SAN DIEGO STATE UNIVERSITY

Guide to Being a Data Champ

2018 - 2019

CSU The California State University

NSF

About This Guide

In this Data Champion's Program companion guide, Data Champions will find general information about the program, fall schedule, workshops preparation materials, and resources and guidelines for completing all requirements of the Data Champion program. This ever evolving guide will continue to be updated and refined as new data resources are discovered. We welcome any and all feedback to ensure this guide is as useful as possible and meets the needs of all our Data Champions. For the most recent version of this guide please visit the Data Champion's Team Drive.

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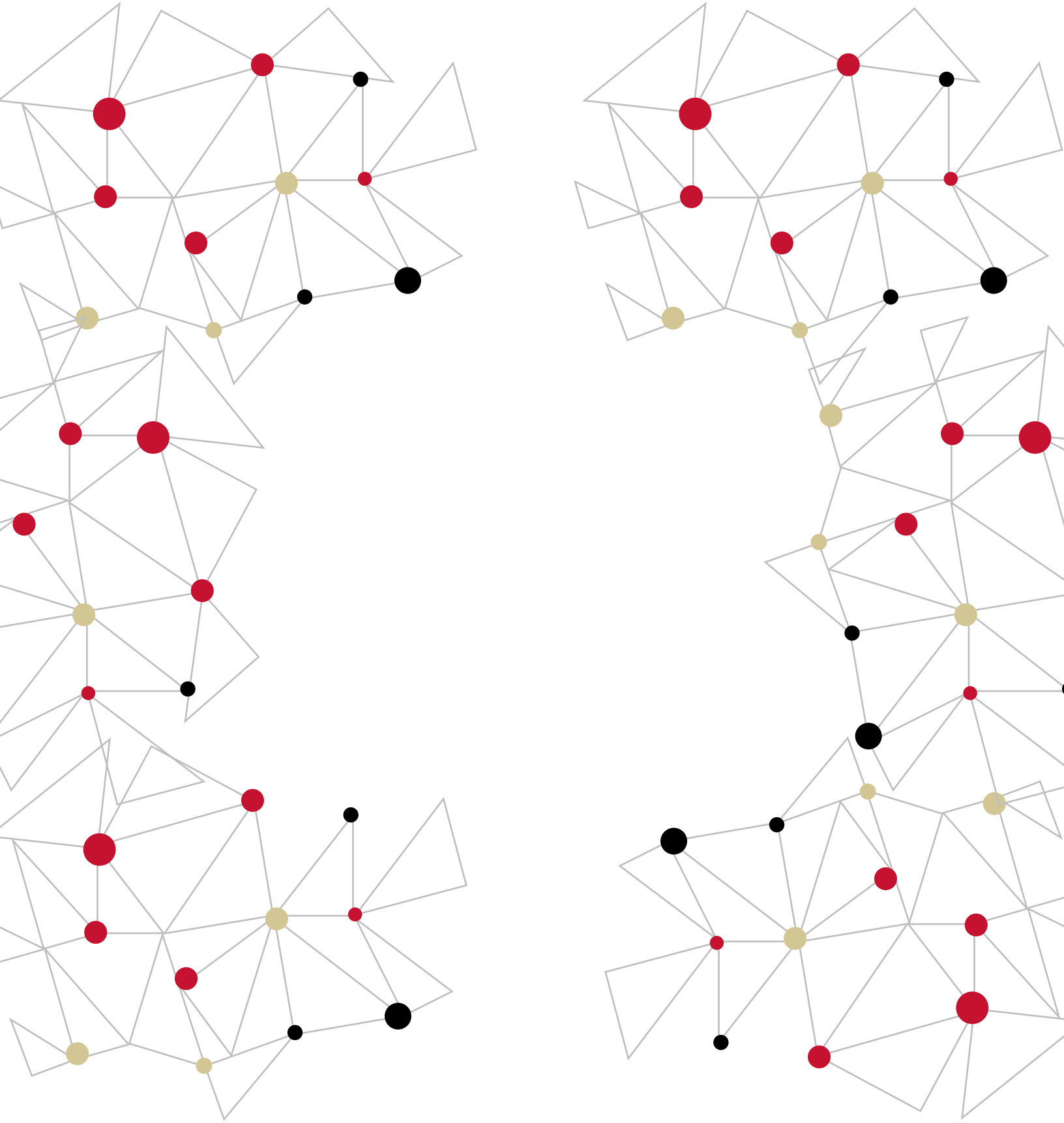
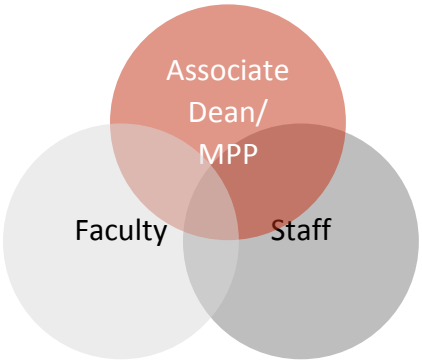


