Strengthening Data Culture Through a Collaborative Data Literacy Program

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ASSOCIATION FOR INSTITUTIONAL RESEARCH
Data and Decisions for Higher Education

[Introduction from AIR]

Hi, thank you for joining the webinar. My name is Cameron Stevenson and I am currently the Associate Director for Strategic Analytics at California State University San Marcos.

I'm Adam Petersen and I am the Student Success Analyst in our Office of Undergraduate Studies. We're here with you today to talk about data culture and some of the work that Cal State San Marcos is doing to build data literacy and capacity across campus.

Overview

1. Context
2. Background and Rationale
3. Program Concept
4. Program Pilots
5. Logistics
6. Lessons Learned
7. Q & A

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Here is an overview of our plan for this webinar. We'll provide some context about our institution and our respective roles and functions on campus, share some background about how we came to this idea and the sources that influenced our thinking, and then go over the details of our Data Fellows program. At the end of this presentation, we've also set aside some time to field questions from the audience.

Context

California State University System

- Public state university system
- 23 campuses and 8 off-campus centers
- Graduation Initiative 2025

California State University San Marcos

- Located in North San Diego County
- Est. 1990 (29 years old)
- Fall 2018 Enrollment: 14,511

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As we shared, we're from California State University San Marcos. We are part of the California State University System, a public institution comprised of 23 campuses and 8 off-campus centers. As some of you may know, the CSU is actively engaged in something called Graduation Initiative 2025, which aims to increase graduation rates, reduce time to graduation, and eliminate opportunity and achievement gaps. A key pillar of the CSU's graduation initiative is *data-driven decision making*.

Cal State San Marcos is one of the youngest campuses in the CSU system, established in 1990. We are located in North San Diego County and we are a Hispanic Serving Institution and an Asian American and Native American Pacific Islander Serving Institution. Our fall enrollment – including both state-supported and extended learning programs - was about 14,500.

Context

Institutional Planning & Analysis (IP&A)

❱ Centralized, reports to President's Chief of Staff

❱ Evolving from a compliance shop to a true decision support function

❱ With IITS, leads campus Decision Support Group and Data Governance efforts

Strategic Analytics function

❱ Data visualization and self-service reporting (Tableau)

❱ Training & outreach

❱ Institutional surveys

❱ Analytic studies

❱ Student success initiatives (e.g. GI 2025)

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The Office of Institutional Planning & Analysis is our institutional research shop at Cal State San Marcos. We are a centralized data resource, reporting to the President's Chief of Staff. With encouragement from leadership, in the past several years we've experienced a real shift from focusing on compliance and reporting efforts to more proactive decision support. We meet bi-weekly with colleagues in Instructional and Information Technology Services and analysts in other units to coordinate campus-wide decision support activities, and our Director chairs the Data Governance committee as well. Within IP&A, I oversee the strategic analytics team, which focuses on curated data sources, data visualization, and self-service reporting, as well as extensive analytic support for student success initiatives like Graduation Initiative 2025.

Context

Office of Undergraduate Studies (OUGS)

❱ Est. 2014

❱ Academic success "hub"
  ❱ GI 2025
  ❱ Learning centers
  ❱ High-impact practices

❱ Highly collaborative, cross-divisional partnerships

❱ Data-informed

Student Success Analyst

❱ Full-time position est. 2017

❱ Student success initiatives (e.g. GI 2025)

❱ Assessment of learning centers and other OUGS programming

❱ Data-related professional development

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The Office of Undergraduate Studies is a relatively new office on campus. Established in 2014, it was conceived of as an academic success "hub" for undergraduate students. In order to do this work, the Office of Undergraduate Studies must be informed by data – and not just data for the sake of data, but the right data at the right time. I've been with the Office of Undergraduate Studies since 2015, though the student success analyst position was formalized in 2017. I am primarily responsible for analyzing and reporting data in support of the projects and programs under our office's umbrella. In addition, part of my job is to provide data-related professional development to staff and faculty affiliated with our office.

Background

AIR Statement of Aspirational Practice for IR (Swing & Ross, 2016)

"Data are everywhere across institutions of higher education, and access to analytical tools and reporting software means that **a wide array of higher education employees can be actively involved in converting data into decision-support information**. As such, models of decision making are changing, which opens new opportunities for wise use of data resources."

