Dana Center
Mathematics
PATHWAYS

Planning for Continuous Improvement

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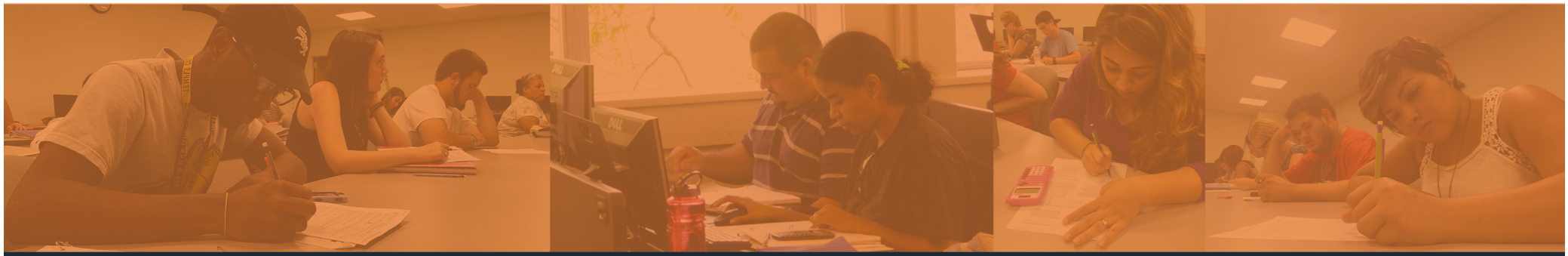

Webinar Outcomes

Participants will:

- Understand the role and importance of continuous improvement for systemic change.
- Identify different elements of continuous improvement across domains of systemic change and how these elements will be supported for the AY2018-2019 year.
  - Continuous Improvement for Structural Change (e.g., placement, registration, types of support, advising, etc.)
  - Continuous Improvement for Curricular & Pedagogical Change (e.g., curriculum, pedagogy, non-cognitive factors)
  - Overview of the interactions that will support this work

Dana Center Principles

Institutions implement structural and policy changes quickly and at scale.

Institutions and departments engage in continuous improvement to ensure high-quality, effective instruction.

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Mathematics pathways are structured so that:

1) All students, regardless of college readiness, enter directly into mathematics pathways aligned to their programs of study.
2) Students complete their first college-level math requirement in their first year of college.

Dana Center Principles

Institutions and departments engage in continuous improvement to ensure high-quality, effective instruction.

Students engage in a high-quality learning experience in math pathways designed so that:

3) Strategies to support students as learners are integrated into courses and are aligned across the institution.
4) Instruction incorporates evidence-based curriculum and pedagogy.

Breakout #1

Quick structural change

Mathematics pathways are structured so that:

1) All students, regardless of college readiness, enter directly into mathematics pathways aligned to their programs of study.
2) Students complete their first college-level math requirement in their first year of college.

Continuous improvement

Students engage in a high-quality learning experience in math pathways designed so that:

3) Strategies to support students as learners are integrated into courses and are aligned across the institution.
4) Instruction incorporates evidence-based curriculum and pedagogy.

Who Needs to Be Involved?

- Campus Leadership Team
  - Administrators
  - Academic Deans and Chairs
  - Directors of Advising/Student Services
  - Lead Institutional Researcher
  - Campus Contact

Roles and Responsibilities

- Administrators
  - Lead initiative at the institution level
  - Ensure that all stakeholders are involved
  - Identify obstacles and opportunities
  - Ensure that an institution-wide communication plan is implemented

Roles and Responsibilities

- Academic Deans and Department Chairs
  - Provide information about current structures
  - Establish and lead the instructional team
  - Schedule and staff classes
  - Gather data and analyze classroom level data
  - Train faculty
  - Ensure that a department-wide communication plan is implemented

Roles and Responsibilities

- Directors of Advising
  - Provide information on issues with registration
  - Consult on options for implementation
  - Ensure students are enrolled in the right courses
  - Gather information from students
  - Create advising tools and resources
  - Implement a communication, training, and implementation plan on advising

