



TheRPGroup

Research, Planning & Professional Development
for California Community Colleges SM

Beyond Student Equity and Achievement Program Metrics

Examples of Visualizing Student Experiences

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OVERVIEW

“These are not just data points, and so when you add them as dots on a map or lines on a chart, ...remember that these are true people.”

*- Tim Meko, Deputy Graphics Director
at The Washington Post*

(Schwabish & Feng, 2021)

This resource packet was developed for California Community College (CCC) Institutional Research, Planning, and Effectiveness (IRPE) professionals and other practitioners seeking examples of data visualizations that tell the stories of student experiences via disaggregated outcomes.

While the CCC system has adopted several metrics to track and monitor student progress towards closing equity gaps in completion and other important milestones, most notably the **Student Equity and Achievement Program metrics**; oftentimes, more is needed to fully capture what students are experiencing, especially among historically marginalized student groups.

DO NO HARM

As higher education professionals who seek to promote student success and increase equitable outcomes, IRPE professionals are responsible for ensuring that we do not perpetuate the inequities our students face by dehumanizing the student experience in our external communications.

As Schwabish and Feng (year) stated in their Do No Harm Guide,

“...we need to be more purposeful about where data are coming from and how research and the communication of that research can affect people, their communities, and the policies that touch their lives.”

To that end, we provide concrete CCC-specific **examples that effectively display disaggregated data in a way that humanizes the student experience** and that practitioners have found impactful at their local campuses and conferences.

While there are numerous resources on compelling data visualizations, effective storytelling, and best practices, this document is intended to be a living resource where practical examples with sample templates and code are shared to support the IRPE community and CCC practitioners leverage these resources to continue supporting their future equity work.

IN THIS RESOURCE

This resource is not exhaustive or all-encompassing of the latest visualizations.

This resource includes three examples that can be downloaded and adapted locally. As we collect more examples, they will be added to this document.

Each example shared in this resource will include:

- The source of the example
- A brief description
- Links to a template with relevant code, instructions, and visualizations.

Centering the Metrics on Specific Students' Experiences

- ❖ Using student profiles to focus the discussion on the students' experiences rather than on the outcomes

Source: Nicole Oldendick, [Santa Barbara City College](#)

01

❖ Using student profiles to focus the discussion on the students' experiences rather than on the outcomes

Moving beyond reporting:

When we focus on outcomes disaggregated by various student populations, conversations center around the metrics.

However, when we focus on our student populations and illustrate their experiences with each of our metrics, conversations are more likely to center around students' experiences and how we can improve them.

African/African American/Black Experiences



The [resource for this example is a PowerPoint slide deck with embedded figures for creating a student profile](#). The visualizations can be updated with your own data.

01

Focusing on the pervasiveness and consistency of DI experienced by student groups

- ❖ Layering information to understand the pervasiveness and consistency of DI experienced by student groups
- ❖ Calculating and visualizing pervasiveness and consistency of DI

Source: Dr. Craig Hayward, [Bakersfield College](#)

02

❖ Layering information to understand the pervasiveness and consistency of DI experienced by student groups

Moving beyond reporting:

We can layer information on top of each other to understand just how pervasive (as defined by the number of SEAP metrics where DI is present) and consistent (the average number of years where DI is found across all SEAP metrics) DI is for certain student groups.

The [resource for this example is a PowerPoint slide deck](#) with embedded figures to visualize the relative disparity of these outcomes for certain student populations and help identify long-term trends beyond line graphs, etc. Follow the instructions to create your own visualizations.

Pervasiveness is the number of metrics for which DI is found for a specific student group.

Consistency is the average number of years for which DI is found across all metrics of interest.

02

❖ Calculating and visualizing pervasiveness and consistency

For example, let's say we are looking at three metrics for African American/Black students across three different years.

	Y1	Y2	Y3
Metric 1	DI	DI	No DI
Metric 2	DI	DI	DI
Metric 3	DI	No DI	No DI

Pervasiveness = 3

because for all 3 metrics, the student group has reported DI at least once

Consistency = 2

because the student group experienced DI 6 times out of 9 possible occurrences in the 3 years (# of times DI experienced/out of total possible occurrences * # of years examined)

$$6 / 9 = 0.667 * 3 = 2.01$$

02

Efficiently calculate and display DI for multiple groups simultaneously

- ❖ Leveraging R to calculate DI and create interactive visualizations for multiple subgroups and timeframes

Source: Dr. Vinh Nguyen, [Irvine Valley College](#)

03

❖ Leveraging R to calculate DI and create interactive visualizations for multiple subgroups and timeframes

Moving beyond reporting:

There are several methods for calculating disproportionate impact (DI).

By leveraging an open-source tool like R to calculate DI for groups efficiently, this information can be used to produce charts, such as line charts to display DI over time accurately and efficiently for multiple groups in an interactive dashboard view.

The [resource for this example is a digital workbook](#) with R code that can be adapted to prepare, calculate, and visualize DI using your own data.

03



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For More Information

As this resource is a “living” resource, if there are other examples of resources you have found effective or helpful, please share them at research@rpgroup.org.

Acknowledgments

This resource was initially developed by The RP Group’s Research Advisory Committee members:

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