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So, you can probably see how, in these roles, Adam and I would spend a lot of time thinking about data, how data can inform and inspire student success efforts, and how to engage our colleagues across the university in this work. We recognized that collecting and crunching more data were only part of it; we also needed to build capacity for interpretation and use of data. This is not unique to Cal State San Marcos.

This quote is from AIR's Statement of Aspirational Practice:

"Data are everywhere across institutions of higher education, and access to analytical tools and reporting software means that a wide array of higher education employees can be actively involved in converting data into decision-support information. As such, models of decision making are changing, which opens new opportunities for wise use of data resources."

Background

Institutional Research as **Service Provider** vs. **Federated Network**
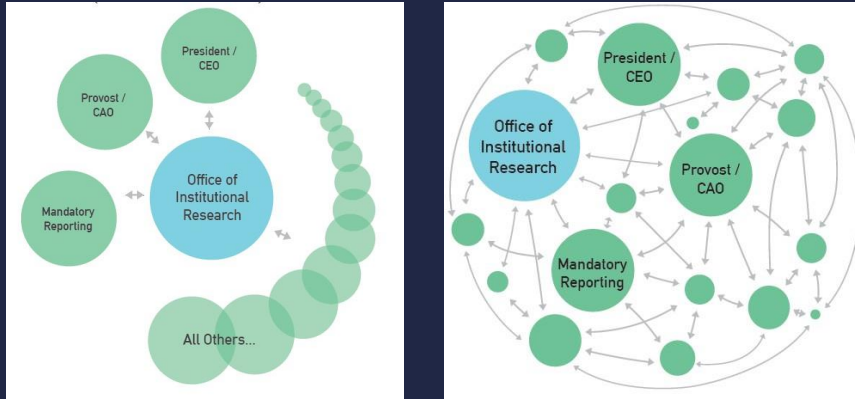
From: *A New Vision for Institutional Research*
(Swing & Ross, *Change Magazine*, 2016)

Swing & Ross talk about this shift in *A New Vision for Institutional Research*. Historically, IR offices were held up as a single source of truth, responsible for supporting high-level clients such as the President or Provost and responding to external and mandatory reporting requirements. As data sources multiply and demand for data grows, the field must look for new ways to expand capacity, avoid information bottlenecks, and put data more proactively into the hands of decision makers. We start to see a move to more of a federated network model of IR, where there is a much freer flow of information and decisions across offices and positions at all levels.

Background

AIR Statement of Aspirational Practice for IR (Swing & Ross, 2016)

"The function of institutional research connotes the institution-wide use of data and analytics, and not just the products of an office of institutional research. Building the function requires **coaching and professional development of employees across the institution in a purposeful and intentional process that increases capacity for data-informed decisions to permeate the institution**."

This can feel a little scary, but actually represents an opportunity for institutional research to serve

as change agents, offering "coaching and professional development of employees across the institution in a purposeful and intentional process that increases capacity for data-informed decisions to permeate the institution."

Background

A New Vision for Institutional Research (Swing & Ross, Change Magazine, 2016)

> "The task is not to create a thousand skilled staff members who could work in an office of institutional research, but rather to **develop an appropriate level of data literacy for decision-support roles that exist already**."

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As Swing & Ross state, "The task is not to create a thousand skilled staff members who could work in an office of institutional research, but rather to develop an appropriate level of data literacy for decision support roles that exist already."

Program Concept: Goals

- Cultivate a **data culture**
- Develop foundational **data literacy** skills
- Increase **assessment capacity**
- Create **networks of data advocates**
- Use of **common language**
- Engage in **systems thinking**
- Understand shared responsibility for **student success**

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This was the genesis of the Data Fellows Program at Cal State San Marcos. We wanted to create a

professional development program that would build data literacy, empower data users, and ultimately expand decision support capacity on our campus. And we wanted to continually tie that back to the work we're doing around student success.

Program Concept

Data Literacy: The ability to collect, manage, evaluate, and apply data in a critical manner.

