Improving Teacher Preparation: Lessons from a Network of 11 CSUs

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New Generation of Educators Initiative

Funded by S.D. Bechtel Jr. Foundation

11 campuses, 3-year grants in current cycle (Phase 2)

- Phase 2 began June 2016

Reform elements:

- District/teacher prep program partnerships
- Focus on prioritized skills that candidates need to learn
- Strong clinical approach to teaching those skills
- Effective feedback processes
- Using data for continuous improvement

WestEd Technical Assistance

Focus: build capacity of CSU system and NGEI grantees to use data independently to support continuous improvement

System-level: Chancellor's Office Educator Quality Center

- Completer, 1st Year, and Employer surveys
- Teacher Preparation Data Warehouse and Dashboard System

Grantee-level: 11 CSU/district partnerships

- Support NGEI projects to build capacity to continuously learn and improve

Continuous Improvement Technical Assistance

Shifting from implementation to inquiry

(Adapted from Berwick, 1996)

PRINCIPLE

All improvement begins with dissatisfaction with the status quo.

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DESIGN ELEMENT

Transform a SMART Goal into an Improvement Aim

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Every system is perfectly designed to get the results it gets.

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DESIGN ELEMENT

Investigate the teacher preparation system producing the current outcomes.

PRINCIPLE

All improvement requires change, but not every change is an improvement.

PRINCIPLE	DESIGN ELEMENT
All improvement requires change, but not every change is an improvement.	Organize continuous improvement work as "inquiry cycles" focused on understanding the problem and iterative testing

Learning Sprint Design

Sprint Components

- Google Presentation Document
- Improvement Aim
- Progress Data
- Sprint Learning Goal
- Working Theory of Improvement
- Documentation of Inquiry & Learning

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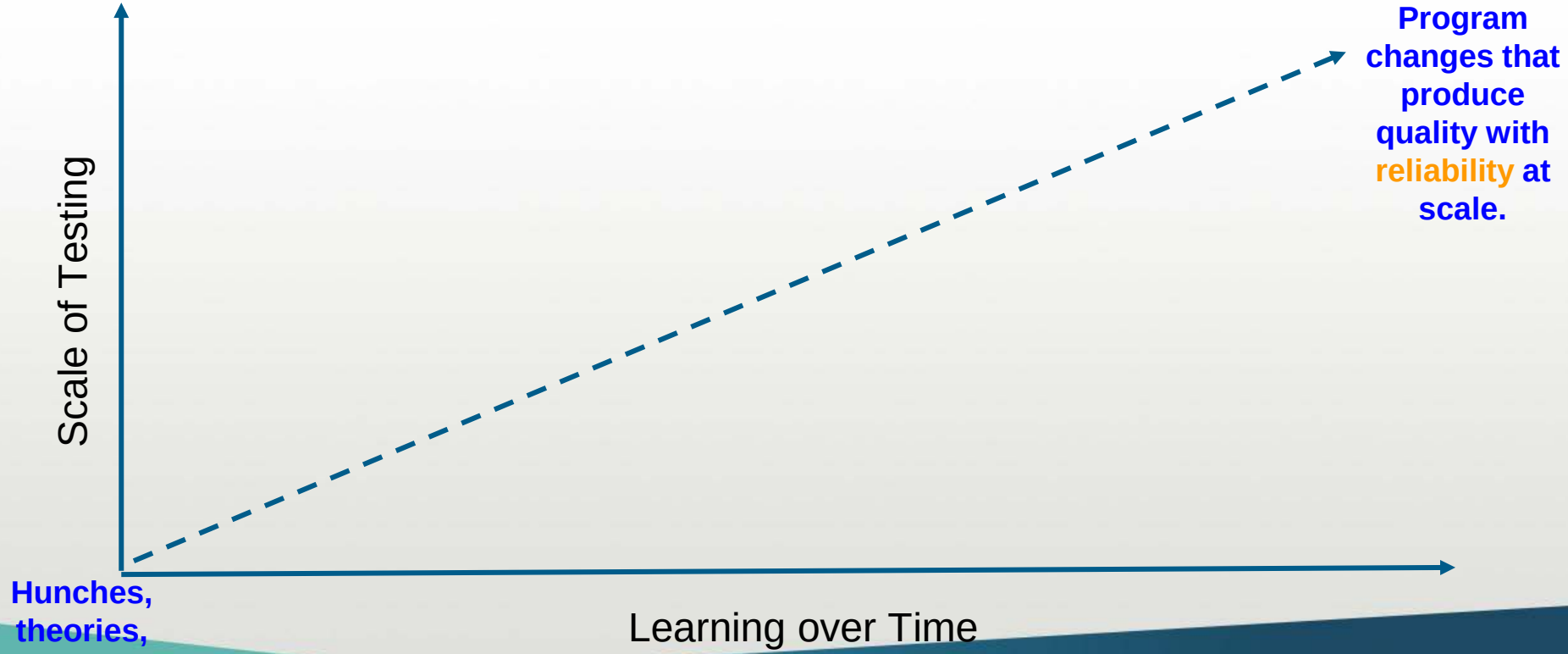
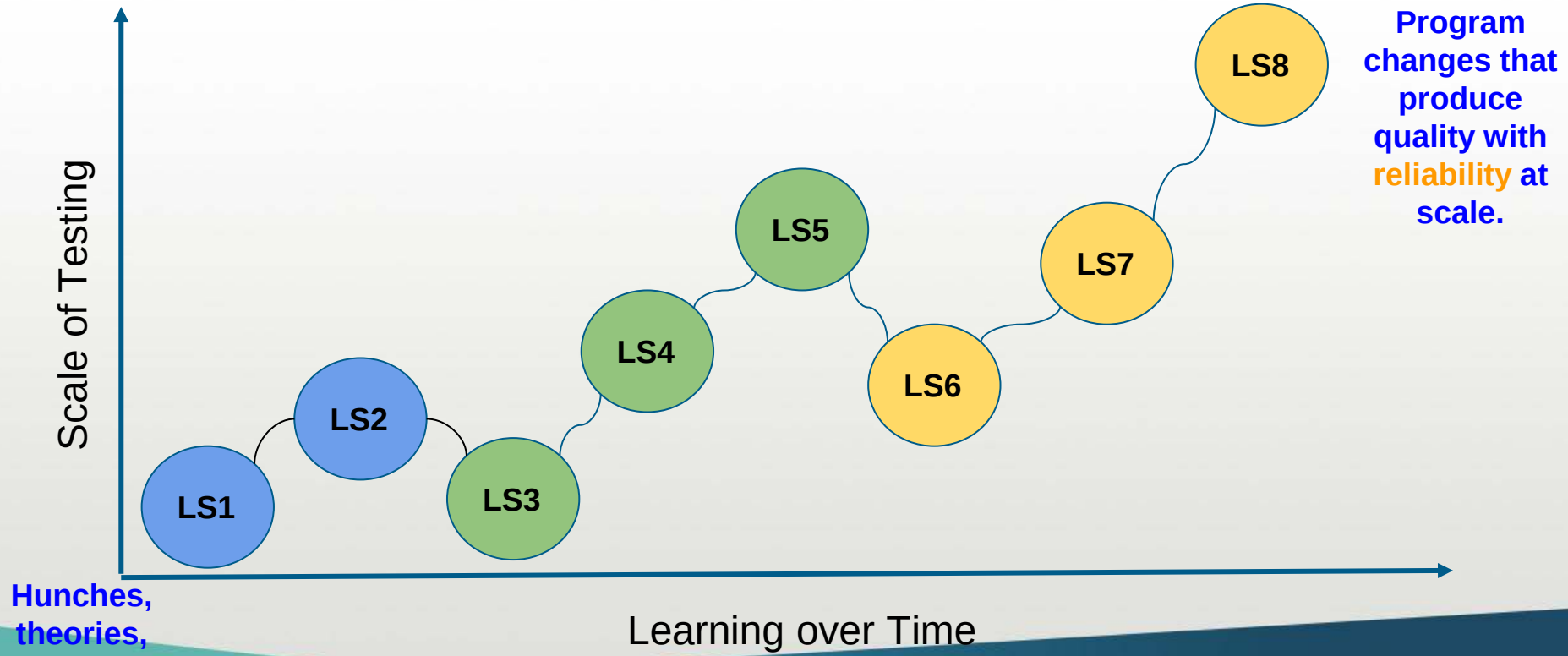
Support Components