Program Overview

Data Champions Program
Fall 2018- Spring 2019

The Data Champions Program brings together selected campus administrators, faculty, and staff in an effort to facilitate data-informed decision-making in support of student success. The program is motivated by the CSU Graduation Initiative 2025 (GI2025), SDSU strategic goals, and efforts to expand University data capabilities. By becoming proficient in the data tools available, Data Champions will be empowered to identify potential predictors of and barriers to student success and to collaborate with colleagues to develop data-informed programs and initiatives.



Each unit will nominate one faculty, staff or administrator to serve as their Data Champion. Data Champion Coaches will assist Data Champions and their College Student Success Teams by providing resources and outlets for ongoing discussion of the Graduation Initiative 2025 goals. Coaches will also provide hands-on training, consultation on institutional data, feedback, and promote collaboration among the Data Champions.

Program Overview

Fall 2018

Data Champions and available members of their College Student Success Teams (CSST) will attend training sessions centered on inquiry-based activities and discussions. Through these sessions Data Champions and CSSTs will help build their individual missions, goals and projects for the academic year and their understanding of institutional data and information resources and how data can help provide actionable solutions.

Spring 2019

In the spring, Data Champion teams will be paired with a Data Coach to execute one action-research project. Twice-monthly Data Champion meetings will be scheduled to discuss progress and results.

Program Goals and Objectives

Program Goals:

- Promote campus-wide evidence-based decision-making.
- Encourage collaboration across units to enhance student success.
- Communicate goals of GI 2025 and help campus units take ownership.
- Engage faculty and staff in strategic planning and policy decisions.

Data Champions Program Learning Outcomes:

- Achieve an understanding of Graduation Initiative 2025, student success metrics, and how these initiatives relate to the goals of each Data Champion's specific unit.
- Build data literacy by exploring data resources such as CSU and SDSU dashboards.
- Identify predictors of and barriers to student success within each Data Champion's specific unit.
- Learn best practices for summarizing and visualizing institutional data.
- Communicate inferences drawn from institutional data to key university stakeholders.
- Promote awareness of information resources across campus – Be a Data Champion!

Data Champion Responsibilities

Fall 2018

- Attend all Data Champion workshops.
- Complete all workshop preparatory assignments on time.
- Consult with CSST and provide updates to unit leadership on project ideas and progress.
- Explore and provide feedback on the Data Champion Program, ASIR internal portal, SDSU Student Success Exploration & Analytics dashboards, and CSU Dashboards.
- Submit a draft proposal for data project by Friday, December 7.

Spring 2019

- Submit a final proposal in April 19, 2019.
- Attend Spring 2019 Data Champion Program meetings (dates TBA).
- Execute the proposed data project in Spring 2019.
- Present findings from data project at the final Spring 2019 Data Champions Program meeting and at appropriate campus venues (e.g., dept/college meetings, etc.).
- Work with Data Champions Program personnel to develop a plan to promote data literacy and data-informed decision making at the Champions' administrative unit.