Roles and Responsibilities

- Lead Institutional Researchers
  - Collect data to be used for evaluation and continuous improvement
  - Support the leadership team in using data

Roles and Responsibilities

- Campus Contact
  - Receives invitations and announcements about professional development events
  - Disseminate information to campus team
  - Liaison between CSU and campus to provide feedback, share successes and challenges, and resources
  - Assist with scheduling of check-in calls during first term

Roles and Responsibilities

- Directors of Faculty Development
- Directors of Learning Support Services
- Directors of Student Support Services
- Directors of IT
- Course Leads/Coordinators

Breakout #2

In your breakout:

- Discuss the question:

  What type of leadership team structure would work best on your campus and who needs to be involved?

Share-out

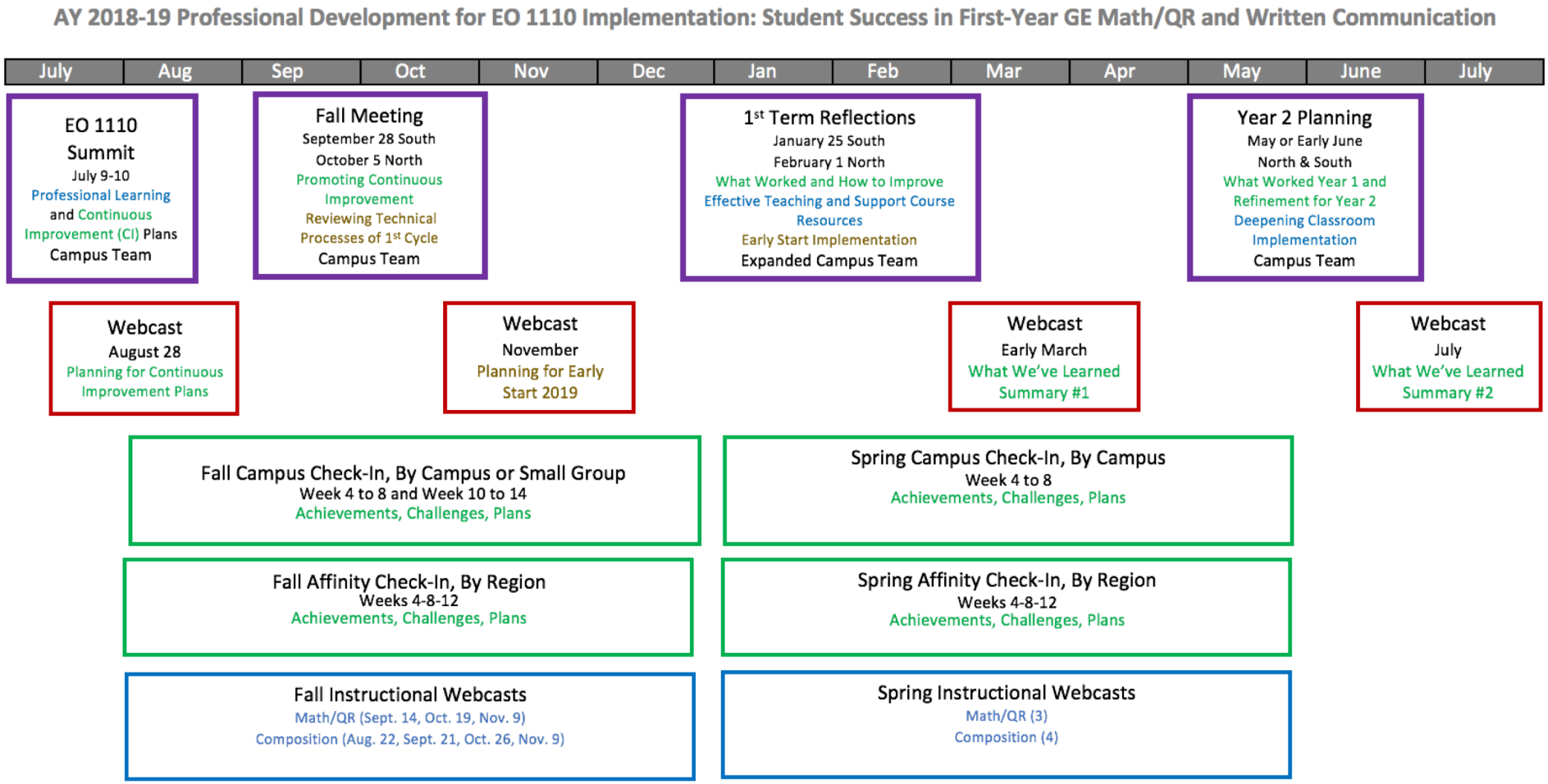
In the chat box, type the answer to this question:

What type of leadership team structure would work best on your campus and who needs to be involved?

Role in AY 18-19 EO 1110 PD Plan

CSU The California State University

INSTITUTE FOR TEACHING AND LEARNING | CENTER FOR THE ADVANCEMENT OF INSTRUCTION IN QUANTITATIVE REASONING



Continuous Improvement for Systemic Change

Where are you going?
What is your goal?
What do you want your students to accomplish in long run?

How will you get there?
Actions to improve structural, curricular, and pedagogical changes

What will tell you that you've arrived?

Evidence—quantitative and qualitative—along the way and at the end

Did your students achieve?

Setting Goals for Continuous Improvement Plan

Goals for 2018-2019	Goal Statements	Who needs to be involved?
Effective placement		
Effective course/support structure		
Decreased Equity Gap		
Achievement of Learning Outcomes		
Course completion		
Completion of “next” course		
Completion of GE in first year		

Sample Goals for 2018-2019

- Optimize the use of academic and advising strategies for assisting students in the choice of academic focus areas, gateway math and composition courses as well as placement into co-requisite models and the design of customized supports for students.
- Develop and implement effective intake systems that optimize a student's opportunity to pass both their composition and math gateway courses and enter a program of study in their first year.
- Design student supports, beyond co-requisite support, for at-risk students.
- Investigate and scale more effective pedagogies to improve student success in gateway math and composition classes.

Sample Goals for 2018-2019

- Investigate and implement the most effective co-requisite structures.
- Improve mathematics or composition success rates of learning support students from ..% to ..%, with equity gaps eliminated for low-income students, students of color and returning adults.
- Increase the proportion of students who complete both college level composition and math from ..% to ..% in their first year, eliminating the equity gaps.

