Wisconsin Evaluation Collaborative

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Evaluation of the Achievement Gap Reduction Program

2015–16 through 2023–24

for the Wisconsin Department of Public Instruction

WISCONSIN UNIVERSITY OF WISCONSIN–MADISON

Wisconsin Center for Education Research UNIVERSITY OF WISCONSIN–MADISON

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About the Wisconsin Evaluation Collaborative

The Wisconsin Evaluation Collaborative (WEC) is housed at the Wisconsin Center for Education Research at the University of Wisconsin-Madison. WEC's team of evaluators supports youth-serving organizations and initiatives through culturally responsive and rigorous program evaluation. Learn more at https://wec.wceruw.org.

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Section 1

Executive Summary

Executive Summary

Achievement gaps by socioeconomic status have been a persistent feature of the United States' education landscape for at least the past 50 years.[1] The Achievement Gap Reduction (AGR) program is an initiative of the Wisconsin Department of Public Instruction (DPI), as specified by 2015 Wisconsin Acts 53 and 71, that aims to improve the academic performance of students in schools with high concentrations of low-income students. AGR functions as a revision and continuation of the Student Achievement Guarantee in Education (SAGE) program.

Like SAGE, AGR spans kindergarten to third grade and provides funds to participating Wisconsin schools based on their numbers of economically disadvantaged students. To receive AGR funding, schools must implement one or more strategies in each participating grade:

- Provide professional development related to small group instruction and reduce class size to one of the following:
  - No more than 18
  - No more than 30 in a combined classroom having at least two regular classroom teachers
- Provide data-driven instructional coaching for one or more teachers of one or more participating grades. The instruction shall be provided by licensed teachers who possess appropriate content knowledge to assist classroom teachers in improving instruction in math or reading and possess expertise in reducing the achievement gap.
- Provide data-informed, one-to-one tutoring to pupils in the class who are struggling with reading or mathematics or both subjects. Tutoring shall be provided during regular school hours by a licensed teacher using an instructional program to be found effective by the What Works Clearinghouse of the Institute of Education Sciences.[2]

This report presents the results of the annual AGR evaluation completed by the Wisconsin Evaluation Collaborative (WEC) within the Wisconsin Center for Education Research at the University of Wisconsin–Madison. The evaluation's guiding questions and primary findings are as follows:

1 Hanushek, E. A., Light, J. D., Peterson, P. E., Talpey, L. M., & Woessman, L. (2022). Long-run trends in the U.S. SES-achievement gap. *Education Finance & Policy, 17*(4), 608–640. https://doi.org/10.1162/edfp_a_00383

2 2015 Wisconsin Act 53, Section 118.44 (2015). https://docs.legis.wisconsin.gov/2015/related/acts/53.pdf

How are schools implementing the AGR program?

In 2023–24, the most recent year of data, 398 schools implemented the AGR program, serving over 70,000 students in kindergarten through third grades. As previously noted, to fulfill AGR obligations, schools could implement any combination of three strategies: reduced class size, instructional coaching, and/or tutoring.

- In 2023–24, 78 percent of schools used multiple AGR strategies. Approximately 83 percent of students attend AGR schools using instructional coaching in at least one grade, while this number is 66 percent and 30 percent for class-size reduction and tutoring, respectively.
- At the school level, the three most common strategy choices are class size reduction and instructional coaching combined; using all three strategies; and class size reduction alone.

How has the purchasing power of AGR/SAGE funding changed over time, and does it differ by schools' locales?

AGR seeks to reduce socioeconomic achievement gaps by providing additional funding to schools with large fractions of low-income students. As such, the program's value depends on the purchasing power of its funding—the additional resources schools can access via AGR funding. Because all three AGR strategies require additional personnel (classroom teachers, instructional coaches, and/or tutors), AGR funding and thus program impacts are mitigated by staffing costs in each district. Those staffing costs vary over time due to inflation and vary over geographical locales due to cost-of-living differences.

Since 2014–15, while statewide AGR funding remained relatively unchanged, funding per low-income student increased incrementally as the number of funded schools and low-income students has declined. Notably, across all years AGR served approximately the same fraction of Wisconsin's K-3, low-income students. The decline in low-income students served by AGR resulted from a statewide decrease in total enrollment.

While per-pupil expenditures increased, inflation has eroded the purchasing power of those expenditures. For every 100 low-income students at an AGR school, the number of full-time equivalent (FTE) teachers schools can hire has ranged from a high of 3.5 in 2000–01 to a low of 2.7 in 2013–14. In 2023–24, this number was 3.1.

In general, more populated areas have higher costs of living than less populated areas. Teacher compensation in cities is consistently higher than the average in rural areas, with suburbs and towns generally somewhere in the middle. As a result, the average number of FTE teachers that can be hired via funding for 100 low-income students is lower in cities than in rural areas. In 2023–24, the average AGR school located in a city could hire 3.01 FTE teachers via funding from 100 low-income students, relative to 3.28 at rural schools, a difference of 0.27 FTE.

At AGR/SAGE schools, how does AGR/SAGE funding per low-income, K–3 student compare to funding per all K–3 students?

AGR/SAGE legislation distributes funds based on the number of low-income students at each school. However, all K–3 students, low-income and non-low-income alike, receive the program's benefits through access to low class sizes, instructional coaches, and one-to-one tutoring. As such, AGR/SAGE's potential impact on the socioeconomic achievement gap depends on the share of low-income students at each school.

Since 2013–14, the share of low-income students at AGR schools has hovered around 60 percent. This means that, assuming that AGR/SAGE funds are spent equally on low-income and non-low-income students alike, at an average AGR school about 60 percent of funds go to low-income students, with the other 40% going to non-low-income students.

While the statewide average of low-income students is informative, it masks wide variation across schools. In 2023–24, most schools' funding per any student (not just low-income student) was between $1,000 and $2,000. Nearly one-quarter of schools had funding of over $2000 per student, while a little over 10 percent of schools received less than $1,000 per student.

Geographic locale impacts the amount of AGR/SAGE funding per any student. AGR schools located in cities have substantially higher percentages of low-income students (nearly 80 percent). On the other hand, schools in suburbs, towns, and rural areas average around 50 percent low-income students. As a result, in 2023–24, schools in cities were much more likely to receive high funding per student. Over 60 percent of AGR/SAGE schools in cities received at least $2,000 per student, while schools in suburbs, towns, and rural areas rarely reached that funding level.

What are the maximum impacts of AGR one-to-one tutoring on achievement growth?

This evaluation conducted a thought experiment to understand how much ideal one-to-one tutoring might impact statewide estimates of AGR impacts. We used the research literature to estimate potential tutoring impacts and the total hours of tutoring necessary to achieve those impacts, then combined those measures with other constraints, such as total hours available in a school year, average statewide compensation for a licensed teacher, and available AGR funds, to calculate how many AGR students could be tutored under ideal conditions, and how those students' achievement gains from tutoring might impact statewide estimates of AGR impacts.

- For both math and reading, we find very small statewide gains from tutoring at low percentages of AGR funding spent on tutors, which reflects present spending. As a result, the thought experiment on maximum impacts is a reasonable explanation for why previous AGR evaluations have found no impacts from tutoring.
- The small statewide impacts of tutoring, relative to large student-level tutoring gains, is due to the small number of students that an individual tutor can serve. Tutoring is a resource-intensive strategy. If AGR schools spent 10 percent of their funds on tutoring, they could serve less than 2 percent of AGR students. Even if schools spent all their AGR funds on tutors, they could only serve about 14 percent of the AGR population in reading and 18 percent in math.

What best practices can districts use to maximize AGR impacts on achievement gaps?

This year's evaluation continues an examination of AGR schools that have most effectively implemented AGR funding to improve test score outcomes. This year, WEC interviewed 10 principals at high-growth AGR schools. New to this year's examination of effective implementation is a specific focus on the conditions that are necessary for the AGR strategies to be successful.

Overall, principals highlighted the impact of the AGR program and the importance of the supports the program provides to impact student achievement. Many of the principals noted that AGR provides the resources necessary to be able to have these extra supports.

When asked about advice for other schools using class-size reduction, principals noted that it cannot just be implementing a smaller class size without changing instructional practice as well. As one principal said, "Reducing class sizes for AGR is not going to do that [improve student outcomes] alone. You have to think about what are you doing within your instructional practices, and what conditions are you ensuring are expected so that the benefits and impacts of that … smaller class size can be found through the teaching and learning."

Principals noted several conditions for success with instructional coaching. Many principals emphasized that the importance of building trust and relationships was key to successful instructional coaching. As one principal stated, "It will be extremely challenging to have a coach to be successful in a building if they are seen as a threat. So that relationship piece is number one." This needs to be purposeful and there needs to be time provided for the coaches and teachers to build that trust. Strategies to help build trust were to take things slow to build buy-in to the process and building a "firewall" between the principal and the coach.

Principals listed the following conditions for success of one-to-one tutoring: (1) having the right people for tutoring, (2) being committed to tutoring and making sure the tutors have the resources to respond to the needs of the students they work with, and (3) knowing your data and focusing resources on the grade levels that struggle more.

Finally, through the interviews, principals were given the opportunity to provide feedback on suggestions for AGR improvement. Major themes for improvement included increased funding and improved reporting procedures with DPI, such as consistency across years, better templates, and clearer guidance on timelines.

Section 2

Introduction

Introduction

The Achievement Gap Reduction (AGR) program is an initiative of the Wisconsin Department of Public Instruction (DPI) that provides funding to improve the academic performance of students in schools with high concentrations of low-income or economically disadvantaged students. AGR functions as a revision and continuation of the Student Achievement Guarantee in Education (SAGE) program, which the Wisconsin legislature and DPI initiated in 1995 to address the need for additional resources for economically disadvantaged students, particularly in urban areas. Beginning in the 1996–97 school year, the SAGE program administered state aid to schools that implemented reduced class sizes in kindergarten through third grade. A school typically qualified for SAGE if at least 30 percent of its student population was economically disadvantaged and its school district included one or more schools with at least 50 percent of the student population qualifying as economically disadvantaged.

In 2015, Wisconsin recognized the need to add flexibility to SAGE by reorganizing and renaming the program with the enactment of Wisconsin Acts 53 and 71. Wisconsin began a gradual phase-in of AGR in 2015–16 by transitioning schools from SAGE to AGR, with the final phase-out of previous SAGE programs by the end of the 2017–18 school year. Like SAGE, AGR targets funding to schools with economically disadvantaged students through contracts to implement the program in kindergarten through third grade. Each year, the state provides approximately $110,000,000 to be distributed to participating schools. To receive the funding under AGR contracts, schools must implement at least one of three prescribed strategies in each participating grade. Each school, and each grade with a school, may implement different strategies. The three strategies include:

- Provide professional development related to small group instruction and reduce the class size to one of the following:
    - No more than 18
    - No more than 30 in a combined classroom having at least two regular classroom teachers.
- Provide data-driver instructional coaching for one or more teachers of one or more participating grades. The instruction shall be provided by licensed teachers who possess appropriate content knowledge to assist classroom teachers in improving instruction in math or reading and possess expertise in reducing the achievement gap.
- Provide data-informed, one-to-one tutoring to pupils in the class who are struggling with reading or mathematics or both subjects. Tutoring shall be provided during regular school hours by a licensed teacher using an instructional program found to be effective by the What Works Clearinghouse of the Institute of Education Sciences.[3]

3 2015 Wisconsin Act 53, Section 118.44 (2015). https://docs.legis.wisconsin.gov/2015/related/acts/53.pdf

Figure 1: Socioeconomic Achievement Gaps: NAEP Reading

Grade 4, 2003–2024

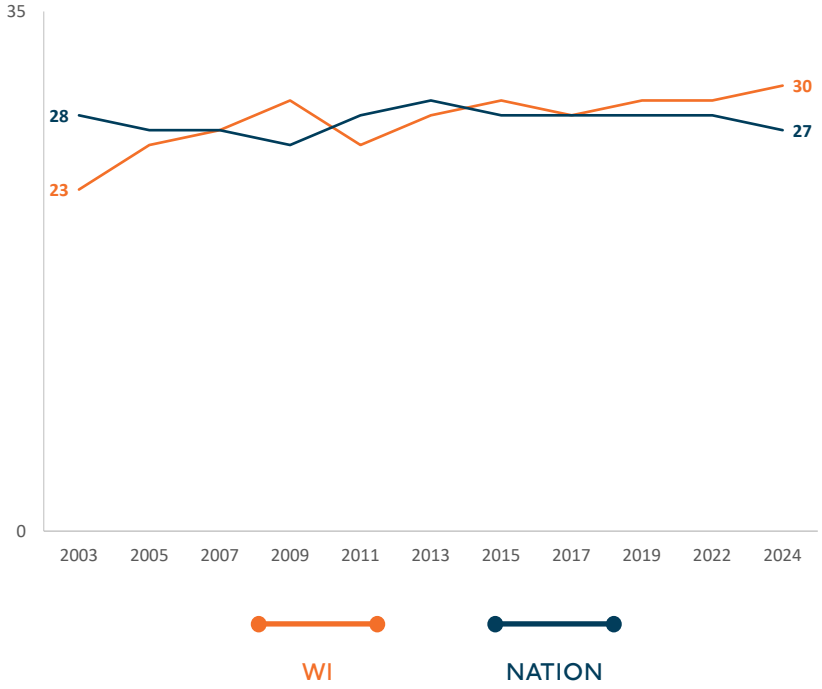
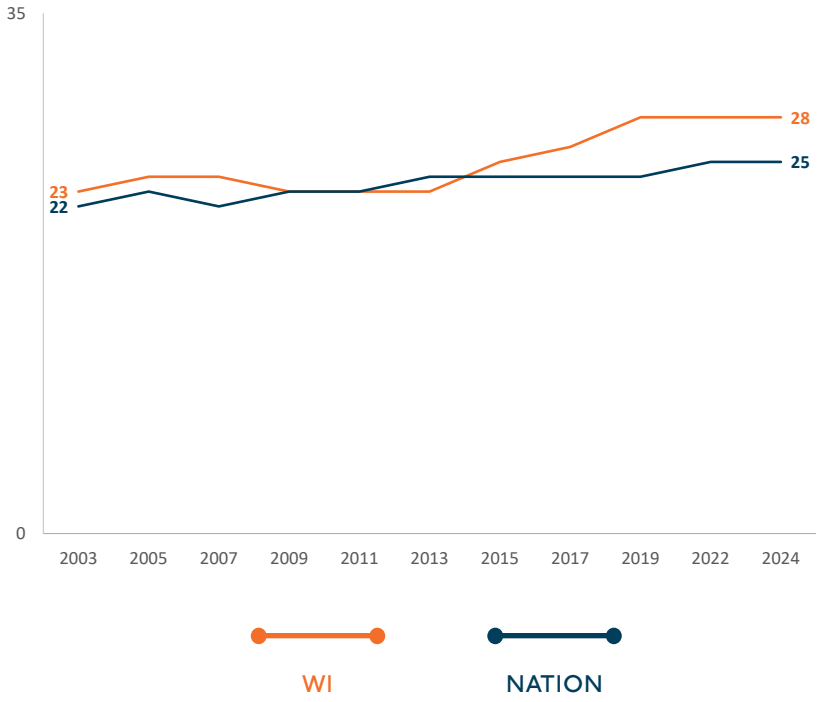


Figure 2: Socioeconomic Achievement Gaps: NAEP Math

Grade 4, 2003–2024



Context

The AGR program seeks to reduce the achievement gap for economically disadvantaged students. Over the past 50 years, however, nationwide achievement gaps by socioeconomic status have been stagnant.[4] Wisconsin is no exception. As shown in Figures 1 and 2, during the 2000s neither Wisconsin nor the nation made progress reducing gaps for economically disadvantaged 4th graders on NAEP reading and math, respectively.[5]

4 Hanushek, E. A., Light, J. D., Peterson, P. E., Talpey, L. M., & Woessman, L. (2022). Long-run trends in the U.S. SES-achievement gap. *Education Finance & Policy, 17*(4), 608–640. https://doi.org/10.1162/edfp_a_00383

5 U.S. Department of Education, Institute of Education Sciences. (2025). NAEP Data Explorer. https://www.nationsreportcard.gov/ndecore/landing

Researchers and policymakers have hypothesized dozens of causes for the socioeconomic achievement gap. These causes included neighborhood factors such as exposure to entrenched poverty and violent crime,[6] differences in summer opportunities,[7] differences in the amount of time parents are able to spend with their children,[8] and differences in neural development owing to exposure to high-poverty, and potentially, traumatic environments.[9]

AGR's strategy for closing socioeconomic achievement gaps is to provide additional funding to districts with large proportions of economically disadvantaged students. This strategy is consistent with research concerning how school funding impacts student outcomes. In findings that are especially pertinent to AGR, Jackson et al. (2021) use a high-quality research design to show that decreases in school resources widened the socioeconomic achievement gap.[10] A 2021 meta-analysis of credibly causal studies finds that a $1,000-per-pupil increase in spending for 4 years improves test scores by 0.04 standard deviations, graduation rates by 2.1 percentage points, and the likelihood of college enrollment by 3.9 percentage points.[11] Furthermore, an additional study shows that for low-income students, increased spending increases educational attainment, increases adult wages, and lowers the incidence of poverty.[12]

This Evaluation

2015 Wisconsin Acts 53 and 71 include a provision for an annual evaluation of the AGR program starting in the 2018–19 school year. DPI contracted with the Wisconsin Evaluation Collaborative (WEC) within the Wisconsin Center for Education Research at the University of Wisconsin–Madison for these evaluation services. This report provides results from the evaluation of the AGR program through 2023–24.

Previous years' evaluations have focused on AGR's quantitative impacts on math and reading assessment scores. These analyses relied on local K–3 assessment data because students do not take the statewide Forward test until spring of 3rd grade. These local assessment data are no longer available. However, in 2023, the Wisconsin legislature passed Act 20, legislation mandating that all students in grades K–3 be administered a state-mandated literacy screener at least three times each school year.[13] In all likelihood, data from the Act 20 screener will eventually allow AGR impact analyses that include nearly all Wisconsin K–3 students and thereby offer a more comprehensive analysis than has been possible using local assessment data.

6 Burdick-Will, J., Ludwig, J., Raudenbush, S. W., Sampson, R. J., Sanbonmatsu, L., & Sharkey, P. (2011). Converging evidence for neighborhood effects on children's test scores: An experimental, quasi-experimental, and observational comparison. In G. J. Duncan & R. J. Murnane (Eds.), *Whither opportunity?: Rising inequality, schools, and children's life chances* (pp. 255–276). Russell Sage Foundation.

7 Leefat, S. (2015). The key to equality: Why we must prioritize summer learning to narrow the socioeconomic achievement gap. *Brigham Young University Education and Law Journal, 2*, 549–584. https://digitalcommons.law.byu.edu/cgi/viewcontent.cgi?article=1374&context=elj

8 Guryan, J., Hurst, E., & Kearney, M. (2008). Parental education and parental time with children. *Journal of Economic Perspectives, 22*(3), 23–46. https://www.aeaweb.org/articles?id=10.1257/jep.22.3.23

9 Nelson, C. A., & Sheridan, M. A. (2011). Lessons from neuroscience research for understanding causal links between family and neighborhood characteristics and educational outcomes. In G. J. Duncan & R. J. Murnane (Eds.), *Whither opportunity? Rising inequality, schools, and children's life chances* (pp. 27–46). Russell Sage Foundation.

10 Jackson, C. K., Wigger, C., & Xiong, H. (2021). Do school spending cuts matter? Evidence from the Great Recession. *American Economic Journal: Economic Policy, 13*(2), 304–335. https://www.aeaweb.org/articles?id=10.1257/pol.20180674

11 Jackson, C. K., & Mackevicius, C. (2021). *The distribution of school spending impacts* (NBER Working Paper No. 28517). National Bureau of Economic Research. https://www.nber.org/papers/w28517

12 Jackson, C. K., Johnson, R. C., & Persico, C. (2016). The effects of school spending on educational and economic outcomes: Evidence from school finance reforms. *The Quarterly Journal of Economics, 131*(1), 157–218. https://doi.org/10.1093/qje/qjv036

13 2023 Wisconsin Act 20. (2023). https://docs.legis.wisconsin.gov/2023/related/acts/20

This year's evaluation departs from previous years by focusing on AGR funding, the additional teachers, coaches, and tutors that the funding enables districts to hire, and differences in the purchasing power of AGR funding over time and geography. This concept arose during interviews with principals at high-growth AGR schools, conducted in 2023–24, some of whom pointed out that their schools' funding no longer pays for as much as it did in the past. Like most public programs, AGR has no automatic mechanism to adjust funding with inflation. As a result, over time, the value of funds and the potential impacts from those funds erodes as hiring costs increase. Similarly, the value of funds varies over locales with different hiring costs due to different costs of living.