Program Bonuses and Support

Through successful completion of all requirements of the program, Data Champion faculty and staff can earn a bonus, professional development funding or release time for participation in the program. Incentives will be at the discretion of unit leadership.

Data Coach Responsibilities

Summary:

Data Champion coaches are a resource to help Data Champions understand the data, find existing data resources, help identify proper methods and help interpret results. Each Data Champion will be assigned a primary coach who will regularly meet with teams to answer questions and facilitate communication with subject area coach experts as necessary.

Primary Coach Duties

- Review proposals and provide comments (reflecting comments from all coaches)
- Collect any survey/participation/other data from team to be linked to ASIR data
- Develop data sets including linking external data to ASIR/SIMSR data
- Communicate weekly with teams about project and help move the project forward
- Meet regularly with Data Champion teams
- Answer questions, provide clarification
- Attend Spring workshops and present information as needed
- Provide guidance about data and analysis
- Facilitate meetings as necessary for technical issues
- Review results and provide input on presentation of findings

Subject Area Coach Duties:

- Provide guidance to Data Champion teams in area of expertise e.g., statistical methods, APEX, survey development, dashboard development etc.
- Develop training materials and present information at the Spring workshops
- Communicate/meet with Data Champions as necessary
- Attend Spring workshops
- Review results and provide input on presentation

Workshop 1:

Contextualizing Student Success – Why are we here?

Graduation Initiative 2025

What is the Graduation Initiative 2025?

Graduation Initiative 2025 is the California State University's ambitious initiative to increase graduation rates for all CSU students while eliminating opportunity and achievement gaps. The goal put forth by the CSU is that all students have the opportunity to graduate in a timely manner according to their personal goals, positively impacting their future and producing the graduates needed to power California and the nation. (1)

Why were these targets set?

Research from the Public Policy Institute of California indicates that California will face a deficit of nearly 1.1 million degrees by the year 2030. Graduating more students at the CSU represents California's largest opportunity to meet the demand for highly educated workers while also providing significant opportunities to diverse populations.

What are the SDSU Full-Time First-Time Freshmen Targets?

4-Year GI2025 FT-FTF Graduation Rate Target = 54%.
6-Year GI2025 FT-FTF Graduation Rate Target = 86%.

4-Year FT-FTF Graduation Rate for Fall 2013 Cohort = 39.6%.
6-Year FT-FTF Graduation Rate for Fall 2011 Cohort = 75.3%.

What are the SDSU Full-Time New Upper Division Transfer Targets?

2-Year GI2025 FT-NUDT Graduation Rate Target = 51%.
4-Year GI2025 FT-NUDT Graduation Rate Target = 91%.

2-Year FT-NUDT Graduation Rate for Fall 2015 Cohort = 50.2%.
4-Year FT-NUDT Graduation Rate for Fall 2013 Cohort = 85.3%.

How does SDSU plan to achieve these targets?

To achieve 2025 goals, SDSU primarily plans to focus on enrollment management, advising, student success support services, and success in low completion rate courses.

How are graduation rates calculated?

View our Illustrated Guide to Understanding Graduation Rates!

Graduation Initiative 2025 Resources

CSU Resources

- CSU Graduation Initiative 2025 ➔
- CSU Zero Graduation Gaps & Strategies ➔
- How Graduation Targets Were Determined ➔
- Comparable Institutions ➔

SDSU Resources

- SDSU College Targets (Tableau access required) ➔
- Data Champion Dashboards ➔

Graduation Rates Illustrated

By now you may be wondering, how exactly are graduation rates calculated? Or if you already know, you may still be surprised by a few graduation rate calculation nuisances. The following examples will specifically look at the Full-Time First-Time Freshmen (FT-FTF) six year graduation rate, but the same principles apply to the FT-FTF 4-year and New Upper-Division Transfer (NUDT) 2-year and 4-year graduation rates.

