

MODULE TWO:

DATA VISUALIZATION



Use data visualizations to communicate findings and support decision-making

DATA LITERACY SERIES

From Evidence
To Action



Module 1:
You are a
Data Person

Module 2:
Data
Visualization

Module 3:
Advancing
the Use of
Qualitative
Data

Module 4:
Sensemaking -
Moving from
Data to Insight

Module 5:
Translating
Insight into
Action

This five-part professional development series is designed to strengthen data literacy skills and foster a data-informed culture at Reynolds. Using real student success data, participants will learn how to interpret, visualize, and apply data to support decision-making across campus. Faculty and staff will work together to explore Reynolds' data, transform insights into understanding, and move from evidence to action.





A QUICK NOTE ABOUT US

Reynolds Data Team

The Reynolds Community College Data Team is a cross-department committee that facilitates data-driven decision making at the college.

Membership

Members include faculty and staff from Institutional Research, Institutional Effectiveness, Student Affairs, Professional Development, academic schools, grants management and strategic planning.

What We Do

The data team collects, describes, and analyzes data to provide insights that inform decision making in areas connected to the college's student success goals, including Reynolds' strategic direction, Impact 2027.

SESSION OVERVIEW



Hands-On Dashboard Skills

Participants will learn to interact with dashboards, apply filters, and explore visual data for decision-making.

Data Visualization Interpretation

The session covers interpreting bar charts, trend lines, and maps to communicate data insights effectively.

Enrollment Data Analysis

Demonstration on using enrollment dashboards to track and analyze student data trends.

Focus on Gateway Math Metrics

Special attention is given to gateway math metrics in the College-wide Student Performance dashboard.



WHY DATA LITERACY MATTERS

Forms of Data

Data literacy includes understanding quantitative, qualitative, and contextual data in everyday and professional use.

Curiosity and Inquiry

Being data literate means asking good questions and building hypotheses, not just statistical analysis.

Shared Responsibility

Data literacy is essential for all faculty and staff to engage meaningfully and support evidence-based decisions.

ACCESSING REYNOLDS DASHBOARDS

Login Methods

Users can access dashboards through personal accounts or the college intranet for convenient data entry points.

SAS Account Link: <https://jsrprodviya.ondemand.sas.com/SASLogon/login>


Intranet Link: <https://intranet.reynolds.edu/enrollment-reports/index.html>

Navigation Instructions

Step-by-step guidance will help users navigate the dashboard interface efficiently to find relevant data.

Data Engagement

Mastering dashboard access empowers faculty and staff to participate confidently in data-driven discussions.



Username

Password

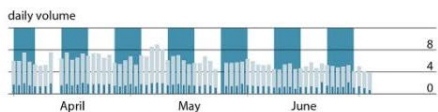
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LOGIN

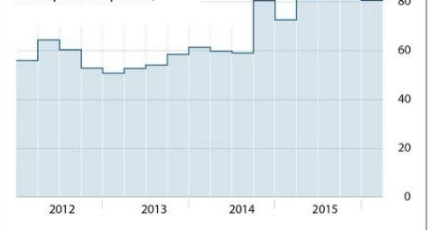
8280.74 223.32, or 2.63%
High, low, open and close for each trading day of the past three months.

Trailing P/E ratio 12.06 76.52
P/E estimate 13.38 12.28
Dividend yield 3.46 2.86
Current divisor 0.132319125

Stock price chart



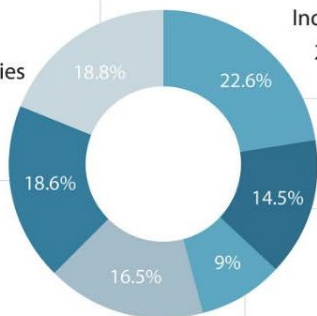
Research and development
Quarterly research-and-development expenses,