In addition to analyses of AGR funding, this year's evaluation continues to explore AGR implementation through interviews with principals at high-growth AGR schools, as well as implementation across all schools as reported in the End-of-Year survey and regular reports AGR schools submit to their school boards.

To serve as a foundation for this year's evaluation, WEC worked in collaboration with DPI to develop the following Evaluation Questions:

1. How are AGR schools implementing the AGR program as specified by 2015 Wisconsin Acts 53 and 71?
    a. What is the breakdown of strategy usage across the state?
    b. How does implementation of the three strategies differ across schools?
2. How has the purchasing power of AGR/SAGE funding—its capacity to hire licensed teachers for class size reduction, instructional coaching, and one-to-one tutoring—changed over time? How does that purchasing power differ over geographic locales?
3. At AGR/SAGE schools, how does AGR/SAGE funding per low-income, K–3 student (the program funding model), compare to funding per all K–3 students? How has that comparison changed over time and how does it differ over geographic locales?
4. What are the maximum impacts of AGR one-to-one tutoring, given current funding, costs of hiring a licensed teacher, the capacity of each tutor to serve students, and typical impacts of tutoring reflected in the research literature?
5. What best practices can districts use to maximize AGR impacts on achievement gaps?

This report has nine main sections including the Introduction. Evaluation Data describes the data used throughout the evaluation. AGR Demographics describes the characteristics of AGR students and schools. AGR Implementation describes the strategies schools chose. AGR/SAGE Finances shares results from findings of Evaluation Questions 1 and 2. The next section of the report examines effective implementation in AGR schools to address Evaluation Question 5. The sections End-of-Year Report and School Board Report address Evaluation Question 4. End-of-Year Report includes longitudinal analyses of End-of-Year survey data from 2017–18 through 2023–24. School Board Reports includes results of preliminary analyses of the AGR strategies schools used, as reported to their boards.

Section 3

Evaluation Data

Evaluation Data

To address Evaluation Questions 1–5, WEC used multiple sources of quantitative data and qualitative data from interviews of principals at high-academic-growth AGR schools. Each of the data sources is described in detail below.

Evaluation Question 1

- End-of-Year (EOY) survey information – annual, DPI administered survey for district and school AGR personnel. The survey covers strategy usage and other implementation information. EOY survey information is available for 2017–28 through 2023–24.
- School Board Reports – schools are required to submit reports to their boards detailing AGR strategy use and other implementation information. School board reports are available for 2017–18 through 2019–20 and 2021–22 through 2023–24. DPI did not require schools to submit their 2020–21 reports.
- Enrollment and demographic data – DPI provided student-level data on enrollment and demographic characteristics including gender, race/ethnicity, English Learner (EL) status, special education status, and low-income or economic status as measured by free or reduced-price lunch (FRL) eligibility. School- and grade-level measures of demographic characteristics are calculated from student-level data from 2023–24 and earlier.

Evaluation Questions 2-4

- AGR and SAGE funding by year – school-level data on funding amounts, K–3 enrollment, and K–3 low-income student enrollment, provided by DPI. The data covers the period 1996–97 through 2023–24, the years of SAGE and AGR operation.
- DPI Public Staff Reports – teacher-level salary and benefits information for 1996–97 through 2023–24.[14]
- National Center for Education Statistics (NCES) district and school directory information – district and school locale classifications for city, suburb, town, rural.[15] When possible, the evaluation uses the 2023–24 district and school locale information. For schools and districts that ceased operation prior to 2023–24, the evaluation uses locale information from the most recent school year available.
- Consumer Price Index (CPI) – Midwest Urban price index for 1996 through 2023. The evaluation calculates inflation-adjusted AGR/SAGE funding by transforming all years' funding levels to 2023–24 equivalent dollars using September values of the price index to approximate the beginning of the school year.

Evaluation Question 5

- WEC interviewed principals from high-academic-growth AGR schools identified using a methodology described in last year's report.[16]

14 Public Staff Reports are available at https://publicstaffreports.dpi.wi.gov/PubStaffReport/Public/PublicReport

15 NCES school location information is available at https://nces.ed.gov/ccd/elsi/

16 See *Evaluation of the Achievement Gap Reduction Program 2015–16 through 2022–23*, available at https://dpi.wi.gov/sites/default/files/imce/sage/WEC_AGR_Report2024_FINAL_11.12.2024.pdf

Section 4

AGR Demographics

AGR Demographics

This section of the report examines the characteristics of AGR students and schools. Table 1 shows the number of AGR schools for each of the 9 years of the program. The first AGR cohort started in 20215–16 with 96 schools, followed by the second cohort in 2016-17, which brought the total to 408 schools. After a small increase in subsequent years, the overall number of AGR schools has dropped slightly over time. In 2023–24, there were a total of 398 AGR schools.

Table 2 shows the numbers of students in AGR schools from 2015–16 to 2023–24, overall and by grade. The first cohort of AGR schools included approximately 18,000 students. The addition of the second cohort in 2016–17 brought the total to over 77,000 students. Since then, the number of students in AGR schools has declined to 70,523 in 2023–24.

Table 1: Number of AGR Schools

By Grade and Year

GRADE	2015–16	2016–17	2017–18	2018–19	2019–20	2020–21	2021–22	2022–23	2023–24
K	88	393	391	395	396	391	386	386	384
1	91	398	397	403	400	395	391	386	384
2	91	398	398	403	400	395	391	386	384
3	88	391	391	395	394	389	384	378	376
Overall (K–3)	96	408	408	413	412	408	404	400	398

Table 2: Number of AGR Students

By Grade and Year

GRADE	2015–16	2016–17	2017–18	2018–19	2019–20	2020–21	2021–22	2022–23	2023–24
K	4,138	18,382	18,262	18,406	18,430	17,659	17,739	17,591	17,437
1	4,570	19,294	18,813	18,786	18,539	17,950	17,749	17,921	17,742
2	4,682	20,053	19,158	18,959	18,594	18,002	17,826	17,866	18,013
3	4,544	19,506	19,227	18,532	18,093	17,493	17,440	17,336	17,331
Overall (K–3)	17,934	77,235	75,460	74,683	73,656	71,104	70,754	70,714	70,523

Figure 3 and Figure 4 compare the demographic characteristics of AGR students to all K–3 Wisconsin public school students (including AGR students) in 2023–24. Relative to Wisconsin as a whole, a higher proportion of AGR students are Black, Hispanic, English learners, and economically disadvantaged. As shown in Figure 5, AGR schools are more likely to be in city or rural settings and less likely to be in suburban areas compared to the state overall.

Figure 3: Race/Ethnicity of AGR and WI Students

2023–24

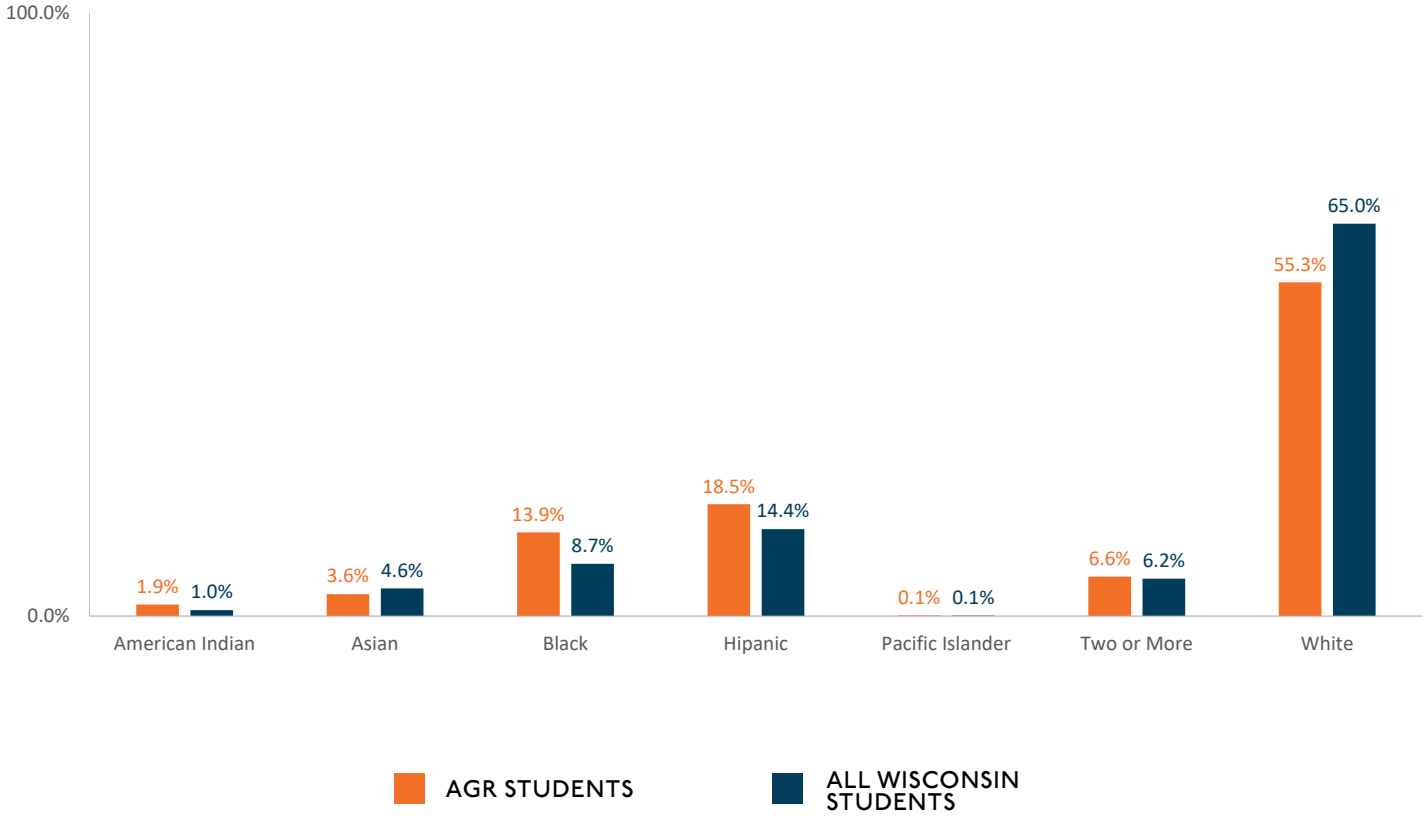


Figure 4: Percentage of AGR and WI Students who were English Learners, Economically Disadvantaged, and in Special Education

2023–24

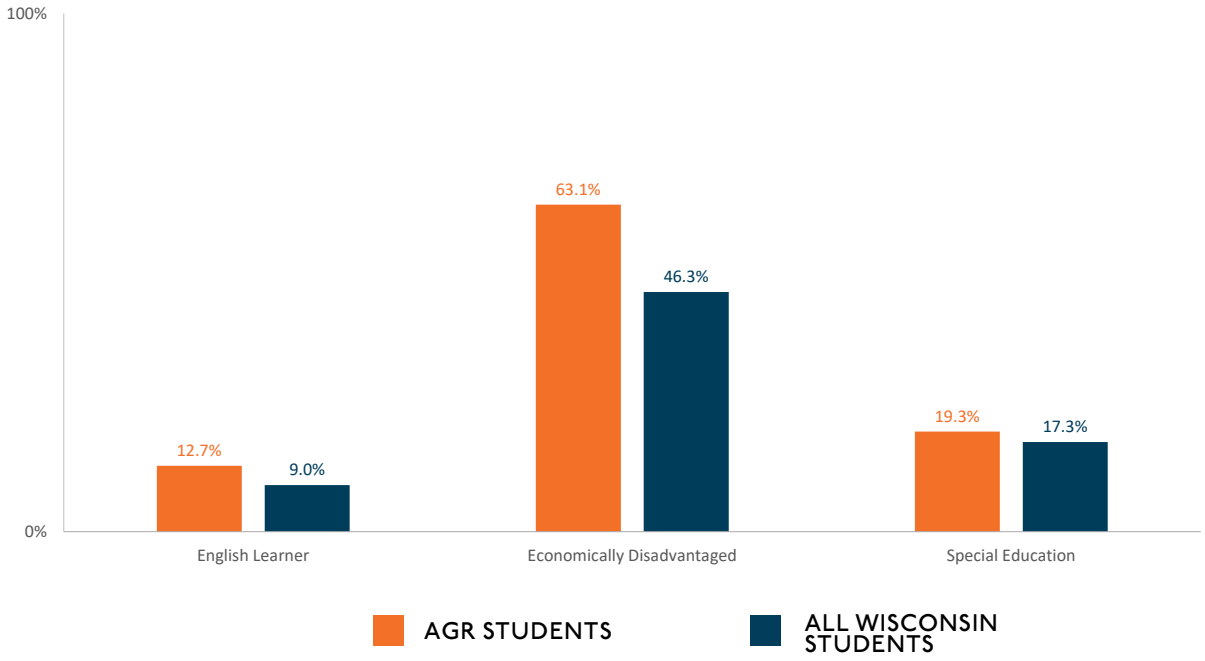
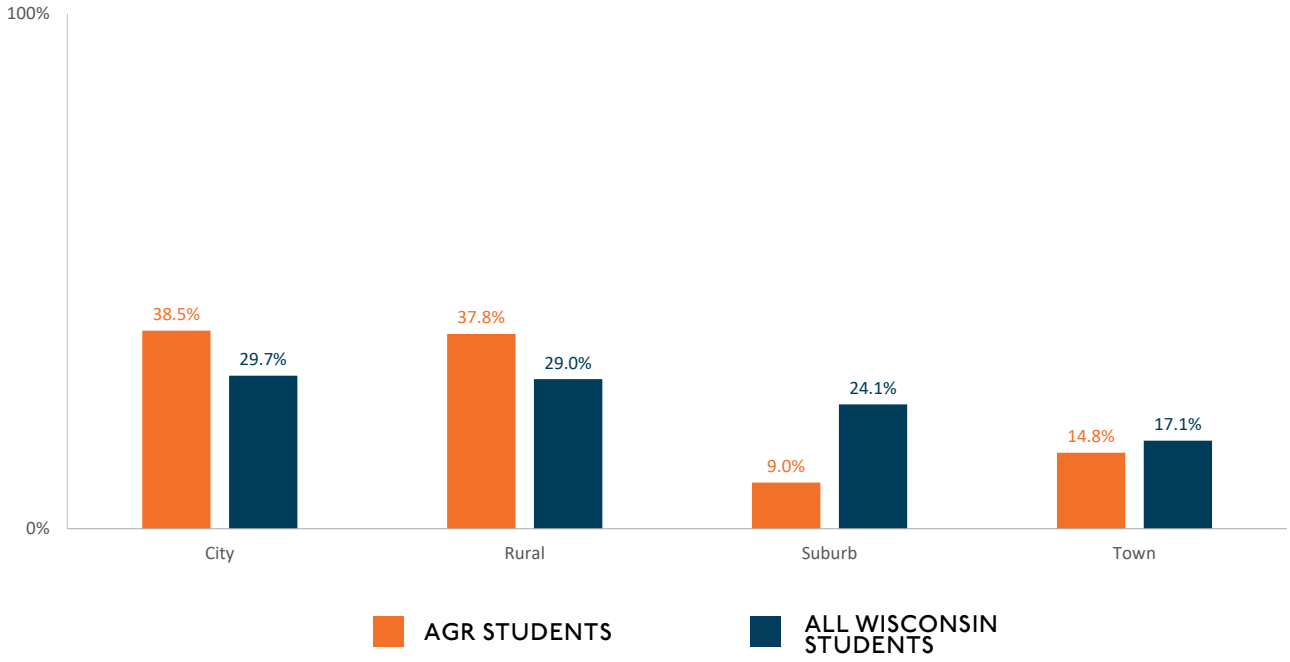


Figure 5: Locale Description of AGR and WI Students

2023–24



Section 5

AGR Implementation

AGR Implementation

This section of the report examines implementation of the three possible AGR strategies in 2023–24. As noted previously, the three strategies include:

- Provide professional development related to small group instruction and reduce the class size to one of the following:
  - No more than 18.
  - No more than 30 in a combined classroom having at least two regular classroom teachers.
- Provide data-driven instructional coaching for classroom teachers.
- Provide data-informed, one-to-one tutoring to pupils in the class who are struggling with reading or mathematics.

Because the AGR program allows schools to use more than one strategy within a school, there are seven possible combinations a school could implement: class size reduction only, coaching only, tutoring only, class size reduction and coaching, class size reduction and tutoring, coaching and tutoring, and all three strategies. Figure 6 and Figure 7 show data on the strategy combinations AGR schools implemented during 2023–24. These figures also provide information on the percentage of students affected by each strategy combination. Schools most frequently used class size reduction and coaching, all three strategies, class size only, and coaching only. Only one school reported using only tutoring as a strategy.

Figure 6: Implementation of AGR Strategies

Percentage of Students by Strategy Overall, 2023–24

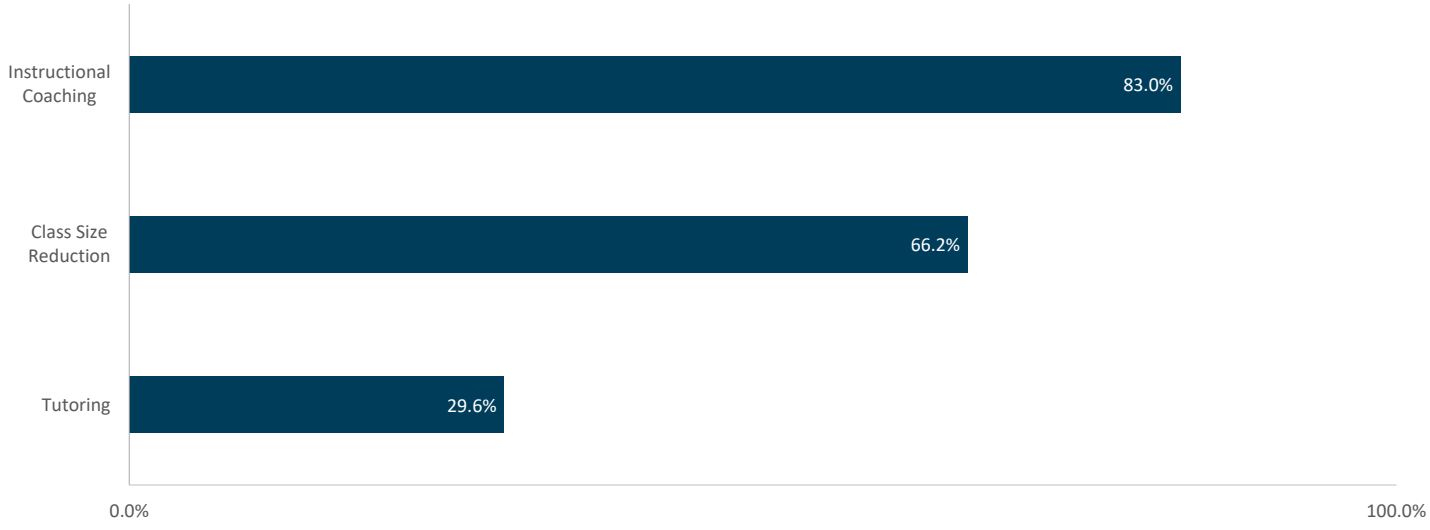
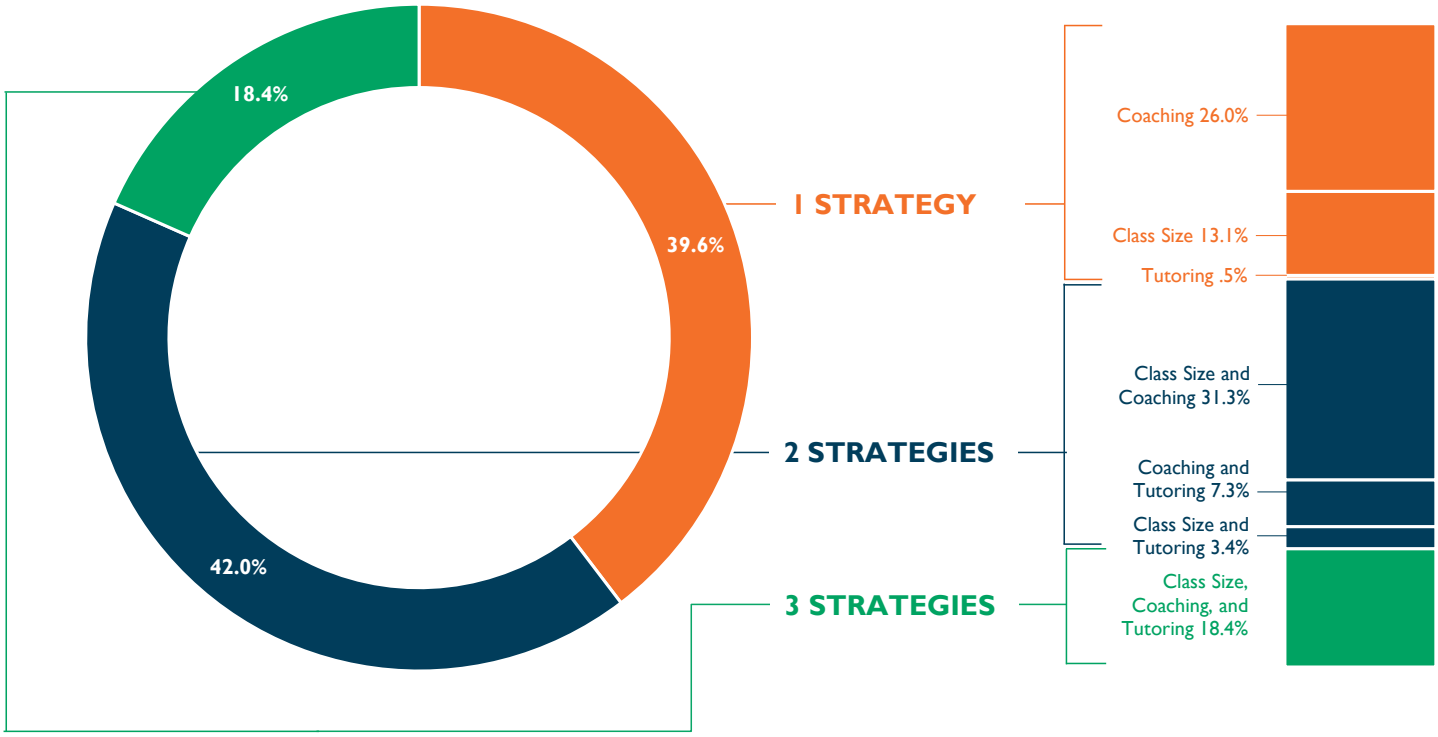