A few key terms:

Cohort: A cohort is a group of students entering the university in a particular semester.

Full-Time: An undergraduate student taking 12 or more units at fall matriculation is considered Full-Time.

SDSU Graduation Rate

Fall 2019 Cohort

...6 Years Later

$^{4}/_{5}$ =

80%

FALL 2019

SDSU FT-FTF

Graduation Rate

The Denominator = 5

If 5 Full Time First-Time Freshmen begin at SDSU in Fall 2019…

The Numerator = 4

…and if 4 out of the 5 students go on to graduate within six years, the Fall 2019 six-year First-Time Freshman graduation rate will be equal to 80%.

FAQ

How are summer terms counted in the graduation rates? When calculating graduation rates, students graduating in summer terms are included in the rates similar to spring graduates. For example, first-time freshmen entering in Fall 2019 and graduating by summer of 2025 will count towards the Fall 2019's six-year graduation rate.

What if first-time freshmen entering in Fall 2019 are still enrolled after summer 2025 and graduate at a later date? They will earn their Bachelor's degree but will not count towards the six-year graduation rate.

Who is not counted in the graduation rate? Students who enter the university as part-time students in their first semester do not count towards SDSU's graduation rate. This population has declined significantly over time.

College Graduation Rates

College and Department graduation rates are a bit trickier to interpret than overall graduation rates because college and department graduation rates are calculated based on the student's declared major at fall matriculation.

Fall 2019 Cohort

...6 Years Later

The Denominator = 4
For example, if 4 First-Time Freshmen from the Fall 2019 Cohort begin their first semester at SDSU in the College of Liberal Arts, these students are the only students that will count towards CAL's graduation rate.

The Numerator = 3
The college graduation rate is based on how many of these students go on to graduate from any college. For example, if 3 of 4 students who entered SDSU in CAL graduate by summer 2025, the CAL Fall 2019 6-year FT-FTF graduation rate will be equal to 75%.

$$^{3}/_{4} = 75\%$$

Fall 2019 CAL FT-FTF Graduation Rate

CAUTION!
Notice that even though 2 of the FT-FTF who started in CAL graduated in HHS and BUS, they still count toward the CAL Fall 2019 FTF six-year graduation rate. Note: Graduation rates at the program and degree levels are calculated in a similar manner.

FAQ

Who is not counted in the CAL's graduation rate? Fall 2019 first-time freshmen who graduated in the College of Liberal Arts but did not matriculate in this college.

In the scenario above, do the two students who graduated in HHS and BUS also count towards the HHS and BUS graduation rates? No. Since these students entered the university as CAL majors, they only count towards the CAL graduation rate.

Workshop 2:

Establishing Baselines and Identifying Areas of Opportunity – Where are we now?

Data Champion's Data Resource Vault

Where do I go to find general information about SDSU?

Analytic Studies and Institutional Research Website – The ASIR public website is a great place to start when looking for data. The many data visualizations and easy to read data tables can help users answer basic enrollment, demographic, and outcome questions about SDSU or a particular college. The ASIR Website also includes an extensive data resource page!

Where do I go to find more specific aggregate information about my particular department or majors?

Student Success Exploration and Analytics Dashboards – The SSEA dashboards provide users with similar aggregate information found on the ASIR website but to a greater degree of granularity. Dashboards in SSEA can be filtered to the departmental and major level and require Tableau access. The SSEA Dashboard directory is a great place to start learning about all of the reports and help documents available throughout this resource.

Other Tableau Reports –

- **District Profiles** – The district profiles summarize student profiles and outcomes by high school and community college institutions of origin. To request access to this report contact oir@mail.sdsu.edu
- **Student Affairs Research and Assessment Reports** – SARA reports provide aggregate student information for student support programs such as EOP and Compact Scholars.

Where do I go if I need access to individual student level records?