Infrastructure 18.8%

Securities 18.6%

Financial 16.5%

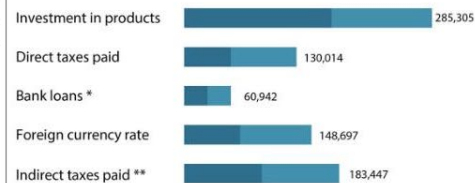


Industry 22.6%

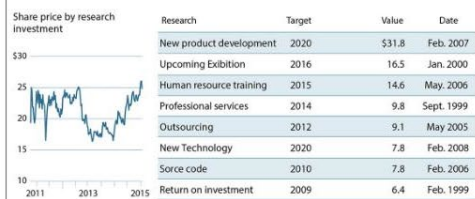
Other 14.5%

Real estate 9%

Financial segmentation analysis

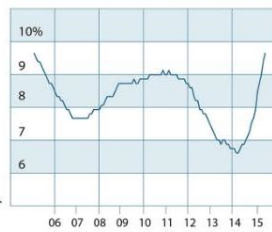


Market trends

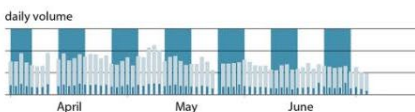
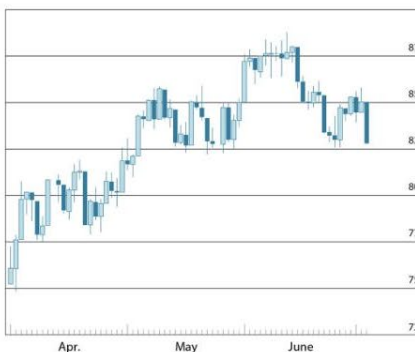


Sales quarterly chart

Sales rate hit a 10-year high of 9.5% and expect the rate to top 11%
Sales split evenly across customers the balance expect to reach normal rate by the end of quarter.



Investment in research



DASHBOARD FEATURES & INTERACTIVITY

Applying Filters

Users can refine data views by applying filters for term, course, or demographic group to focus on relevant information.

Using Tooltips

Tooltips provide additional data insights without cluttering the dashboard, enhancing understanding at a glance.

Maximizing Chart Views

Maximizing chart views allows users to analyze data more deeply and present insights clearly during presentations.

INTERPRETING VISUALIZATIONS

Bar Charts Analysis

Bar charts display information by a grouping, helping users compare performance across groups effectively.

Trend Lines Interpretation

Trend lines illustrate performance changes over time to reveal progress or decline patterns.

Geographic Enrollment Maps

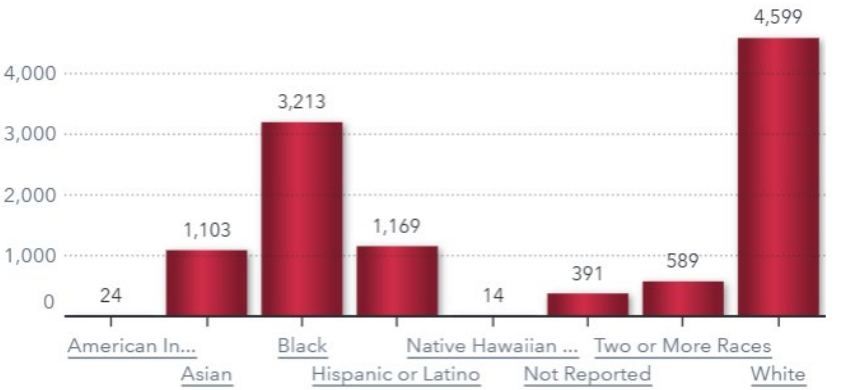
Maps highlight geographic patterns, offering insights into regional participation differences.

Charts

Charts are traditional "rows and columns" of data, displaying a large amount of detailed information in a summarized format



Students by Race / Ethnicity and Semester - Click on an underlined item to further details.

