Data Disaggregation in Action: Examining Student Success by Ethnicity at the Instructor Level

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Executive Summary

Purpose

While colleges throughout the country examine and respond to student success data, many rely upon data that is aggregated at the institutional or program level. A less common practice is to examine student success data at the instructor level. Instructor level information offers individual faculty information about their own classroom practices and helps to shed light on possible equity gaps that may exist in their classes.

What follows are case studies from two separate community colleges that have embraced the practice of disaggregating data at the instructor level and actively use corresponding information to further explore and address observed student equity gaps. The goal of this paper, therefore, is to share the experiences of each college and highlight some specific classroom strategies used to address identified student equity gaps.

Case Studies

Butte College

Butte College’s “Faculty Alliance for Inquiry and Research (FAIR) Classrooms,” is a professional development program that encourages equity-minded learning\(^1\) through student data disaggregated at the instructor level. FAIR Classrooms is grounded in the belief that practitioner inquiry is a powerful method for creating organizational change around student equity. The college’s commitment to practitioner inquiry is reflected in the recognition that faculty need time, support, compensation, and community to turn data into meaningful action.

Faculty that participate in FAIR classrooms take part in a semester-long action research project. During the year, faculty examine disaggregated student success data obtained from the courses they have taught over their entire teaching careers. Analyzing data from their own courses provides faculty with a powerful opportunity to examine how their classroom practices may contribute to student equity gaps at Butte College. Additionally, having these data readily

\(^1\) As described by Felix, Bensimon, Hanson, Gray, & Klingsmith (2015), equity minded learning is characterized as being race conscious and aware that inequities may result from structural and institutional racism. It is characterized by a recognition that inequities may result from existing institutional practices rather than student deficits, and that it may be necessary to allocate additional resources towards disproportionately impacted students.
available may help faculty identify specific interventions for closing student equity gaps that emerge from the data. Faculty participating in the program have developed several strategies for mitigating observed equity gaps, including offering students visual representations of African American contributions to science. In this way, the FAIR Classrooms program empowers faculty to become leaders and experts in examining and making use of student equity data.

College of Aurora

College of Aurora’s approach also empowers practitioners to examine and interpret student data critically to identify possible equity gaps and subsequently design interventions to address said gaps. Their program is founded on the idea that observed equity gaps in student success may stem from institutional and classroom practices that inadvertently bring about such gaps.

The Leadership Academy, formed by faculty members specifically interested in examining student success data at the instructor level, has representation from a number of disciplines, including English, computer science, and the film school. Participating faculty spend time examining and reflecting on student success data in their classes and the classes taught by colleagues also participating in the program.

In the final phase of the program, participants examine institutional policies and classroom practices that may be contributing to identified equity gaps in student success. If equity gaps are uncovered, participants consider all aspects of their classroom environment, including their class assignments and their syllabi. It is at this juncture that they develop (and implement) experiments or strategies designed to ameliorate observed equity gaps.

The programs at both Butte and Aurora are similar in scope. Nevertheless, perhaps the most salient shared attribute is the recognition by the faculty at both colleges that student performance is affected by classroom practices. Moreover, colleges interested in adopting an equity-minded framework must consider providing faculty with the research tools and skills necessary to effectively interpret different types of data. These skills include the ability to disaggregate data and leverage knowledge of disproportionate impact methods to identify reliable instances of student equity gaps that merit further attention, professional development opportunities to enhance their knowledge about student equity, and the tools necessary to develop and implement strategies to mitigate the identified student equity gaps in their classrooms. Such efforts can help them make informed decisions on how best to address potential student equity gaps occurring at the classroom-level.

Introduction

Are the challenges students face in the classroom are solely a result of students’ underpreparedness for college level courses or whether there are other factors at play, such as instructional approaches, college policies, and or procedures? How do we answer these questions and identify strategies that can be put in place to help these students succeed in their courses? While there are many student success strategies being employed by professionals around the country, faculty at two colleges are taking an innovative approach by examining
disaggregated student success data in the specific course sections that they teach. This approach, led by faculty at both colleges, has allowed individual faculty to identify whether student equity gaps exist among the students they teach and the opportunity to develop classroom strategies to help address them. In this paper, we will share the story of two colleges – Butte College in California and College of Aurora in Colorado – that have instituted the examination of student success data at the instructor level as one way to improve student success.