While the vast majority of questions can be answered using the resources listed above, there are times when individual student reports are needed for advising and targeted interventions.

Student Data Requests via the Registrar's Office – Request for individual student data can be made through the Registrar's Office and are generally provided to you through an APEX report. For the Data Champion projects, we will be facilitating access to individual, anonymized data when necessary.

Enrollment Services Data Center & APEX (SIMS/R) Reports – APEX reports have been developed for curriculum, schedule building and other administrative and advising functions. Improvements in APEX user management will soon allow broader access to these reports.

Data Champions: Data Sharing Guide – To access the data, please complete the FERPA training and sign the electronic Confidentiality Agreement.

Where do I go if I want to compare my data with other CSU campuses?

CSU Student Information Dashboards –Like SDSU's Analytic Studies and Institutional Research public website, the CSU Student Information Dashboards provide users with basic enrollment, demographic, and outcome information for all CSU campuses. These dashboards also provide labor market outcome statistics for CSU graduates employed in state of California. Additional CSU statistics are also available through the CSU Analytics Studies website.

CSU Student Success Dashboards – The CSU student success dashboards were created to specifically support the Graduation Initiative 2025 and to provide campuses with actionable data. The faculty student success dashboards are a highly recommended resource for all faculty interested in learning more about their program, and comparing key metrics such as course failure rates, to similar programs at other CSU institutions.

CA Board of Education (CBEDS) – A rich resource of K-12 student data and statistics.

Where do I go if I want to compare my data with other universities or the national higher education landscape?

Integrated Postsecondary Education System (IPEDS) – IPEDS gathers information from every college, university, and technical and vocational institution that participates in the federal student financial aid programs. The Higher Education Act of 1965, requires that institutions report data on enrollments, program completions, graduation rates, faculty and staff, finances, institutional prices, and student financial aid. These data are made available to students and parents through the College Navigator college search Web site and to researchers and others through the IPEDS Data Center [resource: About IPDEDS: What is IPEDS?].

National Center for Education Statistics (NCES) – The National Center for Education Statistics (NCES) is the primary federal entity for collecting and analyzing data related to education in the U.S. and other nations. NCES fulfills a Congressional mandate to collect, collate, analyze, and report complete statistics on the condition of American education [resource About US: About NCES]. The NCES is a great resource for learning more about general higher education policies and their impact on higher education.

Education Trust – The Education Trust is a non-profit policy advocacy organization that has developed several useful higher education data resources such as College Results Online – which compares the cost and outcomes of universities serving similar students, the Pell Graduation Rate Tool – which monitors the graduation rate outcomes of pell-recipients throughout the nation, and the California Financial Aid Tracker – which monitors financial aid application rates.

