The Stanford-SFUSD Partnership: Development of Data-Sharing Structures and Processes

Moonhawk Kim (University of California, Berkeley)

Jim Shen (J-PAL)

Laura Wentworth (California Education Partners)

Norma Ming (San Francisco Unified School District)

Michelle Reininger (University of Colorado at Boulder)

Eric Bettinger (Stanford University)

"Our partnership brings a high degree of efficacy to the innovative practices in SFUSD. With the help of Stanford we are able to validate promising practices and expand our success in multiple schools to have the greatest degree of impact on the lives of students."

Bill Sanderson
Assistant Superintendent
San Francisco Unified School District

"In my opinion, SFUSD's approach to this initiative—piloting innovation, supporting a rigorous and independent evaluation, thinking seriously about the challenges of going to scale—constitute an exemplary model of what evidence-based leadership (and research partnerships) can and should be."

Tom Dee
Professor
Stanford University
Graduate School of Education

Outline

1. A Research-Practice Partnership (RPP) Model for Research

2. The Institutional Setup of the Stanford-San Francisco Unified School District (SFUSD) Partnership

3. Lessons and Insights for the Field

An RPP Model for Research

"RPPs are long-term collaborations to promote educational improvement and transformation through engagement with research that are intentionally organized to engage diverse perspectives."

— Farrell et al. (forthcoming)

The Why

- Move from research *production* to research *use,* i.e., changes in practice and/or policy $\Rightarrow$ greater impact

- Stronger evidence-informed decision making

The How (1/3)

- Multiple forms of knowledge, distributed across partners:

  - Researchers ("Rs") bring theoretical domain expertise and analytical expertise

  - Practitioners ("Ps") bring practical domain expertise and contextual knowledge

The How (2/3)

- Work with the distributed knowledge across partners:

  a. Problems of practice (Ps) *and* gaps in the literature (Rs)

  b. Measures and study design that are equitable and inclusive (Ps) as well as valid and reliable (Rs)

  c. Context of data collection (Ps), how to analyze the data (Rs), and how to interpret the data (Rs & Ps)

The How (3/3)

- Multiple forms of valid and useful research

  - For practitioners, rigorous and useful research beyond RCTs.

  - SFUSD has done some RCTs through non-Stanford partnerships; constraint is practical and ethical considerations, not data infrastructure.

So What? (1/2)

Partnership model of collaborative knowledge sharing **+** Decentralized and complex data ecosystem in education **→** Data sharing ≫ "Data Access"

Not a simple, linear, and unidirectional process

So What? (2/2)

Operations

Data

Analysis

Knowledge about how findings map back to operations.