- Monthly coaching calls
- Sprint launch webinar
- Sprint review webinar
- Liaison support and/or additional technical assistance, as needed

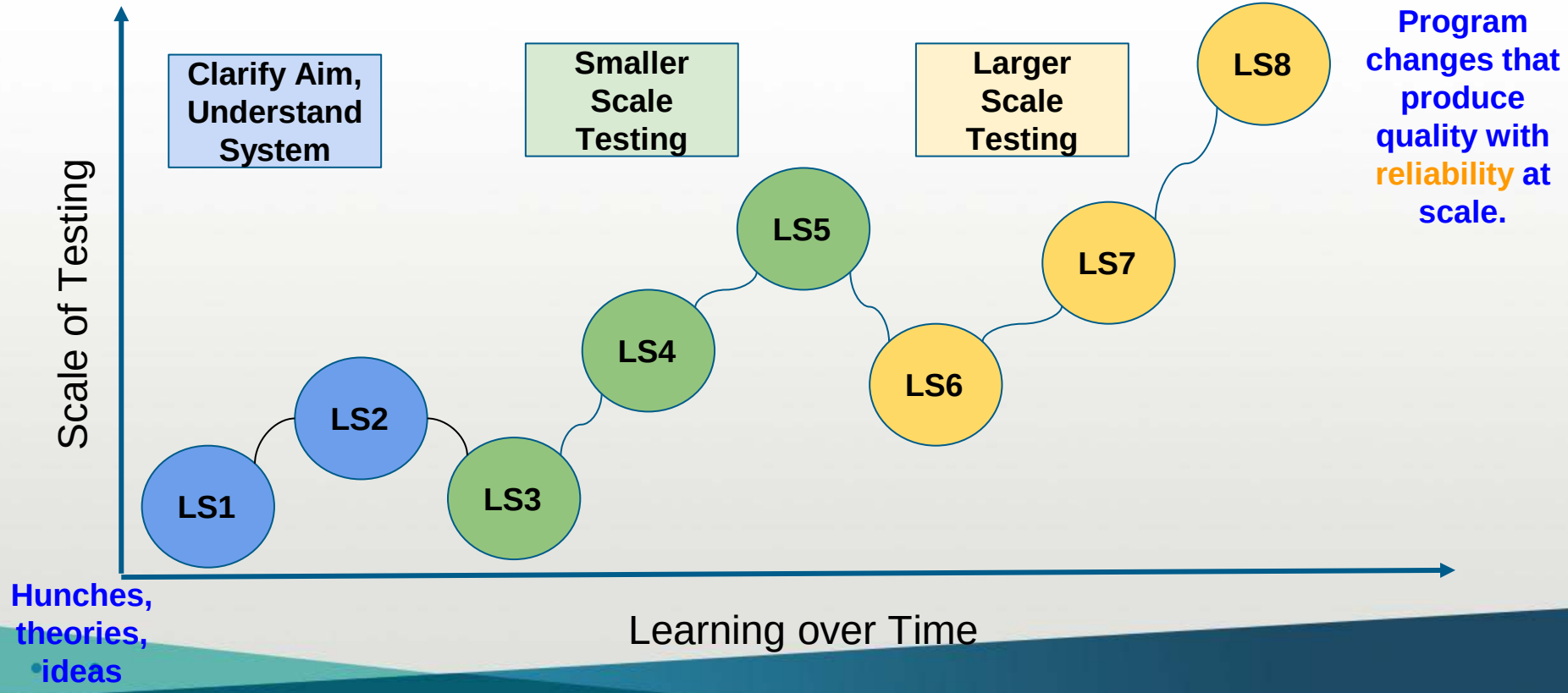
Learning sprints build toward *effective* implementation