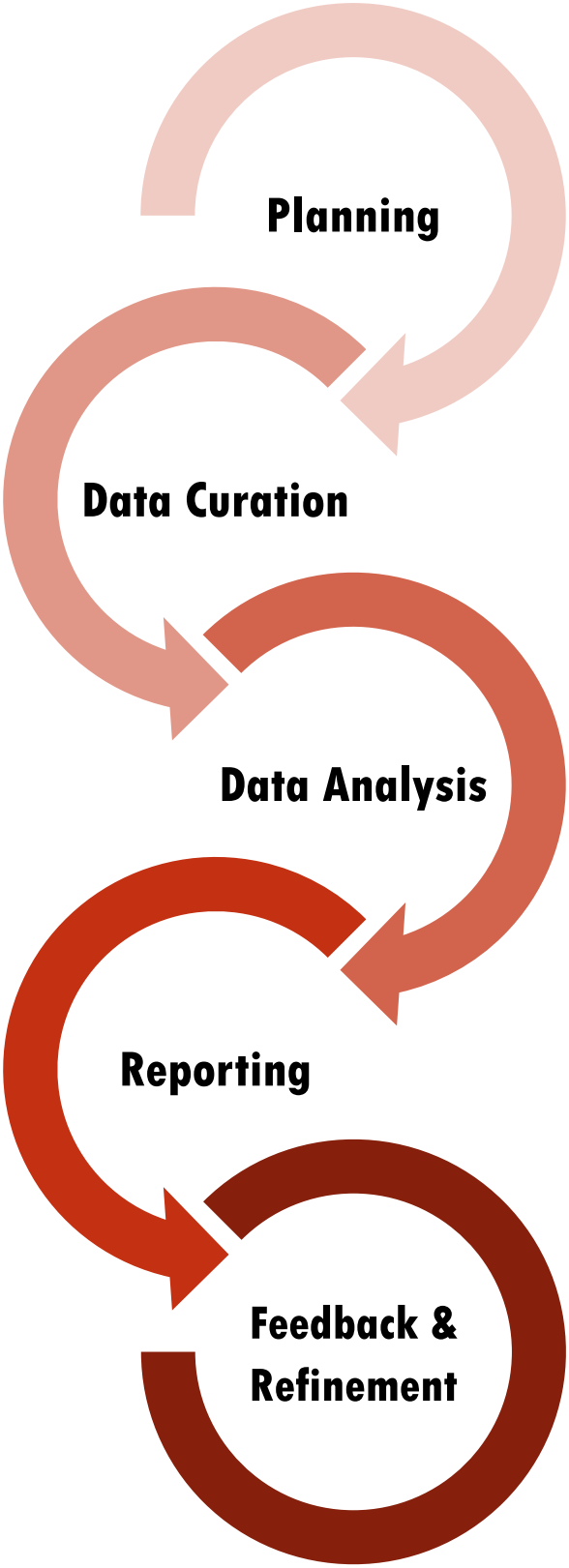
Workshop 3:

Goal Setting and Proposal Development – Where do we want to go?

Project Workflow Guide

Planning

- Collect Background Information (Optional Guide)
- Conduct Literature Review (Optional Guide)
- Draft Research Proposal (Guide)
- Explore Data (Optional Guide)



Data Curation

- Identify data resources
- Review data documentation
    - Document new data fields
- Data compilation and organization
    - Create mechanism to extract data from necessary sources, creating and documenting new variables, etc.
    - Prepare data for cleaning and variable selection
- Compile and import the data into statistical analysis environment (e.g. Excel, R, SAS, SPSS)

Data Analysis

- Choose the analysis approach
- Execute the statistical procedure
- Organize scripts and save the query and output

Data Reporting

- Draft project executive summary
- Present study results

- Publish Results and Collect Feedback

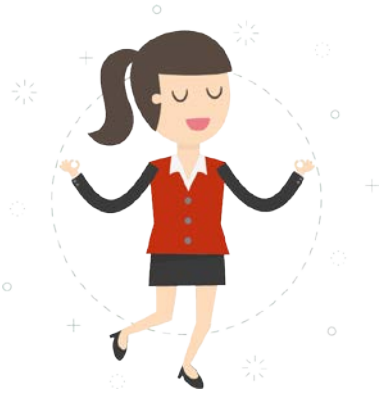
Feedback and Refinement

Keep In Mind...

Every project is unique! This project workflow guide is just a *guide*. Depending on the needs and focus of your particular project, you may not need to follow every step in this guide. This guide is also not exhaustive, and projects may require additional steps in order to be executed effectively.

Context matters! A great analyst always takes a project's context into consideration. Understanding stakeholders, knowing your audience, and familiarizing yourself with your topic of interest as much as possible will ultimately help you determine the best plan of action for your particular project.

Research is iterative! Many of the steps in this guide will need to be revisited multiple times throughout the research process. Patience and flexibility, is key to the completion of a successful analysis project!



Research and Evaluation Resources

- ASIR Program Evaluation Analysis Visual Flowchart
- The Manager's Guide to Evaluation
- AEA 365 | A Tip-A-Day by and for Evaluators

Add your Own!

