

Building Integrated Logic Models: Educational Equity, Student Pathways, and Institutional Change

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Overview

- The academic pipeline problem and educational equity
- Sample logic model for one program
- What are Integrated Logic Models (ILMs)? How are they useful?
- A collaboration of P-20 alliances building ILMs by integrating:
 1. *Scientific theories of change*
 2. *Research-based activities across programs*
 3. *Outcomes with student-level longitudinal data*
- University of California, Santa Cruz: An H.S.I. building its ILM
- Towards a common language: Sketching your program and ILM
- An invitation

A Longitudinal Data Dashboard in One Region: Cal-PASS Plus - www.calpassplus.org

GREATER SACRAMENTO ACHIEVEMENT DASHBOARD

Sacramento City Unified
High School District

2011-2012
Academic Year

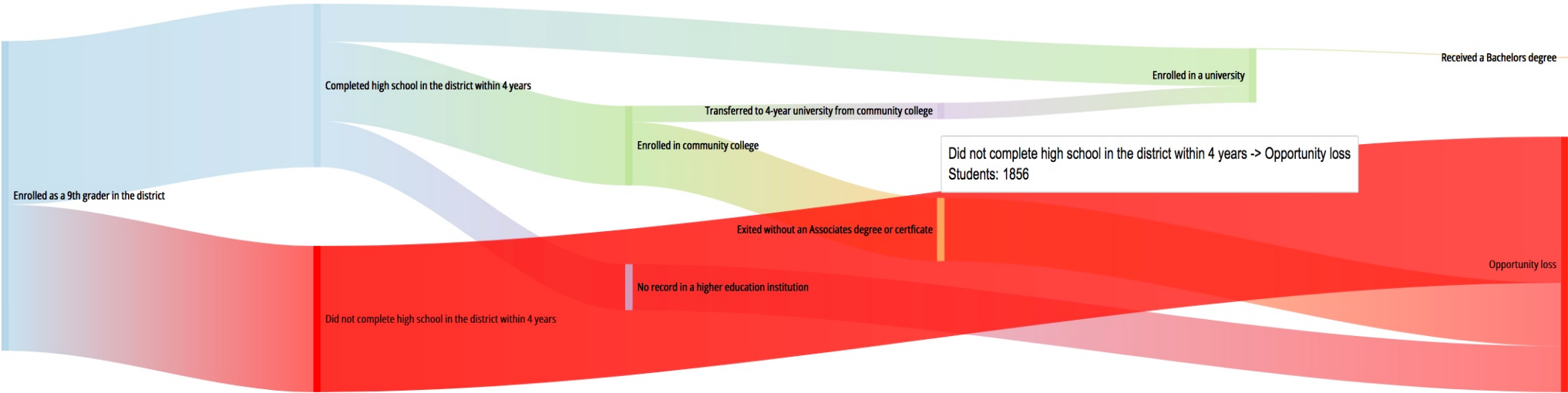
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DATA VISUALIZATION

DATA TABLES

Drilldown by

Overall Momentum for 3,931 students



Sample Logic Model for One Program

Inputs		Implementation (Theory of Change)		Outcomes		
Needs	Resources	Activities	Outputs	Short-term	Intermediate-term	Long-term and Impacts
Families High % low-income, limited English, low educational attainment	Families Aspirations for child's education Staff, database, funding	Academic Advising College, financial aid, career knowledge; Tutoring; College visits	# Students advised # with Individualized College and Career Plans # attended college visits	Grades 6-9 Basic college and financial aid knowledge; Develop and update IAPs	Grade 11 Take SAT/ACT; college and financial aid knowledge Grade 12 Complete college-prep, AP, and honors classes; college and financial aid applications	Increase rates: College enrollment Community College Transfer Graduation College-based Careers
Schools Low-performing	Partners Students, schools, campus, region, state, nation	Professional Development Research and Evaluation	# Staff attended workshops Action plans, strategic plan	Grade 10 Take PSAT		

What are Integrated Logic Models (ILMs)?

