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Opportunity for All: An Analysis of Equality and Equity in Advanced Placement Programming in a US High School

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Abstract **– African American and Hispanic students are underrepresented in AP programs at the state and national level, and they often achieve significantly lower scores on AP exams than any other subgroup (College Board, 2014). Inequality of access to AP courses and inequity in outcomes on AP exams have a harmful effect for students, including reduced enrollment and completion of college programs. Through the use of the critical race theory (CRT), the authors investigate how race impacted access and outcomes in AP courses/tests of the African American and Hispanic students enrolled at Tower High School in the Northeast region of the United States. The researchers recommend the application of an equity guide to assist administrators with evaluating equality and equity in school programs.**

Keywords **– Equity, Equality, Access, Outcomes, Advanced Placement.**

I. INTRODUCTION

In an ideal world, all children are ensured that they receive an education that prepares them for global citizenry. This claim, however, does not apply to African American and Hispanic students, particularly those interested in Advanced Placement (AP) courses in the United States (US). AP courses provide students with an introduction to the rigor of college courses and are an early predictor of collegiate success (College Board, 2006). Traditionally, most AP program participants have been concentrated in high schools in affluent, predominantly White suburbs (Theodore Cross Family Charitable Foundation, 2010). Yet, Students of Color in racially integrated suburbs are not reaping the benefits of attending schools with more AP course offerings. The international significance of this topic is important, as well.

AP courses are now available worldwide in more than 100 nations, and AP courses are also in an important factor in college admissions in over 60 nations spanning some 600 universities (College Board, 2006). Attention must be given to this issue: are AP offerings promoting *equality*, in terms of which students have access to them, and are all students performing at *equitable* levels in these critical collegiate preparatory courses?

The present inquiry explores these social justice matters by employing two measures:

1. **Equality of access,** or how representative are AP enrollments compared to the racial/ethnic make-up of the school, district and/or state.
2. **Equity of outcomes,** or when comparing different student subgroups, how disparate are AP program outcomes such as course final grades and passing rates on AP exams.

These two equity measures are designed to provide accessible data analysis methods, and measures of access and outcomes related to any school program. The equity guide developed throughout this essay can be applied to any school-based program. But for this inquiry, the authors consider the equity of AP course offerings in a diverse suburban high school in the Northeastern region of the United States. Our goal for this inquiry is to provide equity strategies that educational leaders, parents, and policy makers might employ to examine the equality and equity of AP programming, and to redress forms of injustice.

A helpful, but little used source of accessible and reliable US educational data, is the U.S. Department of Education's (ED) Civil Rights Data Collection (CRDC). For more than a decade, the CRDC has provided national, state, district and school data on key educational and civil rights issues in US public schools. In 2000, the CRDC began to collect data on the broad range of US schools (universities, PreK-12, alternative schools & juvenile justice schooling) to document trends in student enrollment in educational programs and services, disaggregated by race/ethnicity, sex, limited English proficiency and disability.

Nationally, (Office for Civil Rights, 2014) revealed that inequality of access persists in AP enrollment such that "Black and Latino students represent 38% of students in schools that offer AP courses, but 29% of the students enrolled in at least one AP courses" (p. 7). The trends in AP test results also reveal pervasive inequity such that 70.8% of White students pass all AP exams compared to only 20.8% of Black students in the US (Office for Civil Rights, 2014).

Access to a quality education which is linked to positive life outcomes for Hispanic and African American students is not only an issue in large urban districts, but is also the case in towns where one would not believe that such educational discrepancies would exist.

For the present study, we consider Tower High School (pseudonym) in the Northeastern region of the US — a part of the country that is both culturally diverse and affluent, but a region where schools are highly inequitable. In the 2010 United States Census, median income for Black households ($64,159) was larger than White households ($63,624) in Tower City. Despite economic security, their school system boasts some of the greatest racial discrepancies in regards to access and outcomes in their Advanced Placement program. In this school district, the Office for Civil Rights (2014) reports that African-American students comprise 23.2% of students enrolled in

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at least 1 AP course while White students comprise 62.4%. Yet, African American students make up two-thirds of the student body, but barely one-fifth of the students in AP courses. These disparities identified by a national database warrant a deeper examination with local school data.