Have a great resource you would like to share with your fellow data champions? Share it with us!

Workshop 4:

Data Champion Project Proposals

Project Proposal Guidelines

Data Champion projects will focus on using data to investigate and identify ways in which the DCs' college/department/unit can help improve student success relative to the CSU Graduation Initiative 2025 and student progress to degree.

Specific Project Aims/Introduction:

One or two sentence description of main purpose for project. What student success questions are you addressing? What questions does the project hope to answer?

Background:

Why is project important? What relevant policies or historical trends have motivated project? How does project align with the Graduation Initiative 2025 and SDSU strategic goals and what impact can project outcomes potentially have on the university? How can answers to these questions inform practices in your unit?

Plan of Work

- Who are the populations of interest?
- How will "success" be measured?
- What must be accomplished in order to meet project objectives?
- What data can be compiled from existing resources?
- What new data must be compiled?
- What is the project time-line?

Sample Content:

Collaborate with program leaders and key stakeholders to:

- Document program history and identify any important or significant changes in implementation.
- Assess extent to which program is currently evaluated.
- Gather any additional data or participation measures not currently stored in SIMS/R or in ASIR.

Analytics:

- Gather, clean, and organize data from SIMS/R and ASIR data-warehouse. SIMS/R covariates presented in the appendix. Assimilate data collected by program.

Methods:

What methods will be applied to conduct the analyses? Summary of intended study design (e.g., surveys, focus groups, and/or data collection) and data analysis approaches (e.g., descriptive summaries, data visualizations, and/or statistical analysis to be performed).

Deliverables:

How will results be communicated to campus and program leaders? These results may help inform program evaluation reports, program funding requests, proposed initiatives for refining and improving the program, and future program assessments.

Sample Content:

- Executive summary of all findings to be shared with program administrators and campus leadership.
- Study results delivered via a collection of visualizations or dashboards as well as a report.
- Presentations at appropriate venues to communicate results of the project and share experience using data resources.
- Other deliverables as appropriate for selected project.

Additional Resources:

Sample Project Proposal – Math Learning Center Project Proposal

UC Berkeley Office of Undergraduate Research & Scholarships: Writing Research Proposals.
University of Michigan's - The Proposal Writer's Guide
The Professor Is In - Dr. Karen's Famous and Foolproof Research Proposal Template
UIUC University Library - Writing a Research Proposal: Parts of a Proposal
Social Science Research Council - On the Art of Writing Proposals
USC Library Research Guide - Organizing Your Social Sciences Research Paper: Writing a Research Proposal

Sample Data Champion Projects

Project ideas from 2017-2018 Data Champions:

Team	Project Focus	Findings & Action Steps
Arts & Letters	While CAL students graduate at higher rates compared to the overall rates, underrepresented students (URM, Pell) perform worse. CAL's project will analyze data to identify reasons for gaps in graduation rates for underrepresented populations.	FINDING: Significant differences were discovered for male and URM students. High rate of major changing in year 4 was also discovered. ACTION: Increase advising to first and second year students to encourage earlier major exploration.
Business	Impact of HIPs (internships and study abroad) on graduation and employment rates	FINDING: Study abroad did not negatively impact graduation (same as no study abroad) and while graduation was delayed for students who had 2 or more internships, the employment rate was much higher than for students without an internship. Those with only 1 internship graduated at similar rates as those without one but with much better placement rates. ACTION: BUS plans to communicate results with advisers and students.
Education	Explore the reasons for upper division students in pre-major status.	FINDING: Transfer students from two local community colleges most likely to be delayed and take longer to graduate. ACTION: Expand CC outreach and recruiting strategies; Add new transfer student success coordinator
Engineering	Focus on reasons for low 4-year graduation rate and identify strategies for helping expedite degree completion.	FINDING: Highlighted the inability of ENG students to graduate in 4 years given the degree requirements. Also identified courses with high repeat rates. Identified low number of summer terms attended. ACTION: Promoting summer enrollment could be a very effective strategy for expediting degree completion given that most ENG students enrolled in one or fewer summer terms during their SDSU career.
Health & Human Services	Explore course repeats in HHS pre-requisite courses to explore impact on persistence in major and graduation.	FINDING: Nearly 25% of HHS undergraduates repeat required prerequisite course, but those repeating are more likely to stay in major; course repeats delay graduation by about one semester. ACTION: Consider supplemental instruction model for most highly repeated courses