Knowledge about the timing, the sampling, and other parameters of the snapshot.
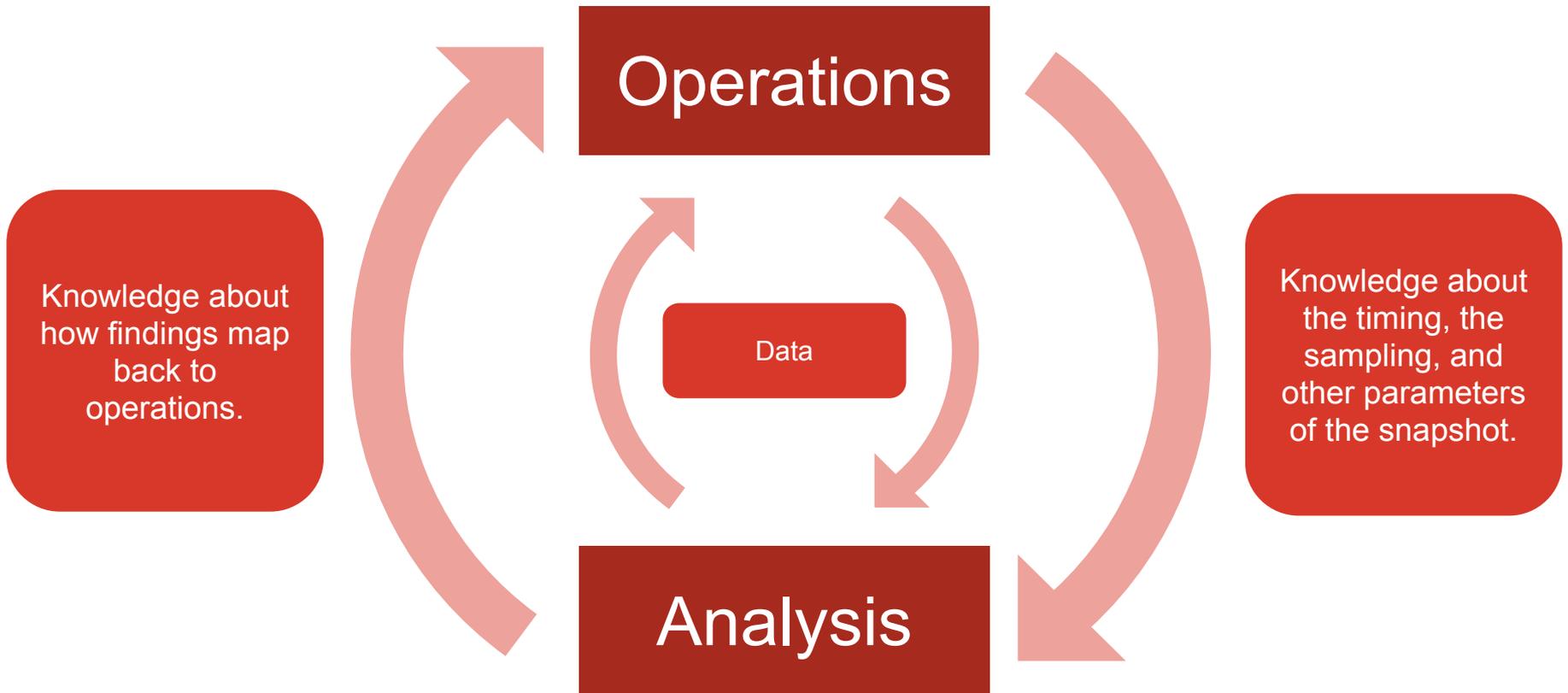
Institutional Setup of the Partnership

1. The Entities

2. The Processes

    a. The warehousing process

    b. The project process

The Entities

The Warehousing Process

Episodic Transfers of Other Data

3   Data from the decentralized parts of the SFUSD data ecosystem

Periodic Cycles of Data Transfer

2

Student data (annual)
Staff data (biannual)