In this inquiry, Critical Race Theory (CRT) was employed to explore how race impacted access and outcomes in AP courses/tests for students enrolled at Tower High School. CRT begins with the notion that racism is "normal, not aberrant, in American society" (Delgado, 1995, p. xiv), and because it is so enmeshed in the fabric of US social order, it appears both normal and natural to people in this culture (Ladson-Billings, 1998). Unfortunately, education is not shielded from racism but is an expression of, and in many ways a mechanism used to maintain racial inequalities (Ledesma & Calderon, 2015). This CRT analysis also makes explicit concern for marginalized groups, and CRT researchers exhibit a deeply rooted desire to expose, document, and confront injustices limiting opportunities for marginalized student groups. The present inquiry begins with an overview of critical race theory to contextualize a review of relevant literature, then explores successes and lingering disparities in AP access and completion at Tower High School as a case study. Next the researchers detail an equity guide for school leaders, parents and policy makers to aid in the analysis of equality and equity programs in schools.

II. Review of Literature

A. Critical Race Theory

The legacy of racism in the United States creates structural barriers to educational opportunity for African American and Hispanic students, particularly those students attending predominantly White schools and universities (Anderson, 1988; Ladson-Billings & Tate, 1995; Shujaa, 1994). Feelings of an imposed silence, physical isolation, marginality and cultural alienation are common experiences that are exacerbated for students of color at predominantly White schools, and these experiences create a difficult learning environment linked to low academic achievement and low expectations by educators (Author, 2016; Noguera & Wing, 2006).

The role of race in academic settings can be explored using CRT (DeCuir & Dixson, 2004). For the purpose of this chapter, CRT will be used to explain the underrepresentation of African American students in AP courses and exams as discriminatory practices at Tower High School. One of the tenets of CRT, known as the permanence of racism, transcends the lives of students in educational settings. The permanence of race essentially signifies that "racism is a permanent component of American life" (Bell, 1992). Further, CRT posits that no American institution is race-neutral, but they all work to either create, spread, protect or maintain racial inequities in every facet of American life.

American education has a problematic history of racial inequality since its inception (Anderson, 1988) that persist despite ample evidence of its catastrophic consequences to the US opportunity structure (Kozol, 2005). This reality has been confirmed at every level of American education as persistent school-based practices that create, spread, protect and/or maintain racial inequalities in education (Bell-McKenzie & Skrla, 2011; Feagin, Vera, & Imani, 1996; Noguera & Wing, 2006). The end goal of CRT research is to advance principles of multicultural education and social justice through research and advocacy, thereby aiding in leveling opportunities in American schooling.

B. Advanced Placement Courses in the US

Within this context, public schools in the United States face a grave challenge of producing high school graduates who can do college-level work via a system designed to reproduce inequality. The College Board's Advanced Placement (AP) Program is the established benchmark for providing students with the rigor needed to complete work on the college-level by offering students the opportunity to earn college credit while still in high school. Courses offered in the program are more demanding of time and intellectual skill than corresponding courses in the typical high school curriculum (Postsecondary Education Planning Commission, 1988). AP exams are college-level assessments typically administered at the end of the yearlong AP courses. Scores of 3 or higher on a 1-to-5 scale are considered passing because they qualify students for credit at over 600 universities in more than 100 nations.

The AP program began during the 1950s at a handful of elite Northeastern schools and was open to only a tiny subset of students: those considered "gifted," White Americans and economically privileged (Broad Foundation, 2013). Unfortunately, separate and unequal educational practices persist today, and when coupled with long standing racial inequalities in the US legal, political, health and economic systems, has led to the re-segregation of much of American society (Darling-Hammond, 2010). In these two Americas, schools are designed to prepare the majority of White Americans for access to the complete opportunity structure, while people of color are typically groomed for low-level advancement opportunities (Khosrovani & Ward, 2011). For a number of reasons, American educational policy has radically shifted over the past decade to a universal goal of college readiness for all learners (Darling-Hammond, 2010), which has only increased tensions with persistent educational philosophies, policies, and practices aligned with racial and economic inequities (Broad Foundation, 2013).

This new "college for all" era requires a reexamination of all support and preparatory structures so that they might be realigned to alleviate racial and economic disparities that breed inequality and inequity in schooling. Advanced Placement is the most widespread college preparatory opportunity in US high schools; thus, it warrants an equity analysis. Additionally, enrollment in AP courses has nearly tripled since the turn of the 21st century, with 2 million students taking 4 million exams in 2012 and many more students of color and low-income students participating than in any prior decade (Broad Foundation, 2013). According to the College Board, among high school seniors, the number of African-American, Hispanic and Native American exam takers grew from 83,000 in the graduating class of 2002 to 263,000 in the class of 2012

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(Broad Foundation, 2013). However, African American students graduating in 2013 were the most underrepresented group in AP classrooms and the least successful population of AP exam takers (Broad Foundation, 2013).