How are they useful?

- ILMs integrate multiple programs into one Logic Model for students' college and career pathways and institutional change
- Integrating scientific theories of change builds fidelity and unifies work that can be fragmented and fragile
- Integrating activities builds coherence, collective impact, and broader institutional change for student success
- Integrating longitudinal data strengthens formative evaluation for improvement, summative evaluation, and sustainability
- Clearer roadmaps for students, families, partners, and funders that show more than one pathway to student success

A Collaboration of P-20 Alliances: Building ILMs for Educational Equity from Preschool through Graduate School to Careers

P/K->Elementary->MS->HS->Community and 4-year Colleges->Grad/Prof->Careers School

- **Santa Cruz County College Commitment (S4C)**
- **University of California Office of the President (UCOP)**
4th grade----->to and through college
- **UC Santa Cruz Educational Partnership Center**
6th grade----->to and though college
- **Cabrillo Advancement Program (CAP) at Cabrillo College**
6th grade-----> to and through community/4-yr colleges to careers
- **University of Colorado - Colorado Springs**
7th grade STEM-----> to and through college to careers
- **UC Santa Cruz Hispanic-Serving Institutions**
to college-->community college transfer-->graduation
- **Santa Cruz County Adult Education Block Grant**
Adult Ed-->community college-->Career Tech Ed (CTE) to careers

Strategy 1: Integrating Scientific Theories of Change

- **Seven College-Going Conditions (Oakes, 2003)** - how equity and access to college preparation and success require: 1) safe and adequate school facilities; 2) college-going school cultures; 3) academic rigor; 4) qualified teachers; 5) intensive academic and social supports; 6) students developing multicultural college and career identities; and 7) family-neighborhood-school connections
- **Multicontextual Model for Diverse Learning Environments (Hurtado & Alvarado, 2015)** – how social-historical, policy, institutional, and community contexts, including staff and faculty identities, define campus diversity climates; curricular and co-curricular learning environments shape student retention and achievement and sense of belonging, which can strengthen social equity and democratic and economic outcomes
- **Bridging Multiple Worlds (Cooper, 2011)** - how culturally diverse youth navigate challenges and resources across family, peer, school, and community worlds along college and career pathways: 1) demographics of youth moving through school; 2) college/career/cultural identity pathways; 3) math and language pathways; 4) challenges/gatekeepers and resources/brokers across cultural worlds; and 5) P-20 cultural research partnerships that boost resources youth draw across worlds