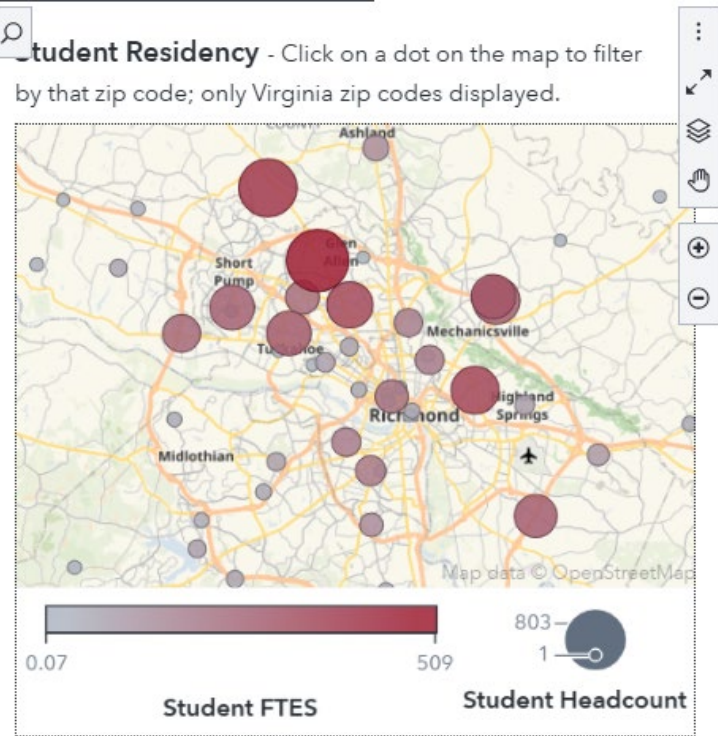


BAR CHARTS

Yield Rate



LINE CHART



GEOGRAPHIC MAPS

Fall to Fall Retention Rate by Race and Gender - Click on a caret to sort by gender. Click on a column header to sort on that item.

Race or Ethnicity	Fall to Fall Retention Rate	Total Students Retained	Total Students
Total	49.3%	24,841	50,427
American Indian or Alaska Native	46.9%	91	194
Asian	60.4%	2,170	3,591
Black	42.7%	7,093	16,596
Hispanic or Latino	50.9%	2,309	4,539
Native Hawaiian or Other Pacific Islander	52.1%	50	96
Not Reported	54.2%	485	895
Two or More Races	48.5%	1,102	2,274
White	51.9%	11,541	22,242

'TRADITIONAL' CHART

LET'S PRACTICE

Go to this
link: <https://intranet.reynolds.edu/enrollment-reports/index.html>

- Click on Enrollment Dashboard
- Click on "click here to view the Enrollment Dashboard" link

Then...

- Apply and remove filters
- Use tooltips
- Use an interactive feature


← → ↻ 🔍 jsrprodviya.ondemand.sas.com/SASVisualAnalytics/

🗄️ | 🔑 SCHEV Login 🔑 Adobe Acrobat

☰ SAS® Visual Analytics - Explore and Visualize

✎ Enrollment Dashboard Guest Access

Welcome Page : Enrollment and FTES Goals Course Enrollment Trends Student Enrollment Demographics



Dashboard Owner: Jennifer Mezquita-Macaia

Dashboard Description: This dashboard depicts overall trends in enrollment, for the purpose of setting enrollment goals and understanding trends. Enrollments are calculated by course, then broken out by school enrollments, student enrollments, applications, and financial aid. Enrollment goals are set each semester by the dashboard owner. The Application Yield tab reflects the percentages of students who enrolled in the semester for which they applied. The Financial Aid Trends tab displays only students with aid awarded to their financial aid account.

Aid Awarded: The total financial aid awarded to a Reynolds student. Calculated by table PS_STDNT_ENRL; criteria: aid_type='GRANT', institution = 'SIS'.

Application Yield: The percentage of students who enrolled in the same semester as ADMIT_TERM from PS_ADM_APPL_PROG=STRM from PS_STDNT_ENRL.

Class Section: The number that identifies the particular section offering of a course. When reporting, this data element is called Class_Section. The data source is PS_CLASS_ASSOC.

Class Subject: Character course subject code, typically three characters from the SIS and the relevant field is "SUBJECT".