Figure 7: Implementation of AGR Strategies

Percentage of Students by Strategy Combinations, 2023–24



Section 6

AGR/SAGE Finances

AGR/SAGE Finances

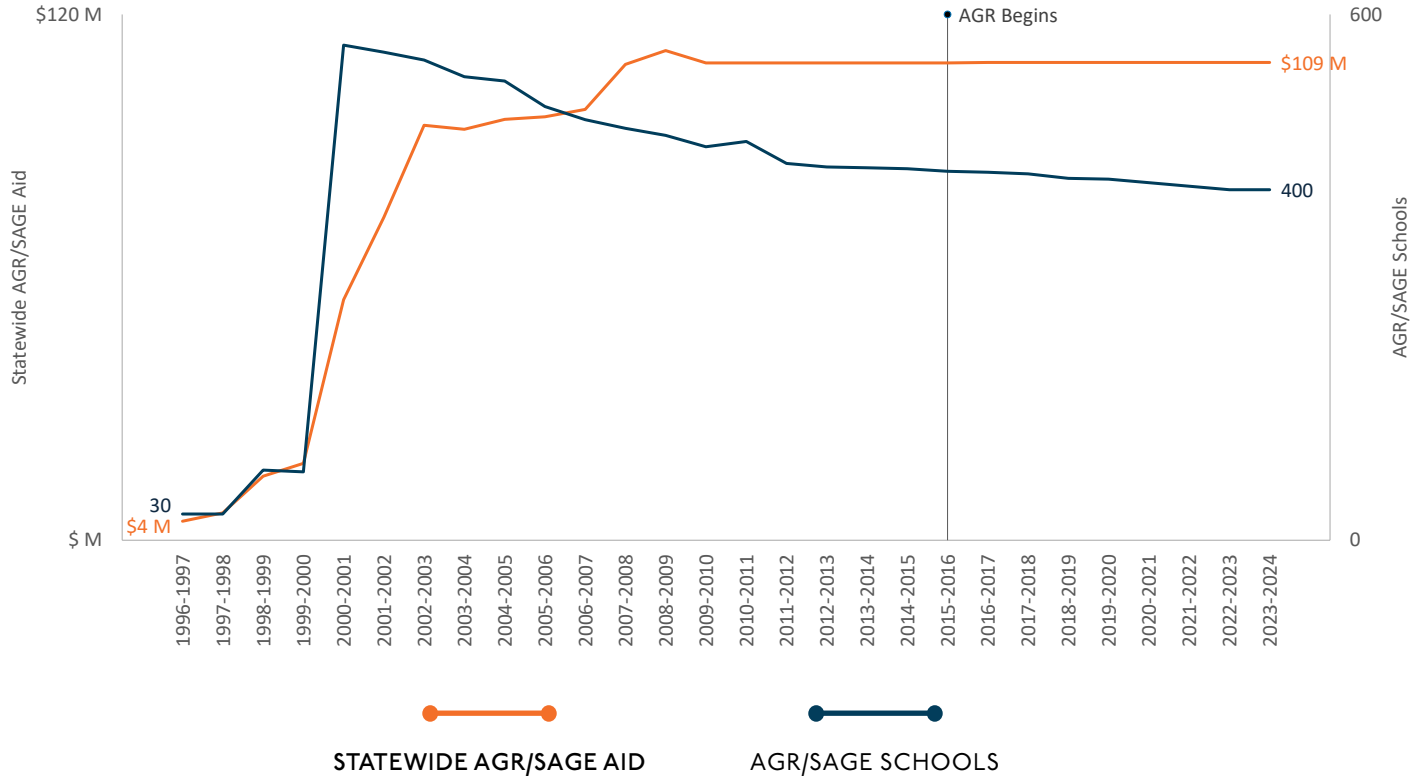
AGR seeks to reduce socioeconomic achievement gaps by providing additional funding to schools with large fractions of low-income students. As such, the program's value depends on the purchasing power of its funding—the additional resources schools can access via AGR funding. Because all three AGR strategies require additional personnel (classroom teachers, instructional coaches, and/or tutors), AGR funding and thus impacts are mitigated by staffing costs in each district. Those staffing costs vary over time due to inflation and vary over geographical locales due to cost-of-living differences.

Background

The Wisconsin legislature introduced SAGE for the 1996–97 school year. After nearly 20 years, the legislature revised SAGE and renamed the program AGR. Schools began transitioning to AGR in 2015–16. Both AGR and SAGE direct DPI to distribute funds based on the number of low-income students at each school.

Figure 8: Statewide AGR/SAGE Aid and the Number of AGR/SAGE- Funded Schools

1996–1997 through 2023–24

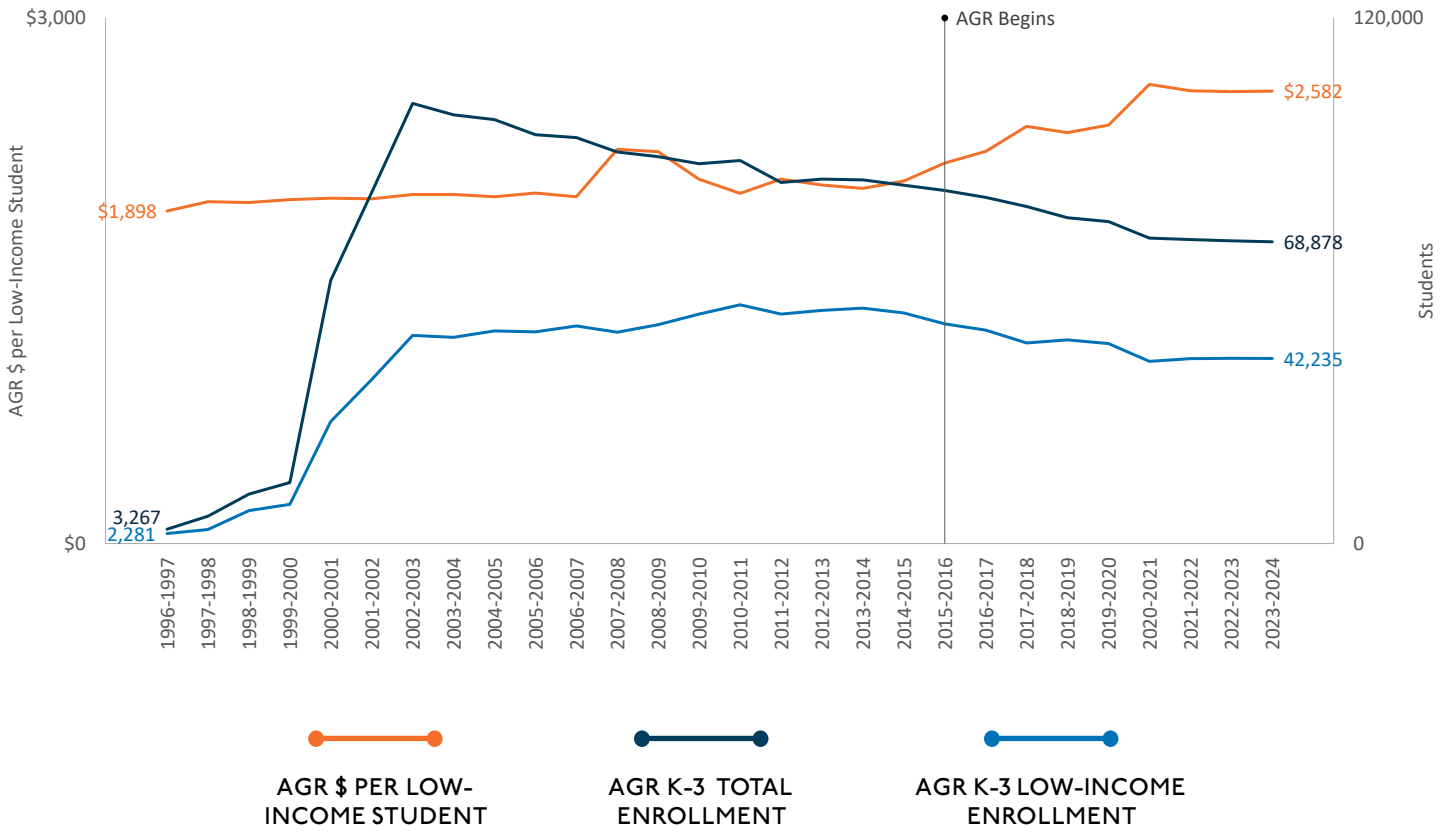


Note: According to DPI AGR data, there were 400 AGR schools in 2023–24. Two of those schools, however, were closed in 2023–24. In Figure 8, and in the analyses that follow, we include all 400 schools under the assumption that the legislature intended for the entire 2023–24 AGR allocation ($109,059,500) to be spent. Regardless of the exact number of AGR schools and students in 2023–24, the addition/subtraction of the two closed schools would not meaningfully impact the analysis or conclusions below.

Figure 8 shows both AGR statewide funding and the number of AGR/SAGE schools from the introduction of SAGE in 1996–97 through 2023–24. AGR began in 2015–16. The first 3 years of SAGE served a low number of schools, but between 1999–20 and 2000–01, the number of SAGE-funded schools increased from 78 to 565. The increase in SAGE was accompanied by a parallel increase in funding, jumping from over $17 million in 1999–00 to nearly $95 million in 2002–03. After 2000–01, schools steadily declined to 400 in 2022–23 and 2023–24. Funding increased incrementally between 2002–03 and 2007–08 but has since remained at approximately $110,000,000 per year.

Figure 9 shows AGR/SAGE funding per low-income student and total enrollment at AGR/SAGE schools, both for all students and for low-income students. After the initial introduction and ramp-up of the SAGE program, the statewide number of low-income students served by SAGE peaked in 2010–11 at 54,506 students. Afterwards, the number of low-income students steadily declined. Meanwhile, through 2006–2007, aid per student was static around $2,000. Since 2014–15, funding per low-income student has increased incrementally as the number of funded low-income students has declined. This increase in per low-income student funding is a mathematical byproduct of fewer low-income students at AGR/SAGE schools coupled with stable statewide funding (Figure 8). The total pie was the same, but it was split between fewer students. Notably, across all years AGR served approximately the same fraction of Wisconsin's K-3, low-income students. The decline in low-income students served by AGR resulted from a statewide decrease in total enrollment.

Figure 9: Enrollment and Funding per Low-Income Student at Schools Receiving AGR/SAGE Aid



Purchasing Power

While per-pupil expenditures increased, inflation has eroded the value of those expenditures. To look at how inflation has impacted the value of AGR/SAGE funds, we used the Consumer Price Index to put present annual funding figures in terms of 2023–24 dollars (Figure 10). In 1996–97, when the legislature first funded SAGE, the funding was more than $3,500 per low-income pupil in terms of 2023–24 dollars. By 2023–24, that figure had declined to $2,582 per low-income student, a 27% decrease over the period. This decline was softened by declines in the population of low-income students served by AGR/SAGE. Had the low-income population remained the same, the inflation-adjusted decline in funding would have been more pronounced.

Figure 10: Current and Inflation-Adjusted AGR/SAGE Aid per Low-Income Student

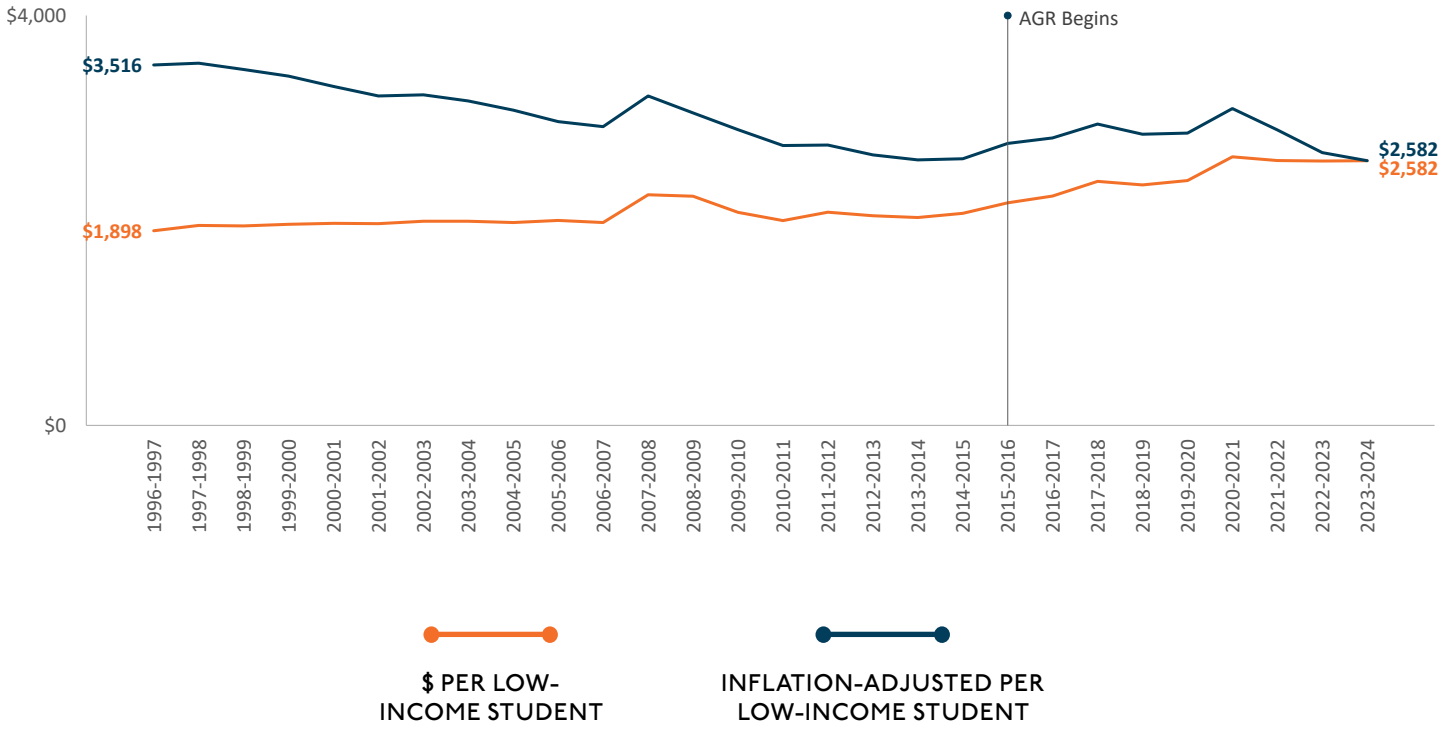
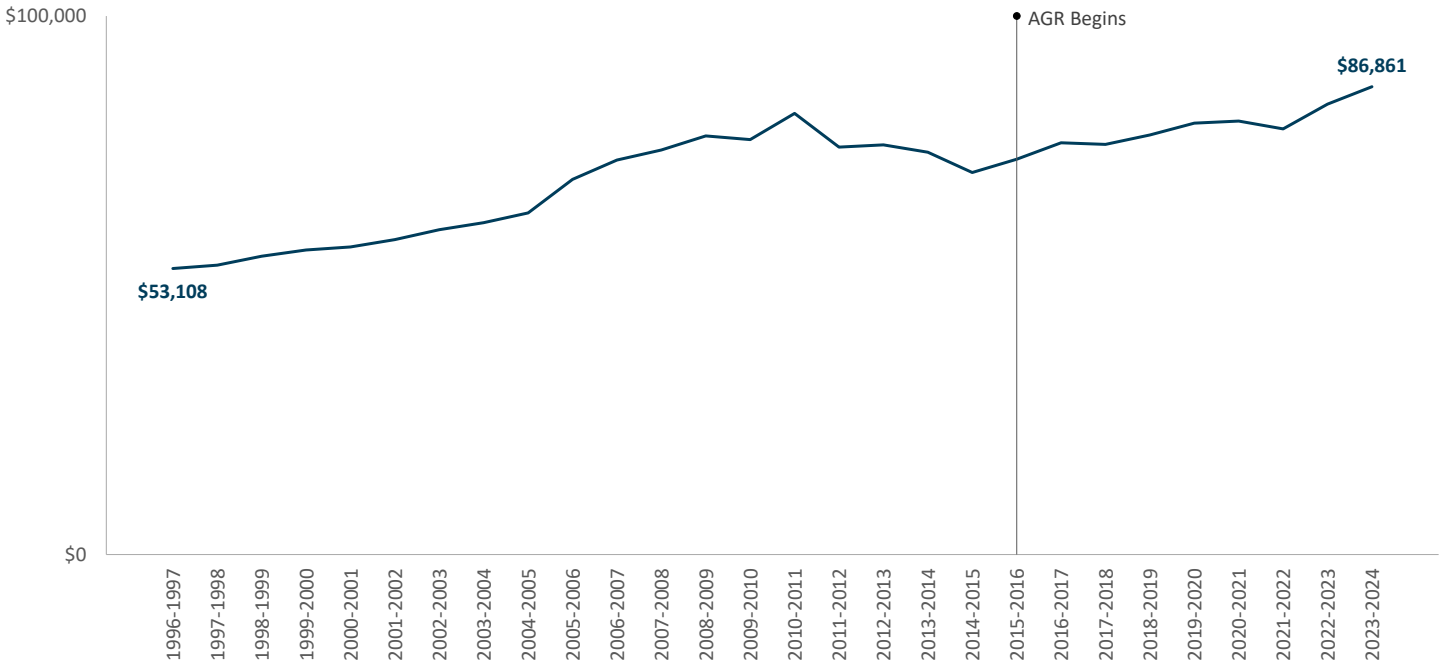


Figure 11: Teacher Average Total Compensation – Statewide



Of course, AGR/SAGE funds are only important to students because they reflect real-world resources. All three AGR strategies require additions of licensed teaching staff—classroom teachers, instructional coaches, and/or tutors. Another way to think of inflation is to consider how costs associated with hiring have changed. Figure 11 shows total teacher compensation (salary plus benefits) from 2000–01 through 2023–24. In 2000–01, total teacher compensation in Wisconsin averaged a little more than $55,000. From 2000–01 through 2013–14, that number increased steadily before declining for several years following 2014–15, around the time that Act 10 eliminated collective bargaining for teachers (keeping in mind the 5-year moving average in Figure 11).[17] After 2018–19, average compensation began to steadily climb again, reaching just over $82,000 in the 2023–24 school year.