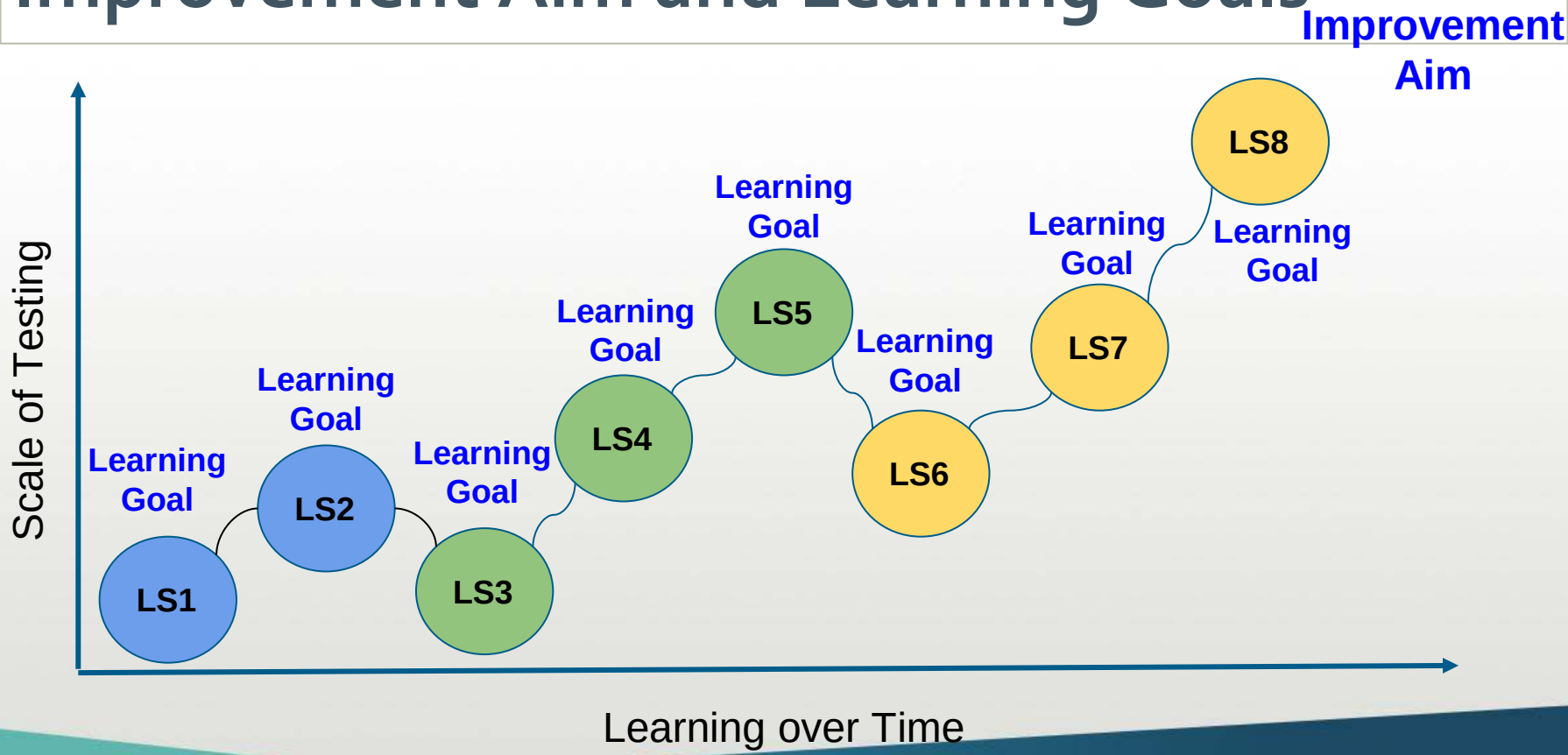
Learning sprints build toward *effective* implementation