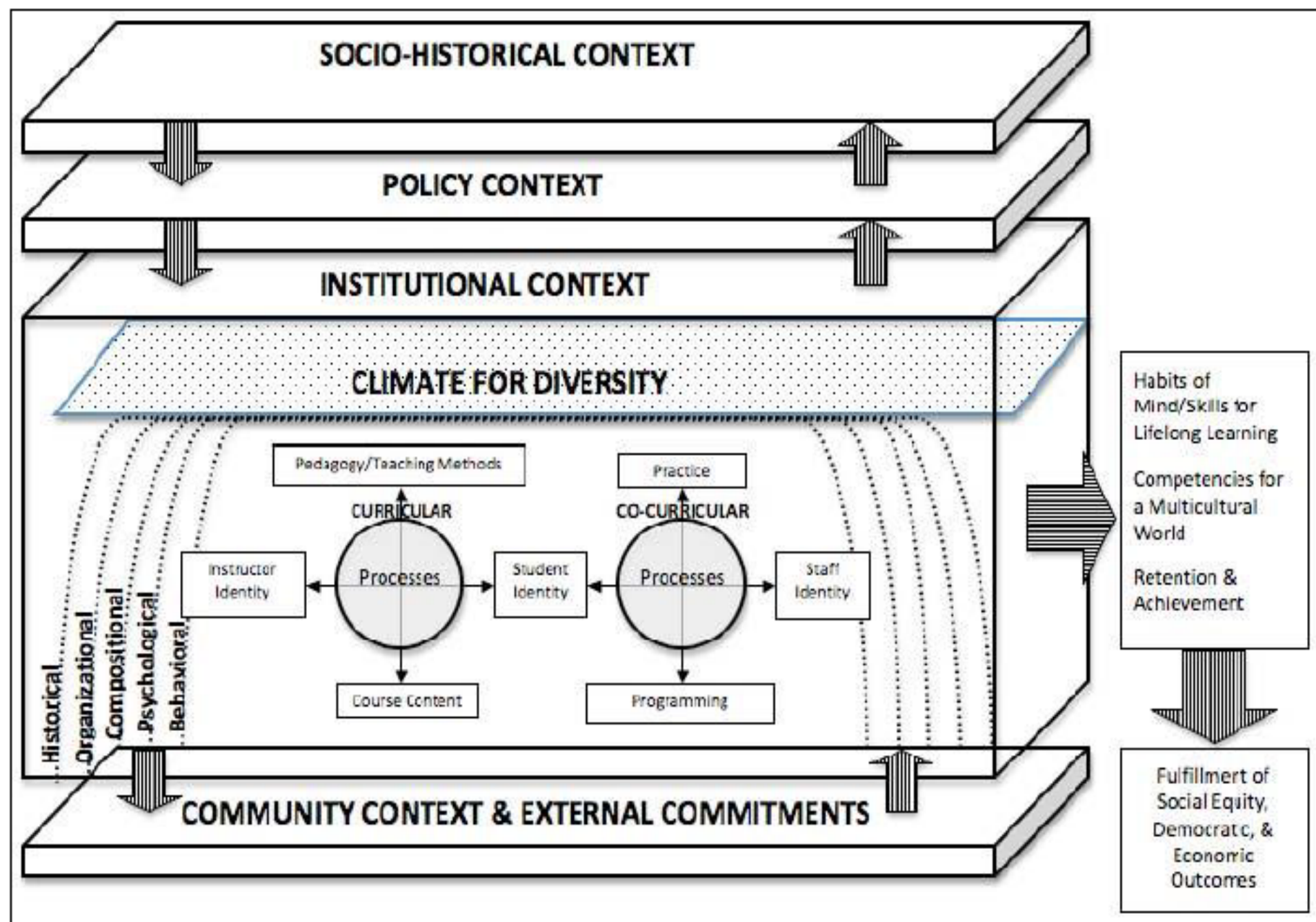
A Common Framework for P-20 Research, Policy, and Practice in the 10-campus University of California System

(Cooper, 2011; Cooper, Mehan, & Halimah, 2007; Oakes, 2003)

7 Conditions for Equity and Diversity in College Access (Oakes, 2003)	PreK	Elementary	Middle	HS	Community College & University	Graduate & Prof. schools
Safe and Adequate School Facilities	1	1	3	3	1	1
College-Going School Culture	3	4	8	9	6	3
Rigorous Academic Curriculum	3	5	9	8	4	2
Qualified Teachers	3	7	9	8	5	4
Intensive Academic and Social Supports	1	3	9	8	5	
Opportunities for Multi-Cultural College-Going Identity	1	4	9	8	4	3
Family-Neighborhood-School Connections	3	6	9	9	5	

Number of UC campuses (of 10) reporting activity

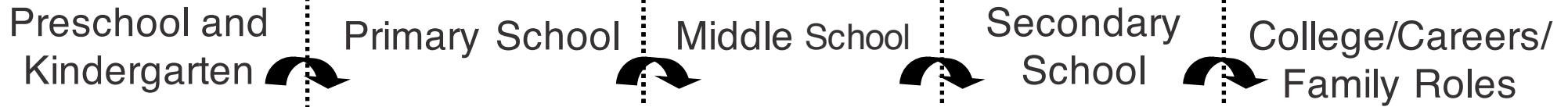
Figure 3. Multicontextual Model for Diverse Learning Environments (Hurtado, et al., 2012)