Umbrella DUA

1   Overarching agreement among partner entities to transfer data from SFUSD to Stanford

The Project Process
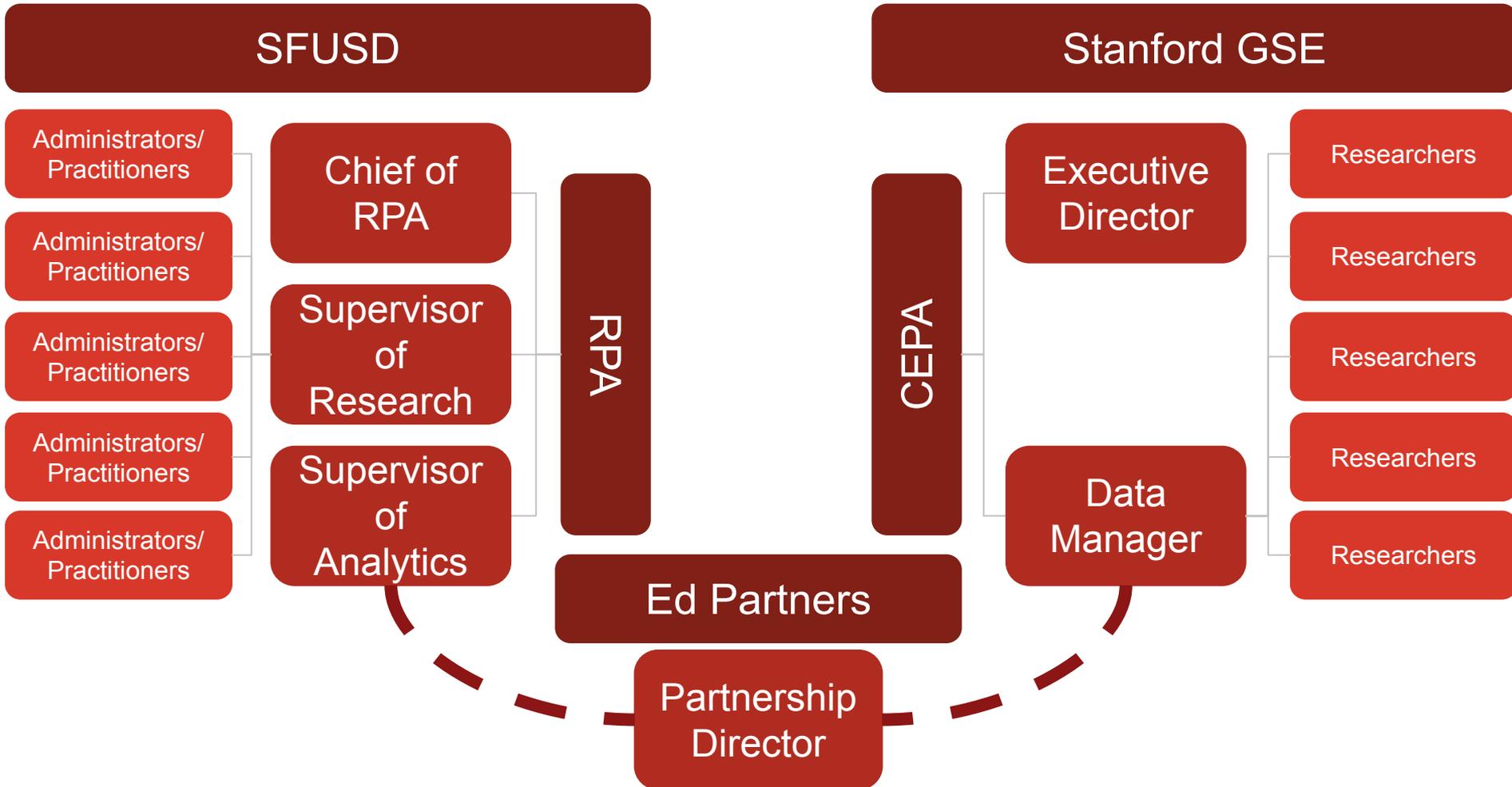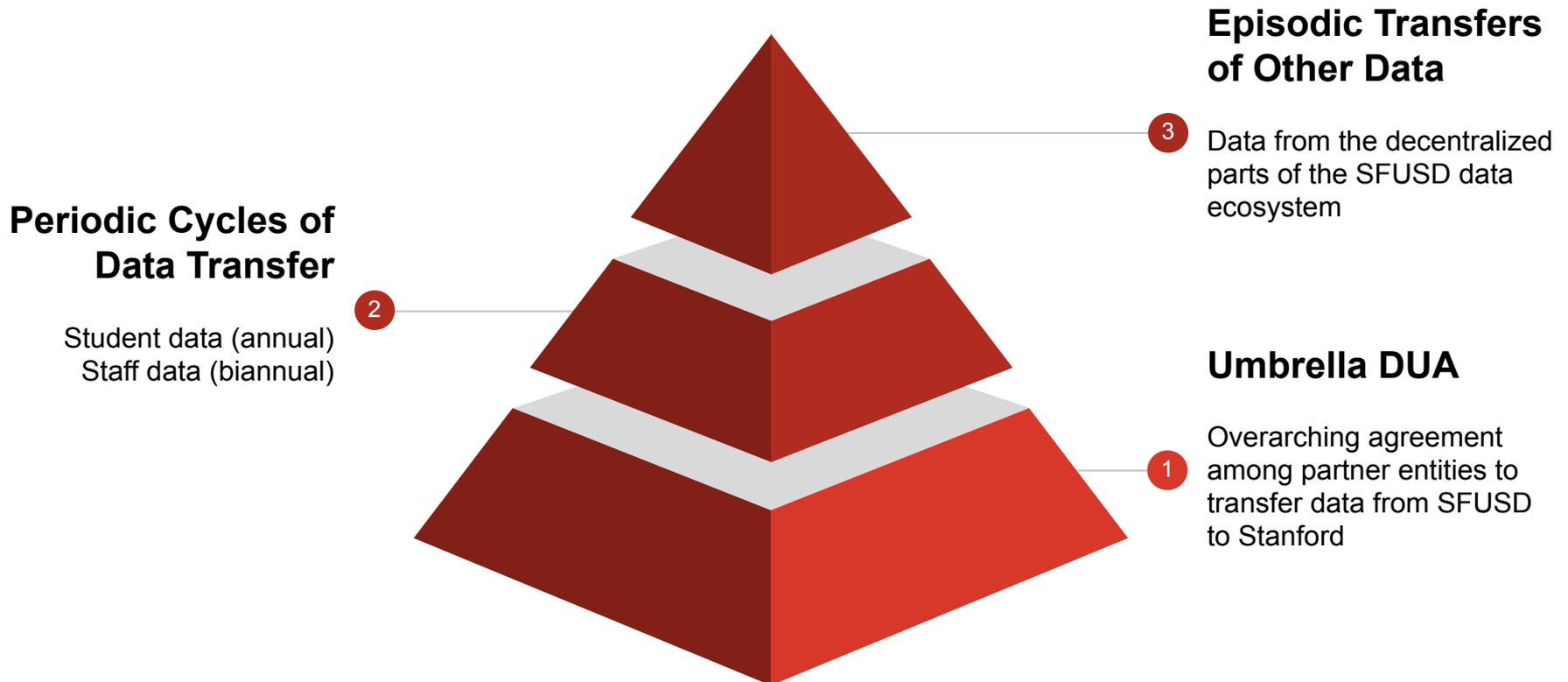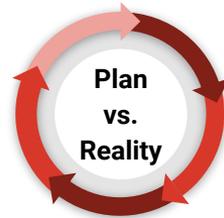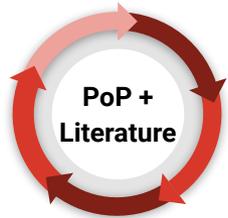
PoP + Literature	Desirable Design	Plan vs. Reality	Data Discussion	Context & Findings
Project Creation/Design	**Research Application**	**Primary Data Collection**	**Secondary Data Transfer**	**Sensemaking/ Implications**