There are many definitions of data literacy out there. We really like this one, and one of the first things we do with our Data Fellows is unpack it piece by piece. Data Literacy is the ability to collect, manage, evaluate, and apply data in a critical manner. By collect, we don't just mean to enter new data into a spreadsheet or conduct a survey; we also mean locate relevant, existing data or research. Data management isn't just limited to using database software, it can also be organizing the information in a useful way. When we say evaluate, we mean everything from in-depth statistical analysis to reviewing a chart or graph and interpreting the findings. Most importantly, we want folks to actually *use* the data they collect, manage, and evaluate.

When we talk about Data Culture, we find it's helpful to illustrate the difference between a *Culture of Accountability* and a *Culture of Inquiry*. This is also a slide we use with our Data Fellows during our first meeting.

In a culture of accountability, we use data to report results, rather than to inform our decisions and actions. In a culture of accountability, we emphasize positive data and minimize negative data, when we should recognize that so-called negative data present true learning opportunities. A culture of accountability tends to want to flatten complexity, boiling things down to just one number or conclusion; a culture of inquiry embraces complexity and recognizes that we often get the most powerful insights from examining and triangulating different types of data. A key example of this is qualitative data, which many individuals shy away from because of challenges with data collection and analysis; but in the spirit of inquiry, we accept this potential messiness and appreciate the richer picture than qualitative data can provide. A culture of accountability is data-supported, often justifying decisions after the fact. Cultures of inquiry are data-informed *and* data- supported. Our actions are inspired by data, and we "close the loop" to report our results.

It's important to us that our Data Fellows buy into this idea of a data culture, as it lays the foundations for the subsequent conversations we have with them.

Program Concept: Audience

Program Directors & Coordinators	Deans, Department Chairs, & Faculty	Advisors & Student Services Staff
• Must demonstrate effectiveness of program to ensure continued funding • May have a practical understanding of program evaluation, but not necessarily research or data concepts	• Responsible for departmental operations, program review, assessment • Likely trained in discipline-specific research, but not necessarily academic assessment or evaluation	• Increasingly use data to understand the student experience and inform practice • Often limited formal education or training in academic assessment, research, or data concepts

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When we first started planning for the Data Fellows program, we spent time talking about our ideal audience. On this slide are a few examples of colleagues we designed this program for. The bottom line is that our target audience is not analysts or programmers, and the intention was not to train these folks to *be* analysts or programmers. Instead, we wanted to build foundational data literacy, spread awareness of resources, and bring people in non-analytical roles together to think and talk about data.

Program Concept: Format

• Completed in one semester
• Professional development, not just another meeting
• Cohort model based on CSUSM Campus Connect program

CAMPUS CONNECT
ENHANCING CAMPUS CLIMATE

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We wanted the program to be able to be completed in one semester, as a year-long program felt like too big of a commitment. We wanted it to feel like professional development, not just another

meeting. And, it was important to us that we use a cohort model, in which the same set of individuals meets regularly to explore the content as a group. We were fortunate in that we already had a cohort-based model on our campus that we were able to point to; one of our campus's signature programs is Campus Connect, in which a group of faculty, staff, and administrators come together to learn about Cal State San Marcos over the course of a year.

On our campus, we had key sponsors and partners that helped us get the program off the ground. We had strong support from our IR leadership; as I mentioned, we report in to the President's Chief of Staff, so that helped. Our Dean of Undergraduate Studies was also an advocate of this work and had many of her staff go through the initial pilot with us. We also reached out to partners in other areas of campus to enhance our program content. For example, we have a Librarian come to talk about using Library databases to access existing scholarly research, and our Registrar has visited to provide an overview of FERPA.

Data Fellows Program Pilots

Year 1 (Fall 2017)

› 12 participants
  › Convenience sample
  › 2 of 6 divisions represented
› 14 total program hours
› Every three to four weeks in the afternoon
› No homework / pre-reads

Year 2 (Fall 2018)

› 16 participants
  › Application process (42 applicants!)
  › 4 of 6 divisions represented
› 18 total program hours
› 9am-12pm every other Thursday
› Pre-reads for each session

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We have now run through two iterations of the program. In year 1, we had 12 participants, mostly pulled from the Office of Undergraduate Studies and others on campus with whom we have a close working relationship. We met for a total of 14 program hours, every three to four weeks in the afternoon, and we had no homework or pre-reads.