Bridging Multiple Worlds Theory (Cooper, 2011)

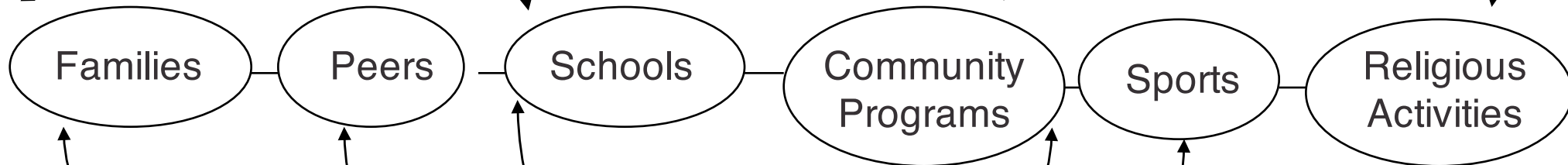
The Academic Pipeline

1 Demographics of students navigating through the academic pipeline



2 Youth developing aspirations and identities

3 Math and language academic pathways



4 Evolving constellations of resources and challenges across cultural worlds

5 Cultural Research Partnerships from Preschool through College (P-20)

2: Integrating Research-Based Activities across Programs

GEAR UP, EAOP, MESA, and Cal-SOAP at UCSC EPC (Cooper & Rocha-Ruiz, 2016)

Inputs		Implementation (Oakes)		Outcomes and Impact		
Needs	Resources	Activities	Outputs	Short-term	Long-term	Impact
High % families: low income, limited English, low educational attainment, college knowledge	Family aspirations for child's education EPC staff, database, funding Campus, regional, state, and national partners	Academic advising: College, financial aid, and career knowledge; Tutoring; College visits	# Students advised # with Individualized College and Career Plans # attending college visits	Grades 6-9 Increase basic college and financial aid knowledge; develop and update IAPs	Grade 11 Taking SAT/ACT, increase college and financial aid knowledge Grade 12 Increase college-prep, AP, and Honors completion; college and financial aid applications	College Increase rates of : Post-secondary enrollment Graduation
Low-performing schools; Students: low college readiness, enrollment, graduation		Professional Development	# Staff, teachers attending/completing workshops	Grade 10 Take PSAT College-prep classes		

3: Integrating Outcomes with Student-Level Longitudinal Data Cabrillo Advancement Program (CAP) at Cabrillo College

Elementary->Middle School->HS->Community College & 4-yr College->Career

Alg 1>College-prep>College-Community College>College Completion>Careers
courses enrollment degrees & transfer & degrees

Cal-PASS Plus - www.calpassplus.org - statewide longitudinal database of individual students' K-12-through-college records

CAP, UC Santa Cruz, & Cal-PASS Plus merge student-level data:

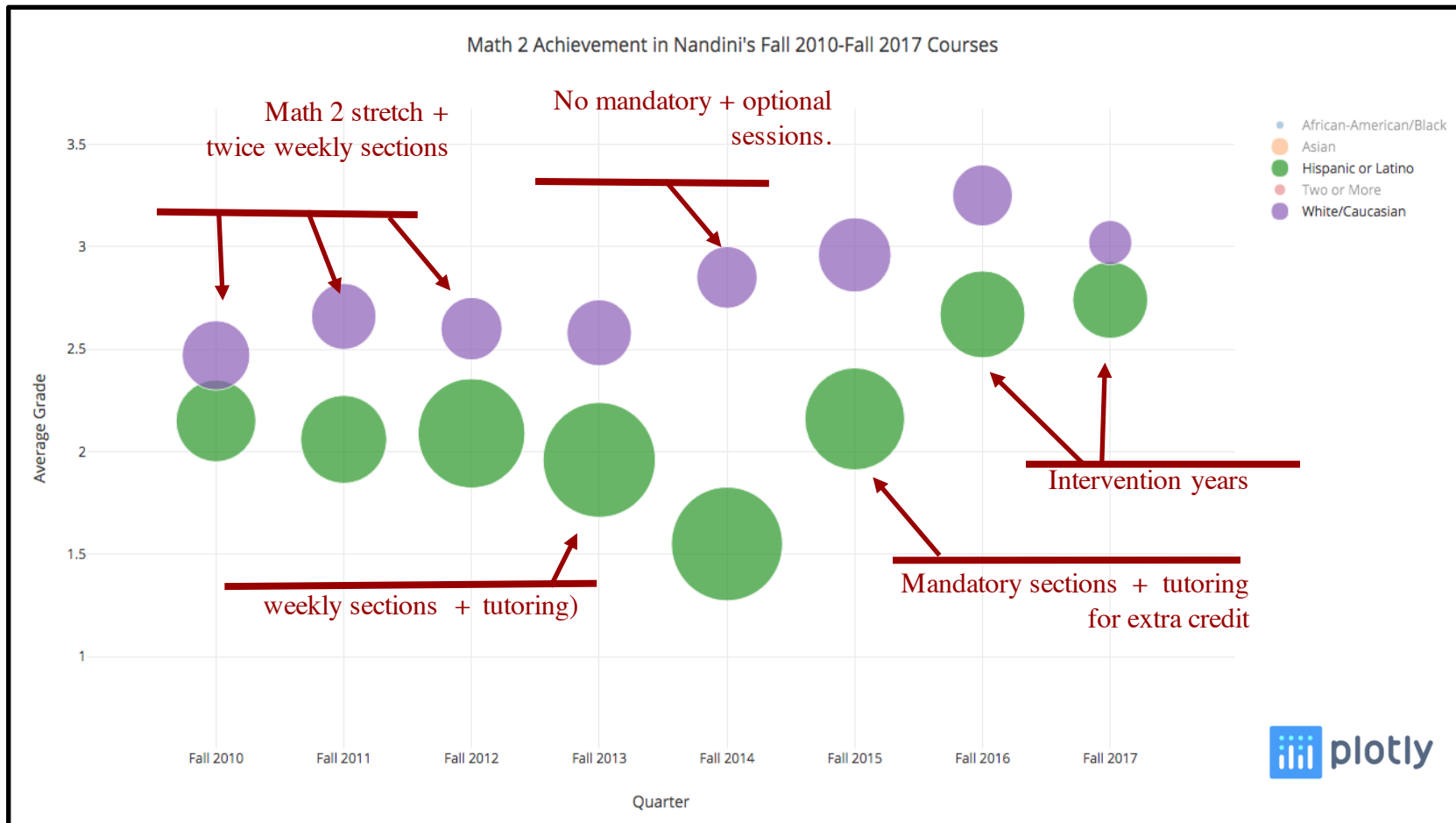
- Demographics
- Program participation
- Surveys: Program activities - Theory of change: Cooper (2011)
- Math & language pathways: MS>HS>college>transfer>degrees
- Alumni narratives: More than one path through college to careers