Learning sprints build toward *effective* implementation

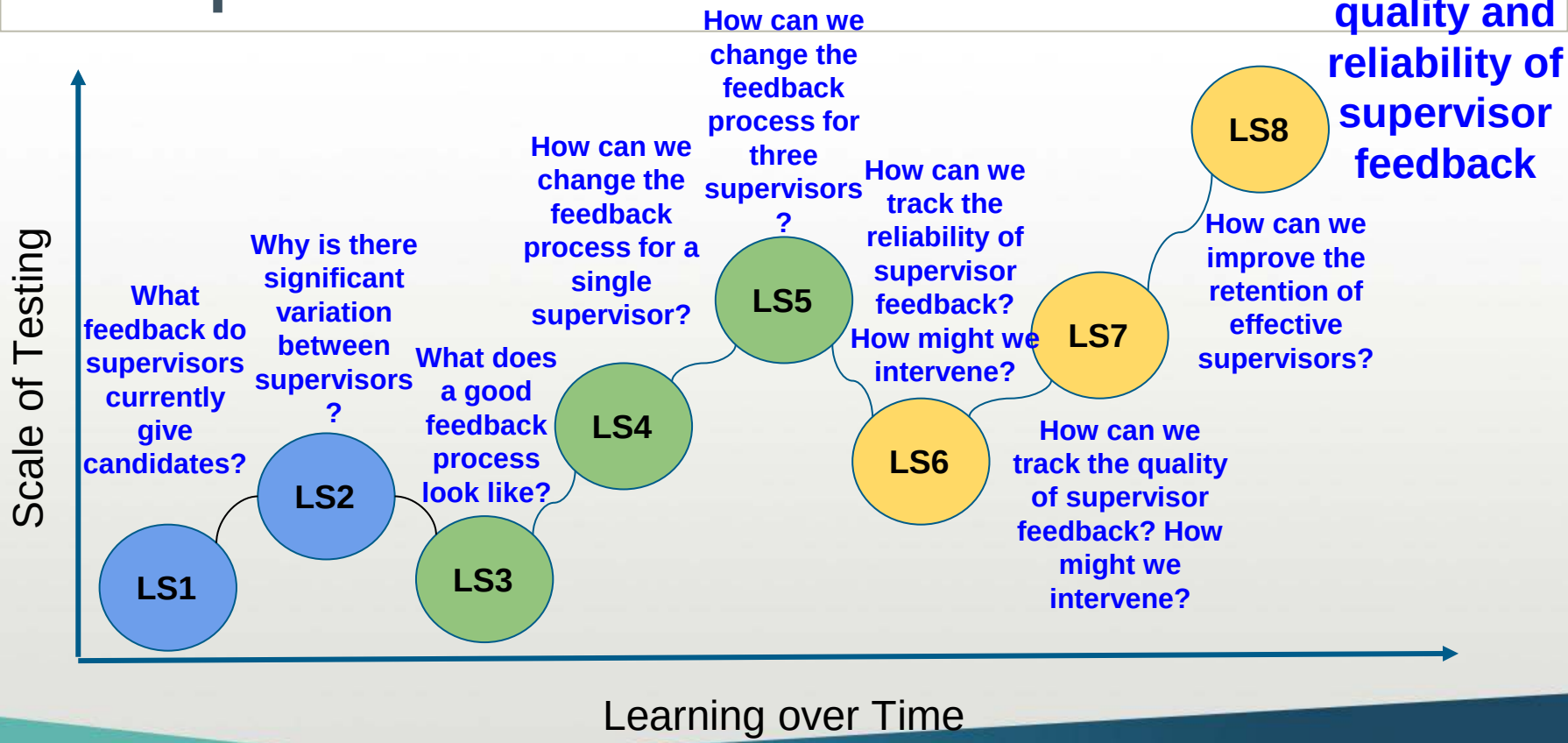


Improvement Aim and Learning Goals



Example

AIM: Increase quality and reliability of supervisor feedback



Case: CSU Monterey Bay

Defining our Partnership Model

- District Lead (Point Person) / University Lead (Point Person) assigned to partnership development and maintenance
- Bi-Monthly Leadership Meeting including all upper-level administration
- District Lead interfaces with CSUMB Pre-Service Teachers and Clinical Coaches during trainings, professional development sessions, and methods courses
- University Lead interfaces with MPUSD Cooperating Teachers and Administration during professional development sessions and site visits

Aim Statement

By May 30, 2018 100% of the percentage of program participants* who demonstrate shared understanding of CCSS-M and NGSS prioritized skills will increase to 90%. This will lead to an increase in rigor of the practice-based clinical preparation*** of teaching candidates.**

*MPUSD Cooperating Teachers.
**As defined in the CSUMB and MPUSD co-created STEM Teaching Rubric and measured through calibration data, STEM Academy exit tickets, and focus group data.
***As defined by KTE #3.

Trainings in NGSS: STEM Academies

Rationale for use of training in NGSS: To develop a shared understanding of standards in STEM; to align curricula in STEM with NGSS for all teachers; and to ensure a consistent equitable experience for all students.