In year 2, we sent out a call for applications and received 42 applications from across campus. We accepted 16 individuals into the program and had four out of six institutional divisions represented. In addition, we changed up the scheduling and delivery a bit in response to feedback we received in year 1.

We upped the total program hours to 18 and met regularly every two weeks on Thursday mornings for three hours – and yes, we provided breakfast! One thing that surprised us is that several of our year 1 participants said they would have preferred to do some reading prior to each session, in order to increase the amount of hands on and discussion time, so we made that change as well.

Program Logistics

Program Delivery & Curriculum
- No prerequisites
- Attendance expectations
- Interactive whenever possible
- Short pre-reads for each session

Funding
- Around $500 for food and materials
- Significant time commitment for facilitators

There are absolutely no prerequisites for the Data Fellows program. We wanted this program to be accessible and foundational. We've gotten questions about offering an "advanced" Data Fellows program in the future, but we're not there yet.

With our second cohort, we were able to establish clearer expectations up-front, because these individuals actually applied to the program and had to commit to the schedule in order to participate. We let participants miss one meeting, but if they believe they will need to miss more than that we advise them to reapply next year.

We try to make the course content interactive whenever possible, with group activities and discussion. There are some portions that would be considered "lecture," but with year 2 especially we wanted to provide ample opportunities to explore and apply the learning. And as we said, we did add short pre-reads for year 2.

Our funding is pretty minimal, about $500 for food and materials. Pictured here are the Data Fellows binders that we create for our participants. But, although it isn't financially costly, there is a significant time investment to develop the curriculum and facilitate the program.

Program Logistics

<u>Data Fellows Topics</u>:

1. Data capacity & culture
2. Generating research questions
3. Types of data and data collection in higher education
4. Logic models
5. Information security, privacy, and governance
6. Survey research and best practices
7. CSUSM-specific data resources and policies
8. CSUSM-specific data definitions and lines of inquiry

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Our 2018 Data Fellows program topics are shown here. We start with data capacity and culture, and spend some time talking about generating good research questions. We also talk about types of data and data collection in higher education, providing an overview of operational data, assessment and evaluation, and academic research methods. In 2018, as part of this segment, we had an analyst from the Community Engagement department come and talk about how their division is using logic models for their evaluation efforts.

We then spend some time talking about information security and privacy, data governance, and data ethics, and talk through a number of relevant case studies to illustrate these issues. We have a whole day set aside to discuss survey research and best practices, since that's such a common data collection strategy on our campus. Lastly, we dive in to CSUSM-specific resources, policies, data definitions, and lines of inquiry, so that we can ground these concepts within our institutional context.

Program Logistics
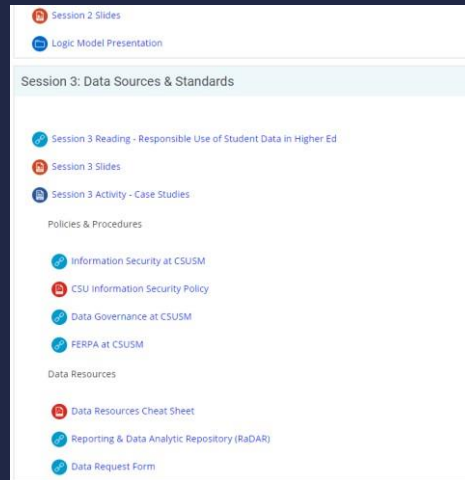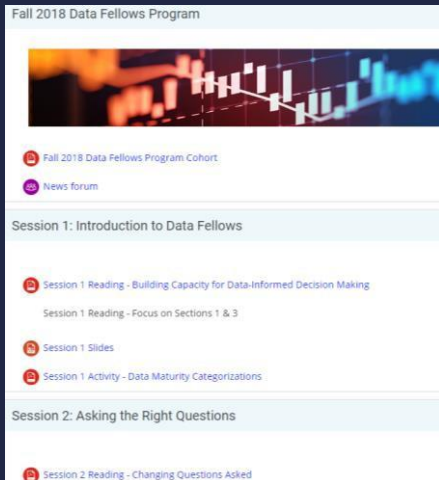
Pictured here is our Moodle for the 2018 Data Fellows program. Moodle is our LMS and we use this as a repository for readings, session materials, and related resources.