C. Research Questions

Despite this information, little systematic measures have been adopted to address these matters; this analysis, then, is guided by the following research questions:

1. What are the AP access patterns of Hispanic and African American students at Tower High School (THS)?
2. How representative are AP course enrollments of the cultural diversity of THS?
3. How equitable are AP course outcomes for various racial groups?

III. Methodology

It is important to note that Tower High has four rigid academic tracks: basic, honors, honors plus and AP, most of which are available during the final two years of high school. The researchers were granted access to cohort datasets for the graduating classes of 2011 and 2012 for Tower High School, and conducted interviews with 25 teachers and leaders, and focus groups with close to 250 students. The present inquiry is based upon the dataset only, but findings were triangulated via comparisons with the interviews and focus group results. The dataset was constructed by only considering the 11^{th} - 12^{th} grade academic records for both graduating cohorts. The new combined dataset included a range of information, such as: disciplinary referrals, standardized test results, grade point averages, and enrollment patterns for basic, honors, honors plus and AP courses attempted by each student. The dataset also included outcome data such as graduation status, AP course grades, AP tests results and post-high school outcomes (enrolled in college, employed, etc.).

This allowed for an analysis of combined patterns of course selections by grade level across both cohorts, while controlling for gender and race. Additionally, researchers calculated the average percentages for various student groups within and across the four course tracks during each cohort's junior and senior terms. Also, an average percentage change in students enrolling in at least one AP course was calculated by comparing progress or regression made by the combined cohorts from their junior to senior years. Finally, the percentage of each major gender and racial subgroup taking at least one AP course was compared to that same subgroup's overall percentage of the student body to determine the degree to which subgroups were under or overrepresented in AP access. The importance of these descriptive measures and methods to examine equity are exemplified in Skrla, Bell-McKenzie and Scheurich (2009) *Using Equity Audits to Create Equitable and Excellent Schools*, and within Bell-McKenzie and Skrla (2011) text *Using Equity Audits in the Classroom to Reach and Teach All Students*.

IV. Findings

The findings section is organized as a case study for educational leaders, parents and policymakers. Each research question represents phases of an equity guide. Subsequent to the presentation of results, the equity guide will be summarized and will include insights to help others apply this framework to a variety of other school programs and educational issues.

Research question 1: What are the AP course access patterns for student subgroups at THS?

For this level 1 analysis we disaggregated the student body by race/ethnicity, while controlling for gender. Specific context might warrant including other critical variables such as SES, special education status or native language status. To truly examine equality of access informed by critical race theory, a level 1 analysis must explore intersectionalities like race and gender, race and special education status, and/or race and SES. Local contextual factors should be used to determine which intersectionality cluster to explore. Tables 1-2 detail critical patterns highlighting how accessible AP courses were for the graduating cohorts of 2011 and 2012. According to Tables 1 and 2 every student subgroup enjoyed increased access to AP courses, but not equally. The % change from junior to senior year indicates that female students of all races made greater gains with respect to AP enrollment, ranging from 10.5% increase by African American females to 24% by Latinas. Female students achieved greater raw numbers and higher percentages of females within their cultural groups with at least one AP course, when compared to males. Forinstance,50AfricanAmerican and His panic females took at least one AP course across both cohorts in the 12th grade, which is more than double the number of African and Hispanic American (20) males combined during the same time period.

Table 1. Average % Change from 11^{th}–12^{th} Grade Females with at Least 1AP Course by Race for 2011 & 2012 Combined Cohorts.

Average % and #Females with at least 1 APCourse	*% and #11th Grade*	*% and #12th Grade*	*Average % Change from11th–12th Grades*
Black	18.5%&28	29%&38	+10.5%
Hispanic	15%&5	39%&12	+24%
White	39.5%&34	55%&46	+15.5%

Table 2. Average % Change from 11th – 12th Grade in Males with at Least 1 AP Course by Race for 2011 & 2012 Combined Cohorts.

