
Segregation within Schools: Unequal Access to AP Courses by Race and Economic Status in Virginia



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Introduction

In 2016, a student-led advocacy organization called IntegrateNYC set about reclaiming the three Rs—moving past the standard reading, (w)riting, and ‘rithmetic to a systemic demand for “real integration.” The reimagined R’s, listed below, offer a full portrait of school integration, one that focuses both on bringing a diverse group of students into the same school together, and then on successfully leading, teaching and learning in diverse schools and classrooms.

- Racial integration: Who’s in your school?
- Resource allocation: What’s in your school?
- Relationships across group identity: How do people in your school relate to one another and their differences? How do students and teachers learn to build across difference?
- Restorative justice: Who is punished in your school and how?
- Teacher representation: Who teaches and leads in your school?¹

The new Rs have taken hold in contemporary national conversations about school diversity and amplify earlier legal standards governing court-ordered desegregation cases.

The other briefs in this series on school segregation in Virginia focus on the drivers and nature of segregation *between* schools. This one focuses mainly on segregation *within* schools, drawing on both the resource allocation “R” and the relationships across group identity “R,” in the form of access to Advanced Placement (AP) courses. At the same time, as the new Rs also remind us, it’s important to seek out (and remedy) the complete picture, to see that access to higher level coursework is distributed unevenly across schools, not just across classrooms that vary by racial/ethnic and economic composition.² A recent study explored the relationship between these two forms of segregation for white and Black students, and white and Latinx students, drawing on detailed North Carolina school administrative data over an 18-year period. Researchers found a covarying relationship, meaning that when segregation between classrooms in the same school was high, segregation between schools in the same system was low. The reverse was true, too, so that when segregation between schools was high, classroom segregation within schools was low.³ These findings, along with the 5 R’s of real integration, underscore the need to think comprehensively about school segregation, attending to first-generation segregation, or

1. Integrate NYC, <https://integratenyc.org/mission>.

2. “Better Use of Information Could Help Agencies Identify Disparities and Address Racial Discrimination,” *United States Government Accountability Office* (GAO) Report, 2016, <https://www.gao.gov/assets/680/676745.pdf>; Duncombe, C. & Cassidy, M. (2016 November). Increasingly separate and unequal in U.S and Virginia schools. Richmond, VA: The Commonwealth Policy Institute, <https://www.thecommonwealthinstitute.org/2016/11/04/increasingly-separate-and-unequal-in-u-s-and-virginia-schools/>

3. Charles Clotfelter, Helen Ladd, Calen R. Clifton, Mavzuna R. Turaeva. (2020). School segregation at the classroom level in a southern “new destination” state. CALDER Working Paper No. 230-0220-3. Evidence from North Carolina also indicated that segregation was highest between Latinx and white students, relative to white and Black students, in a Southern state termed a “new destination” for immigrants. This trend bears close watching.

the separation of students into separate schools and districts, *and* second-generation segregation, or the separation of students into separate classrooms within schools.⁴

Stakeholders in racially and economically diverse schools often find numerous ways to sort students into different classrooms—or groups within classrooms. This racialized sorting can take the form of ability grouping, Gifted and Talented or other Special Education programs, or tracking into higher-level coursework like AP classes in secondary schools. In short, enrolling students in the same building doesn't mean an end to opportunity hoarding, especially when it comes to racially or economically advantaged groups attempting to control access to key internal resources like engaging curricula or experienced teachers.

The following research brief examines one aspect of second-generation segregation, racially and economically equitable access to higher-level coursework, specifically Advanced Placement (AP) classes. Access to AP coursework matters for several reasons. First, the curriculum is widely viewed as rigorous, garnering students additional weights for their Grade Point Averages (GPAs). Those weights, in turn, may ease access to postsecondary education, a key gateway to upward mobility. Successfully passing AP tests (a dimension we do not explore here) also earns students college credit, an important benefit for families, particularly from lower-income backgrounds, as it can defray the climbing costs of higher education.⁵