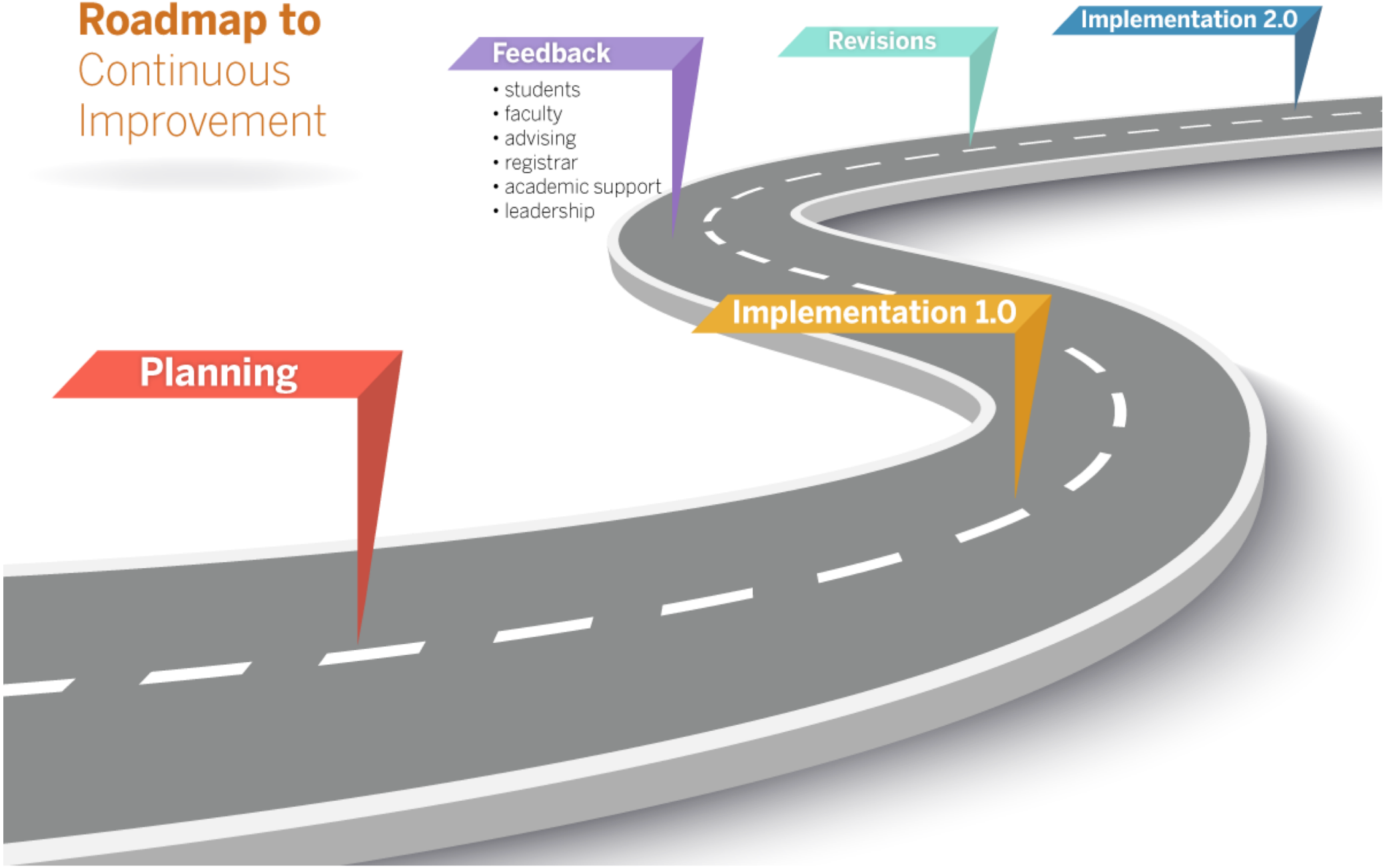
Journaling

Independent think time then journal in response to the question

- *My role is… My initial thoughts on my institution's goals are…*

It's Important to Assess and Evaluate Our Work

Roadmap to Continuous Improvement



Goals of Internal Evaluation

- Guide continuous improvement work:
  - Monitor progress
  - Surface challenges in implementation
  - Strategically deploy resources and supports

- Develop a strong local evidence base to continue to mobilize change

Measuring Progress

What if we had a Fitbit to measure our student success work?

Image credit: dolgachov/iStock/Thinkstock

Continuous Improvement of Structural Change

- Registration
- Advising
- Placement
- Structures

- Surveys
- Interviews
- Placement Data
- Reports

Image credit: Ihorzigor/iStock/Thinkstock

Possible Fitbit App for Advising

Image credit: keport/iStock/Thinkstock

- Onboarding
- Registration
- Early alert flags
- Stays on educational plan
- Course combinations
- Completion of coursework

Breakout #3

In your breakout:

- Discuss the question:

  What are your thoughts on the types of information that should be gathered to inform continuous improvement of structural changes?

Share-Out

In the chat box:

- Type your thoughts limiting them to one word or a hyphenated word:

  What are you thoughts on the types of information that should be gathered to inform continuous improvement of structural changes?