In the 2014-15 California State budget an unprecedented line-item was included by Governor Jerry Brown that designated $100 million a year to support student equity in California community colleges (“Governor’s Budget 2014-15,” 2014). In order for colleges to receive student equity funding they are required to disaggregate their institutional data by different subgroups of students to identify student populations that are disproportionately impacted; that is, succeeding at lower rates than are other student populations or the general student population. Such analyses allow colleges to reform policies and practices, and to develop innovative approaches intended to reduce inequities.

For example, faculty at College of the Canyons funded by student equity funding, participated in the California Acceleration Project (California Acceleration Project, 2016). This resulted in the development of the Accelerate Your Dreams to Reality Project at College of the Canyons. Through this project, the college implemented two classes, Math 75 (college level statistics for non-STEM students) and English 96 (prepares students for college level English), to replace a two-course developmental sequence. Evidence stemming from these new courses has demonstrated a significant increase in success rates for students overall, and dramatically for underrepresented groups. For instance, the successful completion of Math 75 has more than doubled the likelihood that a student completed a transfer-level math course, and African-American students taking Math 75 were six times more likely to earn a successful grade (i.e., “C” or better) than they were in the original developmental course. Meanwhile, students who completed the accelerated developmental English course were almost twice as likely to meet the eligibility requirements for transfer-level English as were students enrolling in the traditional two-course English developmental sequence (College of the Canyons Public Information Office, 2015). In addition to increased course success rates, students taking these courses have also benefited in other ways. For example, the college calculated that students have saved more than $500,000 in tuition costs for remedial courses that do not count toward earning an associate’s degree.

While colleges do examine aggregated (all students) and disaggregated (sub-groups of students) data at the course level, as illustrated in the example above, colleges typically
evaluate student success by using aggregated and disaggregated data at the institutional and program level. However, such approaches do not provide information to individual faculty regarding their own classroom practices and/or pedagogy.

Examining disaggregated data at the instructor level is a far less common practice in community colleges. What follows are two case studies: One from Butte College in Oroville, California and the second from Community College of Aurora in Aurora, Colorado. We will focus on the approaches faculty at these institutions used to examine disaggregated data at the instructor level and the institutional changes that were made as a result of drilling down to the instructor level. The intent of this paper is to help educators and practitioners garner the skills and knowledge to facilitate dialogue, planning, and action related to student equity gaps at the instructor level.

**Butte College**

Butte College, located 80 miles north of Sacramento, served over 16,000 students in the 2015-2016 academic year (“California Community Colleges Chancellor’s Office Datamart,” 2017). Sixty three percent of those students were 24 years of age or younger and the majority of students either identified themselves as White (60%) or Hispanic (22%).

Butte College developed a faculty professional development program, the Faculty Alliance for Inquiry and Research (FAIR) Classrooms, that builds equity-mindedness through data disaggregated at the individual instructor level. FAIR speaks to Butte’s commitment to practitioner inquiry as a powerful method for organizational change. Central to the program is the belief that faculty need time, support, compensation, and community to turn data into meaningful action.

**Core Components of FAIR Classrooms**

As illustrated in Figure 1, there are three central dimensions of the FAIR Classrooms program: mid-level leadership, practitioner inquiry, and equity-mindedness.

*Figure 1. The Central Dimensions of the FAIR Classrooms Program*

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2 At a minimum, California community colleges must address students in the following ethnic and racial categories, as defined by the US Census Bureau for the 2010 Census, in their Student Equity Plan: American Indian or Alaska Native, Asian, Black or African American, Hispanic or Latino, Native Hawaiian or other Pacific Islander, White, some other race and more than one race. Plans must also address students with the following characteristics: males, females, current or former foster your, low-income, students with disabilities, and veterans.

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After participating in the “Leading from the Middle” Academy, a professional development program of the RP Group for California Community Colleges, our four-person project team embraced the notion that organizational change occurs when mid-level leaders (faculty and deans) implement reform rather than administrators, some of whom may come and go, and can lack the cultural capital to achieve large-scale buy-in. The FAIR Classrooms program builds capacity for faculty to become leaders and experts in student equity and then take their knowledge back to faculty in departments across the college.