Lessons Learned

- Participants are more invested when they apply for the program
- Everyone is at a different level of data literacy
- Balance required to make the lessons relevant and actionable for all
- Facilitators need "data empathy"

We've compiled some lessons learned, for those of you who might be thinking about embarking on a similar adventure.

First, we were surprised how many people were genuinely interested in a professional development program focused on data! We weren't sure what kind of a response we would get, and we were very pleased to have so many applicants when we finally opened it up to the campus.

We definitely noticed that participants are more invested when they apply for the program. The difference in our experience from year 1 to year 2 was really night and day. For our 2018 cohort, they were excited to participate and felt they were specifically chosen for the program, and they came (mostly) on time and ready to engage.

Everyone is at a different level of data literacy. For example, in our last cohort, we had a full tenured Mathematics professor participating alongside folks who spend the majority of their day working directly with students, not numbers. Like we said, we intentionally didn't have any prerequisites or expectations for prior knowledge; we continue to feel that's the right move for our program, but it does mean that we sometimes have to stretch ourselves in order to make sure the lessons are relevant, understandable, and actionable for all.

And, we really have had to stretch ourselves. As much as we pride ourselves in being consultative, compassionate colleagues, I think we still went into this with an attitude of "we'll just get these folks in a room and *show them how it's done*" and it just didn't work like that. The reality is that a lot of these things just aren't that simple or straightforward, and we exist within a complex organization with complex data. So, we like to say that this program has really helped us to develop "data empathy" as well.

Lessons Learned

- Realistic expectations – data culture wasn't built in a day (or even a semester)
- One size doesn't fit all – what makes sense for your institution?
  - IR staff on committees, task forces
  - IR Faculty Fellows & champions
  - Analysts outside of the IR office
  - Office hours / Ask an IR Analyst
  - Videos, online trainings, and other self-service resources
  - Adding data training to onboarding programs

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It's important to set realistic expectations. Data culture wasn't built in a day, or even a semester. Culture change is often hard and slow. But, the process of connecting with our colleagues, getting people thinking about data and really questioning things, that's been very rewarding, and we've received a lot of positive feedback from colleagues as well.

Lastly, we want to be clear that we don't believe one size fits all in this case. At Cal State San Marcos, we had a number of things that worked in our favor to bring this project to fruition, and in developing the program we were informed by our unique, institutional experiences.

There are a number of ways you might think about building data culture and capacity at your institution. It might be as simple as ensuring the IR staff are placed on committees and task forces, to get the word out about the data

that might be available to inform the campus conversation.

We've heard of a number of institutions, many of them our CSU sister campuses, that have launched successful Faculty Fellows programs in which individual Faculty or teams of Faculty engage with the IR office to conduct analytic studies. In some cases, it might make sense for analysts to exist outside the IR office, where they can specialize in a particular area – though we are proponents of still maintaining a strong relationship with IR. And, there are a number of other training and development strategies that might be less intensive than a full-blown program, but still effective. It's all about finding what works for you, in your unique role, within your unique organization.

Q & A

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Thank you for your time. We'll now open it up for questions. [Insert language about how folks can submit questions]

Readings & Resources

- AIR Statement of Aspirational Practice
- A New Vision for Institutional Research (Change Magazine)
- *The Fifth Discipline: The Art & Practice of the Learning Organization* (Senge, 1990)
- *Cultivating a Data Culture in Higher Education* (Powers & Henderson, 2018)
- Building Institutional Capacity for Data-Informed Decision Making (Achieving the Dream)
- Higher Education's Data Experts Face a Crossroads (Chronicle of Higher Education)
- Responsible Use of Student Data in Higher Education (Educause Review)
- Bringing Accountability to Life: How Savvy Data Users Find the "Actionable N" (American Council on Education)

Cultivating a Data Culture in Higher Education

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