Continuous Improvement of Curriculum and Pedagogy

- Deans
- Department Chairs
- Course Coordinators
- Faculty
- TAs, Tutoring Labs

Image credit: Scanrail/iStock/Thinkstock

- Student Information
- Classroom Assessment Techniques
- Common Assessment Questions
- Surveys

Background Student Information

Name	Previous Courses	Previous Semester	Previous Faculty	Previous Grade
Uri Treisman	MATH 0385	Spring 2018	Betty Ford	F
	MATH 0385	Fall 2017	Harley Davidson	F

Classroom Assessment Techniques

- Flexibility
  - What can be changed now?
  - What will be changed next semester?
  - Next year?

Common Assessment Questions

COURSE OBJECTIVES EVALUATION, Fall 2018

Math 0450 Intermediate Algebra, Section_____

Instructor: _____

Item	0 (No response)	1 (Inadequate response)	2 (Approaching standard)	3 (Meets standard)
$(5x+2)^2-3x+1$				
$5x^3+39x^2+45x$				
$\frac{5x-4}{x^2+2x-8}-\frac{3}{x+4}=\frac{1}{x-2}$				
$(9)^{-\frac{3}{2}}$				
$x^2-6x+2=0$				
$y=x^2-4x-5$				

Common Assessment Questions

Considering the rubric above, list two objectives you feel need instructional improvements so more students can meet the objectives standards. Along with each objective, indicate how you will adjust your instructional strategies next semester to help more students meet each objective standard. As part of closing the loop for assessment, you need to use the suggestion you make for improving your instruction next semester. When you give this exam and complete the rubric in the following semester, you will indicate if your instructional adjustments did address the objective needs you mentioned on your previous rubric. Please save a copy of this for yourself and send me a copy: …. or through campus mail.

Objective:

Observation:

Instructional Adjustments:

Non-Cognitive Assessments

Name	Attendance	Homework Completion	Participation	Attended Tutoring	Set Goals

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Surveys

Cal State LA
Weekly Instructor Survey – ESM 1082-0082 Pilot

Week 3 Survey

Q1
Please provide feedback on the syllabus - especially for this past week. What should be removed/added? How could lab sheets be improved?

I don't think anything needs to be removed. However the time we had for covering this much material was not sufficient giving the fact, we had 4 days of instruction and not 5.
7/13/2018 12:28 PM
The schedule for Week 3 was very tight. I would like to spend more time on rational expressions and less time on complex numbers. For Section 8.1, we can focus on using i notation for square root of negative numbers and remove operations on complex numbers.
7/12/2018 4:18 PM
WS 13 should be moved to Week 5.
7/9/2018 7:09 PM
The syllabus is clear and concise, nothing should be added or removed. The lab sheets should provide some more complex problems.

Surveys

Q2

Please look at the next chapter (HW and lab sheets). Would you like to see any adjustments?

I think there are too many problems and students usually have a difficult time to do all the home work problems in the time frame that they have.

7/13/2018 12:28 PM

For some of the questions (such as Q4) in 8.3 homework, students were not sure how to input their answers.

7/12/2018 4:18 PM

I will use WS 13 in week 5. Everything else looks fine.

7/9/2018 7:09 PM

No adjustments.

Possible Fitbit App for Instruction

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- Background information
- CATs
- Attendance
- Course Metrics
- Grades
- Completion of course
- Completion of next course