Average % and # Males with at least 1 AP Course	*% and #11th Grade*	*% and #12th Grade*	*Average % Change from 11th– 12th Grades*
Black	3.5%&6	11%&16	+6.5%
Hispanic	20.5%&5	24%&4	+3.5%
White	28%&31	49%&50	+21%

Further disparities in access are also evident when considering that access to AP courses during junior year

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may have contributed to an 8-fold increase in Latin as (+24%) enrolled in at least one AP course in their senior year as compared to their male cultural peers (+3.5%). So, early access promoted greater overall access. Access pathways to AP seem most disparate for African American males at THS, such that on average during the 2011 and 2012 cohorts 93 out of every 100 Black male students at THS never took a single AP course. These intra-minority group disparities only tell part of the story.

Despite the progress noted above, a higher percentage and number of White students also enrolled in at least one AP course compared to other students. For instance, White male students (21%) enjoyed a three-fold increase in AP enrollment from junior to senior year compared to Black males (6.5%) and close to a seven-fold increase when compared to His panic male students increased enrollment (3.5%). Are access patterns to AP courses among racial and gender subgroups equal at THS? Sadly, the answer is no. The AP opportunity structure appears to be differential at THS, facilitating or limiting access along both racial and gender lines.

Research question 2: How representative are AP course enrollments of the cultural diversity of THS?

This level 2 analysis considers the question: Do AP class rosters represent the gender and cultural diversity of THS or do AP course distributions contribute to a form of racial segregation in THS? This exploration requires an understanding of the overall gender and racial composition of THS compared to the distribution of students in AP courses during the 11th and 12th grades for the 2011 and 2012 graduating cohorts (represented in Figures1–2). Level 2 analysis must be aligned with level 1 measures, which for this study included the intersectionality cluster of race and gender.

First, Figure 1 details that His panic females' participation in AP courses was representative of their percent in the overall student body by grade 12. In fact, His panic females constituted 13% of all female students enrolled in at least.

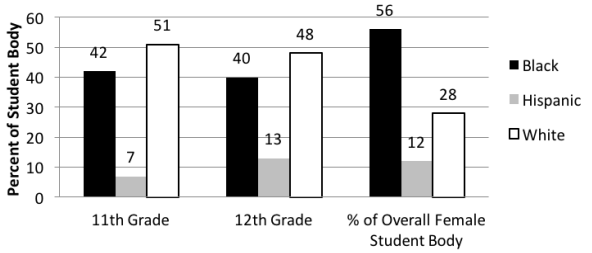

Fig. 1. Average % 11th and 12th Grade Females with at Least 1 AP Course by Race for 2011 & 2012 Combined Cohorts Compared to % in Overall Student Body.

1AP course in grade 12, and 12% of the overall female student body. Secondly, White females constituted an average of 28% of the THS's female student body during the 2011 and 2012 cohorts, yet they represented an average of 50% of all female student staking at least one AP course. On the other hand, Black females constituted 55.5% of all female students at THS, but only 40% of female students enrolled in AP courses.

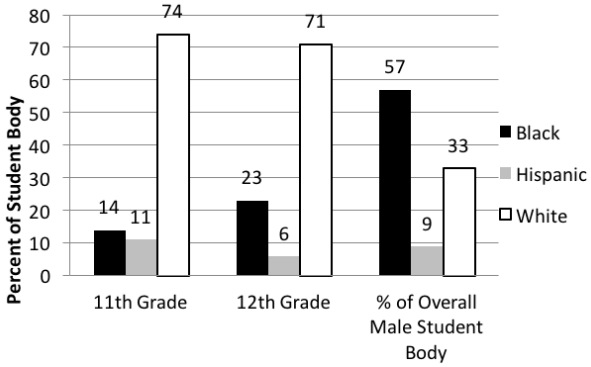

Fig. 2. Average % 11th and 12th Grade Males with atLeast 1 AP Course by Race for 2011 & 2012 Combined Cohorts Compared to % in Overall Student Body.

More drastic disparities exist among THS' male students, when considering the patterns detailed in Figure 2, which highlight the distribution of White, His panic and Black males in AP courses compared to their percent in the overall student body. Approximately, 73 out of every 100 male AP students were White**,** while this sub group only constituted 33% of the overall male student body of Tower High**.** Moreover, on average 9% of males in AP courses were His panic, which was representative of their percent in the overall student body. Yet, Black males constituted 57% of THS' male student body, but only 19% of males in AP courses.