Butte’s focus on practitioner inquiry emerges from the field of educational action research, which can enhance evidence-based practice by empowering faculty to engage in reflection and growth across their professional lifespan. Indeed, as Cochran-Smith and Lytle argue, “classroom and school-based practitioners [should be] regarded as researchers with important emic perspectives and highly relevant and consequential ideas about what needs to happen in particular schools and classrooms to enhance students’ education” (Cochran-Smith & Lytle, 2009, p. 139). USC’s Center for Urban Education (CUE) has modeled an action-research program to build equity-mindedness (Felix, Bensimon, Hanson, Gray, & Klingsmith, 2015) and Butte has adopted many of its inquiry tools as part of its FAIR Classrooms curriculum. For CUE, equity mindedness is “the perspective or mode of thinking exhibited by practitioners who call attention to patterns of inequity in student outcomes. These practitioners are willing to take personal and institutional responsibility for the success of their students, and critically reassess their own practices” (“Center for Urban Education: Equity Mindedness,” 2017). FAIR Classrooms expands upon existing models of evidence-based practice, educational leadership, and practitioner inquiry to provide faculty with disaggregated student success data and then empowers them to be change agents in their classrooms and at their institutions.

Faculty that participate in FAIR classrooms take part in a semester-long action research project. During the year, faculty examine disaggregated student success data obtained from courses they have taught over their entire teaching careers. As illustrated in Table 1, instructors at Butte College employ disproportionate impact (DI) methods (including the percentage point gap index) to identify potential instances of disproportionate impact (i.e., equity gaps).

IN-CONTEXT EXAMPLE: DISPROPORTIONATE IMPACT ANALYSES
Let us take a moment to consider Table 1, which illustrates actual instructor-level data examined by one Butte faculty member (as reported in Brown, Klotz, MacKinnon, & Michels-Ratliff, 2016). As described in a white paper detailing the various disproportionate impact methods (Sosa, 2017), the Percentage Point Gap (PPG) Index reflects the difference in success rates between a given group of students (e.g., African-American or Black students) and the average of all the students being examined. Therefore, the first step to calculating the point gap index is to determine average success rate of all students, regardless of ethnic group; in this case that average rate is 70.0% (as illustrated in Table 1). Then, one calculates the success rate for each subgroup of interest (e.g. American Indian students had a 66.77% success rate.) The final step is to subtract the success rate for each sub group (and gender within each ethnic group) from the overall success rate of 70.0%, as follows:

PG Index (Am. Indian/Alaskan) = Overall – Am. Indian/Alaskan = 70.0-66.7 = -3.3 points

PG Index (Asian) = Overall – Asian = 70.0-81.0 = 11.0 points

PG Index (Black) = Overall – Black = 70.0-50.0 = -20.0 points

As discussed in documentation from the chancellor’s office (CCCCO, 2017), meaningful percentage point gap (PPG) differences depend upon the number of student records you are working with, and those values can range from three to thirty percentage points. These benchmarks for identifying potential instances of disproportionate impact are known as margin of error (MOE) thresholds (see Sosa, 2017 for a review of the procedures along with examples from the field). In our current example depicted in Table 1, the percentage point gap (PPG) values for Black or African American students (PG Index = -21.1) points to a potential instance of disproportionate impact because the point gap value exceeds the group’s MOE threshold of negative eighteen percentage points. The observed gap, therefore, points to a meaningful difference in success rates between Black or African American students and the collective population of students. This is also illustrated in Figure 1. It should be noted that disaggregated data analysis at Butte College is not limited to ethnicity; data are also disaggregated across other target populations identified by the state Chancellor’s office (e.g., veterans, students with disabilities, foster youth, and low-income students).
### Table 1. The Fall 2015 Through Spring 2016 Course Success Rates by Ethnic Group for all Courses Taught by a Given Instructor (Brown, Klotz, MacKinnon, & Michels-Ratliff, 2016)³