How the use of training in NGSS supports the partnership program: Alignment curricula between district and university tightens the partnership and ensures a smoother transition into the partner district for candidates.

How this benefits K-8 students: More STEM-ready, qualified teachers enter classrooms and effectively engage students in STEM opportunities.

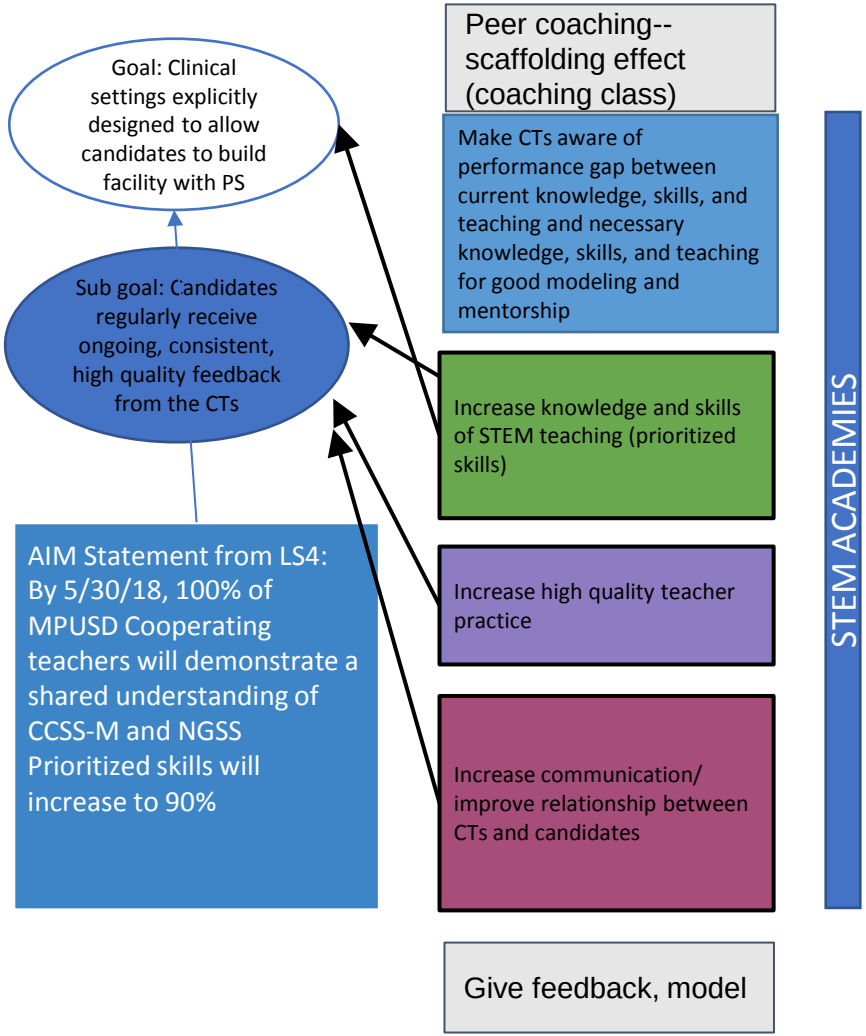
Building Capacity Through STEM Academies

After our STEM Academies, we expect that cooperating teachers will:

- Understand the process of implementing by design and how to integrate NGSS effectively.
- Understand how to utilize the STEM Rubric Tool to provide formative feedback to their teacher candidates and “Coach Up” by offering specific “STEM Suggestions” during shared planning time.
- Be able to create a clinical setting explicitly designed to allow candidates to build facility with prioritized skills.

Barriers to Building Capacity

- Attendance
- Needs assessment
- Alignment with district administration
- Promotion and marketing
- Lack of funding -- incentives



STEM ACADEMIES

1. CTs need to show up and engage in training
   - Site visits working as marketing
   - Provide lunch
   - Switch to Saturday mornings
   - PD credits?
   - Work with district, make sure there are no competing PDs

2. Shift the planning process that master teachers engage in, in particular to orient around a particular learning objective and then design around that objective
   - Understand implementing by design
   - Site visits and follow up visits bringing CTs up to speed on SA1
   - Understand 5E lesson plan
   - Learn Co-planning Processes
   - Work time to plan rigorous STEM lessons

3. Train CTs in the rubric & providing high-quality feedback
   - Rubric calibration exercises
   - STEM suggestions

At end of SA, CTs will understand STEM, 5e lesson plan, be able to give good feedback, be calibrated on rubric-->can support their candidates as they are working on their STEM plans

Learning Outcomes & Future Directions

- **Adjusting to CT and TC needs**
  - Continuous needs assessments
  - Flexibility
- **Site Visits**
  - Building capacity
  - Promotion
- **Stone Soup**
  - Expanding partnership
  - Bringing STEM to kids
- **Maker Faire**
  - Promoting STEM
  - Bringing STEM to community