For any given level of AGR/SAGE school funding, as teacher compensation increases, the number of licensed teachers that schools can hire decreases. When looking at teachers who can be hired via AGR funding, however, the story is more complicated (Figure 12). Figure 12 shows the average number of full-time equivalent (FTE) teachers who can be hired for every 100 low-income students at AGR/SAGE schools (in 2023–24, there was an average of 106 low-income students per AGR school). While teacher compensation has increased during the AGR years that began in 2015–16, AGR funding per low-income student has also increased, due to declining numbers of low-income students (see Figure 9). These two, countervailing factors result in a pattern of teacher FTE that can be hired via AGR funding that is an inverted, but less variable version of teacher compensation in Figure 11. Figure 12 shows that, for every 100 low-income students at an AGR school, the number of teachers schools can hire has ranged from 3.5 (2000–01) to 2.7 (2013–14) to 3.1 (2023–24).

17 Han, E. S. & Garcia, E. (2024). The effect of changes in legal institutions weakening teachers' unions on districts' spending on teacher compensation. *American Journal of Education, 130*(2), 239–273.

Figure 12: Teacher FTE per 100 Low-Income Students – Statewide

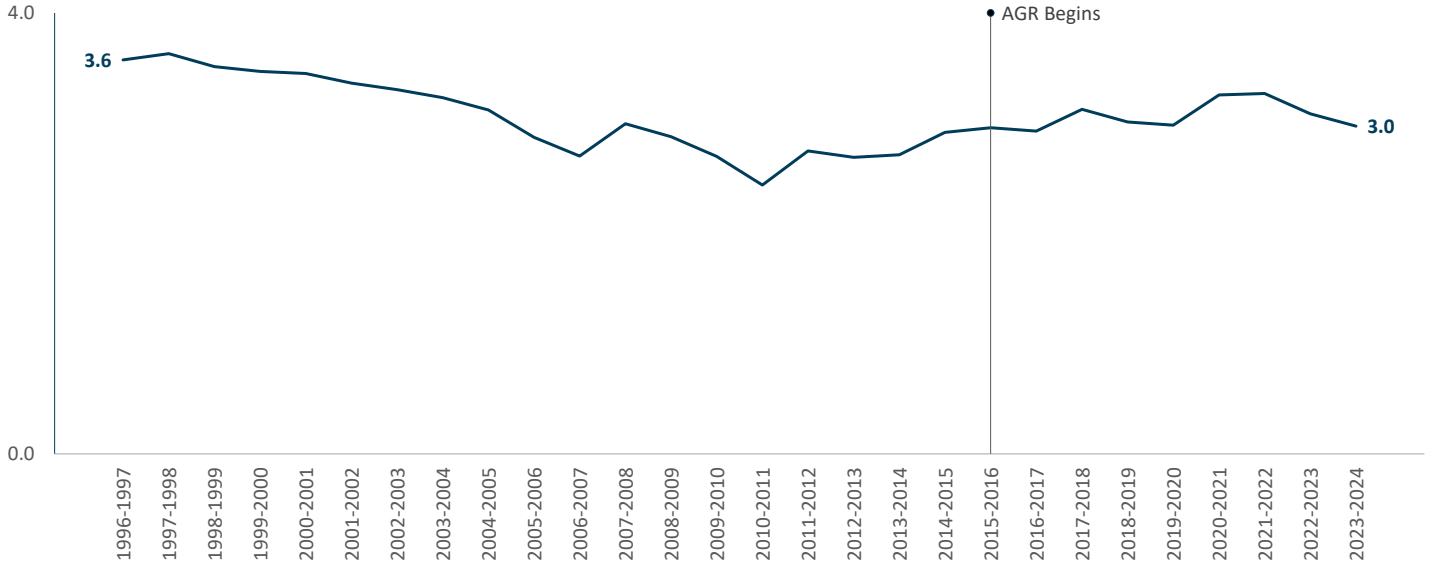
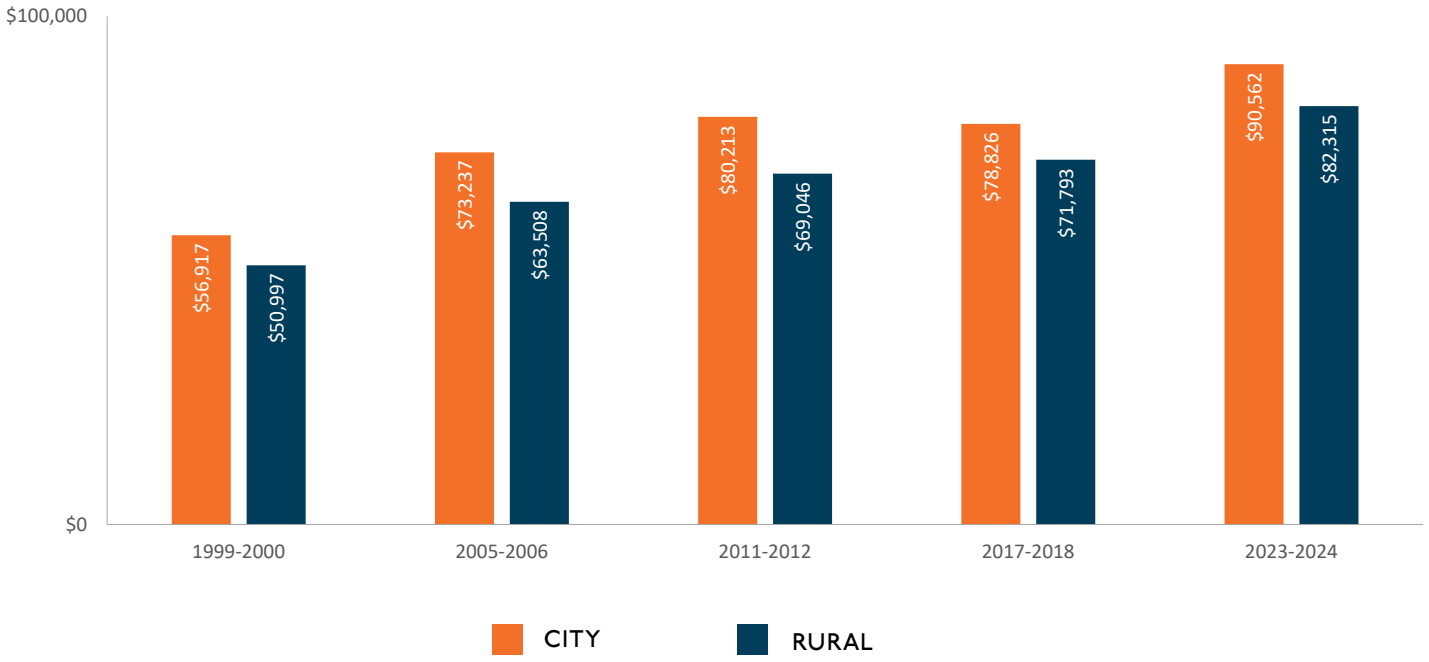


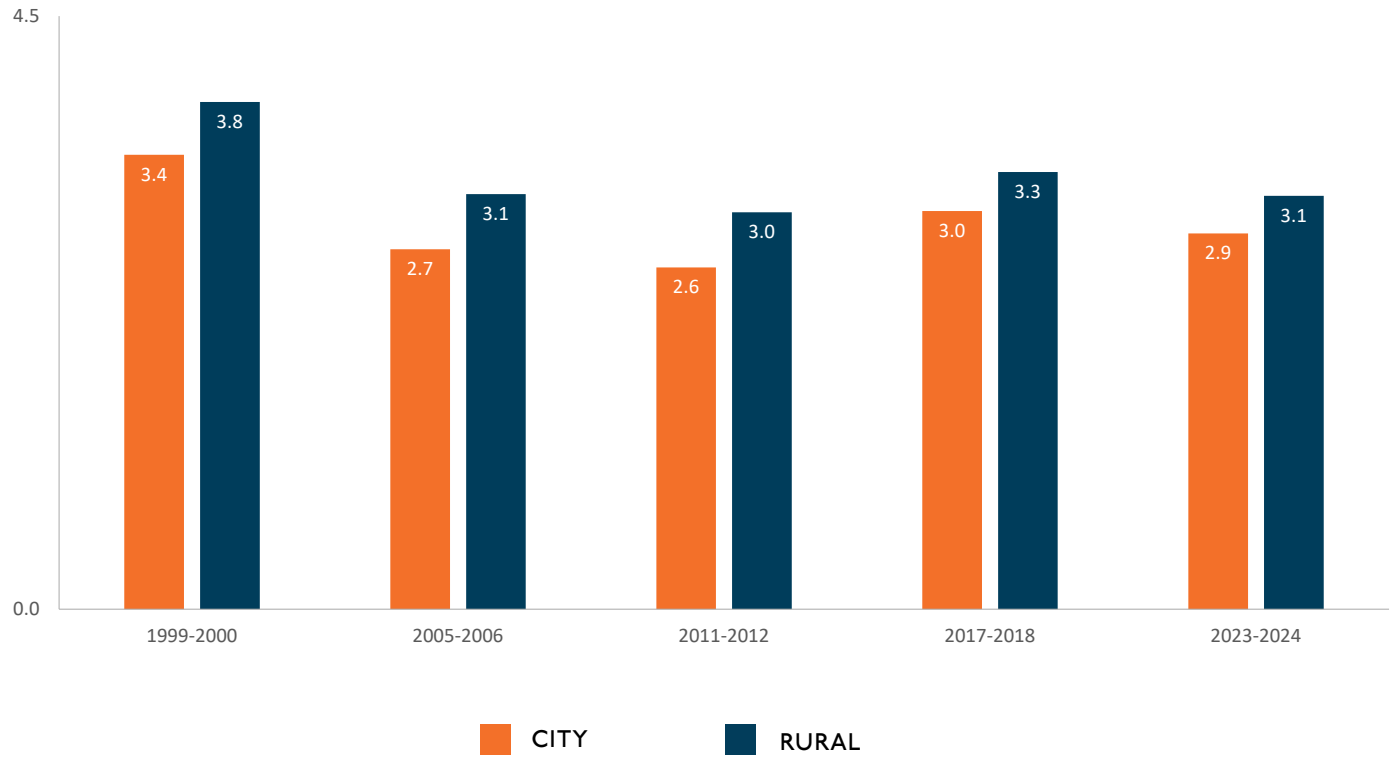
Figure 13: Teacher Average Total Compensation – by Locale



While Figures 11 and 12 show total teacher compensation and teacher FTE using statewide averages of teacher salaries and benefits, teacher compensation levels also vary over locales, due to cost of living. In general, more populated areas have higher costs of living than less populated areas. This can be seen in Figure 13, where average total teacher compensation in cities is consistently higher than the average in rural areas. In 1999–00, average teacher compensation in cities was approximately $5,900 per year higher than in rural locales. In 2023–24, that difference was approximately $8,200.

As a result, the average number of teacher FTE that can be hired via funding for 100 low-income students is lower in cities than in rural areas (Figure 14). In 1999–00, the average AGR school located in a city could hire 3.44 teacher FTE via funding from 100 low-income students, relative to 3.85 at rural schools, a difference of 0.40 FTE. That difference fluctuated during the intervening years before declining to approximately 0.29 FTE by 2023–24.

Figure 14: Teacher FTE per 100 Low-Income Students – by Locale



Funding per Any Student vs. Funding per Low-Income Student

As described above, AGR/SAGE legislation directs DPI to distribute funds based on the number of low-income students at each school. However, all K–3 students, low-income and non-low-income alike, receive the program's benefits through access to low class sizes, instructional coaches, and one-to-one tutoring. As such, AGR/SAGE's potential impact on the socioeconomic achievement gap depends on the share of low-income students at each school. This occurs for two reasons. First, AGR funds that go to non-socioeconomically disadvantaged students serve to increase the achievement gap. Second, schools with high percentages of socioeconomically disadvantaged students have higher proportions of per student (not just economically disadvantaged student) funding.

Figure 15 shows the percentage of students in AGR/SAGE schools who qualified as low-income in Grades K–3. After the introduction of SAGE in 1996–97, as the program added schools, the share of low-income students fluctuated. That share stabilized in 2000–01 at 46 percent. Afterwards, the share of low-income students steadily increased before peaking at 65 percent in 2013–14. Since then, the share has hovered at a little over 60 percent. This means that, assuming that AGR/SAGE funds are spent equally on low-income and non-low-income students alike, at an average AGR school about 60 percent of funds go to low-income students, with the other 40 percent going to non-low-income students.

Figure 15: AGR/SAGE Percentage of Low-Income Students

Grades K–3

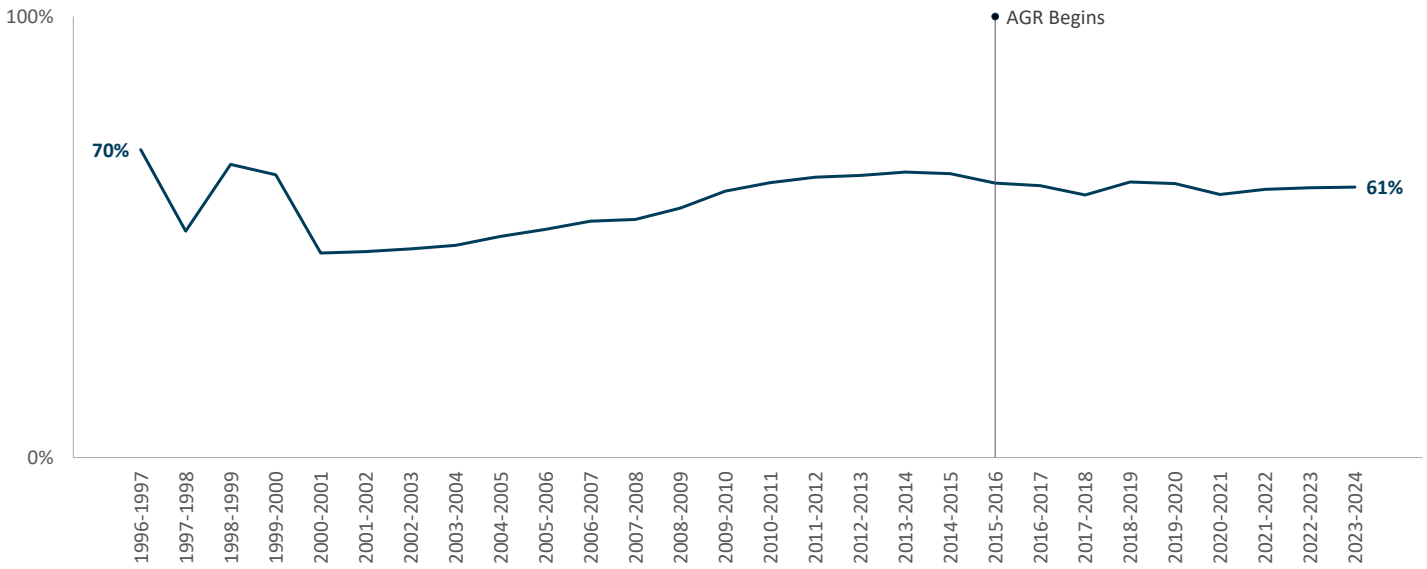
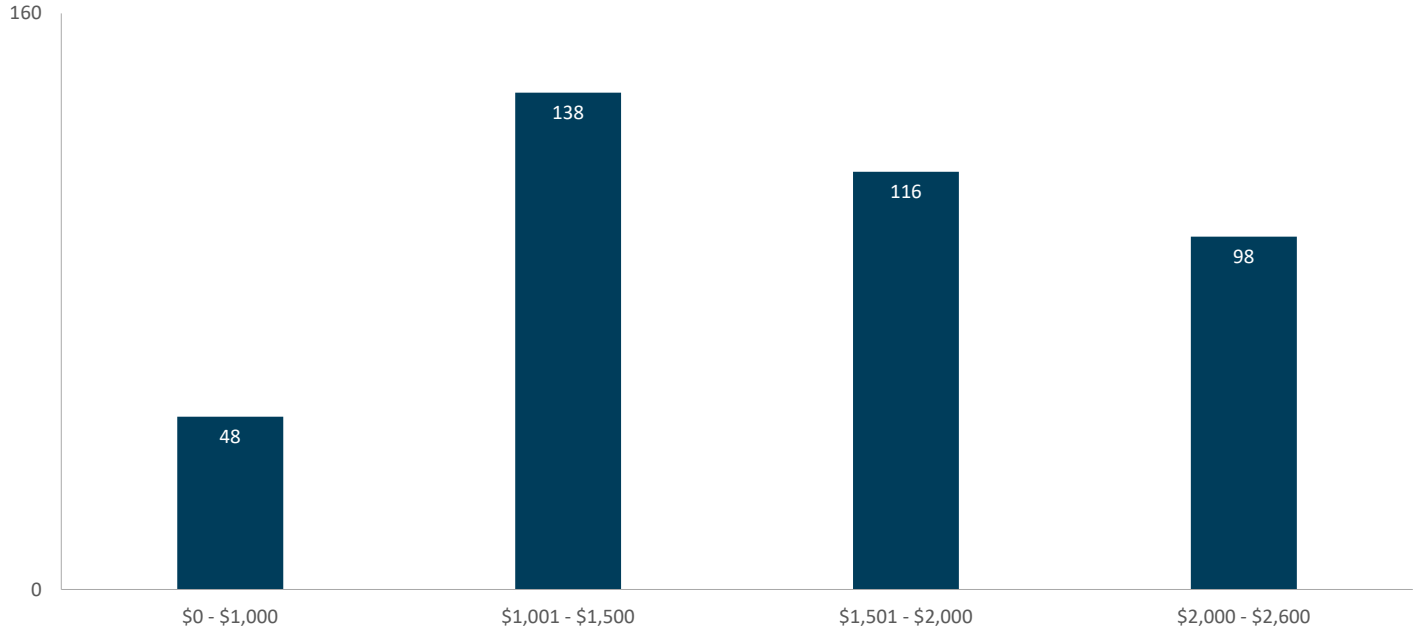


Figure 16: School-level AGR/SAGE Funding per K–3 Student, 2023–24



While the statewide average of low-income students is informative, it masks wide variation across schools, as depicted in Figure 16. In 2023–24, when AGR's expenditure per low-income student was $2,582, most schools' funding per any student (not just low-income student) was between $1,000 and $2,000. Nearly one-quarter of schools' funding per student was over $2,000, while a little over 10 percent of schools received less than $1,000 per student. To put these numbers in context, a school with 100 low-income students could hire 3.14 teachers, while a school of 100 students split half-and-half between low-income and non-low-income could only hire 1.57 teachers, a difference that is substantial when considering the affordability of an 18:1 class size ratio.

Looking across all years, as in Figure 17, the pattern is the same. Schools vary widely in the funding they receive per any student. In 2011–12, the difference in funding per student between the 5th and 95th percentiles was $1,333. By 2023–24, that number had grown to $1,636.