<table>
<thead>
<tr>
<th>Ethnic Group</th>
<th>Cohort Count</th>
<th>Outcome Count</th>
<th>Success Rate (Per Group)</th>
<th>MOE Thresholdᵃ</th>
<th>Point Gap Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>American Indian or Alaskan Native</td>
<td>12</td>
<td>8</td>
<td>66.7%</td>
<td>-28%</td>
<td>-3.3</td>
</tr>
<tr>
<td>Asian</td>
<td>58</td>
<td>47</td>
<td>81.0%</td>
<td>-13%</td>
<td>11.0</td>
</tr>
<tr>
<td>Black or African American</td>
<td>30</td>
<td>15</td>
<td>50.0%</td>
<td>-18%</td>
<td>-20.0</td>
</tr>
<tr>
<td>Total</td>
<td>100</td>
<td>70</td>
<td>70.0%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note. The margin of error (MOE) thresholds are based upon Appendix A of the chancellor’s office document on the working with the percentage point gap (CCCCO, 2017). For a review of the procedures involved in determining a given MOE threshold, please see another of our disaggregation tools, *Using Disproportionate Impact to Identify Equity Gaps* (Sosa, 2017), which recommends using multiple disproportionate impact methods.*

ᵃ*The chancellor’s office (CCCCO, 2017) does not include any decimal places in its reporting of margin of error (see Appendix A).*
Using Findings to Address Equity Gaps

After examining disaggregated data for their own courses, faculty can then inquire into how their classroom practices may relate to these gaps, and identify specific interventions for closing the student equity gaps they identify. In the pilot program, faculty participants introduced such interventions as contract grading in a developmental English course (see Inoue, 2015) and deliberate one-on-one greetings each class for African American students. Other faculty participants develop equity-minded syllabi or include visual representations of African American contributions to science as well as curriculum on historical injustices against black men and women at the hands of the scientific community. As faculty work through a curriculum, including scholarship on educational equity, tools for practitioner inquiry, and campus-specific focus group reports, they may envision new practices that support equitable outcomes for historically underserved student groups. By providing instructors with their own equity data, the college achieves buy-in for equity work and builds capacity among faculty to view themselves as change agents in historical and systemic injustices in higher education.

College of Aurora
As part of the Colorado Community College System, College of Aurora serves over 10,000 students annually. Female students comprise 59% of the student population and 79% of students attend part-time. In addition, 38% of students identify as White while 24% and 23% identify as Hispanic and African-American, respectively.

**CORE COMPONENTS OF AURORA’S APPROACH**

As in the case of Butte College, Aurora’s approach is based upon the work of the Center for Urban Education (CUE) that empowers practitioners to take an active role in analyzing and interpreting such data in a collaborative environment (Felix, et al., 2015). CUE’s framework, known as the Equity Scorecard (Felix et al., 2015), holds that practitioners (specifically, non-research folks) should be empowered to examine and interpret student data critically, including identifying possible equity gaps. Subsequently, faculty can design interventions to address the gaps – whether it be by way of implementing additional classroom support (i.e., direct intervention) or adapting hiring practices (i.e., indirect interventions).

In addition to empowering practitioners with data skills, Aurora’s program is founded on the idea of challenging long-held beliefs concerning student performance. That is, the program is based on the recognition that observed equity gaps in student performance may result not from students’ lack of skill or motivation, but rather, the institutional and even classroom practices that inadvertently bring about such gaps (Bensimon, 2016; Felix et al., 2015). In this way, the program emphasizes the idea that being able to respond to observed gaps in student performance means that practitioners must be able to carefully reflect upon how their own practices may, in fact, serve to bring about such gaps.

Faculty at Aurora formed a community of faculty – the Leadership Academy – with representation from a host of disciplines, including English, computer science, the film school, and physics. Participating members of the group spend a great deal of time examining their own student success data for all the courses they have taught at Aurora along with that of their colleagues also participating in the program. According to James Gray, chair of math and one of the founding members of the program, the focus of the group is in critically examining the student success data and remaining curious about what conclusions the data are pointing to; Gray has shared that it is in effect turning participating faculty into anthropologists in that they are tasked with investigating the empirical data and with identifying the reasons for any observed equity gaps. In this initial deconstructing phase, each participating faculty member examines his or her own disaggregated student data, garners access to any additional data he

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4 J. Gray, personal communication, March 30, 2017
or she would like to examine, and proceeds as a researcher to interpret its meaning. As part of this process, participants also engage in a syllabus review protocol in which they reexamine their own course syllabi to identify instances of cultural and ethnic bias, they determine whether their syllabus document makes unwarranted assumptions about what students should already know, and even consider the tone of the document.