Though deeply important, equitable access to AP courses confronts numerous barriers. These roadblocks include, but are not limited to, educator bias and/or inexperience, student stereotype threat, racially and economically disparate family lobbying for student placement in AP, prerequisite requirements, potential family costs if a student wants to take the exam, district costs of offering more AP courses and, relatedly, school-level racial and economic segregation.⁶

4. Roslyn Mickelson (2015). The cumulative disadvantages of first- and second-generation segregation for middle school achievement. *American Educational Research Journal* 52(4), <https://doi.org/10.3102/0002831215587933>

5. Theokas, C., & Saaris, R. (2013). Finding America's missing AP and IB students. Education Trust. Retrieved from: https://edtrust.org/wp-content/uploads/2013/10/Missing_Students.pdf; Cisneros, J., Holloway-Libell, J., Gomez, L., Corley, K., & Powers, J. (2014). The Advanced Placement opportunity gap in Arizona: Access, participation, and success. *AASA Journal of Scholarship & Practice*, 11(2), 20-33. Retrieved from: <https://eric.ed.gov/?id=EJ1034806>; Martinez, J., Sher, K., Krull, J., & Wood, P. (2009). "Blue-collar scholars?": Mediators and moderators of university attrition in first-generation college students. *Journal of College Student Development*, 50(1), 87-103.

6. For detailed overview, see section on barriers in Naff, D., Parry, M., Ferguson, T., Palencia, V., Lenhardt, J., Tedona, E., Strotter, A., Stripling, T., Lu, Z., & Baber, E. (2021). Analyzing Advanced Placement (AP): Making the Nation's Most Prominent College Preparatory Program More Equitable. Richmond, VA: Metropolitan Educational Research Consortium. See also, Rowland, M.L. & Shircliffe, B. (2016). Confronting the "Acid Test": Educators' Perspectives on Expanding Access to Advanced Placement at a Diverse Florida High School. *Peabody Journal of Education* 91:3, 404-420.

Summary of key findings

Compared to overall K12 enrollment in Virginia, white and Asian students are overrepresented in the number and share of students taking one or more AP courses, while Black and Latinx students are underrepresented.

Economically Disadvantaged (ED) students are about four times less likely to take AP courses (18.7%) compared to their non-Economically Disadvantaged (NED) peers (81.3%).

White NED students (50.6%) are ten times more likely to take AP courses than their white ED peers (5.1%) and Asian NED students (12.1%) are six times more likely than their Asian ED peers (2.6%).

The number and share of high school students from different racial/ethnic backgrounds enrolled in AP varies somewhat by whether a student is enrolled in an urban, suburban or rural system, indicating that access to higher level coursework like AP is partly related to where students live and attend school.

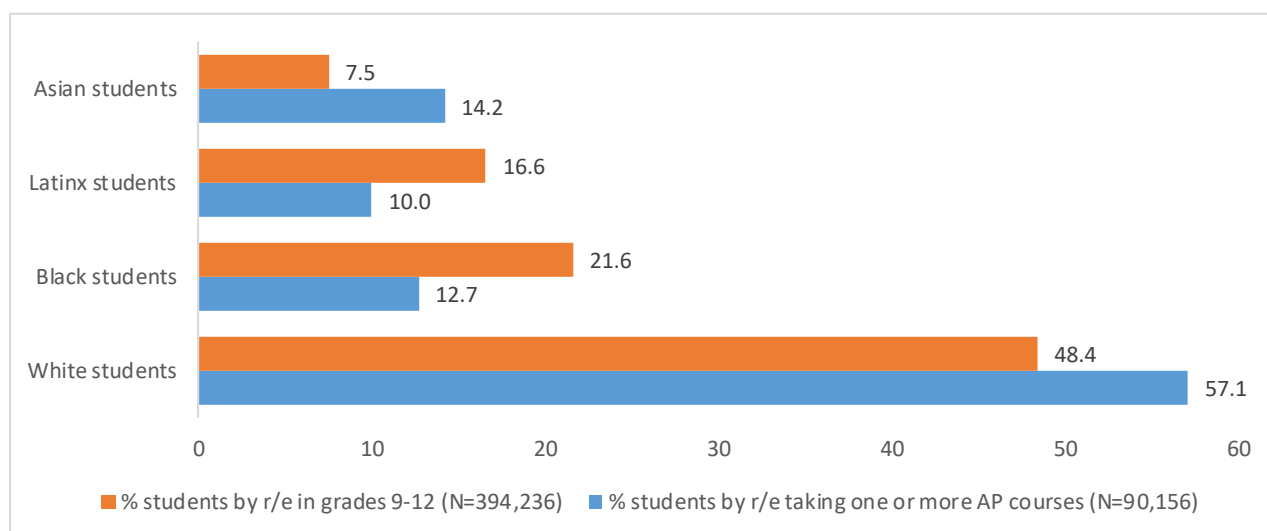
Virginia students of all races/ethnicities in overwhelmingly white and Asian schools of concentrated affluence are the most likely to take AP courses relative to other types of schools.