R and P co-create a research project, including the specification of the research questions and research design.	Research team submits an application for research, with IRB approval/exemption. Safe Project: "ABC" review **and** IRB approval Safe People: Human subjects and data security training certification	R and P collaborate to implement and execute any primary data collection, including administering surveys, treatments, and interventions.	R receives data from the warehouse. R and P establish a shared understanding of the administrative data. Safe Data: "scrambling" of student ID numbers Safe Settings: Google shared drive and internal Stanford server	R conducts analysis. R and P interpret and validate results together and extract appropriate actionable implications together. Safe Outputs: Beyond data privacy (district context, district identification)

Lessons and Insights for the Field

1. Metrics for Success

2. Conditions for Success

3. Considerations for Prospective/Developing Partnerships

Metrics for Success

Three-prong impact:

- High-quality research that informs decisions by SFUSD district leaders (and other practitioners beyond)
- Potential for generalizability that influences the field of education
- Capacity on both R-side and P-side to engage in partnership

Conditions for Success

1. Partnership mindset

2. Resource commitment

3. Data warehouse infrastructure (equipment/staffing)

4. Joint capacity to generate and use evidence

Considerations for Other Partnerships

- Conditions and contexts vary

- Design choices about data sharing arrangement are path dependent—initial choices constrain future choices.

