.9 rate in 2019, despite Cawood having a lunch-eligibility rate of nearly 91% compared to less than 7% of Anchorage's students being eligible for the federal lunch program.

Also, the two schools' reading proficiency rates were similar despite significant gaps in per-pupil funding. Cawood spent \$14,827 per student in 2018-19, more than \$7,000 less than the \$22,274 spent by the Anchorage School.<sup>18, 19</sup>

Cawood produced essentially the same high reading proficiency rate as Anchorage despite astronomically higher poverty and spending much less.

## **The implications**

When teachers are properly trained based on what scientific research shows works best, the evidence from some Kentucky schools shows even poor students from Appalachia can be taught to read proficiently just like their counterparts in affluent areas.

However, the evidence presented in this paper and other recent work by the Bluegrass Institute indicates that effective preparation of teachers in reading instruction, an essential component for helping students achieve proficiency, isn't happening in many of the commonwealth's schools of education. Neither are the deficiencies new teachers bring from the college campus being corrected in the field.

Providing Kentucky's current teachers with extra training such as the Elgin program brought to Clay County would help address significant reading deficiencies among hundreds of thousands of Bluegrass State students confirmed by the commonwealth's long trend of low test scores.

While poverty certainly presents challenges, Clay County's turnaround indicates the problem is correctable.

## **Recommendations**

Everyone in Kentucky, particularly teachers, school staff, local and state leaders, and the general public as well, must recognize that the state's current reading instruction programs cannot continue.

There must be recognition that the evidence from Clay County and other places such as Mississippi shows much better reading instruction is attainable.

Getting needed help to our teachers could come about in several different ways:

One possibility is establishing a statewide group of trained experts to work with all the elementary schools in the state so every teacher can learn about what scientific research shows works best to teach reading. A similar program has been in use in Mississippi since 2015 and that state could provide a model for a similar Kentucky program. Legislation to create such a program was introduced in 2021 but was not enacted. A revised bill is promised for 2022 and deserves consideration.

Absent a statewide initiative, nothing prevents other school districts from doing what Clay County has done; find a professional development program with a proven track record like Elgin's and use that in their district. This district-by-district approach would probably take longer. Some holdout districts that refuse to come to terms with the lessons discussed in this paper might take years to improve reading instruction on their own. Still, more forward-looking districts could perform much better for their students if teachers get the right professional development.

In the end, Kentucky's leaders must ensure help to improve reading reaches every single school in the state that doesn't have the sort of remarkable, but achievable, results now found in Goose Rock Elementary. It is clearly possible. Kentucky's students must receive better reading instruction, now.

## Endnotes

- <sup>1</sup> Innes, Richard, “What Milton Wright knew about reading instruction, but lots of teachers apparently don’t,” Bluegrass Institute for Public Policy Solutions, July 2021, PP 11-12. Online here: <https://bipps.us2.list-manage.com/track/click?u=c8bf0d300f4ae54cc43c1d26b&id=8ee607c308&e=fbac46c0fb>.
- <sup>2</sup> Annie E. Casey Foundation, “Early Warning! Why Reading by the End of Third Grade Matters,” © 2010, Page 9. <https://www.ccf.ny.gov/files/9013/8262/2751/AECFReporReadingGrade3.pdf>.
- <sup>3</sup> Annie E. Casey Foundation, “Early Warning! Why Reading by the End of Third Grade Matters,” © 2010, Page 9. <https://www.ccf.ny.gov/files/9013/8262/2751/AECFReporReadingGrade3.pdf>.
- <sup>4</sup> Education-Consumers Foundation website: [www.education-consumers.org](http://www.education-consumers.org).
- <sup>5</sup> Education-Consumer’s graph generator is found here: <https://education-consumers.org/school-performance-nationally/>.
- <sup>6</sup> The proficiency rate data used to assemble Figure 1 was obtained from the NAEP Data Explorer web tool: <https://www.nationsreportcard.gov/ndecore/xplore/nde>.
- <sup>7</sup> The ACT statistics were obtained from the ACT, Inc.’s Data Visualization Tool: <https://act.org/content/act/en/research/services-and-resources/data-and-visualization/grad-class-database-2021.html#data-vis>. In 2006 ACT, Inc. reported in “Ready for College and Ready for Work: Same or Different?” that “Therefore, it is reasonable to conclude that the expectations of students who choose to enter workforce training programs for jobs that are likely to offer both a wage sufficient to support a small family and potential career advancement should be no different from the expectations of students who choose to enter college after high school graduation” (Page 3). Report online at: <https://www.act.org/content/act/en/research/pdfs/ready-for-collegeandreadyforworksameordifferent.html>.
- <sup>8</sup> Innes, Richard, “What Milton Wright knew about reading instruction, but lots of teachers apparently don’t,” Bluegrass Institute for Public Policy Solutions, July 2021, PP 11-12. <https://bipps.us2.list-manage.com/track/click?u=c8bf0d300f4ae54cc43c1d26b&id=8ee607c308&e=fbac46c0fb>.
- <sup>9</sup> National Council on Teacher Quality (NCTQ), “Teacher Prep Review, Program Performance in Early Reading Instruction 2020.” Online here: [https://www.nctq.org/dmsView/NCTQ\\_2020\\_Teacher\\_Prep\\_Review\\_Program\\_Performance\\_in\\_Early\\_Reading\\_Instruction](https://www.nctq.org/dmsView/NCTQ_2020_Teacher_Prep_Review_Program_Performance_in_Early_Reading_Instruction).
- <sup>10</sup> National Council on Teacher Quality (NCTQ), “Teacher Prep Review, Program Performance in Early Reading Instruction 2020,” Page 11. [https://www.nctq.org/dmsView/NCTQ\\_2020\\_Teacher\\_Prep\\_Review\\_Program\\_Performance\\_in\\_Early\\_Reading\\_Instruction](https://www.nctq.org/dmsView/NCTQ_2020_Teacher_Prep_Review_Program_Performance_in_Early_Reading_Instruction).
- <sup>11</sup> The 2019 plots in Figure 2 were assembled automatically by the Education Consumers web tool. The 2012 school lunch data for the 2012 plots were obtained from the Kentucky Department of Education’s “Data Sets” for the 2011-12 school year. To access that data, go to <https://applications.education.ky.gov/SRC/DataSets.aspx>. Click on the 2011-12 ribbon which opens a new page. Click on the “Students/Teachers” button in the “Learning Environment” area to download the LEARNING\_ENVIRONMENTS\_STUDENTS\_TEACHERS Excel spreadsheet. This spreadsheet shows the total membership in each school and the number of those students who qualified for reduced cost lunches and the number of students who qualified for free lunches. Use these three numbers to calculate the total percentage of students eligible for school lunches. The third grade reading proficiency rates for all students used to make the 2012 plots are accessed from an Excel spreadsheet accessed on the same Web page in the “Assessment” section. In the KPREP area click the “Grade” selection. This downloads the ASSESSMENT\_KPREP\_GRADE Excel spreadsheet that contains the scoring information.