Figure 17: School-level AGR/SAGE Funding per K–3 Student

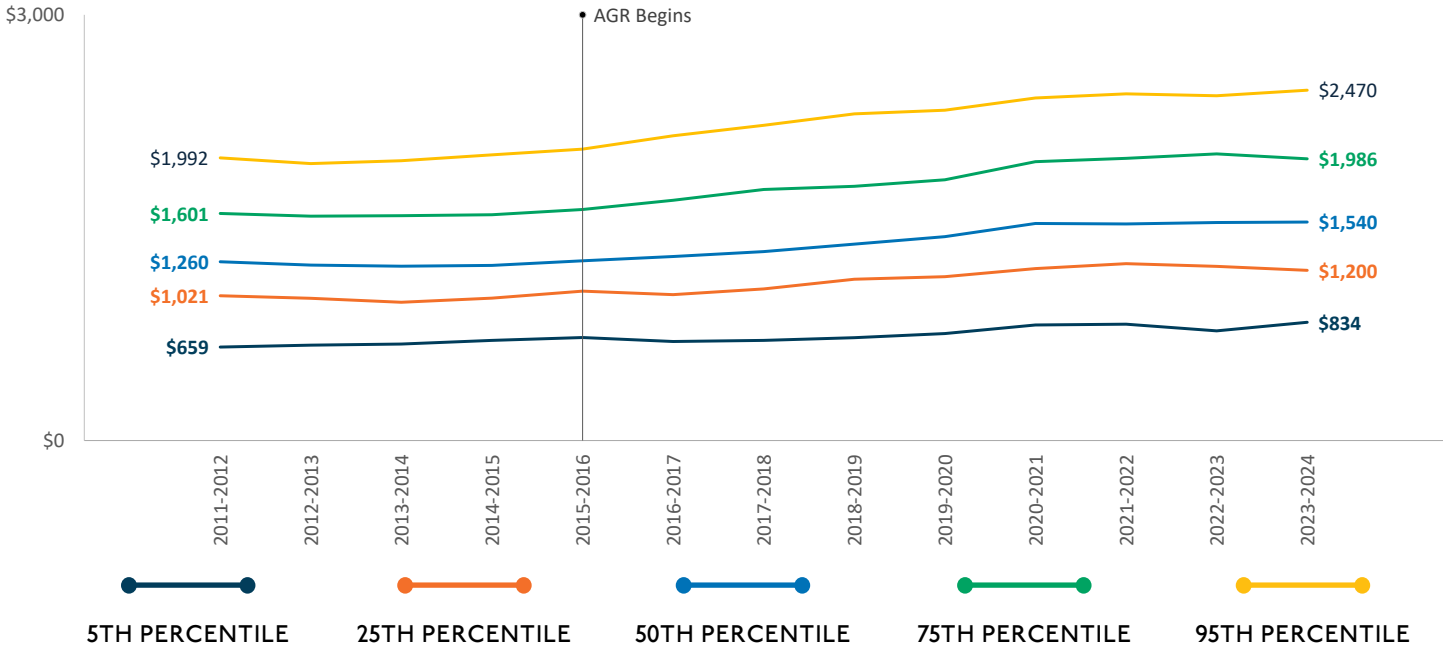
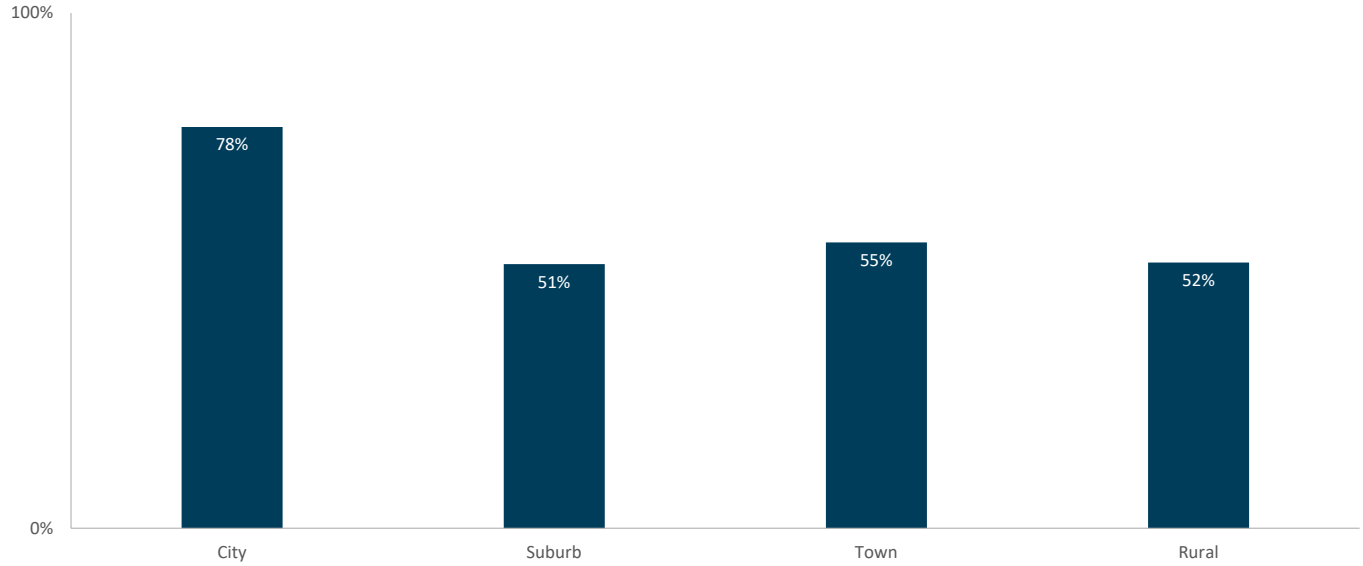
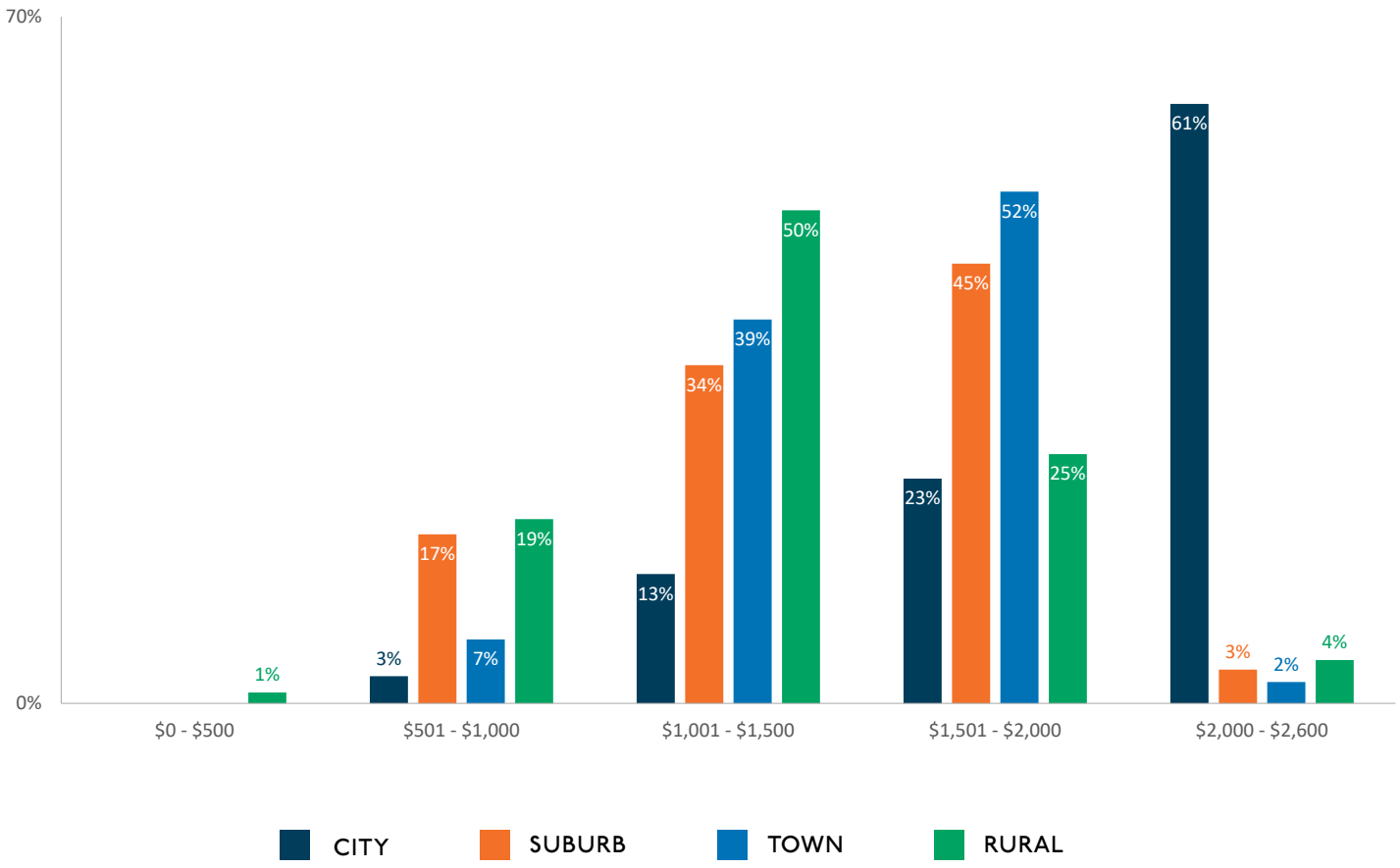


Figure 18: AGR/SAGE Percentage of Low-Income Students by Locale



Geographic locale impacts the amount of AGR/SAGE funding per any student. To see why, Figure 18 displays low-income shares by locale. AGR schools in cities have substantially higher percentages of low-income students (nearly 80 percent). On the other hand, schools in suburbs, towns, and rural areas average around 50 percent low-income students. As a result, in 2023–24, schools in cities were much more likely to receive high funding per student (Figure 19). Over 60 percent of AGR/SAGE schools in cities received at least $2,000 per student, while it was rare for schools in suburbs, towns, and rural areas to reach that level.

Figure 19: School-level AGR/SAGE Funding per K–3 Student by Locale, 2023–24



Section 7

Maximum Impacts of Tutoring

Maximum Impacts of Tutoring

AGR legislation requires schools to provide one-to-one tutoring by licensed teachers during the school day "using an instructional program found to be effective by the What Works Clearinghouse of the Institute of Education Sciences."[18] This provision is a logical extension of a large body of research showing substantial test-score impacts from tutoring K–3 students.[19] Past impact evaluations of AGR, however, show limited impacts of the program on math and reading test scores and no associations between AGR tutoring and improved student outcomes. One potential reason for this is that one-to-one tutoring is a resource-intensive intervention—a single tutor can help only a limited number of students.

To explore whether the potential impacts of AGR-funded one-to-one tutoring could substantially influence statewide measures of AGR impacts, this evaluation conducted a thought experiment that considers both the impacts of tutoring and resource constraints that determine how much one-to-one tutoring schools can afford via AGR funding. Our strategy was to review the research literature to estimate potential tutoring impacts and the total hours of tutoring necessary to achieve those impacts, then combine those measures with other constraints, such as total hours available in a school year, average statewide compensation for a licensed teacher, and available AGR funds, to calculate how many AGR students could be tutored under ideal conditions. This information was then used to infer how test-score gains from tutoring could impact statewide estimates of AGR impacts. The methodology is described more fully in the Technical Appendix.

Findings

The results from the methodology described above are presented in Figures 20 and 21. For each subject, the maximum AGR statewide impacts on test score growth from tutoring are shown for various levels of AGR funding devoted to tutoring. For each subject, we show what the statewide impact would be at three levels of student-level tutoring gains.

For both math and reading, we see very small statewide gains from tutoring at low percentages of funding spent on tutors, which reflects present spending. From the combined End-of-Year survey and school board reports, we know that approximately 35 percent of AGR schools used tutoring in 2023–24, while that number was 81 percent and 87 percent for instructional coaching and class-size reduction, respectively. This implies that about one-sixth, or 17 percent of spending (35 divided by (35+81+87)), is spent on tutoring. Given this reality, the maximum impacts thought experiment is a reasonable explanation for why previous AGR evaluations have found no impacts from tutoring.

18 2015 Wisconsin Act 53, Section 118.44 (2015). https://docs.legis.wisconsin.gov/2015/related/acts/53.pdf

19 Nickow, A., Oreopoulos, P., & Quan, V. (2020). *The impressive effects of tutoring on preK–12 learning: A systematic review and meta-analysis of the experimental evidence* (NBER Working Paper No. 27476). https://www.nber.org/papers/w27476

Even at high levels of AGR funding and large, student-level gains, statewide impacts are around 0.10 standard deviations, a medium-sized education impact.[20] These estimates ignore likely downstream effects of hiring so many tutors—such as reduced tutor quality or the necessity of higher pay to attract more qualified applicants. One might argue that teachers currently devoted to class-size reduction and instructional coaching could become tutors, but that transition would be costly. Rural schools already report difficulties hiring licensed teachers, and hiring more tutors would likely be infeasible.

The small, statewide impacts of tutoring relative to large student-level tutoring gains are due to the small number of students that an individual tutor can serve. Tutoring is a resource-intensive strategy. According to the calculations described above, if AGR schools spent 10 percent of their funds on tutoring, they could serve less than 2 percent of AGR students. Even if schools spent all their AGR funds on tutors, they could only serve about 14 percent of the AGR population in reading and 18 percent in math.

20 Kraft, M. (2019). *Interpreting effect sizes of education interventions* (Ed Working Paper No. 19-10). Brown University.

Figure 20: Maximum Statewide Impacts of Tutoring, Reading

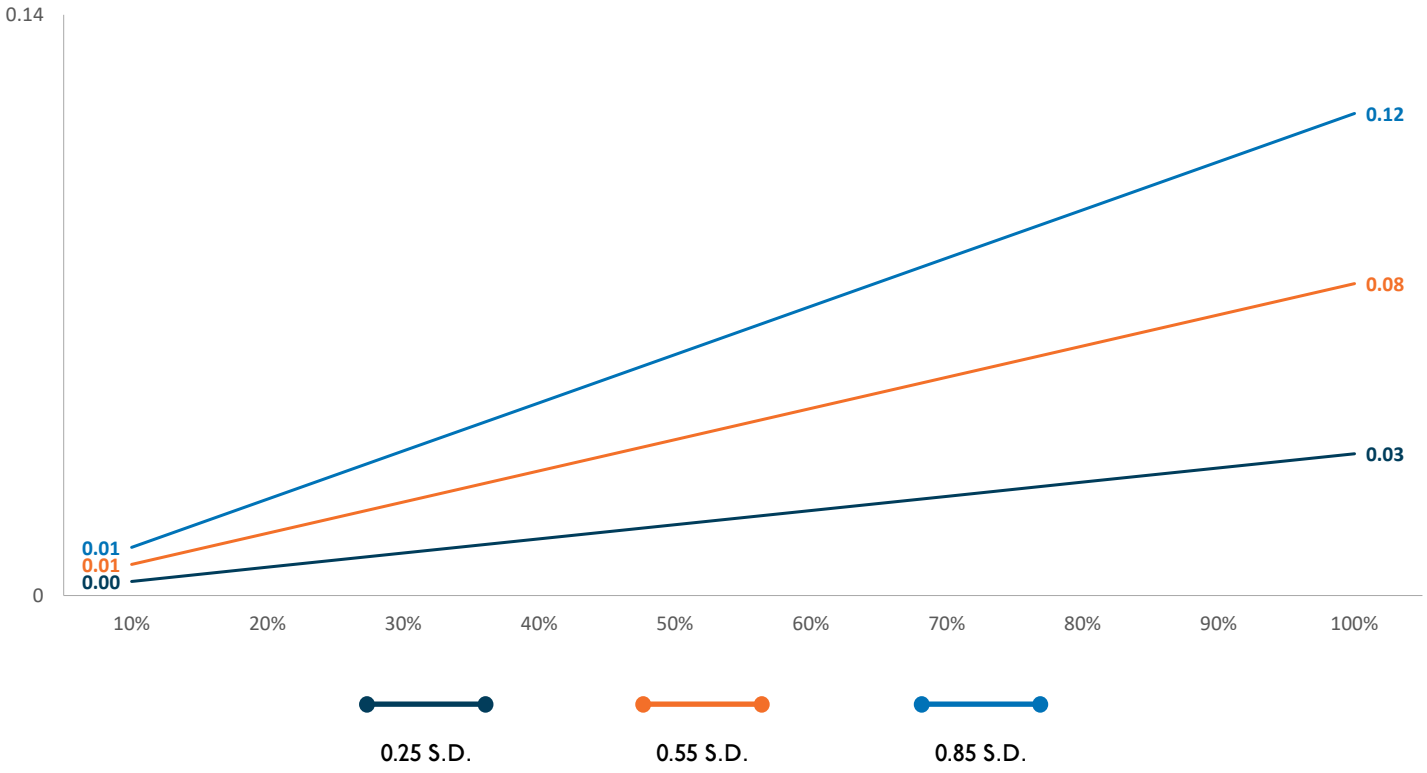
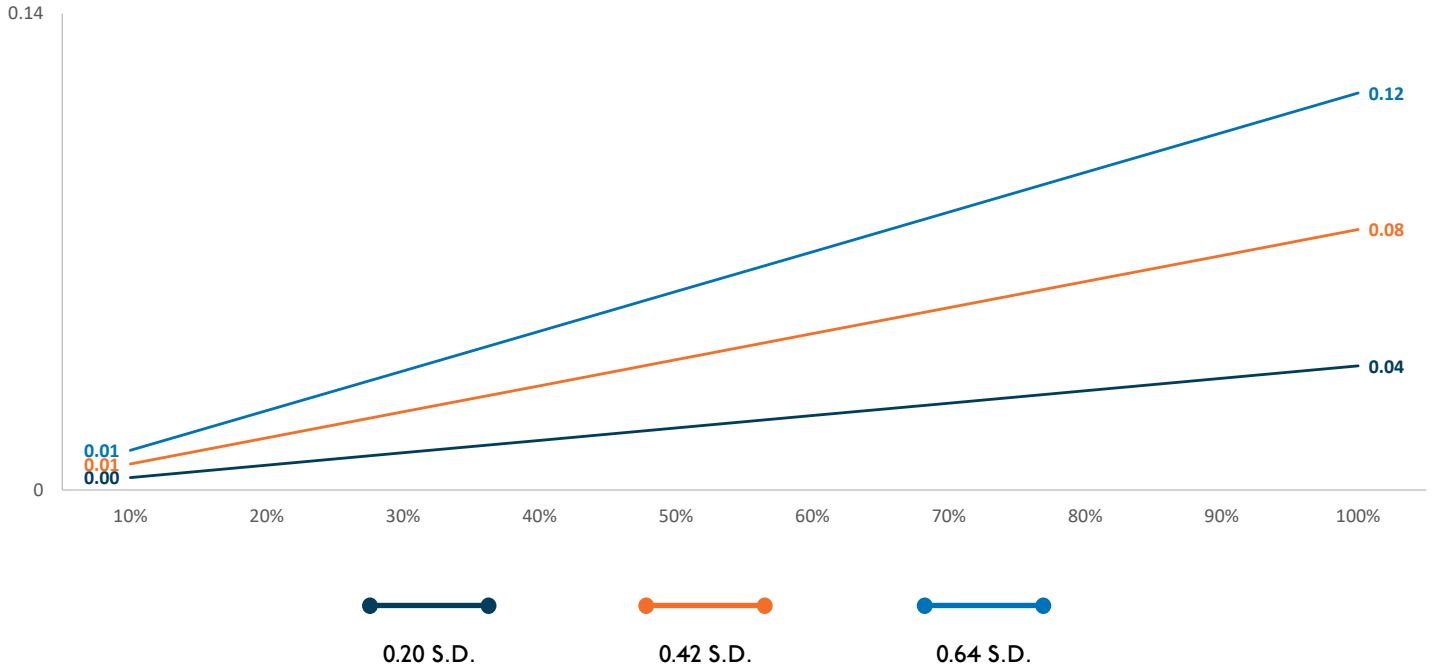


Figure 21: Maximum Statewide Impacts of Tutoring, Math



Limitations

Of course, what we describe above is only a thought experiment that requires multiple assumptions on our behalf. We do not know exactly how AGR schools are implementing tutoring—which instructional programs they use, how often they serve each student, whether they are devoting 100 percent of their time to tutoring, etc. What's more, the tutoring literature is not Wisconsin-specific, and we could not find enough studies of tutoring programs that mimic the AGR environment: licensed teachers, one-on-one, during the school day, for Grades K–3. It is possible that using licensed teachers, as opposed to paraprofessionals, would provide an additional boost to student-level gains from tutoring.

However, there are other reasons to believe that the statewide impacts in Figures 20 and 21 are overstated. First, student-level gains in the literature are measured at a small number of schools, likely those that volunteered to participate and may be more motivated or have more flexible teaching staff, and researchers monitored fidelity. Impacts could be very different when scaling up to a statewide implementation, particularly since AGR schools may not have the resources to implement tutoring programs with fidelity. In addition, the assumptions above err on the side of overestimating possible statewide impacts. Any relaxing of those assumptions (e.g., tutors cannot serve students during all 1,050 hours of a school year) would lessen implied statewide impacts.

Section 8

Effective Implementation in AGR Schools

Effective Implementation in AGR Schools

To address Evaluation Question 5 (What best practices can districts use to maximize AGR impacts on achievement gaps?), this year's evaluation continues an examination of AGR schools that have most effectively implemented AGR funding to improve test score outcomes. This section of the report examines the methods used to identify AGR schools with high growth on assessment outcomes, the process for interviewing principals at these schools, and the findings related to those interviews. New to this year's examination of effective implementation is a specific focus on the conditions that are necessary for the AGR strategies to be successful.