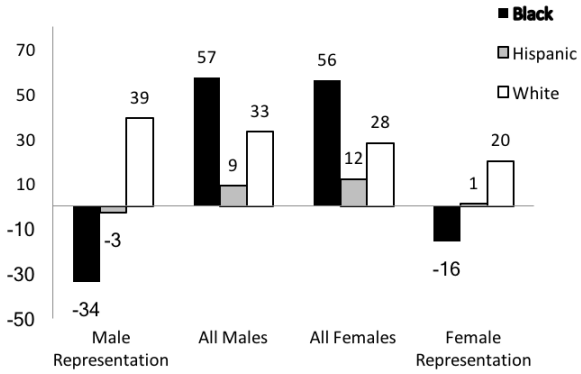

Fig. 3. Average % Underrepresentation or Overrepresentation with Overall Student Body for Males and Females in 12th Grade with at Least 1 AP Courseby Race for 2011 & 2012 Combined Cohorts.

Figure 3 illustrates that by their senior year, White females were 48% of all AP female students and only 28% of all female students at THS, which equates to a 20% over representation when taking into account the overall racial composition of the school. However, Black females were 39.5% of all female AP students by the 12th grade, but were 55.5% of all female students at THS. As a result, by the 12th grade Black females were under represented in AP courses by -16%. Additionally, by grade 12 seventy-one percent of all males in AP courses were White, which equates to a 38.5% over representation compared to their proportion of the overall male student body. On the other hand, 23% of

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males in AP courses were Black by grade 12, yet they constituted 56.5% of all males at THS and were under represented in AP courses by-33.5%. If all things were equal, the columns labeled "Male and Female Representation" would closely mirror the percentages in the two "all students" columns. In its present form, the variations illustrated in Figure 3 indicate differential access to AP course offerings across gender and racial groups. In fact, to equitably redistribute genders in AP courses to reflect the actual student body an 11% increase in access among Hispanics, a 90% increase in access among Black males, and a 71.5% increase in access among Black females would be required. In sum, AP access patterns suggest that AP courses appear to funnel greater numbers and percentages of White students into college preparatory experiences, while limiting access for Black and His panic students attending THS.

Research question 3: How equitable are AP course outcomes for various student racial groups across subject areas?

Finally, level 3 analysis focuses on equity of student outcomes, and due to limitations in our combined dataset, we relied on the Office for Civil Rights data from 2011 to complete this analysis. The logic here is that equality of access or the opportunity to learn allows students a chance to attempt a more rigorous curriculum, but does not speak to their actual learning experiences or the impact of increased access. A detailed level 3 analysis also requires interviews, focus groups, class observations and a review of curriculum to measure various aspects of teaching and learning.

These in-depth explorations are key to understanding how students experience learning, and they also provide critical insights needed to redress issues that might limit student outcomes. Here we only address the statistical data related to equity of outcomes: AP test attempts and passing rates. If disparities are evident in outcome data mirroring patterns identified in level 1 and 2 analyses, then a more detailed analysis of student learning experiences is warranted. If outcomes are equitable such that students are attempting and passing AP tests at similar rates, then further exploration of why access patterns are disparate is warranted.

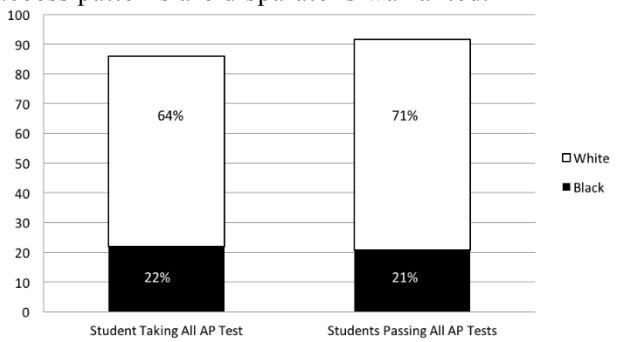

Fig. 4. % of Students Taking and Passing All AP Course Exams by Race of Student. Based on data from the Civil Rights Data Collect, 2011.