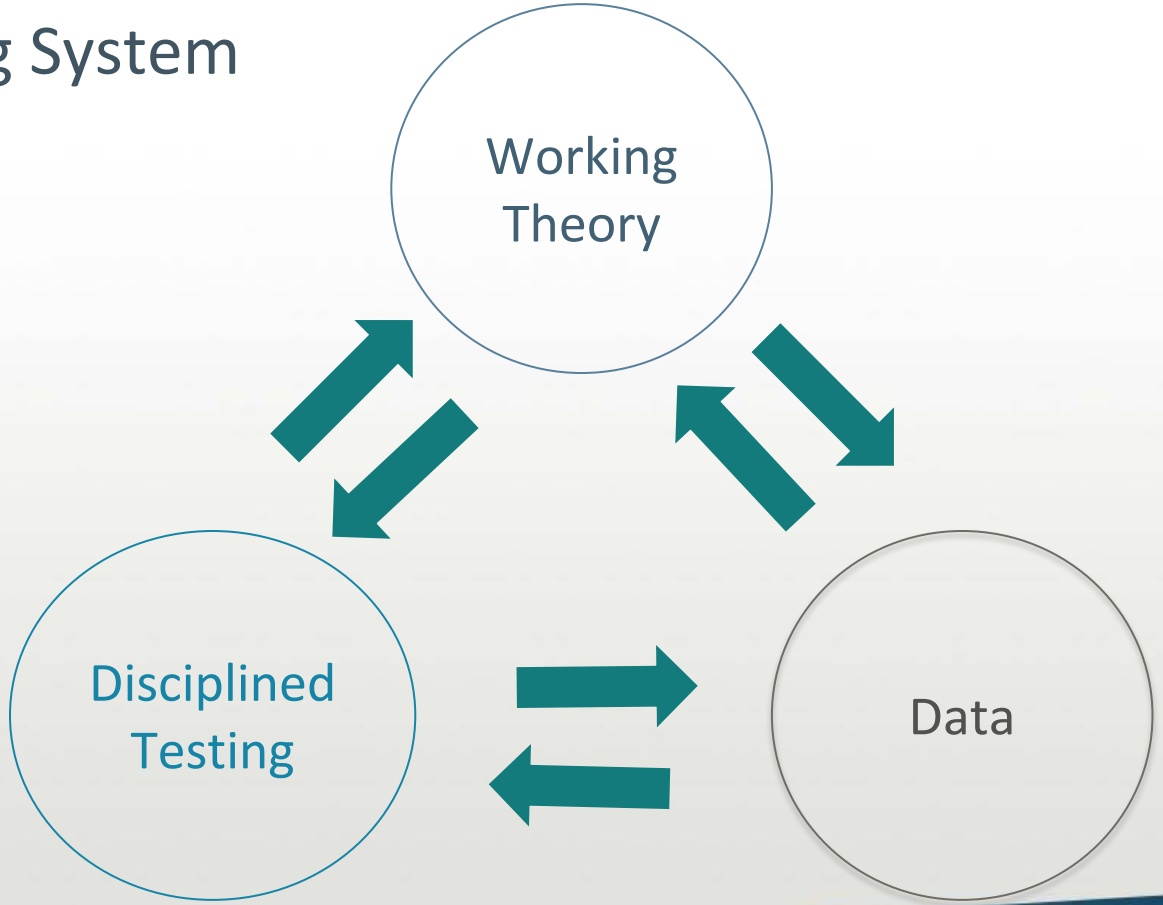
EXTRA SLIDES FOR Q&A

Three Ways Data Support Improvement

	Primary Audience	Purpose	Measurement Criteria
Research	Scientific community Policymakers Decision makers	New knowledge, irrespective of applicability	Many Complex collection
Accountability	Parents Students Taxpayers	Basis for choice Reassurance Spur for change	Very few Complex collection
Organizational Learning	Teachers Principals District Leaders Managers	Understanding of process or student learning Motivation and focus Baseline Evaluation of changes	Few Easy to collect Frequent

(Adapted from Solberg, Mosser, & McDonald, 1997)

A Learning System



Learning Sprint Content

Standard Slides

(All Sprints)

- Updated NGEI Team
- Aim Statement
- Learning Goal for LS3

Custom Slides

(Based on Learning Goal)

- Data displays
- Testing cycles
- System maps
- Flow Charts
- Design Principles
- Quality Criteria
- Fishbone Diagrams
- Measurement systems

What supports do our Cooperating Teachers (CT) need around building and refining opportunities for candidates to gain fluency with prioritized skills during clinical preparation?

Predictions	Data Collection Strategy/Analysis

CTs need additional support and professional development around co-planning and how to utilize the 5E lesson plan format.	• Exit Tickets from STEM Academies
	  ○ Qualitative Coding
	• Observations/Focus Groups
	  ○ Qualitative Notes

CTs need ***continuous*** opportunities for explicit assistance and support for providing candidates opportunities to plan rigorous STEM lessons.	• Exit Tickets from STEM Academies
	  ○ Qualitative Coding
	• Observations/Focus Groups
	  ○ Qualitative Notes

Collaborative Professional Development: Rationale

- **Professional development research supports collaboration and teacher inquiry into topics and issues happening in teachers' classrooms. These qualities ensure that PD is not disconnected from teacher practice and brings teachers together for conversations about the questions arising out of their practice.**

- **Pre-service teachers participating in collaborative professional development with co-teachers foundationally installs communicative learning practices for incoming teachers while simultaneously improving the expertise of mentor teachers.**

Setting Continuous Improvement Goals

Specific. What is the specific performance gap?

Measurable. How will you know if you meet the goal?