Racial/ethnic disparities in access to AP are still pervasive in overwhelmingly white and Asian schools of concentrated affluence: about 15% of Black secondary students in these schools enroll in AP, compared to about 28% of Latinx students, 30% of white students, and 50% of Asian students.

Distribution of Advanced Placement students by race/ethnicity and economic status

Compared to overall K12 enrollment in Virginia, white and Asian students are heavily overrepresented in the number and share of students taking one or more AP courses, while Black and Latinx students are heavily underrepresented (Figure 1). At one end of the spectrum, Asian students make up 14.2% of the AP enrollment but only 7.5% of the high school enrollment, while at the other, Black students constitute just 12.7% of the AP enrollment; but 21.6% of the high school enrollment.

Figure 1. Students taking one or more AP courses by race/ethnicity, 2018



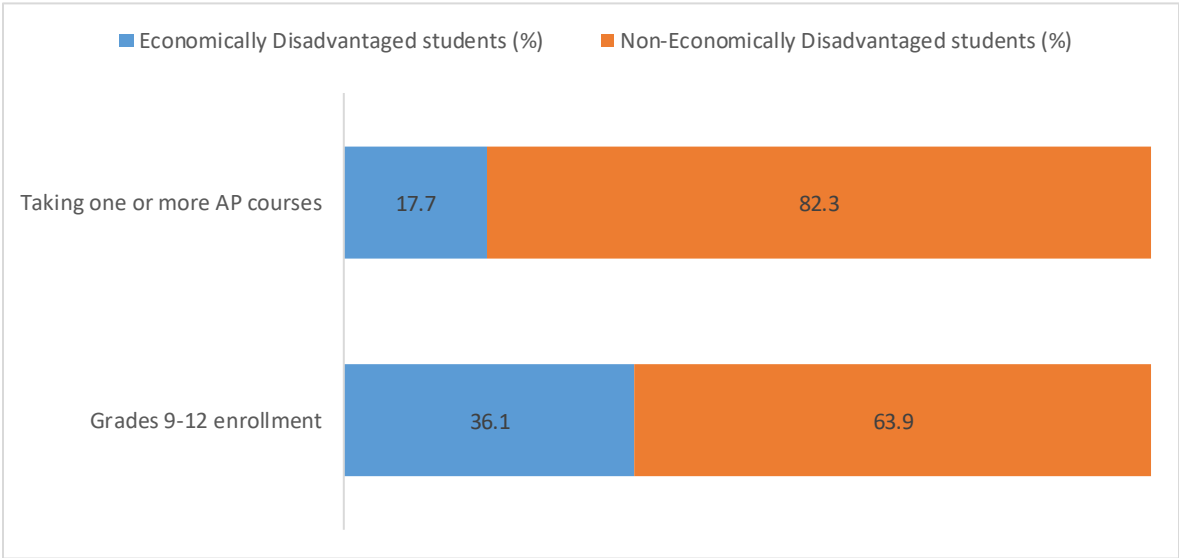
Source: Virginia Department of Education, NCES' Common Core of Data.