Course_FTES: Course_FTES are the number of full-time equivalent enrollments given semester, times the number of credit hours of the course, divided by 15. The calculation would be calculated as $(10 * 3) / 15 = 2$ FTES. (Note: this calculation is done by course and credit hours, rather than the course's enrollment and credit hours.) Criteria: join to PS_CLASS_ASSOC on CRSE_ID; CRSE_ID=CRSE_ID (PS_CLASS_ASSOC; field: UNITS_ACAD_PROG) and then divide the total by 15.

Student: An individual who has successfully enrolled in at least one course. Calculated by table PS_STDNT_ENRL; criteria: acad_career='CRED', institution = 'SIS'.

Total Sections: The total count of sections, using subject, catalog number, and section number.

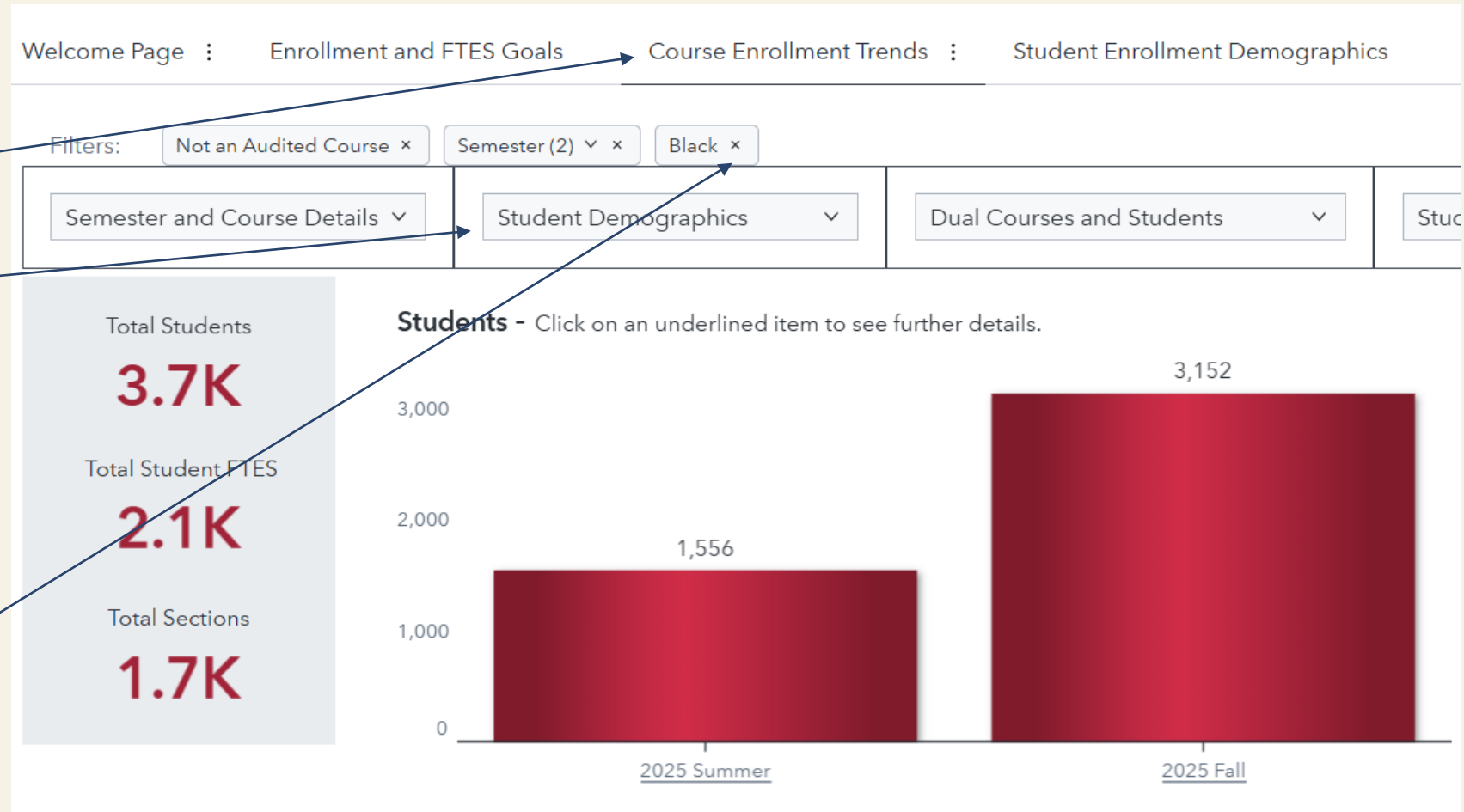
APPLYING AND REMOVING FILTERS

Applying filters

- Click on the tab named "Course Enrollment Trends"
- Click on the filter menu called "Student Demographics"
- Click on "Black" in the Race / Ethnicity filter menu