San Jose State University

Building Meaningful Writing Assessment That We Can Sustain

What We're Doing at SJSU

Dr. Cynthia M. Baer

AWPA, Department of English and Comparative Literature

SJSU SAN JOSÉ STATE UNIVERSITY

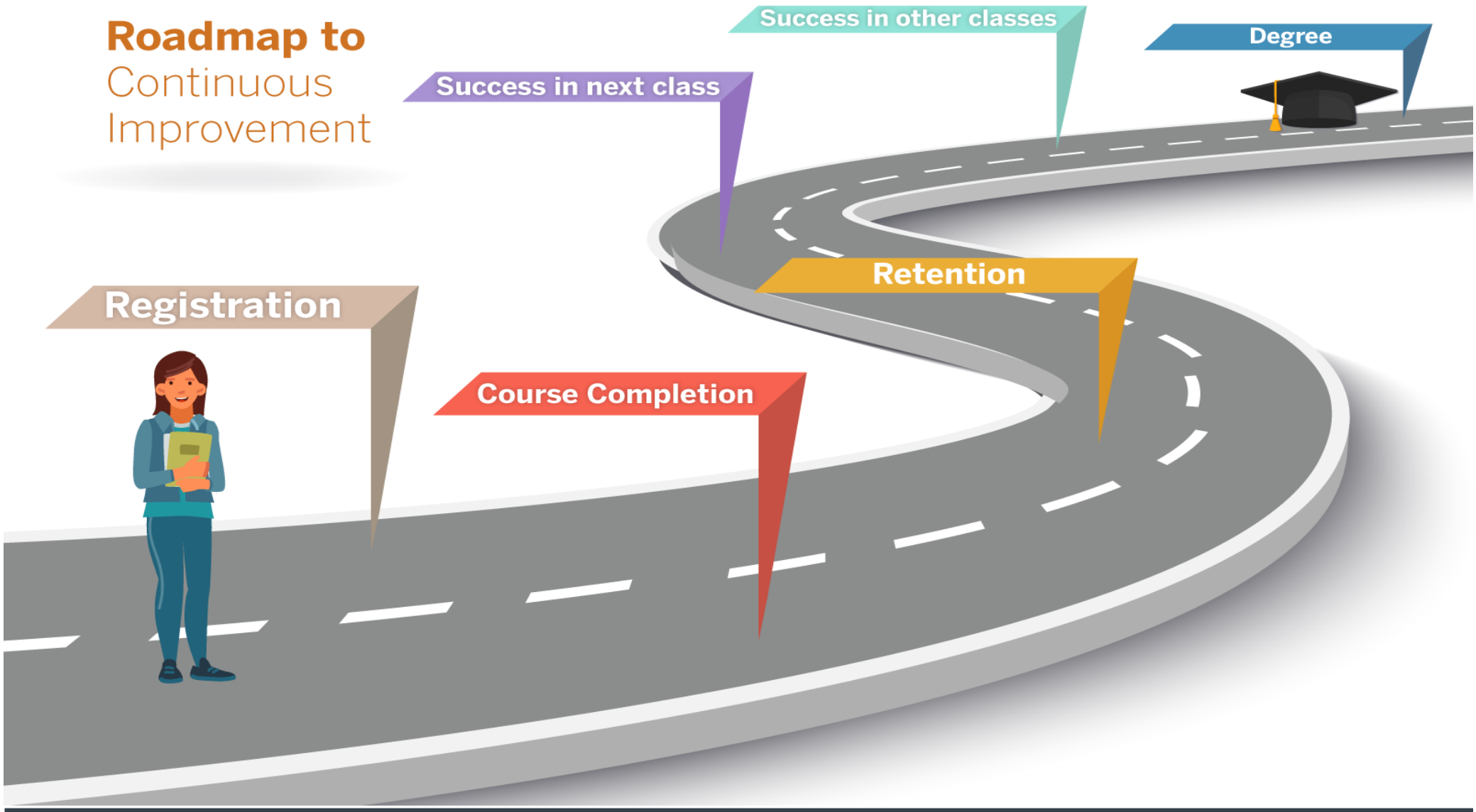
CSU – Monterey Bay

Teaching, Learning, and Assessment Strategies for Math/QR Courses

Dan Shapiro
Director, Center for Teaching, Learning, and Assessment, CSUMB
Jeffrey Wand
Lecturer, Mathematics & Statistics, CSUMB
Peri Shereen
Assistant Professor, Mathematics & Statistics, CSUMB
Alison Lynch
Assistant Professor, Mathematics & Statistics, CSUMB

California State University
MONTEREY BAY
Extraordinary Opportunity

Milestones for Continuous Improvement



Recommended Metrics

Goals for 2018-2019	Goal Statements	Who needs to be involved?
Effective placement		
Effective course/support structure		
Decreased Equity Gap		
Achievement of Learning Outcomes		
Course completion		
Completion of “next” course		
Completion of GE in first year		

Considerations in Evaluation Planning

- What are the metrics of interest (key performance indicators)?
  - Stakeholder perceptions and experiences
  - Course offerings
  - Student enrollments
  - Student learning
  - Student outcomes
    - Course level
    - Progression
    - Transfer
    - Credential completion
- What subgroups can be analyzed separately?
- What are expected outcomes, given implementation timeline?