In terms of socioeconomic status, Economically Disadvantaged (ED)⁷ students are far less likely to take AP courses in Virginia compared to their non-Economically Disadvantaged (NED) peers (Figure 2). Data is not often collected or disaggregated this way publicly, and it shows deep disparities in access to AP by economic status of a student's family even as the overall share of low income students is growing in Virginia. ED students are half as likely as NED students to take an AP course relative to their share of the K12 enrollment and about four times less likely to take AP courses (18.7%) compared to their non-Economically Disadvantaged peers (81.3%). Another way of thinking about the issue: about 12% of all ED high school students take AP courses, in contrast to about 30% of NED high school students.⁸

7. A student is economically disadvantaged if the student: is eligible for Free/Reduced Meals, receives TANF, or is eligible for Medicaid. If the student is identified as experiencing homelessness or becomes identified as migrant, at any point during the school year, the student is automatically identified as Disadvantaged and is also eligible for the Free and Reduced Meals Program.

8. Data not shown here, contact authors for more detail.

Figure 2. Students taking one or more AP courses by economic status, 2018

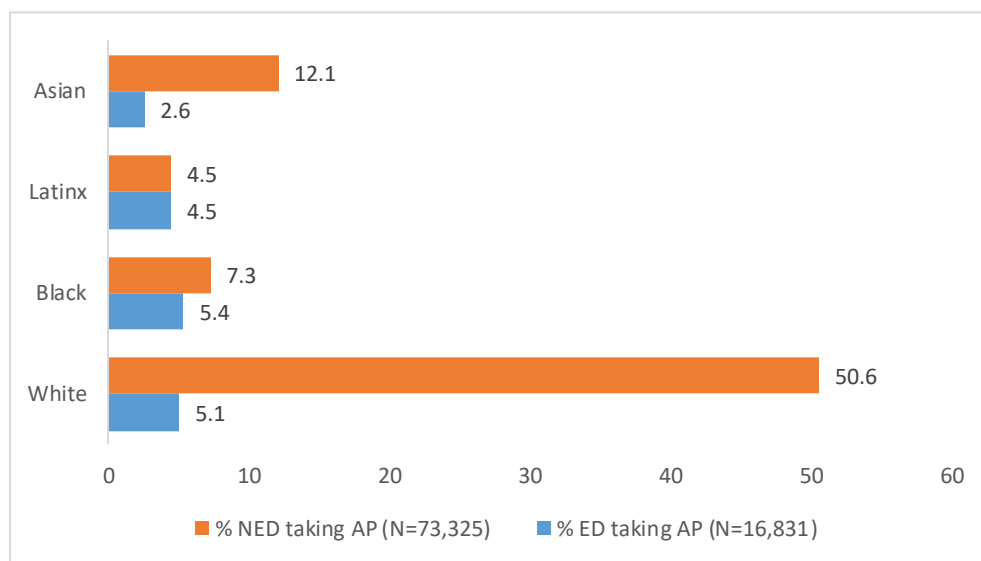


Source: Virginia Department of Education.

For the two racial groups most overrepresented in AP course-taking, white and Asian students, sharp socioeconomic differences defined access to AP classes (Figure 3). White NED students are ten times more likely to take AP courses than their white ED peers and Asian NED students are six times more likely than their Asian ED peers. NED students identifying as two or more races were five times more likely to gain access to AP courses than their ED peers, similar to trends for Asian students. These differences within racial groups likely account for the wide socioeconomic disparities in access to AP courses in Virginia and may relate to racial and economic patterns of enrollment by locale highlighted below (e.g., white ED students disproportionately enroll in rural Virginia schools, which may offer fewer AP courses on average).

Much smaller variations in access emerged between Black ED and NED students, though we also know that Black students as a whole had much lower access to AP courses than white or Asian groups. Black NED students represented 7.3% of students taking AP courses and Black ED students represented 5.4%. Latinx ED and NED comprised the same low shares of students taking AP, 4.5%, with no reported differentiation in access by economic status. It may be that [Black and Latinx NED and ED students were more likely to be in schools with similar resources, on average, relative to their Asian and white NED and ED peers](#). In other words, overall access to AP courses for Black and Latinx students, regardless of income, was more related to segregation between schools rather than within them (see Table 3 below). Finally, it’s worth again noting that much smaller numbers of ED students take AP courses (16,831) compared to their NED counterparts (73,325).