Removing filters

- Click on the small "x" on the right-hand side of the breadcrumb descriptor



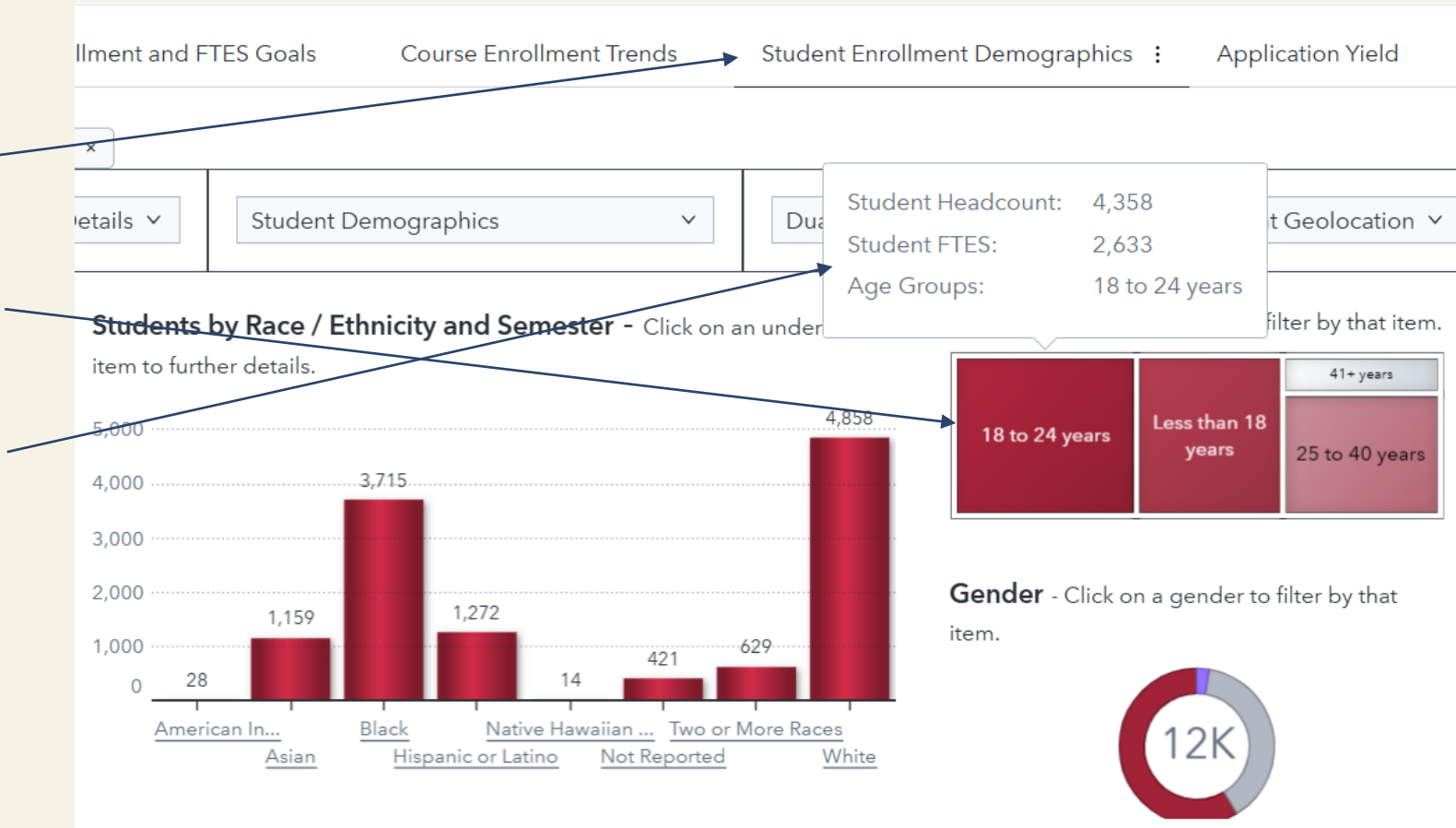
USING TOOLTIPS

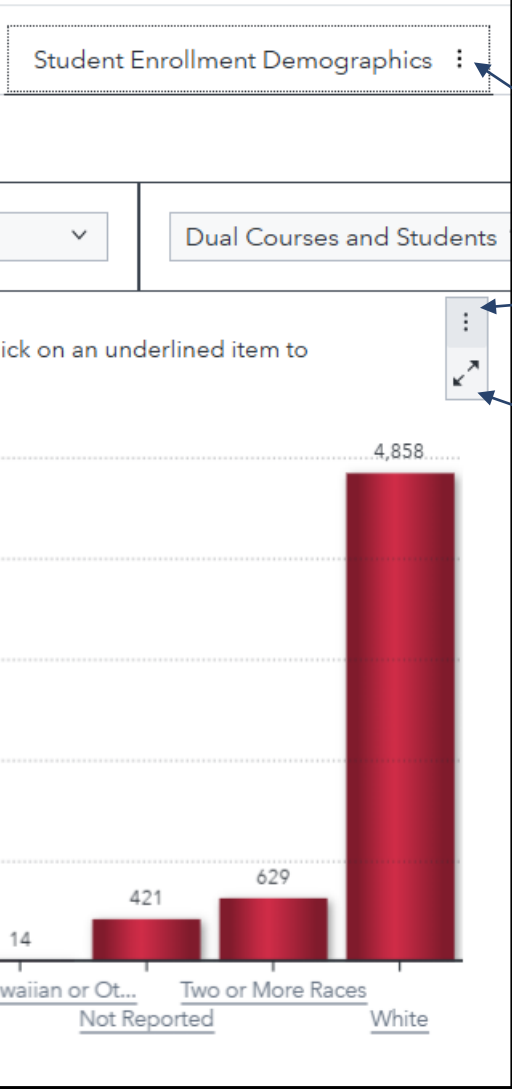
Hovering to see a tooltip

- Click on the tab named "Student Enrollment Demographics"
- Place your mouse over the red box that says "18 to 24 years"
- Look at the information which appears in the pop-up box

Now try...

- Adding a filter and removing it
- Hovering your mouse over another visualization (chart, pie chart, map)