Methods

The first step in learning more about effective implementation was to identify AGR schools that demonstrated high growth on district-used assessments in math and reading. This step used results from the same analysis conducted in the 2023–24 evaluation. That analysis used a value-added methodology to estimate the average Fall to Spring student growth attributable to each AGR school while controlling for prior student academic achievement and other student- and school-level characteristics such as prior assessments scores, student demographics, and school demographics. After producing separate growth estimates for math and reading for each school, this analysis averaged the estimates across both subjects to produce a combined growth estimate for each school. Schools were then ranked from highest to lowest according to their combined growth estimates and the highest 45 schools were identified for potential further qualitative examination. For more information on this growth analysis, please refer to last year's report.[21]

Using the prior identification of high-growth AGR schools, the evaluation narrowed the list of potential schools for interviews. Schools without all Grades K–3 were removed from the list of possible interview candidates since the evaluation wanted to get information on effective implementation that would be generalizable to most other AGR schools. Schools that were no longer in operation or no longer AGR schools were removed from the list as well. Finally, schools with principals that were previously interviewed were also removed from consideration. This resulted in 35 remaining schools. The evaluation reached out to principals of these schools to schedule interviews, and of the principals contacted, the evaluation conducted a total of 10 interviews.

The interviews examined the specific conditions for success, implementation, impact, and challenges associated with each of the three AGR strategies. The interviews also examined overall impact and suggestions for overall program improvement. The interview protocol can be found in Appendix B.

Class-Size Reduction

Eight of the 10 principals interviewed indicated that their school used the class-size reduction AGR strategy. Principals noted that using small classes was impactful, especially in the lower grades, with one principal stating, "I don't think class size reduction at all grade levels has the same impact. The smaller the class size [at lower grade levels] have much higher impact, because they [lower grade levels] need to have more support."

21 See *Evaluation of the Achievement Gap Reduction Program 2015–16 through 2022–23*, available at https://dpi.wi.gov/sites/default/files/imce/sage/WEC_AGR_Report2024_FINAL_11.12.2024.pdf

Principals described several instructional strategies used in conjunction with class-size reduction. Many of the principals noted that small class sizes allowed for more small group interventions and more individual time with students. One of the principals added that they have also included a paraprofessional in their classrooms to further assist with the use of small groups. Another principal noted that they emphasized individualized student goals, "Teacher expectations need to be high … Students need to know their goals and how they're going to achieve them. We don't just focus their goals on a number on their assessment. The goal needs to be focused on what strategy they need to work on …Then we break it down for this child to understand in student language." A third principal said that the selection of students into classes was important in not trying to have homogenous groups. This principal believed that students learn from each other, so it was important to have all levels of students represented.

Principals reported a wide variety of conditions necessary for class-size reduction to have the greatest benefit. Two of the principals specifically noted that classroom management was key; that teachers need to (1) know how to get kids to learn and (2) be able to build relationships with students. Other conditions noted by principals included having quality instructors, having direction and intent in the classroom, making sure to provide additional resources when necessary, and a willingness from staff members to try new ideas. One principal said that small class sizes work best when students need social-emotional support as well as academic support.

When asked about advice for other schools using class-size reduction, principals noted that it cannot just be implementing a smaller class size without changing instructional practice as well. As one principal said, "Reducing class sizes for AGR is not going to do that [improve student outcomes] alone. You have to think about what are you doing within your instructional practices, and what conditions are you ensuring are expected so that the benefits and impacts of that … smaller class size can be found through the teaching and learning." Other advice included looking at what other high-achieving schools are doing to try and find what you can learn from them.

"Reducing class sizes for AGR is not going to do that [improve student outcomes] alone. You have to think about what are you doing within your instructional practices, and what conditions are you ensuring are expected so that the benefits and impacts of that … smaller class size can be found through the teaching and learning."

Principals noted a few challenges with class-size reduction. The most frequent challenge was dealing with fluctuations in cohort sizes and mobility. Principals said that having extra students may mean not implementing class-size reduction if that requires having an additional classroom or hiring an additional staff member. One principal also noted that because of these fluctuations, they are only able to have some of their classrooms utilize class-size reduction and the rest of the classrooms have larger class sizes. This resulted in those larger, non-AGR classrooms being more of a challenge. Another challenge mentioned by one principal was the stark transition for students from smaller class sizes in lower grades to larger class sizes in the higher grades.

Instructional Coaching

Eight of the 10 principals interviewed indicated that their school used the instructional coaching AGR strategy. Many of the principals noted that instructional coaching noticeably led to teacher improvement, especially with improved instructional practices. One principal also saw increased student growth as a result of instructional coaching. Principals indicated several similar implementation practices for instructional coaching, including providing both in-classroom support and out-of-classroom support through both small group and individual meetings. Additional support from instructional coaches included providing resources, curriculum assistance, data coaching, and co-teaching. One principal stressed that their coaches not only provide resources but show how to use those resources and show how to modify them to meet student needs. Another principal noted that their school uses a student-centered coaching strategy where they focus on student needs using data to grow all students. A third principal said that they implemented a strong onboarding process for coaches that uses best practices recommended by the state. This same principal also noted that they want everyone to work with the coach, using a sport analogy, "If you're a coach, you're still going to work with your star player on fine-tuning some things so they continue to grow … so your best becomes better."

Principals noted several conditions for success with instructional coaching. Many principals emphasized that building trust and relationships was key to successful instructional coaching. As one principal stated, "It will be extremely challenging to have a coach to be successful in a building if they are seen as a threat. So that relationship piece is number one." This needs to be purposeful and there needs to be time provided for the coaches and teachers to build that trust. One strategy noted by principals to help with building trust was to take things slow to build buy-in to the process. As one principal said, "[We] spent a lot of time talking about how to develop relationships with grade-level teams…If you go slow, you build trust among them, then you can usually nudge a little bit harder." Two principals also noted the importance of building a "firewall" between the principal and the coach to help with trust. One principal said that they do not want the coach to be in the evaluator role and another principal noted that the instructional coach should not be seen as some type of punishment. Other conditions for success noted by principals revolved around necessary coaching skillsets. These included coaches who are knowledgeable, understand the curriculum, know the student population, and are collaborative and open in their approach. As one principal stated, "Coaches need to be receptive to feedback. Coaching needs to be a team approach rather than a dictator approach."

Specific advice for other schools looking to implement instructional coaching again focused on going slow to build trust. As one principal stated, "You got one chance to really build culture and thought processes around the coach. Take your time with it. Go slow to go fast." Other advice included having clear communication around instructional coaching with a shared vision, direction, and intent. One principal said that it was important to have a full-time instructional coach instead of a part-time position and that it was important not to put too much work on them so they could effectively do their job. Another principal stressed the importance of hiring and training for the position by saying, "The most important thing we do, not just for a coach, but for any position is hiring. First and foremost, it's making sure you've got the right person in the position. You're relying on them to essentially help you lead, being the instructional leader for your building. You've got to support them through the process. Help coach the coach."

Principals also identified a few challenges associated with instructional coaching. One of these was role protection where coaches often get pulled to other non-instructional coaching tasks such as helping with assessments. Another challenge identified by principals was the time and resources necessary to work with teachers outside of the classroom. Finding the correct skill set of coaches was another challenge. One principal noted that less-experienced coaches may have a more difficulty building trust with veteran staff. Another principal said that it can be hard to find a coach that can have crucial conversations in a way that is also non-threatening.

One-to-One Tutoring

Two of the 10 principals interviewed indicated that their schools used the one-to-one tutoring AGR strategy. In terms of implementation, one principal noted that their tutors worked with students for 1 hour every day for math and an hour every day for reading and made sure that they adjusted their master schedule to allow for this to happen. Another principal said that they also adjusted their schedule so that interventionists can pull from two or three grades at any given time. At this school, the tutors work with about 30–40 students and these students receive daily tutoring support . Both principals emphasized that these students are not pulled out for these supports during the core instructional time.

The main condition for success noted by one of the principals was that you need the right people for tutoring. This principal said that they used funding to invest in their tutors as educators. It is not just buying a kit or program, it is investing in people and programs. Other advice from this principal included being committed to it and making sure the tutors have the resources to respond to the needs of the students they work with. Another principal advised that you need to prioritize, know your data, and focus resources on the grade levels that struggle more.

In addition to making the scheduling work, another challenge noted by one of the principals was the expense of having enough highly trained teachers to do the tutoring.

Overall Impact and Suggestions for Improvement

Overall, principals highlighted the impact of the AGR program and the importance of the supports the program provides to make a change for students. Many of the principals noted that AGR provides the resources necessary to be able to have these extra supports. A couple of the principals also brought up the benefits of being able to have a combination of more than one strategy in place. While being grateful for AGR funding, one topic brought up by a few of the principals was the need to use a combination of funding sources in order to fully implement many of these strategies. Principals mentioned combining AGR and Title I funding to be able to cover the expenses of these strategies, or that outside funding such as Title funds would be used to subsidize some of the strategies that AGR funding cannot fully support.

Finally, through the interviews, principals were given the opportunity to provide feedback on suggestions for AGR improvement. Major themes for improvement (and the number of principals suggesting) included:

- More funding (n=3)
- Improved reporting procedures with DPI such as consistency across years, better templates, and clearer guidance on timelines (n=3)
- Expand the program to other grades or whole school (n=2)
- Have more guidance on assessments or more restrictive guidelines on which assessments should be used (n=2)
- Improved end-of-year reporting (n=2)
- Provide guidance or training on best practices in strategy implementation (n=2)
- Have opportunities for collaborative discussions between AGR schools to see what is going on, including successes and challenges (n=1)
- Focus more on reading than math (n=1)
- Know in advance the AGR funding for the next year to help with planning (n=1)

Section 9

End-of-Year Report

End-of-Year Report

At the conclusion of each school year, DPI surveys AGR schools to produce an EOY survey describing schools' AGR strategy choices and implementation. In this year's report, we present longitudinal analyses of EOY reports to better understand whether there are any observable trends in AGR implementation. The longitudinal analyses below include 7 years of EOY data collected from 2017–18 through 2023–24.

Figures 22 and 23 show the strategy combinations that AGR schools chose during each of the seven sample years of EOY surveys. From AGR's inception (its transition from SAGE, which required that all AGR schools reduce class sizes in Grades K–3) through 2021–22, reduced class size was AGR's most used strategy. That changed in 2022–23, when schools reporting class size reduction decreased. That trend continued in 2023–24, when approximately 78 percent of schools used instructional coaching, compared to 69 percent of schools that used class size reduction. Schools reporting the tutoring strategy decreased to 27 percent of schools from its peak of 32 percent in 2022–23.

Figure 22: Schools Using Each Strategy in Any Grade

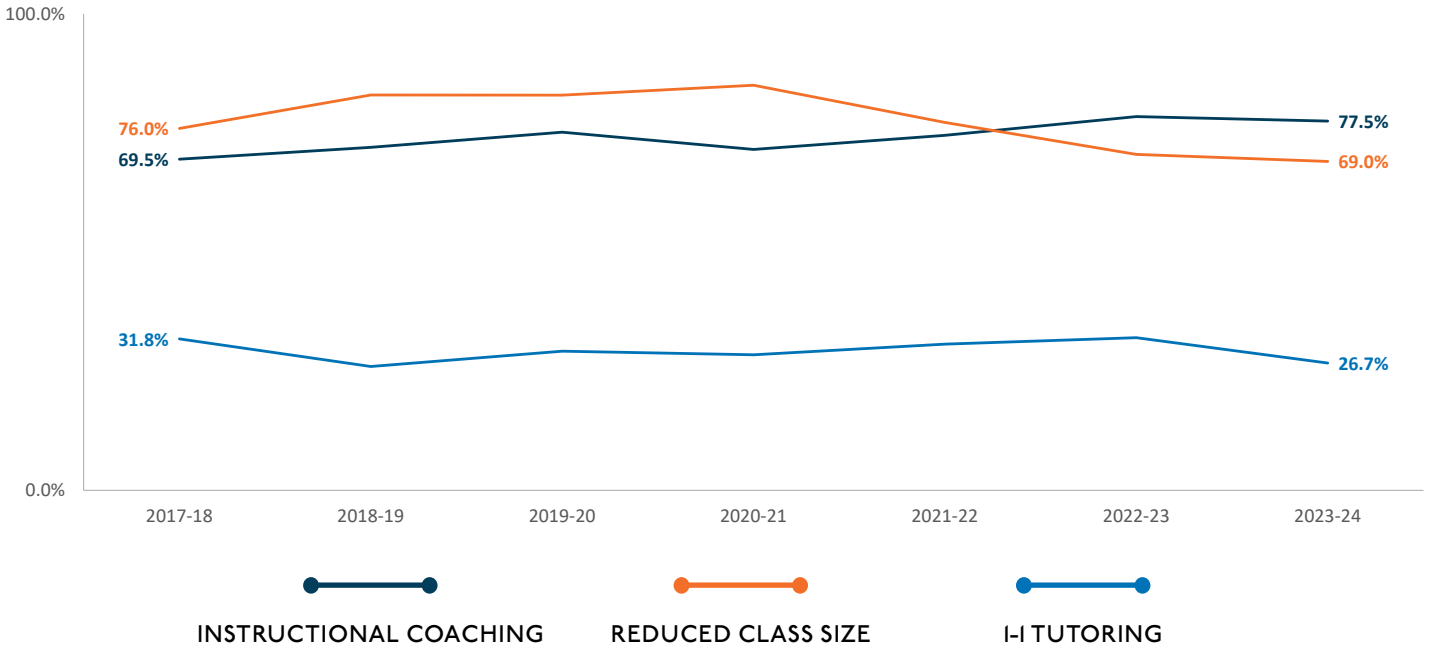
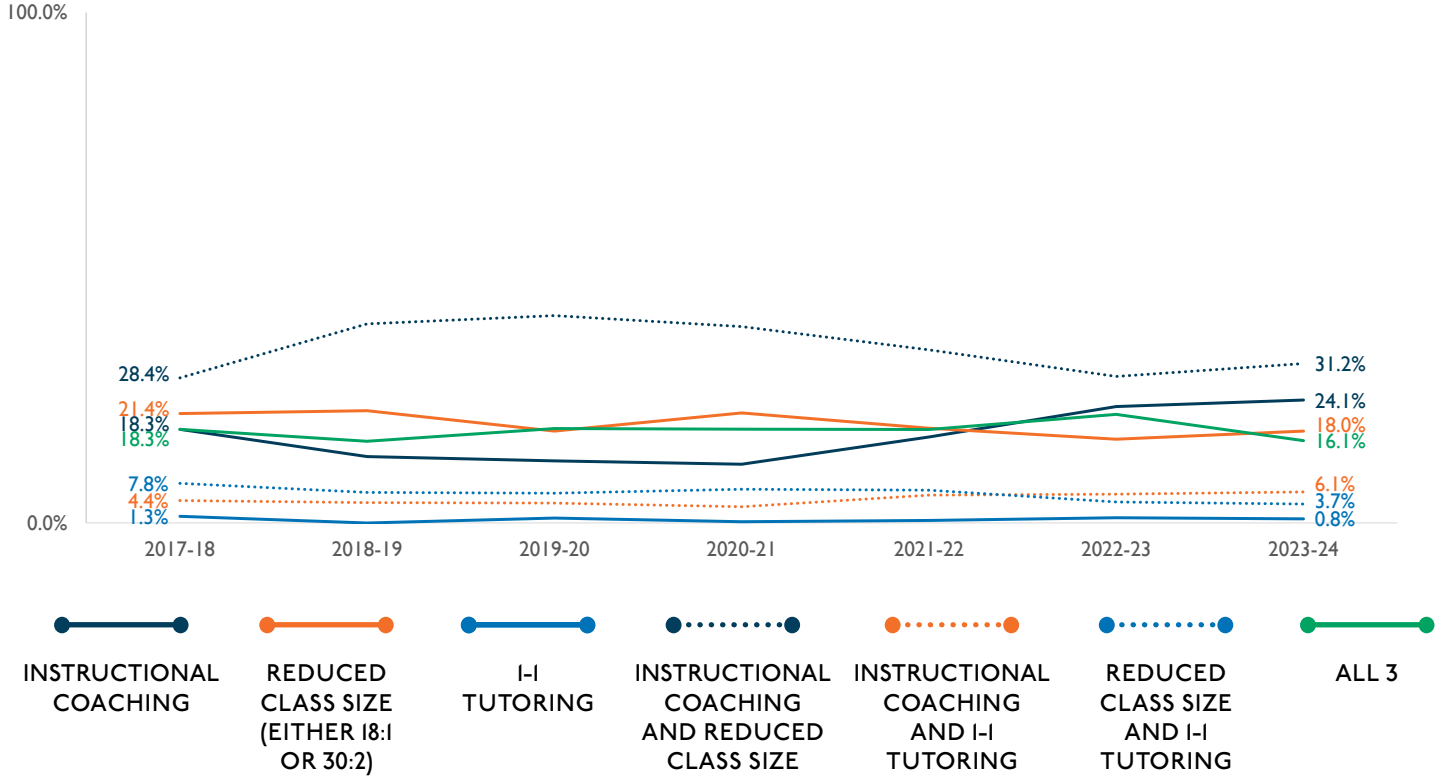


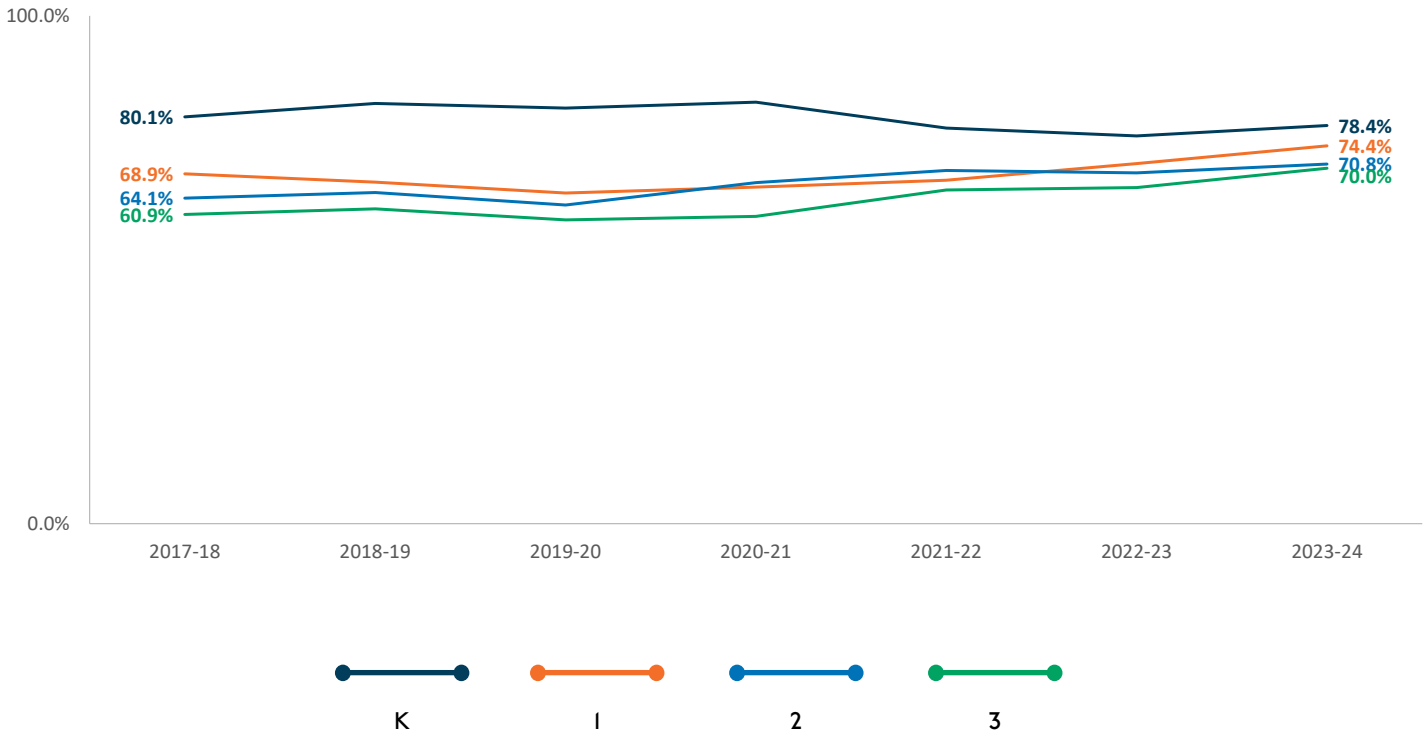
Figure 23: School-level AGR Strategy Combinations



AGR statewide policy allows schools to choose how to distribute each strategy across grades and across classrooms within grades. As a result, some schools chose to implement particular strategies in just some grades and not all classrooms within a particular grade. Figure 24 reflects both potential policy choices. As in previous years, in 2023–24 schools were more likely to employ reduced class sizes in kindergarten than in Grades 1–3. In each grade, approximately one-quarter of schools report using class size reduction in less than 75 percent of their classrooms within a grade.