Team	Project Focus	Findings & Action Steps
PSFA	Explore course paths of students with different graduation outcomes and how these align with myMAPs. Students grouped by their graduation timeline: 4-year, 5-year, 6-year and did not graduate	FINDING: Actual class schedule did not align well with myMaps. ACTION: This discovery will prompt discussions with faculty to ensure students can follow myMaps as well as conversation about more general pre-major programs. FINDING: High percentage of students with registration overrides; on-time completers only at best loosely following suggested course mappings ACTION: Will review and consider removing prerequisites FINDING: Low number of students entering as specific major and high proportion migrating between art majors. ACTION: Consider a general art pre-major major where all art students start by exploratory, foundation classes, then declare in sophomore year or start of junior.
Sciences	Identify characteristics that elevate students' risk of failing pre-calculus and calculus courses.	FINDING: First generation and URM students are at most risk and those with higher Eligibility Index scores performed better. Students attending the Math and Statistics Learning Center have significantly higher odds of succeeding the Calculus course sequence, especially in pre-calculus. ACTION: Further explore impact of MSLC and find ways to support more students with this intervention.
GRA	Defining and capturing information on UG research data.	FINDING: While research can be defined and captured in many ways, GRA focused on research in credit-bearing activities. ACTION: Through discussions with colleges, departments and campus experts, conditions for defining these activities have been clarified with more work to be done.
Library	Explore value of storing library data in order to better explore relationship of library resources on student success and outcomes.	FINDING: Limitation of data availability hampered efforts to replicate library studies and/or make meaningful conclusions about the impact of the library on student success. Demonstrates need to retain library usage data. ACTION: Assessment Task Force has been assembled with charge of creating data preservation plan
Housing Admin & Residential Education	Better understand the sophomore to inform and establish best practices for Sophomore QUEST program.	FINDING: Data show the positive impact of living in housing for two years through higher GPAs, higher graduation rates and more timely major changes. ACTION: Focus group findings provided insight that will help shape programming.
Student Affairs	Explored outcomes for students by EOP status: those participating in EOP summer bridge, those in EOP only, students who meet EOP criteria but who are not in the program (first generation with EFC<=1500 and all other students	FINDING: EOP summer bridge has a significantly positive effect on the population it serves (EFC<=1500, first gen). However, there are many students who qualify but cannot be served. ACTION: Explore ways to expand the success of EOP summer bridge to serve more students.

Acknowledgements

We would like to thank the National Science Foundation, The CSU Chancellor's Office, and the SDSU Student Success Working Group for sponsoring and supporting this program.

Attributions

Images Designed by Doodler/Freepik, and modified for guide.

Cover:
- Boy reading a book

Meet the Data Champions:
- Business Woman in a Presentation
- Business background Design (man with megaphone)
- Business Woman Looking Through a Telescope

Program Goals and Objectives:
- Boss and employees working together

Program Timeline:
- Time administration with employee with alarm clock

Graduation Initiative 2025:
- Man painting a ladder on the wall

Illustrated Guide to Understanding Graduation Rates:
- Graduation Hat
- Boss choosing an employee
- Man being chosen

Data Resource Vault:
- Creative Businessman character (Man with Vault)
- Businessman with a laptop

Project Workflow Guide:
- Businessmen Drawing Design
- Ideas in the Head
- Businesswoman character relaxing

Project Proposal Guidelines:
- Businesswoman with Blank Paper

Sample Data Champion Projects:
- Businessman with a bulb in the head