Agreed Upon. Is there shared commitment?

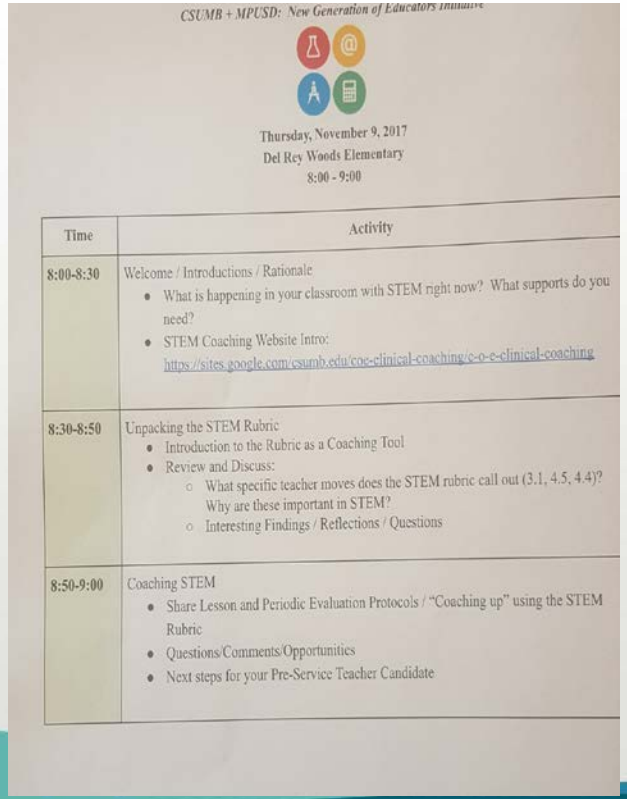
Realistic. Is it achievable?

Time-bound. What is the time frame?

- Is achieving the goal within the influence/capability of our team? Does it align with strategic priorities?
- Does our goal address a high-leverage problem of practice?
- Where is the greatest will for improvement to occur?
- Does our goal address a clear performance gap?

Engineering Design Talk Moves

Goal	Talk Moves	Notes
Initiating Engineering Talk	Can you tell me about your design? What are you working on? Do you think this will solve the problem? How did you arrive at this design?	
Maintaining focus on the Problem	What is the problem we are trying to solve? What are the criteria (goals)? What are our constraints (limits)?	
Examining Materials and Tools	What will you use for _____? Why did you pick this material? What materials did you pick? Why? What other materials might you try? Is there a tool that might help you?	
Getting Unstuck & Focusing on Failure Points	Does this idea seem to be working? What else might you try? What is working well here? What do you notice others trying? How could you get a new idea? What could you fix? What did you notice when the design failed (didn't work)?	
Maintaining Stamina & Sticking with an Idea	How could you make this even better? If you kept working, what would you do next? What might you change about this design?	



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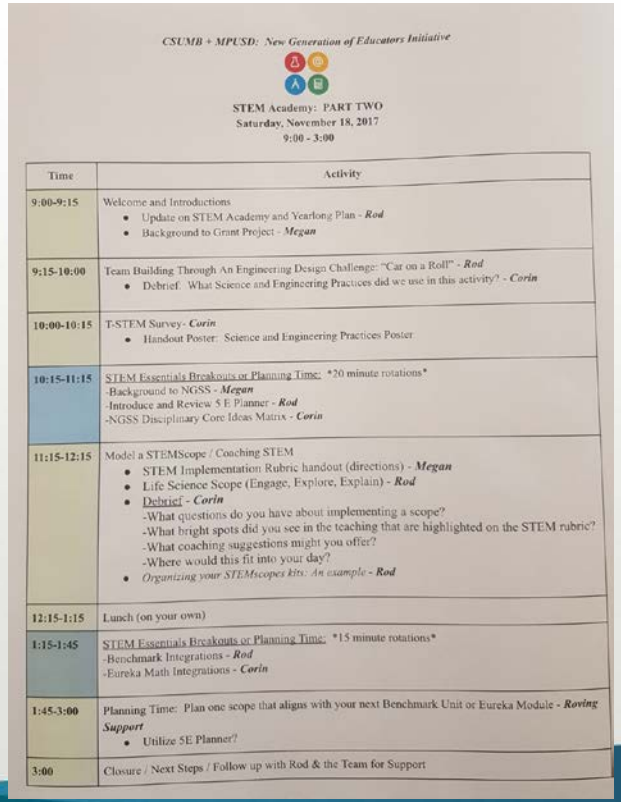
Thursday, November 9, 2017
Del Rey Woods Elementary
8:00 - 9:00

Time	Activity
8:00-8:30	Welcome / Introductions / Rationale • What is happening in your classroom with STEM right now? What supports do you need? • STEM Coaching Website Intro: https://sites.google.com/csumb.edu/coe-clinical-coaching/c-o-e-clinical-coaching
8:30-8:50	Unpacking the STEM Rubric • Introduction to the Rubric as a Coaching Tool • Review and Discuss: ○ What specific teacher moves does the STEM rubric call out (3.1, 4.5, 4.4)? Why are these important in STEM? ○ Interesting Findings / Reflections / Questions
8:50-9:00	Coaching STEM • Share Lesson and Periodic Evaluation Protocols / "Coaching up" using the STEM Rubric • Questions/Comments/Opportunities • Next steps for your Pre-Service Teacher Candidate