Figure 24: Schools Using Class Size Reduction Doing So in at Least 75% of Classrooms

By Grade



Schools using reduced class sizes reported using a variety of instructional strategies (Figure 25). Reported use of each strategy was similar in each of the seven sample years. The most common instructional strategies associated with small class sizes were small group instruction, differentiation of instruction, strategic placement of students in groups, and one-on-one time with the teacher. Strategic placement of students in classrooms was less common but was reported by about 54 percent of schools.

Figure 25: Instructional Strategies in Schools Using Class Size Reduction

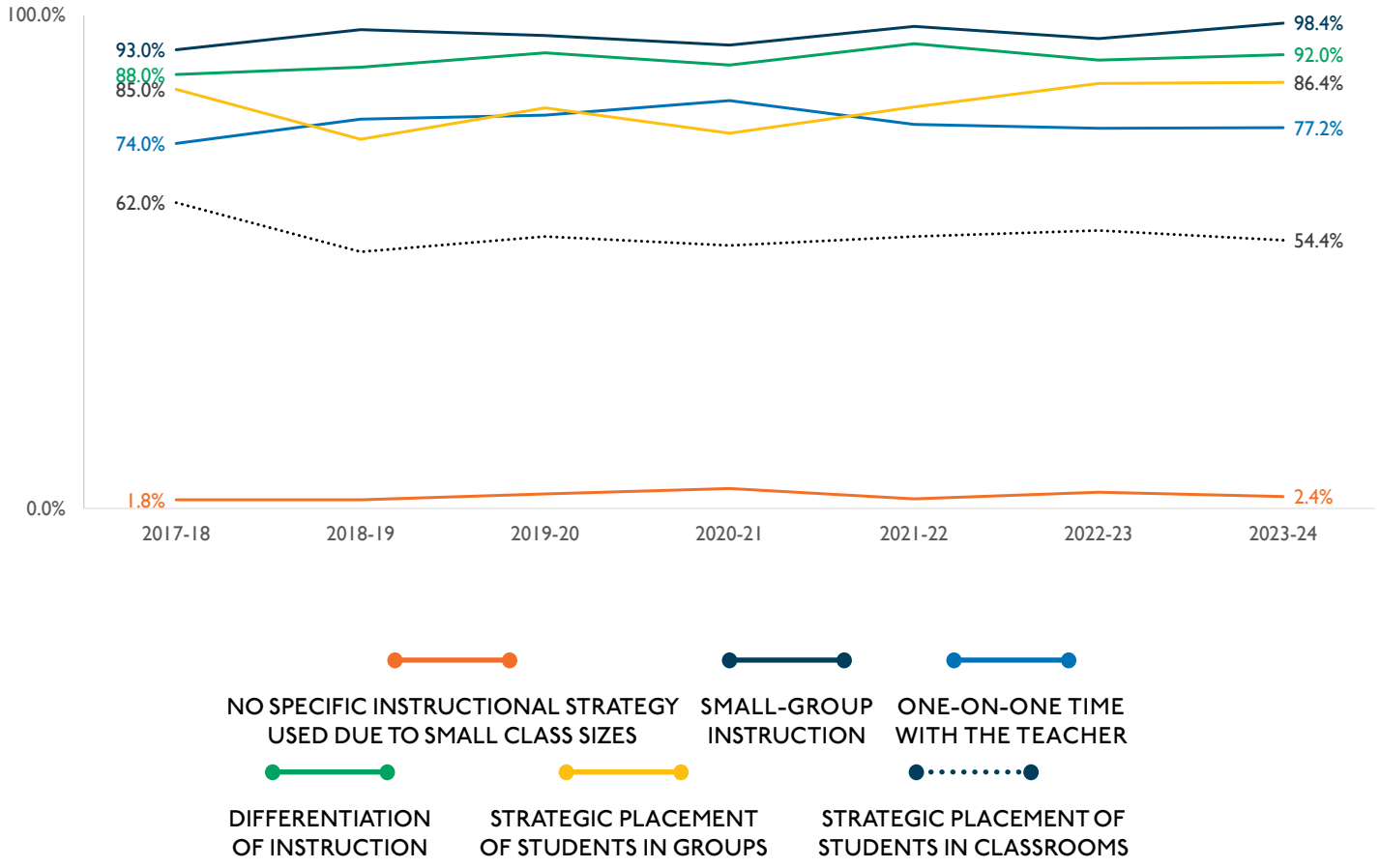
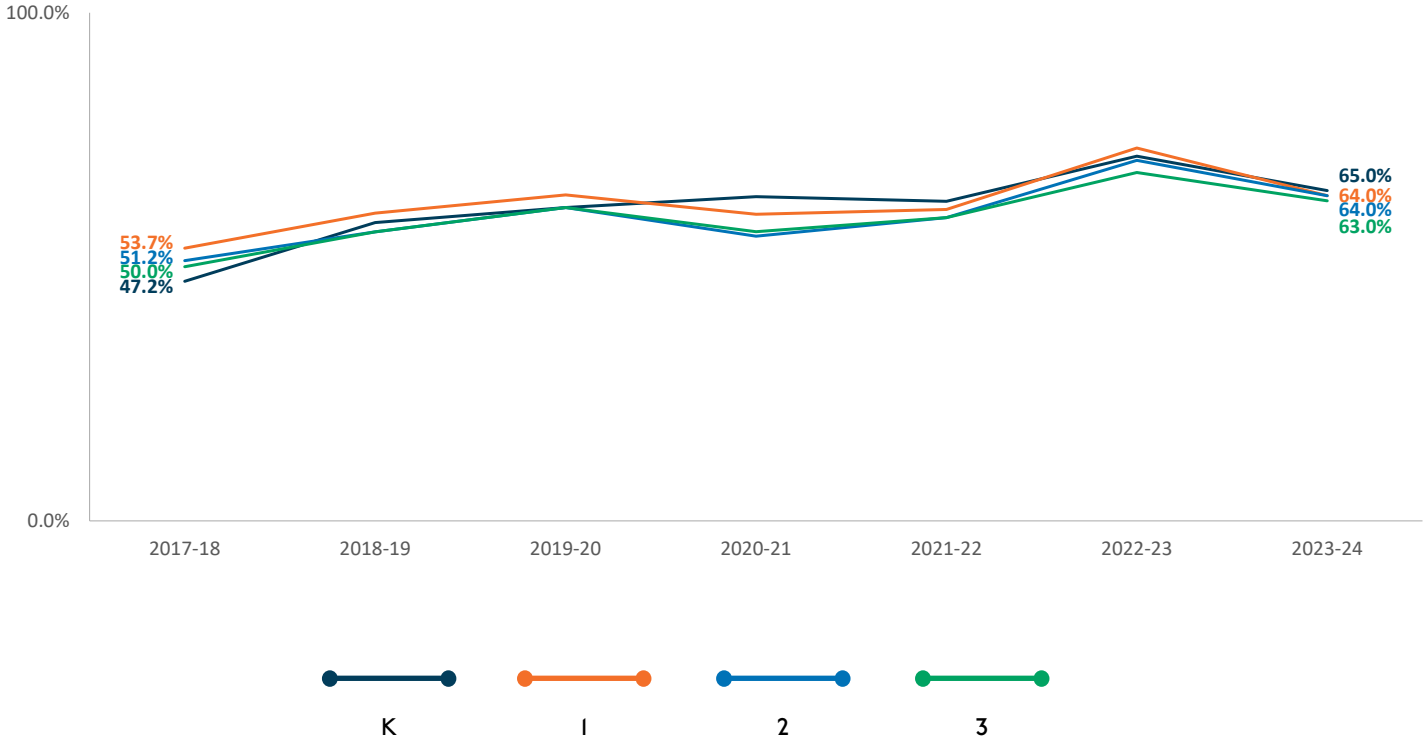


Figure 26 shows that, unlike schools' distribution of class size reduction, tutoring is equally common in all grades. Within grades, from 2017–18, through 2022–23, schools that use tutoring had been increasingly likely to use tutoring in at least 75 percent of classrooms. In 2023–24, those percentages decreased among sample schools, averaging approximately 64 percent.

Figure 26: Schools Using Tutoring Doing So in at Least 75% of Classrooms

By Grade



Studies show that more frequent tutoring results in larger impacts on standardized exam scores.[22] Most schools implementing AGR tutoring do so frequently, as seen in Figure 27. Approximately 70 percent of schools provide tutoring at least two times per week, with over 60 percent providing tutoring three times per week. Therefore, although in 2023–24 the percentage of schools using tutoring declined slightly (Figure 22), schools that did use tutoring served students more frequently.

22 Nickow, A. J., Oreopoulos, P., & Quan, V. (2020). *The impressive effects of tutoring on preK–12 learning: A systematic review and meta-analysis of the experimental evidence* (EdWorkingPaper No. 20-267). Annenberg Institute at Brown University. https://doi.org/10.26300/eh0c-pc52

Figure 27: School-Reported Tutoring Frequency

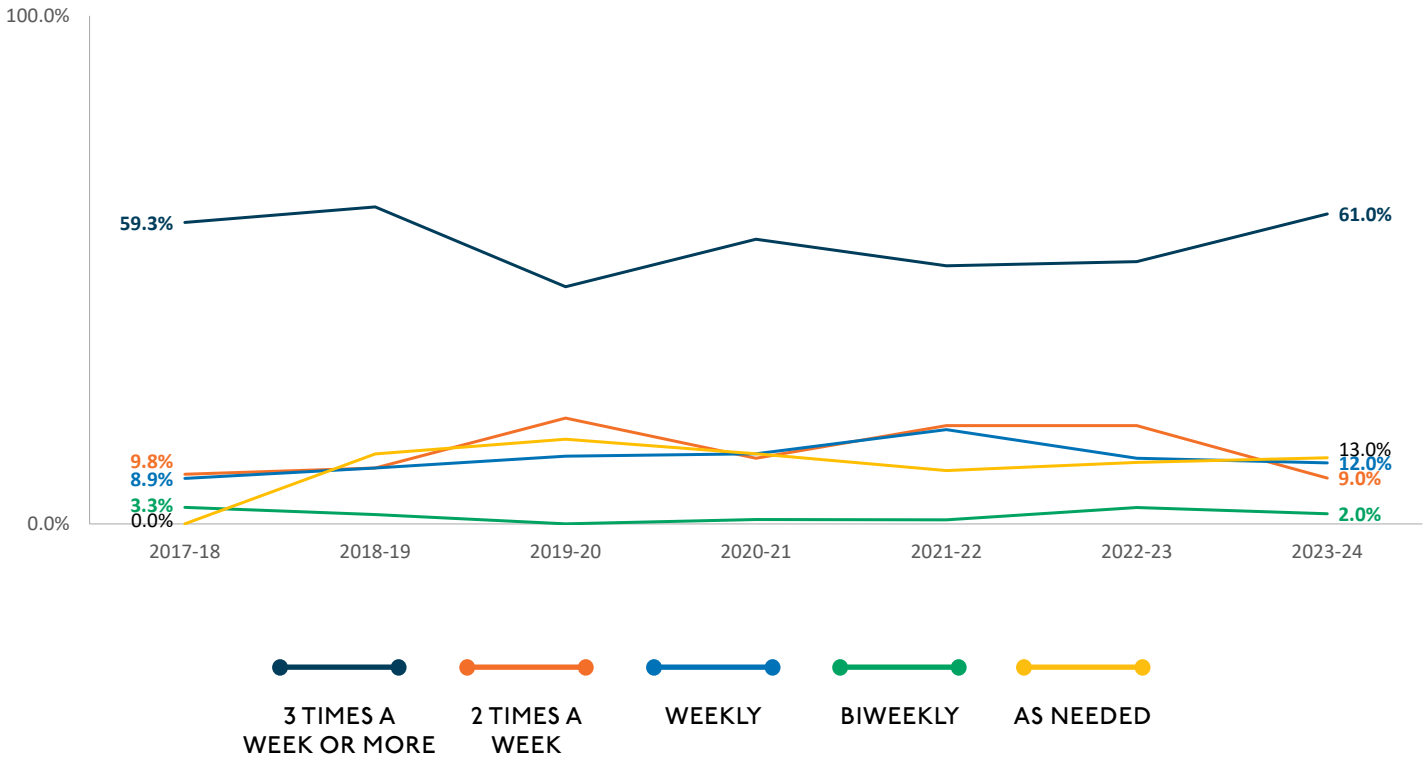


Figure 28 shows that schools reported frequent use of all the tutoring practices listed on the EOY survey. While the proportions of schools reporting each practice remained stable over time.

Figure 28: School-Reported Tutoring Practices

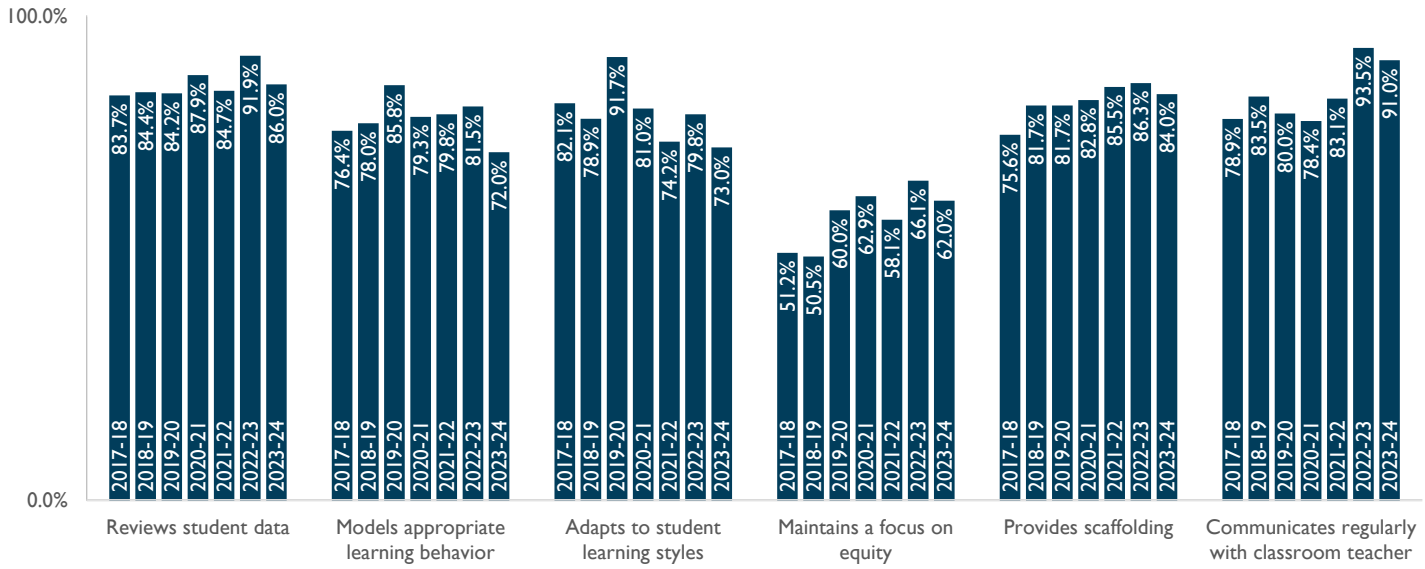
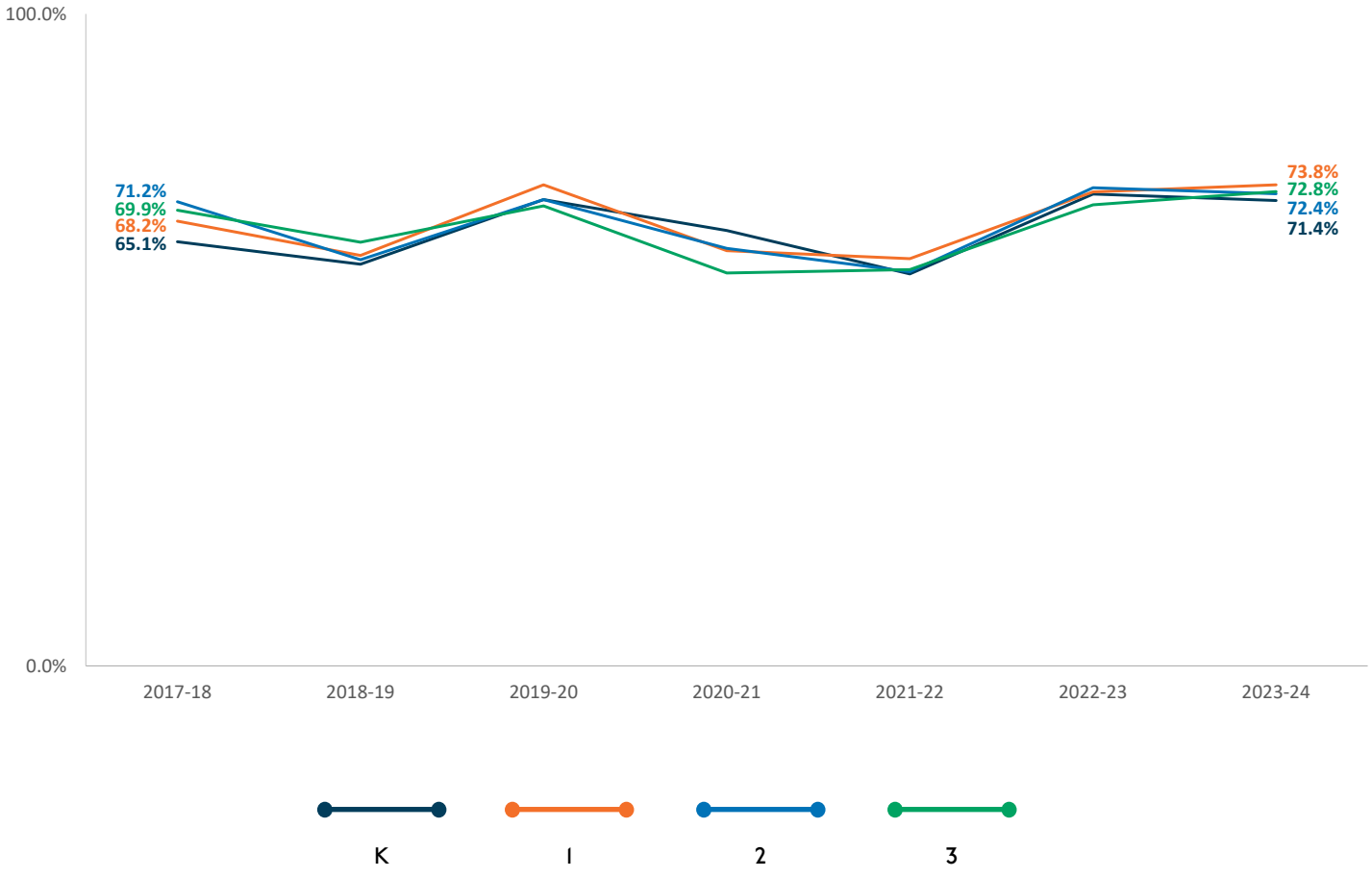


Figure 29 shows that instructional coaching is equally common across grades K–3. Instructional coaching is equally prevalent across grades. Of the schools implementing coaching, a little more than 70 percent do so in at least three-quarters of their classrooms in any particular grade. This is an increase from about sixty percent of classrooms in 2021–22, more in line with pre-pandemic levels in 2019–20.