- <sup>12</sup> The data to assemble Figure 3 come from multiple sources. Goose Rock data for 2012 through 2017 were obtained from the individual year ASSESSMENT\_KPREP\_GRADE Excel spreadsheets from the Kentucky Department of Education's School Report Cards. The spreadsheets for each year from 2012 to 2017 can be accessed by clicking on the proper year ribbon here: <https://applications.education.ky.gov/src/DataSets.aspx>. Next, in the "Assessment" column, in the first section headed "KPREP," click on the "Grade" button to download. The 2018 score was accessed by first going here: <https://openhouse.education.ky.gov/Home/SRCData>. Select the "2017-2018" tab, choose "School Accountability" then "By Grade" in the Assessments Proficiency area to open the Excel file. The 2019 proficiency rate was obtained from the online Education Consumers graph showing Goose Rock's data by hovering the cursor over the school's plot point. Note: this 2019 data was originally obtained from the 2019 ASSESSMENT\_PROFICIENCY\_GRADE Excel shortly after the scores were released in fall 2019. That spreadsheet was recently changed at the questionable direction of the US Department of Education and no longer shows scores for Goose Rock. However, the 2019 score should not have been retroactively hidden as many downloaded copies of the earlier version of this spreadsheet undoubtedly exist in computers across the commonwealth and beyond.
- <sup>13</sup> Rogers, Tim, "The Impact of Education Reform Philanthropy on Third Grade Literacy in Rural, Southern Appalachia," Doctoral Dissertation to the University of the Cumberland, February 2015. Page 56.
- <sup>14</sup> It's not unusual to see such score dips in small schools like Goose Rock where a change in performance for just a few students can have notable impacts on overall score averages. There also might have been weather-related issues at this Appalachian region school where transportation becomes more of a challenge in bad weather. Still, the overall obvious trend of major improvement in Goose Rock Elementary is notable.
- <sup>15</sup> Rogers, Tim, "The Impact of Education Reform Philanthropy on Third Grade Literacy in Rural, Southern Appalachia," Doctoral Dissertation to the University of the Cumberland, February 2015. Page 35.
- <sup>16</sup> Ibid, Page 35.
- <sup>17</sup> Innes, Richard, "Why do our schools consistently avoid the most successful teaching approach of all?" Bluegrass Institute Blog, February 19, 2018. <https://bipps.org/blog/schools-consistently-avoid-successful-teaching-approach>.
- <sup>18</sup> Anchorage School's total per pupil school funding is found near the bottom of the school's specific report card section of the Kentucky School Report Cards website: <https://www.kyschoolreportcard.com/organization/52864?year=2019>.
- <sup>19</sup> Cawood Elementary's finance data can be found near the bottom of this web page: <https://www.kyschoolreportcard.com/organization/53102?year=2019>.