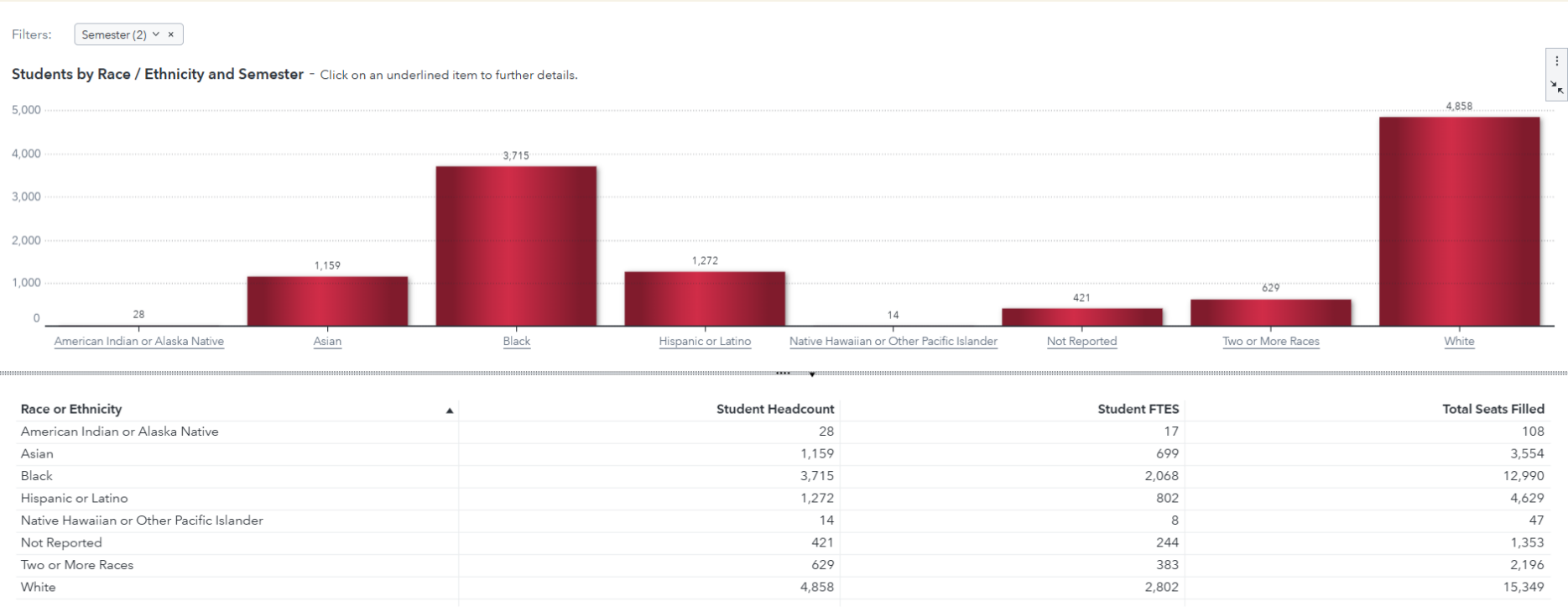
Click on the tab named "Student Enrollment Demographics"

- Place your mouse over the upper right hand corner of the bar chart

See the gray icon with the three dots and the two outward pointing arrows

- Click on the arrows to maximize the view

MAXIMIZING VIEWS



ENROLLMENT DASHBOARD – KAREN'S EXAMPLE



Dashboard Usage Demonstration

Karen demonstrates how to use the enrollment dashboard to track and analyze student data effectively.

Filtering and Trend Identification

Examples include filtering data by program or term and identifying student enrollment trends over time.

Strategic Planning Support

Dashboards support strategic planning and resource allocation by providing real-time enrollment insights.

Encouraging User Engagement

Participants are encouraged to observe trends and discuss findings to enhance understanding and application.



INTERACTIVE PRACTICE ACTIVITY

Collaborative Data Review

Participants work in groups to analyze dashboard data and identify key trends and insights together.

Data-Driven Insights

The activity promotes understanding of student success metrics through reviewing visual data representations.

Building Confidence

Exercise aims to build participant confidence in interpreting institutional data for informed decision-making.

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Options

College-wide Student Performance Dashboard – Gateway Math tab

Enrollment Dashboard – Student Enrollment Demographics tab

Data Engagement

- What is the tab we're viewing trying to tell us?
- Why does the college want to monitor that information?
- How does that information connect to my role?



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COMMUNICATING FINDINGS



Effective Data Visualization

Selecting visualizations that clearly support conclusions helps communicate findings effectively to any audience.

Sharing Insights Transparently

Sharing data with colleagues promotes transparency and informs better decision-making across teams.

Guided Presentation Techniques

Using prompts to think through presenting insights aids in delivering clear, compelling messages to teams.

Advocating Data-Driven Strategies

Mastering communication enhances influence when advocating for data-informed decisions in departments.

WRAP-UP & REFLECTION

Reflection Activity

Participants reflect on dashboard skills and their application in professional roles for improved data use.

Critical Thinking Encouraged

Reflection questions prompt critical evaluation of data practices and identification of improvement opportunities.

Resources and Support

Provision of resources and contact information encourages ongoing engagement and support for data literacy.

Integration into Work

Reflecting on experiences prepares participants to integrate data literacy into daily tasks and institutional goals.