Preparation for Fall Regional Convening

Data Template
CSU Regional Convening

Dana Center Mathematics PATHWAYS

Institution:
Date:

To make best use of your time at Continuous Improvement Workshop each participating institution is asked to collect, calculate, and report on student outcomes using a limited set of key performance indicators (KPIs). The report includes KPIs for the cohort of first-time-in-university (FTIU) students. Institutions are asked to report KPIs on FTIU cohorts who entered your institution in the fall of the three academic years prior to the start of EO1110. This information may be included in, or supplemental to, what is being collected as part of your continuous improvement plan. We encourage campuses to use the format in this template.

Definition: Cohort is first-time, credential-seeking students, both part-time and full-time entering each fall semester.

KPI	Definition
Completed college gateway mathematics in year 1	Number and % of fall cohort students who attempted and passed at least one college level mathematics course in their first full academic year.
Completed college gateway English in year 1	Number and % of fall cohort students who attempted and passed at least one college level English course in their first full academic year.

KPIs

	Fall 2015		Fall 2016		Fall 2017	
	N	%	N	%	N	%
Total fall cohort students		100%		100%		100%
College-ready						
Completed college mathematics in year 1						
Completed college English in year 1						

Breakout #4

In your breakout:

- Discuss the question:
  - *What is the greatest strength you see in this work?*
  - *What is the biggest challenge?*

Journaling

Independent think time then journal in response to the question

- *What is the greatest strength you see in this work? What is the biggest challenge?*

Share-Out

In the chat box:

Type your biggest concern in the chat box.

Share-Out

In the chat box:

Type what you see as the greatest strength in this work.

Next Steps

- Identify campus contact
- Register for Fall meetingss
- Goals for 2018-2019
- Data template
- Institutional phone calls
- Faculty affinity group check-in
- Questions to campus contact

Other Resources

CSU Collaboration Spaces

- http://tiny.cc/csu-teams
- http://tiny.cc/csu-math
- http://tiny.cc/csu-english

Calendar

- www.calstate.edu/professional-development-calendar

Recordings and resources are linked to event listings in the archive.

Contact Information

- Dr. Emily Magruder, Director, CSU Institute for Teaching and Learning, at emagruder@calstate.edu

  562-951-4752
- Dr. Zulmara Cline, Co-director, CSU Center for Advancement of Instruction in Quantitative Reasoning at zcline@calstate.edu

  562-951-4778
- Dr. Fred Uy, Co-director, CSU Center for Advancement of Instruction in Quantitative Reasoning at fuy@calstate.edu

  562-951-4713

Contact Information

- Paula Talley, Systems Implementation Lead, Higher Education
  paulatalley@austin.utexas.edu

- General information about the Dana Center
  www.utdanacenter.org

- DCMP Resource Site
  www.dcmathpathways.org

- To receive monthly updates about the DCMP, contact us at
  dcmathpathways@austin.utexas.edu

About the Dana Center

The **Charles A. Dana Center** at The University of Texas at Austin works with our nation's education systems to ensure that every student leaves school prepared for success in postsecondary education and the contemporary workplace.

Our work, based on research and two decades of experience, focuses on K–16 mathematics and science education with an emphasis on strategies for improving student engagement, motivation, persistence, and achievement.

We develop innovative curricula, tools, protocols, and instructional supports and deliver powerful instructional and leadership development.

The University of Texas at Austin
Charles A. Dana Center

2016