The latter appears to be the case at Tower High, as illustrated in figure 4. Roughly 23% of AP takers are African Americans at THS, which is equitable to African Americans being 22% of all students attempting all AP exams for all AP courses taken, and 21% passing all AP exams for all AP courses taken. White students are similarly equitable in terms of outcomes, which may point to the consistent quality of AP instruction at Tower High. Armed with this more precise diagnosis, school leaders, parents and policymakers can make more informed decisions relative to improving AP course access (equality) rather than focusing on the quality of AP courses (equity). Yet, as equality of access is addressed it will become critically important to ensure that AP courses remain equitable.

V. Conclusion

A. Administrative Guide

The College Board (2006) strongly encourages schools to make equitable access and outcomes guiding principles for their AP programs by giving all willing and academically prepared students the opportunity to participate. In order to encourage the elimination of barriers that restrict access and outcomes to AP programs for students from ethnic, racial, gender, and socioeconomic groups that have been traditionally underrepresented, we offer the following equity guide to document access and outcome patterns.

Equality of Access

Level 1: Intersectionality Clusters - Each district and school possesses different demographic factors that must be considered when addressing equality of access. Level 1 analysis must decide which clusters are needed to highlight access patterns. Exactly, how the student body is disaggregated depends on national and local human relations and shared history. In the US, race has played a central role in determining access to opportunity structures, but in other nations social class, religion or gender may be the primary social markers of opportunity. Primary factors should never be considered in isolation but at minimum be clustered with another socially relevant markers, such as SES, nationality, immigration status, special education status or native language status.

Level 2: Representation Analysis – This analysis focuses on the degree of inequity relative to some wider population. This exploration must be aligned with level 1 intersectionality clusters, compared to the general student body of a school, district, state, and/or nation. Factors internal to the school and/or district should be considered before exploring external factors such as community and family, given that most of these factors are out of the direct control of educational systems.

VI. Equity of Outcomes

Level 3: Experiences and Outcomes Analysis – This critical analysis focuses on student learning experiences and measures of quality or impact. Start

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with available outcome data most related to access patterns. For the present study, we considered AP tests attempts and passing rates, but other measures can be used depending on the program or issue being analyzed. If disparities are evident in outcome data mirroring patterns identified in levels 1 and 2 analyses, then a more detailed analysis is warranted. This may include student, parent and faculty interviews, focus groups, class observations, and a review of policies and curriculum. If statistical outcomes are equitable, then further exploration of why access patterns are disparate is warranted, which points to a need for a policy and practice review.

Level 4: **Equity Checks** – To increase public awareness of programmatic access and outcomes, we recommend on-going measurement at all three levels for AP programs or any educational issue warranting remediation each year. There is no clear rule to interpret the seriousness of access and outcome gaps, but the following interpretive guide has proven useful in our work with schools:

Normative Difference: 1%-8% difference across clusters or compared to the general population. Take no drastic action but monitor how these gaps change over time.

Explorative Difference: 9%-20% differences across clusters or compared to the general population should prompt investigation, particularly if they represent a sudden deviation from established patterns or if they represent a persistent gap with failed attempts to remediate. Explorative differences tend to involve inequity of access issues such as uneven disciplinary practices limiting access to instructional quality. Many schools in this situation attempt to improve outcomes like test scores without addressing access issues.

Corrective Difference: 21%-50% differencesacross clusters or compared to the general population should prompt immediate and intensive investigation, and urgent intervention with required equity checks. The magnitude of these disparities typically point to both unaddressed inequalities of access and inequity of outcomes. For instance, schools or districts with widespread discipline issues and low outcomes like graduation, high grade retention, and high dropout rates across all three levels of analysis must take immediate and intensive action.

In closing, segregation is a required condition for inequality, for it enables the empowered to separate those designated to receive privilege from those selected to endure varying forms of discrimination (Feagin & Feagin, 2008). Noguera and Wing (2006) provided glaring evidence that high schools often cannot provide documented evidence on how and why students are placed in certain classes, and why they are tracked year after year into low-level or vocational courses. Oakes (1985) in her famed work *Keeping Track: How Schools Structure Inequality* noted that tracking is an expression of wider societal segregation manifested in schools, and "in virtually every study that has considered this question, poor and minority students have been found in disproportionately large percentages in the bottom groups" (p.200, Reprinted in Arum, Beattie & Ford, 2011). Oakes' conclusion still resonates true at THS and in far too many US high schools some 30 years later. In sum, the present case study of THS highlights the need for transparent data on AP access and outcomes as a matter social justice, and offers an equity guide to expose lingering patterns of inequality and inequity.

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