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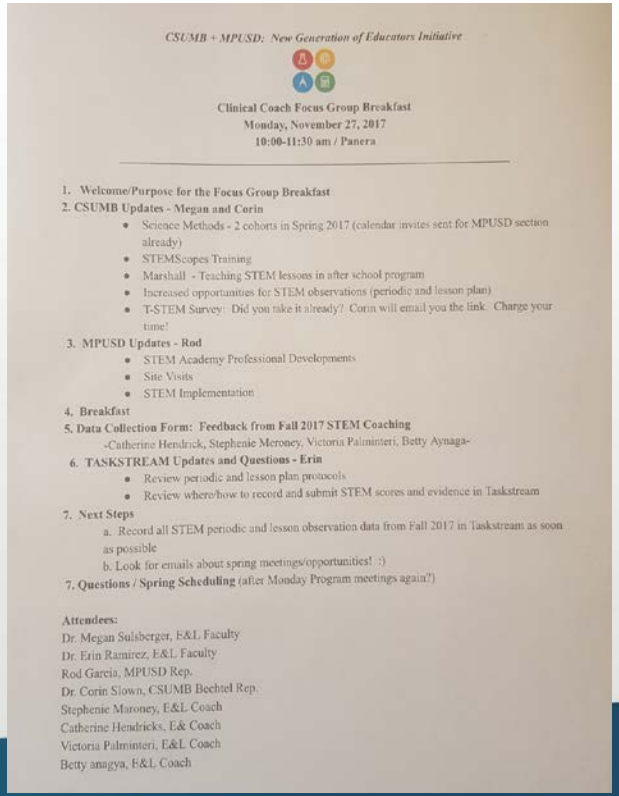
STEM Academy: PART TWO
Saturday, November 18, 2017
9:00 - 3:00

Time	Activity
9:00-9:15	Welcome and Introductions • Update on STEM Academy and Yearlong Plan - ***Rod*** • Background to Grant Project - ***Megan***
9:15-10:00	Team Building Through An Engineering Design Challenge: "Car on a Roll" - ***Rod*** • Debrief: What Science and Engineering Practices did we use in this activity? - ***Corin***
10:00-10:15	T-STEM Survey- ***Corin*** • Handout Poster: Science and Engineering Practices Poster
10:15-11:15	STEM Essentials Breakouts or Planning Time: *20 minute rotations* -Background to NGSS - ***Megan*** -Introduce and Review 5 E Planner - ***Rod*** -NGSS Disciplinary Core Ideas Matrix - ***Corin***
11:15-12:15	Model a STEMScope / Coaching STEM • STEM Implementation Rubric handout (directions) - ***Megan*** • Life Science Scope (Engage, Explore, Explain) - ***Rod*** • Debrief - ***Corin*** -What questions do you have about implementing a scope? -What bright spots did you see in the teaching that are highlighted on the STEM rubric? -What coaching suggestions might you offer? -Where would this fit into your day? • *Organizing your STEMscopes kits. An example* - ***Rod***
12:15-1:15	Lunch (on your own)
1:15-1:45	STEM Essentials Breakouts or Planning Time: *15 minute rotations* -Benchmark Integrations - ***Rod*** -Eureka Math Integrations - ***Corin***
1:45-3:00	Planning Time: Plan one scope that aligns with your next Benchmark Unit or Eureka Module - ***Roving Support*** • Utilize 5E Planner?
3:00	Closure / Next Steps / Follow up with Rod & the Team for Support



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Clinical Coach Focus Group Breakfast
Monday, November 27, 2017
10:00-11:30 am / Panera

1. **Welcome/Purpose for the Focus Group Breakfast**
2. **CSUMB Updates - Megan and Corin**
   - Science Methods - 2 cohorts in Spring 2017 (calendar invites sent for MPUSD section already)
   - STEMScopes Training
   - Marshall - Teaching STEM lessons in after school program
   - Increased opportunities for STEM observations (periodic and lesson plan)
   - T-STEM Survey: Did you take it already? Corin will email you the link. Charge your time!
3. **MPUSD Updates - Rod**
   - STEM Academy Professional Developments
   - Site Visits
   - STEM Implementation
4. **Breakfast**
5. **Data Collection Form: Feedback from Fall 2017 STEM Coaching**
   -Catherine Hendrick, Stephenie Meroney, Victoria Palminteri, Betty Aynaga-
6. **TASKSTREAM Updates and Questions - Erin**
   - Review periodic and lesson plan protocols
   - Review where/how to record and submit STEM scores and evidence in Taskstream
7. **Next Steps**
   a. Record all STEM periodic and lesson observation data from Fall 2017 in Taskstream as soon as possible
   b. Look for emails about spring meetings/opportunities! :)
7. **Questions / Spring Scheduling** (after Monday Program meetings again?)

Attendees:
Dr. Megan Sulsberger, E&L Faculty
Dr. Erin Ramirez, E&L Faculty
Rod Garcia, MPUSD Rep.
Dr. Corin Slown, CSUMB Bechtel Rep.
Stephenie Maroney, E&L Coach
Catherine Hendricks, E& Coach
Victoria Palminteri, E&L Coach
Betty anagya, E&L Coach