During the following phase of the Leadership Academy, participants learn about CUE’s principles in relation to equity-mindedness, including notions that underscore institutional policies and classroom practices that may inadvertently contribute to equity gaps in achievement. In the final phases, participants draw conclusions about the evidence they have examined, and if equity gaps are identified, participants consider all aspects of their classroom environment, including their class assignments and their syllabi. It is at this juncture that they develop (and implement) experiments or strategies designed to ameliorate observed equity gaps.

The work of the Leadership Academy is critical since the feedback participants receive is not from a supervisor, but rather, fellow colleagues. It is in this context that participants can make and receive comments that are perceived as less threatening, resulting in an environment in which participants become invested in each other’s success.

**IN-CONTEXT EXAMPLE: DISPROPORTIONATE IMPACT ANALYSES**

Below is an example from Aurora illustrating data disaggregated by ethnic group at the instructor level. As was the case earlier with Butte’s data, only a single disproportionate impact measure, the Percentage Point Gap (PPG) Index, was used to identify potential equity gaps (see earlier example on page 10 for specific calculations).

Table 2 illustrates the course success rates by ethnic group in two math courses taught by James Gray, the chair of the math department. These are the success rates Gray observed prior to undergoing any CUE training and implementing any in-class interventions. While the average success rate across all students in Grays’ courses was 57.9%, specific ethnic groups of students had higher or lower rates. For instance, Asian and White students achieved higher than average success rates (62.2% and 62.8% success, respectively); however, both Black students (42.3% success) and students choosing not to report their race or ethnicity (unknown, 42.9%) students experienced lower than average success rates. However, based on the methodology put forth by the chancellor’s office (CCCCO, 2017), none of these point gaps values would be considered as demonstrating disproportionate impact because the observed percentage point gap values
do not exceed their corresponding margin of error (MOE) thresholds.\(^5\) See Figure 2 for another depiction of these findings.

**Table 2. Course Success Rates by Ethnic Group for all Courses Taught by James Gray Prior to Intervention \(^6\)**

<table>
<thead>
<tr>
<th>Ethnic Group</th>
<th>Cohort Count</th>
<th>Success Count</th>
<th>Success Rate (Per Group)</th>
<th>MOE Threshold (^a)</th>
<th>Point Gap Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asian</td>
<td>37</td>
<td>23</td>
<td>62.2%</td>
<td>16%</td>
<td>4.3</td>
</tr>
<tr>
<td>Black Non-Hispanic</td>
<td>26</td>
<td>11</td>
<td>42.3%</td>
<td>19%</td>
<td>-15.6</td>
</tr>
<tr>
<td>Hispanic</td>
<td>19</td>
<td>11</td>
<td>57.9%</td>
<td>22%</td>
<td>0.0</td>
</tr>
<tr>
<td>White Non-Hispanic</td>
<td>94</td>
<td>59</td>
<td>62.8%</td>
<td>10%</td>
<td>4.9</td>
</tr>
<tr>
<td>Unknown</td>
<td>14</td>
<td>6</td>
<td>42.9%</td>
<td>26%</td>
<td>-15.0</td>
</tr>
<tr>
<td><strong>Overall</strong></td>
<td><strong>190</strong></td>
<td><strong>110</strong></td>
<td><strong>57.9%</strong></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note. The margin of error (MOE) thresholds are based upon Appendix A of the chancellor’s office document on the working with the percentage point gap (CCCCO, 2017). For a review of the procedures involved in determining a given MOE threshold, please see another of our disaggregation tools, *Using Disproportionate Impact to Identify Equity Gaps* (Sosa, 2017), which recommends using multiple disproportionate impact methods.*

\(^5\) Using the 80% index, both Black (42.3/62.8 = .67) and unknown (42.9/62.8 = .68) students would otherwise be identified as being disproportionately impacted. See *Using Disproportionate Impact Methods to Identify Equity Gaps*, another tool in the Data Disaggregation Applied Solution Kit (Sosa, 2017), for more information on the computation and interpretation of disproportionate impact approaches.