Networks of Partnerships
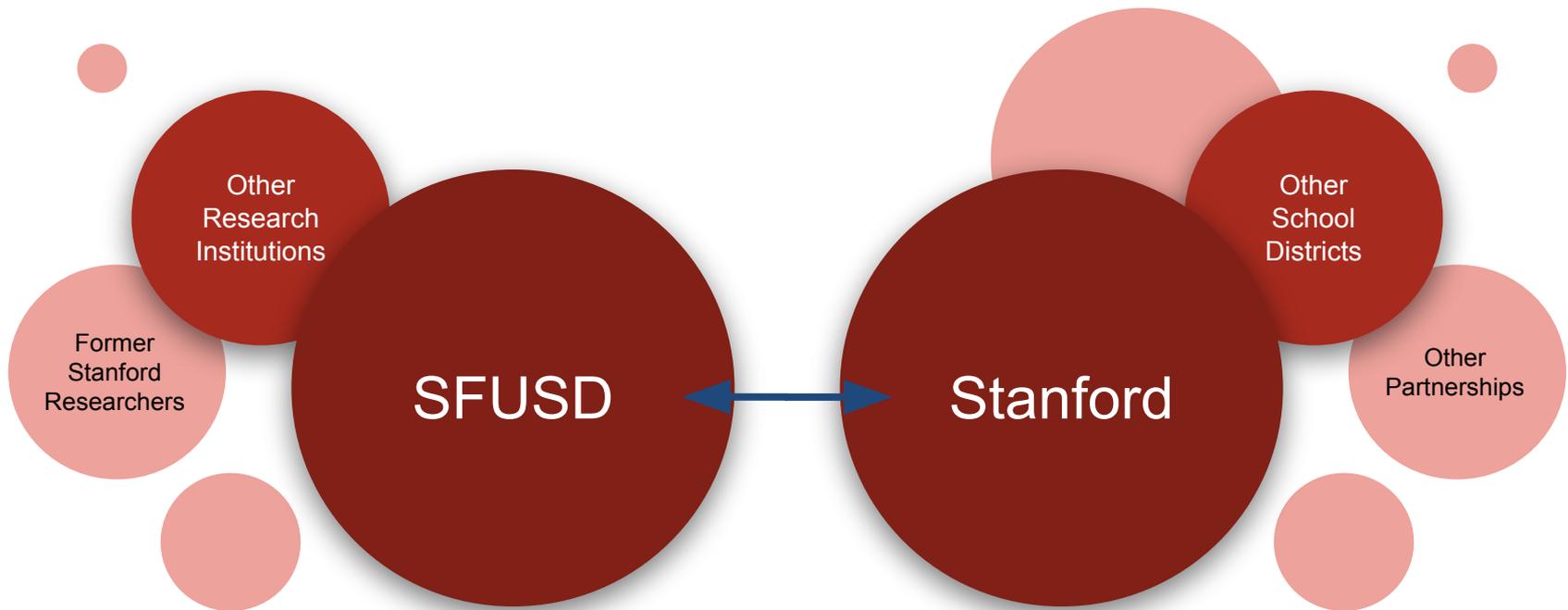
1-to-1 relationship vs. 1-to-N & N-to-1 relationships

Location Choice for the Data Archive

- A design principle:

  - Locate data archive closest to the data knowledge.

- A corollary:

  - *Support* locating the data archive closest to the data knowledge.

- A question:

  - How might the field develop more adaptable data archive arrangements?

Staffing Choice for Data Sharing

- A design principle:

  - Deeply embed data managers in their respective contexts.

- A corollary:

  - Hire, locate, and train data managers accordingly.

- A question:

  - How might the field train and grow this role?

Investment Choice for Building Data Sharing Arrangements

- A design principle:

  - Explicitly consider *upstream*—data ecosystem and governance—versus *downstream*—data transfer and storage—investments.

- A corollary:

  - Investments in the *downstream* do not address the needs *upstream*.

Creating a Reliable and Useful Data Infrastructure

- Design principles:
  - Ensure high-quality data
  - Enable efficiency in collecting, organizing, maintaining, and sharing data
  - Facilitate using data to connect implementation to impact across multiple levels