Figure 3. Racial/ethnic and economic status of students taking one or more AP courses, 2018



Source: Virginia Department of Education.

The above trends were derived from data requested from the Virginia State Department of Education for the 2018-2019 school year. We explore publicly available federal civil rights data from 2017 in the next section, using it to understand the probability of AP enrollment for the four major racial/ethnic groups, along with access to AP by locale and school type.

Probability of Advanced Placement enrollment by race/ethnicity

Nearly half of Virginia's Asian high school students enrolled in at least one AP course in 2017, by far the highest share of racial/ethnic groups analyzed (Table 1). Just over a quarter of white high school students enrolled in an AP course in the state, followed by 17% of Latinx students and about 13% of Black high school students.

Table 1: Percentage of high school student racial/ethnic group enrolled in AP course(s), 2017

White	Black	Hispanic	Asian
53,508 (26.9%)	11,325 (13.1%)	9,079 (17.2%)	12,276 (48.5%)

Source and notes: Civil Rights Data Collection Enrollment in AP Courses and Enrollment Demographics. Nine alternative schools were excluded from the analysis. These included two regional/alternative centers, Blandford, Empowerment Academy, Center for Community Learning, Bridgeport Academy, Hampton Performance Learning Center and the Transition ESOL Learning Center. Percentages reflect the share of secondary students in a racial/ethnic group that take AP courses.

The number and share of high school students enrolled in AP varies somewhat by Virginia locale, with city and suburban high schoolers about equally likely to enroll in AP (roughly 26% for both cities and suburbs) and rural high school students somewhat less likely to enroll in AP (about 18.6%) (Table 2). These trends play out across student racial/ethnic backgrounds too. White secondary students are overrepresented across all locales and are more likely to enroll in AP courses if they reside in cities or suburban areas, and less likely to do so if they live in towns or rural areas. Given what we know about the underrepresentation of Economically Disadvantaged students in AP, some of this likely corresponds with white rural poverty in Virginia. Prior research indicates that small rural schools have the lowest average number of AP course offerings and, more generally, that rural school administration offers mixed levels of support for the pursuit of postsecondary education.⁹

As with the overall numbers, Black students are about equally likely to enroll in AP courses in city and suburban locales, while, as a percentage, Latinx students are more likely to enroll in AP courses if they live in cities, towns or rural areas but substantially less likely to do so in suburban ones. Both Black and Latinx students are underrepresented in these locales compared to the overall AP enrollment rates. The same holds true for Asian students, though the actual numbers of Asian and Latinx students enrolled in AP are by far the highest in suburban locales. Suburban schools are most likely to offer AP classes, according to other studies, but also report racially disproportionate patterns of course-taking.¹⁰

Table 2: Percentage of racial/ethnic group enrolled in AP by locale in Virginia, 2017

	White	Black	Hispanic	Asian	Total AP
City	11,380 (37.7%)	4,430 (14.7%)	2,260 (20.4%)	1,733 (48.6%)	21,221 (26.7%)
Suburban	25,233 (31.1%)	4,806 (14.6%)	5,022 (15.3%)	8,674 (45.6%)	46,337 (26.4%)
Town and Rural	16,895 (19.3%)	2,089 (9.0%)	1,797 (20.3%)	1,869 (68.8%)	23,788 (18.6%)

Source and notes: Civil Rights Data Collection Enrollment in AP Courses; NCES' Common Core of Data. Nine alternative schools were excluded from the analysis. The percentages reflect the share of students in a race/ethnic group that take AP courses by locale. Locale is defined by NCES based on a school's physical location and in tandem with the U.S. Census.