\(^6\) Shared by J. Gray (2017), College of Aurora. Point Gap values added by the present authors.
James Gray perceived these success rate gaps large enough to warrant action, so he considered how some students may be experiencing his class differently and whether that could be impacting their likely success, especially those students who identified as Black or African American. He contemplated how he structured his classes, such as the in-class rules for behavior and communication, to determine whether they advantaged some students over others. He also examined the in-class practices of other faculty members, some of whom did not identify disproportionate impact among the outcomes they examined. He saw this as an opportunity to try some of the practices of high performing faculty.

At the beginning of the next semester, he observed another faculty member’s approach to engaging her students. Students responded well to the way she set high expectations, both in

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*The chancellor’s office (CCCCO, 2017) does not include any decimal places in its reporting of margin of error (see Appendix A).*
terms of behavior and her expectation that everyone would be successful. She told her students “we’ll have fun, but we need to remember why we are here. So when you see rules like putting your cell phones away and come to class five minutes early, I mean it. We have to take our work seriously for us to meet our goal of everyone being successful.” She reiterated her belief in her students in many ways during the first class, including directing the students to cross out the drop date for the course, saying “you’re not going to need it. You can do this.” This approach contrasted with that of other faculty who try to get the same level of engagement and persistence by setting a system of rules and consequences as a means to motivate students, which is an approach commonly based on a belief that students do not value education or that they have not yet learned to persist as evidenced by coming to class late, texting during class, and or not completing homework. In observing another class, he found a faculty member who created a routine around homework. Before the class started, Gray noticed that every student picked up a handout from the table near the door as they entered, and then dropped off their homework at the same table as they left. Not once during the observation did the faculty ask for either of those to happen. This approach contrasted with other faculty who express that they must constantly remind students to do their homework.

Having learned from his observations, Gray set out to implement a new model of teaching in his own classes. First, he provided students with short preview videos of class content prior to any lectures. The preview videos allowed for shortened lectures, which in turn provided students more in class time for them to practice in groups. The students were asked to do practice homework between every class meeting, allowing Gray to consistently offer feedback to students. In addition, quizzes became a strategic part of the class as this gave a chance for students to practice and get feedback in a lower stakes test environment. With this new model in place, students had practiced the material on multiple days and Gray knew exactly how each student was progressing long before the exam. This allowed him to intervene with students individually or to adjust his class as a whole. In the process, it became rare that any student needed a reminder to do their homework because it was a routine – just as he had observed in his colleague’s class. The larger lesson he learned, however, was that the in-class approach the teacher takes highly influences how students respond. In reflecting on prior semesters he added, “The way I used to do homework taught the students they didn’t necessarily need to do the homework to be successful in the class. It was thought of as practice for those who needed it, and so I might have a student who isn’t doing any homework and I would have no idea until a failed exam. By that time, it’s too late. Now, homework is done because that’s just the way things are done.”

Table 3 illustrates the success data of Grays’ students in the same two math courses in the semester in which he implemented his new teaching model. In sharp contrast to his baseline data, the overall success rate increased from 57.9% to 80.6%. In fact, students across all examined ethnic groups had higher success rates. The findings also revealed that Black the point gap value among Black students declined by almost 50% (declined from -15.6 to 8.7) compared to before Grays’ classroom intervention. In addition, these point gap values are all well within the corresponding MOE threshold values, suggesting that no disproportionate impact is present (see Figure 3). Thus, these findings suggest that the newly adopted teaching
model may serve to bolster success rates for all students and may serve to mitigate the disproportionate impact among Black students.