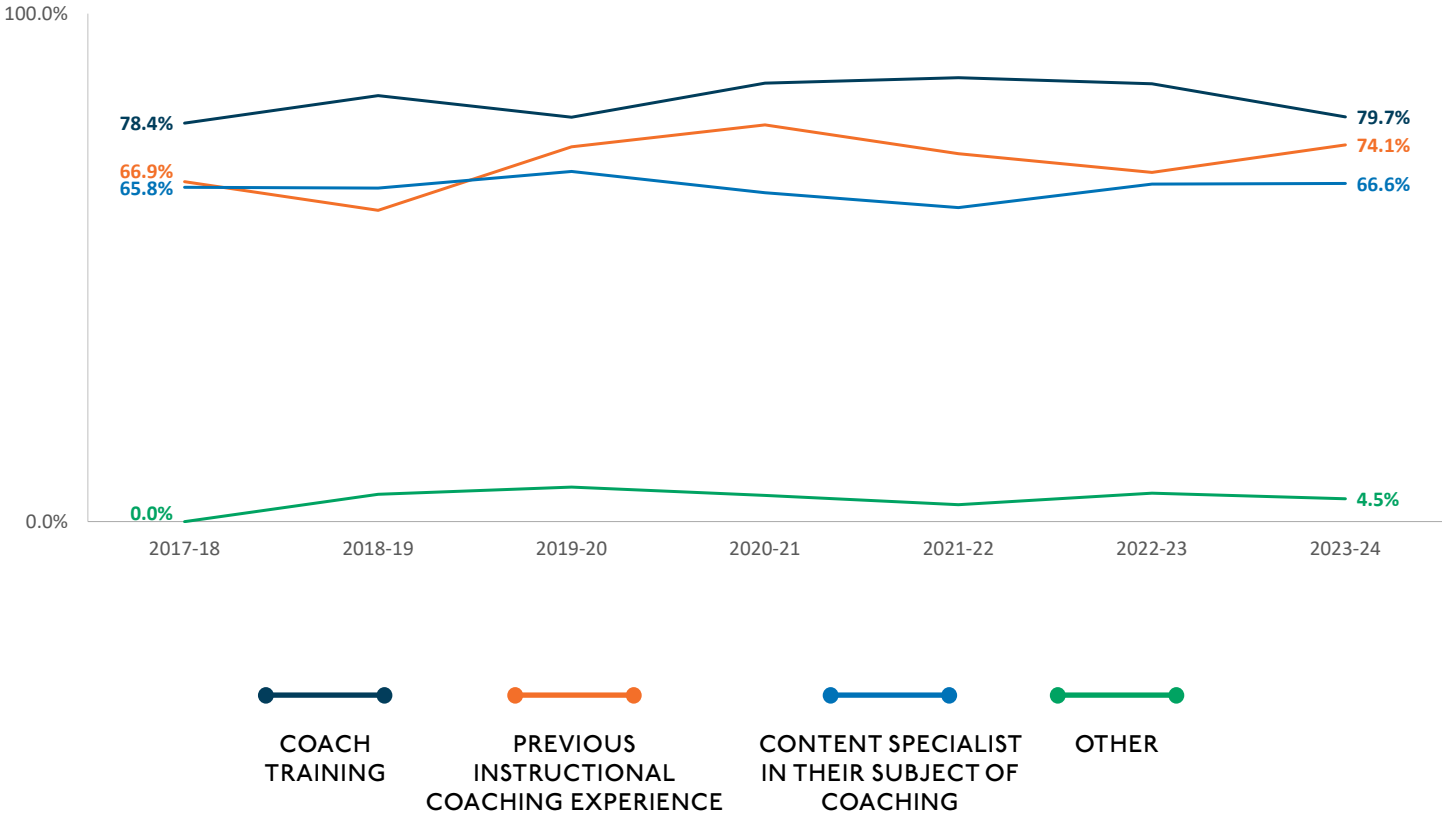
Figure 29: Schools Using Instructional Coaching Doing So in at Least 75% of Classrooms

By Grade



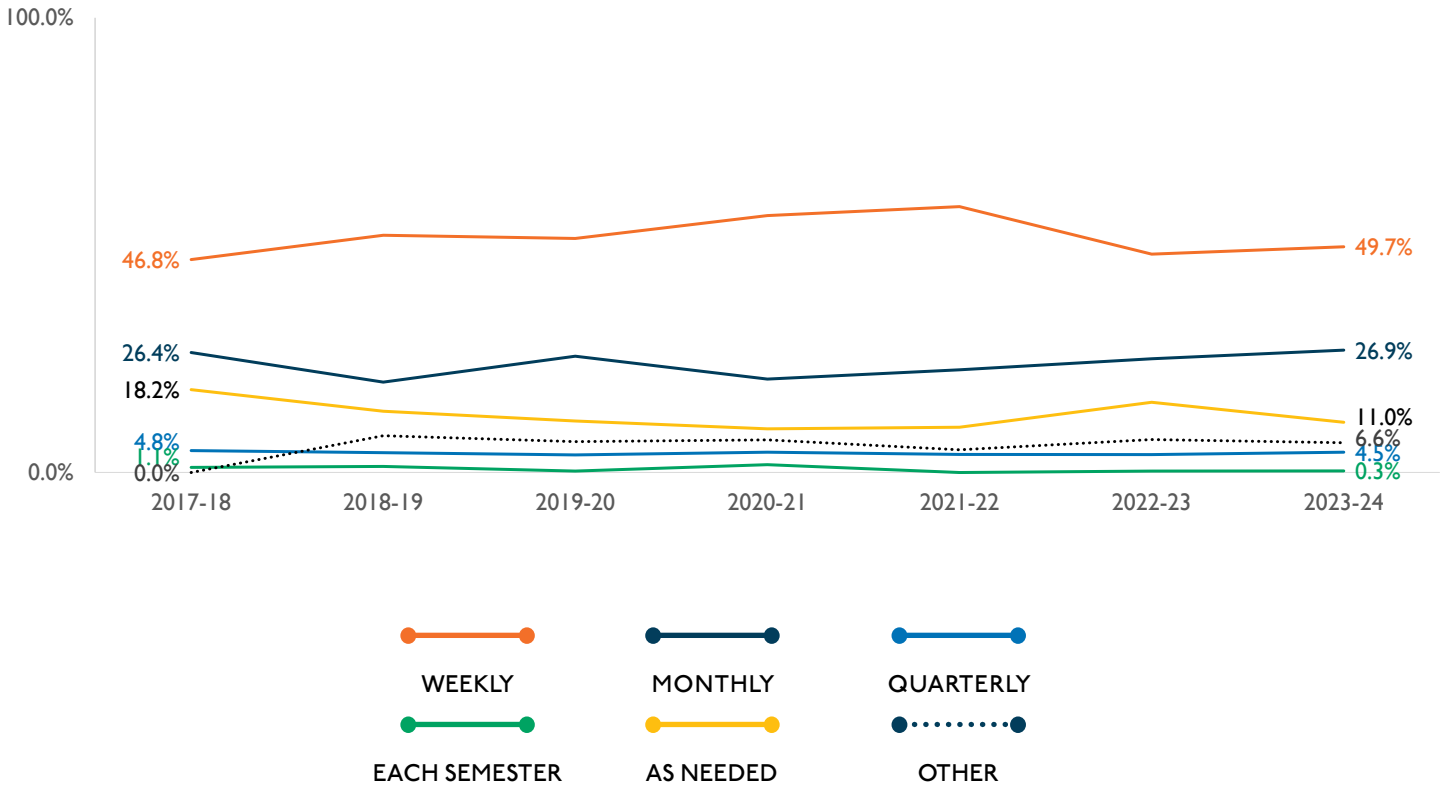
Schools responded affirmatively to almost all listed instructional coaching characteristics (Figure 30). Over the reported period, characteristics have been stable.

Figure 30: School-Reported Characteristics of Instructional Coaches



From 2017–18 to 2021–22, schools reported increasing frequency of instructional coaching (Figure 31), although in 2022–23, that percentage dropped to 2017–18 levels. In 2023–24, the percentage of schools reporting weekly instructional coaching increased incrementally to 50 percent.

Figure 31: School-Reported Instructional Coaching Frequency



Section 10

School Board Reports

School Board Reports

In addition to completing the EOY survey, DPI requires that schools submit twice-yearly reports of AGR implementation to their district school boards and to DPI. Here, we present results from analyses of school board reports.

The results in Table 3 display the percentages of AGR schools that use a given strategy in any grade. These results are reasonable matches for a similar analysis of EOY reports found in Figure 22.

Table 3: School-level AGR Strategies

STRATEGY	PERCENT
Class Size	83%
Coaching	79%
Tutoring	31%

Section II

Appendices

Appendix A: Technical Appendix

Our thought experiment considers tutoring impacts during a single school year for all AGR students in grades K–3, similar to past AGR evaluations' estimates of AGR impacts on MAP and STAR growth. We chose this strategy because the research literature focuses on shorter-term gains from tutoring, as opposed to multi-year estimates.

Calculating Available Tutoring Time

To calculate available tutoring time, we assume $109,059,500 of statewide AGR funding, the amount available for the 2023–24 school year. We assume that total compensation for a tutor is equal to $86,861 per year, the average statewide compensation for a licensed teacher in 2023–24, as calculated from the DPI Public Staff Reports. We then calculate total FTE tutors that could be hired at 10 percentage point increments of total AGR funding (Table 4).

Table 4: School-level AGR Strategies

% OF STATEWIDE AGR FUNDING	AGR FUNDING TO TUTORING	WI AGR TUTOR FTE	TOTAL TUTORING HOURS (1,050 PER TUTOR)	TOTAL TUTORING HOURS PER SUBJECT
10%	$10,905,950	125.6	131,834	65,917
20%	$21,811,900	251.1	263,668	131,834
30%	$32,717,850	376.7	395,502	197,751
40%	$43,623,800	502.2	527,335	263,668
50%	$54,529,750	627.8	659,169	329,585
60%	$65,435,700	753.3	791,003	395,502
70%	$76,341,650	878.9	922,837	461,418
80%	$87,247,600	1,004.4	1,054,671	527,335
90%	$98,153,550	1,130.0	1,186,505	593,252
100%	$109,059,500	1,255.6	1,318,338	659,169

Note: Assuming $109,059,500 statewide AGR funding and $86,861 per tutor FTE.

We next assume that schools split available tutoring hours evenly between math and reading—an assumption that is consistent with data from End-of-Year surveys showing that schools using AGR tutoring typically tutor in both math and reading. We also assume 1,050 hours in a school year, the minimum allowable under Wisconsin law, which we further assume to be divided into 35 weeks (5 days per week), of 6-hour days.[23] This amounts to 30 hours per week per tutor, assuming that tutors can be efficiently divided among the statewide population of AGR students. Although 1,050 hours is the minimum hours allowable, it is likely an overestimate of available hours when accounting for tutors' other work responsibilities, sick and vacation time, and school events such as field trips.

Literature Review – Tutoring Impacts and Intensity

For our second step, we turn to the research literature for estimates of tutoring impacts and the hours needed to achieve those impacts. Specifically, we use estimates from Nickow et al. (2020), a meta-analysis of tutoring programs. We chose this study as a basis for our estimates, as opposed to the What Works Clearinghouse or individual tutoring studies, because the meta-analysis selects studies to meet a consistent definition of a tutoring intervention, includes only studies using randomized controlled trials with test score outcomes, excludes studies without an untreated control group, and computes comparable effect sizes in standard deviation units.[24]

Using the studies reviewed in Nickow et al., we separately considered impacts for math and reading. Within each subject, we attempted to focus on studies that mimic the AGR environment of one-to-one tutoring by a licensed teacher during school hours for grades K–3, but ultimately also included tutoring programs using paraprofessionals (continuing to limit studies to one-to-one tutoring during the school day for grades K–3. For math, we made this decision because Nickow et al. do not include enough studies of one-to-one tutoring with teachers. For reading, the majority of studies of one-to-one tutoring with teachers involved Reading Recovery, a program that has shown detrimental long-term impacts on student reading achievement.[25] We excluded studies of Reading Recovery, which necessitated the inclusion of paraprofessional tutoring programs.

23 See Wisconsin Statute 121.02(1)(f), available at https://docs.legis.wisconsin.gov/statutes/statutes/121/II/02/1/f

24 Nickow, A., Oreopoulos, P., & Quan, V. (2020). The impressive effects of tutoring on prek–12 learning: A systematic review and meta-analysis of the experimental evidence (NBER Working Paper No. 27476). https://www.nber.org/papers/w27476

25 May, H., Blakeney, A., Shrestha, P., Mazal, M., & Kennedy, N. (2023). Long-term impacts of reading recovery through 3rd and 4th grade: A regression discontinuity study. *Journal of Research on Educational Effectiveness, 17*(3), 433–458. https://doi.org/10.1080/19345747.2023.2209092

Studies differed in the number of weeks each program was administered. To generalize from these differing time spans, we assume that differences in test score growth between the treatment and control groups would be similar if the tutoring program, and thus the interval between pretest and posttest, were expanded to a full year. To ensure that the research literature supports this assumption by matching the program length and testing interval, for each study we considered we ensured that its tutoring program administered a pretest and posttest immediately before and after the tutoring program.

From the studies included in our analysis (Tables 5 and 6 below), we determined a range of potential impacts for both reading and math. To do so, we approximated the mean impact of the relevant studies along with one standard deviation above and below that mean. For reading, we chose 0.25, 0.55, and 0.85 standard deviations. For math, we chose 0.20, 0.35, and 0.50 standard deviations.

We then used the same studies to determine the intensity of tutoring—the hours necessary to achieve test-score impacts. For reading, we use an intensity of 2 hours per week (30 minutes per day for 4 days), while for math we use 1.5 hours per week (30 minutes per day for 3 days). Dividing these intensities into total tutoring hours in a week (30, calculated above), we find that each reading tutor can serve 15 students per week, while each math tutor can serve 20 students per week. This implies that reading tutors can serve 15 students per year and math tutors can serve 20 students per year, again assuming that tutors must serve those students throughout the school year to achieve the desired impacts.

Table 5: Relevant Literacy Studies from Nickow et al. (2020)

STUDY	TYPE	DURING SCHOOL	RATIO	EFFECT SIZE	SAMPLE	GRADE(S)	INTENSITY
Allor & McCathren (2004)	Paraprofessional	Yes	1:1	0.41	248	1	20 minutes, 3 days/week
Blachman et al. (2004)	Teacher	Yes	1:1	0.77	69	2–3	50 minutes, 5 days/week
Borman et al. (2019)	Teacher	Yes	1:1	0.55	132	1	30 minutes, 5 days/week
Fuchs et al. (2019)	Paraprofessional	Yes	1:1	0.70	84	1	45 minutes, 3 days/week
Fuchs et al. (2019)	Paraprofessional	Yes	1:1	0.71	84	1	45 minutes, 3 days/week
Fuchs et al. (2008)	Teacher	Yes	1:1	0.76	35	3	30 minutes, 3 days per week
Lane et al, (2009)	Paraprofessional	Yes	1:1	0.55	43	1	40 minutes, 4 days/week
Lane et al. (2009)	Paraprofessional	Yes	1:1	0.72	43	1	40 minutes, 4 days/week
Lane et al. (2009)	Paraprofessional	Yes	1:1	0.79	43	1	40 minutes, 4 days/week
Lane et al. (2009)	Paraprofessional	Yes	1:1	0.98	43	1	40 minutes, 4 days/week
Vadasy et al. (2006A)	Paraprofessional	Yes	1:1	0.49	67	K	30 minutes, 4 days/week
Vadasy et al. (2006B)	Paraprofessional	Yes	1:1	0.38	21	2–3	15–20 minutes, 3–4 days/week
Vadasy & Sanders (2008)	Paraprofessional	Yes	1:1	0.29	59	K	30 minutes, 4 days/week
Vadasy & Sanders (2010)	Paraprofessional	Yes	1:1	0.68	148	K	30 minutes, 4 days/week
Vadasy & Sanders (2011)	Paraprofessional	Yes	1:1	0.33	187	1	30 minutes, 4 days/week
Wolff (2011)	Teacher	Yes	1:1	0.10	112	3	40 minutes, 5 days/week
Young et al. (2018)	Paraprofessional	Yes	1:1	0.17	38	1–3	20 minutes, 3 days/week
Young et al. (2018)	Paraprofessional	Yes	1:1	0.44	38	1–3	20 minutes, 3 days/week

Note: Studies listed more than once contained multiple treatment arms. Results are reported separately for each relevant arm.

Table 6: Relevant Math Studies from Nickow et al. (2020)

STUDY	TYPE	DURING SCHOOL	RATIO	EFFECT SIZE	SAMPLE	GRADE(S)	INTENSITY
Fuchs et al. (2009)	Paraprofessional	Yes	1:1	0.13	90	3	25–30 minutes, 3 days/week
Fuchs et al. (2009)	Paraprofessional	Yes	1:1	0.49	90	3	25–30 minutes, 3 days/week
Fuchs et al. (2010)	Paraprofessional	Yes	1:1	0.61	100	3	20–30 minutes, 3 days/week
Fuchs et al. (2013)	Paraprofessional	Yes	1:1	0.32	399	1	30 minutes, 3 days/week
Fuchs et al. (2013)	Paraprofessional	Yes	1:1	0.47	399	1	30 minutes, 3 days/week
Powell & Driver (2015)	Paraprofessional	Yes	1:1	0.19	63	1	10–15 minutes, 3 days/week
Powell & Driver (2015)	Paraprofessional	Yes	1:1	0.35	63	1	10–15 minutes, 3 days/week
Powell et al. (2009)	Paraprofessional	Yes	1:1	0.15	67	3	15–25 minutes, 3 days/week
Powell et al. (2009)	Paraprofessional	Yes	1:1	0.50	67	3	15–25 minutes, 3 days/week
Powell et al. (2009)	Paraprofessional	Yes	1:1	0.53	67	3	15–25 minutes, 3 days/week
Powell et al. (2015)	Paraprofessional	Yes	1:1	0.33	33	2	10–15 minutes, 3 days/week
Powell et al. (2015)	Paraprofessional	Yes	1:1	0.97	33	2	10–15 minutes, 3 days/week

Note: Studies listed more than once contained multiple treatment arms. Results are reported separately for each relevant arm.

Calculating Maximum Impacts

Finally, we calculate the maximum impact on AGR tutoring impacts by first calculating total, statewide test score gains (the impacts from the research literature, in standard deviations, multiplied by the total number of students served), then dividing that number by total AGR students.

For further detail on the methodology explained above, please contact the authors.

Appendix B: Implementation Interview Protocol

Thank you for agreeing to talk to me today. I am part of a group working with DPI to study the AGR program in schools in Wisconsin. We would like to understand how schools implement AGR, what impact AGR has had on K–3 students, the conditions that allow AGR to be successful, and any challenges you might have that are prohibiting further success.

Your participation in this interview is voluntary. Nothing you say will be connected to your name or any identifiable information in reports, including the name of your school. With your consent, I would like to record the interview to help us accurately collect what you say. The recording will be destroyed after we write up the summary report. We expect this interview to last about 45 minutes to 1 hour. Are there any questions?

Introduction

To get some context, I have a few questions about you and your school.

1. Tell me a little about yourself. What is your background?
    a. How long have you been a principal at this school?
2. How would you describe your school community?

AGR Program Effectiveness and Implementation

(For these questions, the interviewer will have data on the school's previous replies to the End-of-Year and School Board Reports.)

I'd like to hear what you think about AGR in your school.

3. In your opinion, is the AGR program impactful for your school, particularly regarding impacts on math and reading growth?
    a. If yes, why do you think AGR is impactful for your school?
4. To implement the AGR program, which AGR strategies do you use in each grade (class-size reduction/instructional coaching/1-1 tutoring)?

AGR Strategies, Conditions for Success, and Challenges

Next, I'm going to ask you about each of your school's AGR strategies.

If the school uses class-size reduction:

5. What conditions do you think are important for AGR class-size reduction to be successful for improving student achievement?
    a. Why are those conditions [CAN NAME THEM AS A GROUP OR INDIVIDUALLY] important for success?
    b. [For each relevant condition] How have you developed/made sure [condition] is in place in your school? *[Note: this question might need revision based on conditions provided.]*
6. What challenges can prevent AGR class-size reduction from improving student achievement?

If the school uses instructional coaching:

7. What conditions do you think are important for AGR instructional coaching to be successful for improving student achievement?
    a. Why are those conditions [CAN NAME THEM AS A GROUP OR INDIVIDUALLY] important for success?
    b. [For each relevant condition] How have you developed/made sure [condition] is in place in your school? *[Note: this question might need revision based on conditions provided.]*
8. What challenges can prevent AGR instructional coaching from improving student achievement?
9. What advice would you give to other schools trying to implement instructional coaching as part of AGR?

If the school uses 1-1 tutoring:

10. What conditions do you think are important for AGR tutoring to be successful for improving student achievement?
    a. Why are those conditions [CAN NAME THEM AS A GROUP OR INDIVIDUALLY] important for success?
    b. [For each relevant condition] How have you developed/made sure [condition] is in place in your school? *[Note: this question might need revision based on conditions provided.]*
11. What challenges can prevent AGR tutoring from improving student achievement?
12. What advice would you give to other schools trying to implement instructional coaching as part of AGR?

AGR Suggestions for Improvement

13. Overall, or related to any of the particular strategies, how could AGR be better implemented?
    a. At your school?
    b. Program-wide?
14. What would you want to know from the evaluation of AGR?

K–3 Additional Programs and Practices

15. Are there other programs or practices that your school is using in Grades K–3 to make your students successful, particularly in regard to math and reading growth or closing the achievement gap?

Those are all the questions I have for you today. Is there anything else you would like to add about the AGR program that you think would be useful to know? Thank you for your time today.