Virginia students of all races/ethnicities enrolled in schools of concentrated racial and economic advantage (less than 25% of students were eligible for Free and Reduced Priced Lunch (FRL) and less than 25% were Black and Latinx) are the most likely to take AP courses relative to other types of schools, con-

9. Kryst, E., Kotok, S. & Hagedorn, A. (2018). Pursuing Higher Education in Rural Pennsylvania Schools: Shaping the College Path. *The Rural Educator*, 39(1), <https://doi.org/10.35608/ruraled.v39i1.211>. Theokas & Saaris 2013

10. Ibid. Amanda Lewis & John Diamond (2015). *Despite the best intentions: How racial inequality thrives in good schools*. New York, NY: Oxford University Press.

sistent with prior literature (see second to last row of Table 3).¹¹ Racial/ethnic disparities are still pervasive in schools of concentrated advantage: about 15% of Black secondary students in these schools enroll in AP, compared to about 30% of all students, 28% of Latinx students, 30% of white students, and 50% of Asian students. Numbers rather than percentages in this same category of schools also tell an important story of inequitable access to AP. More than 6,000 White students enrolled in AP courses in schools of concentrated racial and economic advantage, in contrast to between 200 and 350 Black, Latinx and Asian students. These low numbers likely reflect two dimensions of educational inequality—unequal access to schools of concentrated racial and economic advantage and then, if Black students do gain access at the school level, unequal access to coursework at the classroom level.¹²

At the other end of the spectrum, students of all races and ethnicities were much less likely to enroll in AP courses if they attended schools of concentrated racial and economic *dis*advantage (last row of Table 3). Racial disparities were not nearly as stark within these schools, however. About 11% of Black students enrolled in AP courses in high schools that were more than 75% Black and Latinx and where more than 75% were FRL-eligible. This was similar to the overall number for students in these settings (12%), higher than the figure for Latinx students in these schools (about 7%), but lower than for white (15%) and Asian (18%) students.

Looking just at racial concentrations in schools, we see that white isolated settings, where more than 75% of students are white, enroll significantly lower overall shares of students (16.7%) in AP than schools of concentrated racial and economic advantage (29.9%) (first row and second to last row of Table 3, respectively). This likely reflects lower access to AP courses in Virginia’s rural schools that serve high shares of Economically Disadvantaged white students ([see race/poverty brief](#)).

Absent consideration of the racial/ethnic makeup, poverty isolated schools, where more than 75% of students qualified for FRL, serve the lowest shares of high school AP students of any race/ethnicity with the exception of Asian students. Somewhat higher shares of Asian students enrolled in AP courses in poverty isolated schools (27.1%) than in nonwhite isolated schools (22.4%) which may reflect a higher degree of Asian enrollment in whiter, rural schools of concentrated poverty. The latter dovetails with high Asian AP enrollment (41.9%) in white isolated schools.

11. Douglas Gagnon and Marybeth Mattingly (2016). Advanced placement and rural schools: Access, success and exploring alternatives. *Journal of Advanced Academics* 27(4), <https://doi.org/10.1177/1932202X16656390>

12. Clotfelter et al 2020; Lewis & Diamond, 2015.

Table 3. AP enrollment in racially and economically isolated high schools in Virginia, 2017

	White	Black	Hispanic	Asian	Total AP Students in School
White Isolated (>75% white)	11,173 (16.7%)	408 (10.4%)	581 (17.9%)	450 (41.9%)	75,147 (16.7%)
Nonwhite Isolated (>75% Black/Latinx)	353 (15.7%)	1,749 (11.2%)	430 (9.3%)	132 (22.4%)	18,916 (14.1%)
Poverty Isolated (>75% FRL)	290 (12.3%)	894 (10.1%)	101 (8.6%)	36 (27.1%)	11,459 (9.2%)
Concentrated Racial and Economic Advantage (<25% Black/Latinx, <25%FRL)	6,275 (30.3%)	202 (15.4%)	355 (28.3%)	315 (49.8%)	23,908 (29.9%)
Concentrated Racial and Economic Disadvantage (>75% Black/Latinx, >75% FRL)	128 (14.7%)	794 (10.8%)	67 (7.7%)	10 (17.9%)	8,365 (11.9%)

Source and notes: Civil Rights Data Collection Enrollment in AP Courses; NCES' Common Core of Data. Nine alternative schools were excluded from the analysis. Advantaged schools were those that had less than 25% poverty and over 75% white enrollment and disadvantaged schools were those that had more than 75% poverty and over 75% black/Hispanic enrollment. The percentage reflects the share of students by school type that are enrolled in AP courses.