Table 3. Course Success Rates by Ethnic Group for all Courses Taught James Gray After Implementing Intervention

<table>
<thead>
<tr>
<th>Ethnic Group</th>
<th>Cohort Count</th>
<th>Success Count</th>
<th>Success Rate (Per Group)</th>
<th>MOE Thresholda</th>
<th>Point Gap Index</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asian</td>
<td>11</td>
<td>9</td>
<td>81.8%</td>
<td>30%</td>
<td>1.2</td>
</tr>
<tr>
<td>Black Non-Hispanic</td>
<td>32</td>
<td>23</td>
<td>71.9%</td>
<td>17%</td>
<td>-8.7</td>
</tr>
<tr>
<td>Hispanic</td>
<td>49</td>
<td>41</td>
<td>83.7%</td>
<td>14%</td>
<td>3.1</td>
</tr>
<tr>
<td>White Non-Hispanic</td>
<td>38</td>
<td>33</td>
<td>86.8%</td>
<td>16%</td>
<td>6.3</td>
</tr>
<tr>
<td>Unknowna</td>
<td>9</td>
<td>6</td>
<td>66.7%</td>
<td>30%</td>
<td>-14.0</td>
</tr>
<tr>
<td>Overall</td>
<td>139</td>
<td>112</td>
<td>80.6%</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note 1. The margin of error (MOE) thresholds are based upon Appendix A of the chancellor’s office document on the working with the percentage point gap (CCCCO, 2017). For a review of the procedures involved in determining a given MOE threshold, please see another of our disaggregation tools, Using Disproportionate Impact to Identify Equity Gaps (Sosa, 2017).

Note 2. The chancellor’s office (CCCCO, 2017) does not recommend calculating a percentage point gap based on cohorts of fewer than 10 due to privacy concerns. Those data are presented here for the sake of consistency with Table 2.

aThe chancellor’s office (CCCCO, 2017) does not include any decimal places in its reporting of margin of error (see Appendix A).
As is apparent from the preceding example, once Aurora faculty members complete the process of reviewing and interpreting their data, they develop in-class strategies to help address potential cases of disproportionate impact. Faculty members have a great deal of latitude with respect to the development and implementation of such strategies. Some, like James Gray, have opted for classroom activities to be more equity-minded. Meanwhile, others have redesigned their syllabus and/or opted for small group discussions with students about the structural changes that can be made to a course. Some instructors even established individual equity targets that reflected how many more students needed to succeed to address uncovered equity gaps (Felix et al., 2015). Since adopting the CUE’s Equity Scorecard, Aurora has seen the success rates in college algebra for Black students climb from 66% (2014) to 77% (2015).

**Conclusion**

Any student outcome, such as success and completion rates, can be (and often are) examined at the institutional, program, and course level. Such analyses are critical in identifying and addressing broad-based equity gaps that exist in higher education. As we have seen in this paper, a final level of analysis — and one that can be implemented in a way that is conducive to learning and student success — is at the instructor level. The key to incorporating this approach at a given college is the recognition, especially by faculty, that student performance is affected
by classroom practices. Just as broad social and local college policies can serve to unintentionally bring about achievement gaps, so can classroom practices.

The case studies presented in this paper demonstrate that examining potential equity gaps at the instructor level in a way that embraces both instructors’ strengths and weaknesses, and that serves the interests of students, requires dedicated faculty intent on developing an open and collegial process. Furthermore, colleges interested in adopting an equity-minded framework need the support and buy in from top administrators to provide faculty the research tools and skills necessary to effectively interpret different types of data to support them to make informed decisions on how best to address potential student equity gaps occurring at the classroom-level. These skills include the ability to disaggregate data and leverage knowledge of disproportionate impact methods to identify reliable instances of student equity gaps that merit further attention, professional development opportunities to enhance their knowledge about student equity gaps, and the tools necessary to develop and implement strategies to mitigate the identified student equity gaps in their classrooms.

As we have observed in these case studies, and in the work of CUE, the more colleges empower their faculty to critically analyze their data – be it at the college, program, course, or instructor-level – the more able faculty will be to achieve the momentum necessary to both identify and address equity gaps. An instructor may have the data-analytic and research skills to identify equity gaps, but may not have the support of their institution to develop (and implement) promising strategies that may help to mitigate some of the obstacles their students face in the classroom. Therefore, a successful implementation of this approach, particularly on a broad-based scale across many disciplines, not only requires the faculty to embrace the merits of the approach, but it also requires a college administration willing to offer faculty all the tools necessary for success, particularly with respect to the time needed to engage in appropriate professional development.
References


Research and Planning Group for California Community Colleges

The RP Group strengthens the ability of California community colleges to discover and undertake high-quality research, planning, and assessments that improve evidence-based decision-making, institutional effectiveness, and success for all students.

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