Conclusion

This brief reveals extensive racial/ethnic and socioeconomic gaps in AP course-taking among Virginia's high school students. These gaps are related to numerous barriers to access that include facets of both first- and segregation-generation integration. For instance, in terms of second-generation segregation, wide racial disparities in AP course-taking exist even in the most racially and economically advantaged Virginia schools. At the same time, as evidence of first-generation segregation, Black and particularly Latinx students in these doubly advantaged schools are more likely to take AP courses in comparison to their peers in more racially and economically segregated schools.

Though AP course-taking is just one component of within-school segregation, among myriad others, findings from this brief suggest much work ahead to begin to ameliorate inequities.¹³

We offer a set of initial recommendations based on our findings below.

- VDOE, school divisions and local high schools should annually collect and publicly report AP course offerings, enrollment and exam outcomes by race, economic disadvantage *and* race and economic disadvantage. The work of expanding access to AP classes cannot fully begin until stakeholders have a sense of the scope of the problem in local divisions.
- Robust data collection should be accompanied by routine monitoring and planning for improvement (e.g., teacher training, shifting mindsets about AP, active recruitment of under-represented students into the program) at the school and district level. See VDOE's recent resources related to Navigating Ed Equity for more information about equity improvement processes: <https://www.doe.virginia.gov/edequityva/navigating-equity-book.pdf>
- Educational leaders should nurture understanding about educational inequities within and between schools through regular discussion of the data and critical reading groups. Amanda Lewis and John Diamond's *Despite the Best Intentions: How Racial Inequality Thrives in Good Schools* (2015) is one recommendation for jumpstarting these conversations. Done well, research shows that critical reading groups can shift white educators' understanding of racial inequality in schools.¹⁴
- Schools and divisions should expand access to AP courses and other higher-level classes by eliminating the lowest academic track in schools and actively working to enroll all students in high-

13. Note to the reader: VCU's MERC is in the middle of a large-scale study of equitable access to advanced coursework (which includes but goes beyond AP) in central Virginia. Extensive literature reviews are already available on access to Gifted and Talented and AP. See https://scholarscompass.vcu.edu/merc_pubs/121/. The federal government also released a 2016 report that focused in part on access to advanced coursework (GAO 2016).

14. Van Lac, John Diamond & Maria Velazquez (2019). "The onus is on us:" How white suburban teachers learn about racial inequities in a critical book study. *Equity and Excellence in Education* 53(1/2), <https://doi.org/10.1080/10665684.2020.1758976>.

er-level coursework. This requires appropriate training for teachers and additional support for students.¹⁵

- Virginia should expand access to AP exams by providing full financial support to low-income students for exam fees.¹⁶
- Because recent research suggests that higher levels of within-school, or second-generation, segregation tend to accompany progress on reducing between-school, or first generation, segregation, any shifts to student assignment policies that seek to address first-generation segregation must also include a plan to address second-generation segregation.

This last recommendation underscores the fact that working toward comprehensive school integration is a multi-faceted and continuous process. Addressing racially and economically inequitable access to key school resources, including challenging curricula, is imperative alongside efforts to reduce between-school segregation.

15. Burris, C. & Welner, K. (2005). Closing the achievement gap by detracking. *Phi Delta Kappan* 86(8), 594-598.

16. Federal and state AP exam fee assistance, <https://apcentral.collegeboard.org/exam-administration-ordering-scores/ordering-fees/exam-fees/federal-state-assistance>

About the authors

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About the Center for Education and Civil Rights

The Center for Education and Civil Rights seeks to be a hub for the generation of knowledge and coalition-building among the education and civil rights communities to promote research-based actions that address the complicated nature of racial and ethnic inequality in the 21st century. The Center's collective work is intended to promote equity across the educational pipeline by supporting efforts that facilitate integration through an inter-disciplinary approach. The Center is directed by Erica Frankenberg. For more information, see www.cecr.ed.psu.edu or follow us on Twitter ([@psu_civilrights](https://twitter.com/psu_civilrights)).