UC Santa Cruz: A Hispanic-Serving Institution

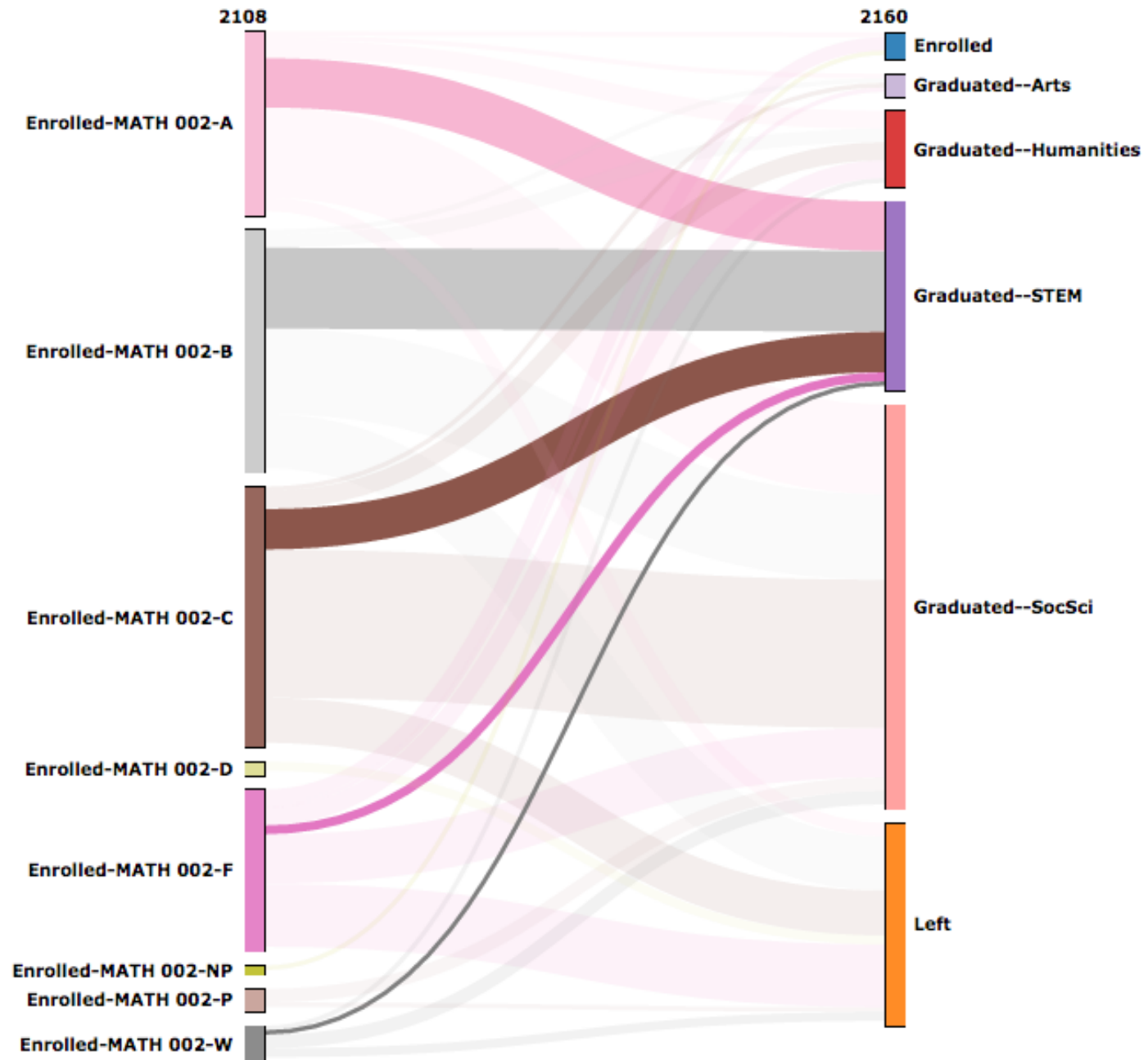
<https://studentsuccess.ucsc.edu/hsi>

Activities (Hurtado et al.)	UCSC MAPA	SJCC-UCSC Cooperative	HSI STEM - SEMILLA
Math	Collaborative Math 2 - College Algebra	-	STEM Scholars Collaborative College Math 3 Seminars
Writing	WORD Regional Institutes (SF, Oakland, Los Angeles)	Research Writing Course - SJCC	Writing support for internship applications
Sense of Belonging	Regional Family Conferences El Centro Internships Student Focus Groups Campus Engagement/Forums	SJCC Student Campus Visits to UCSC, Family Day	STEM Scholars Collaborative: ACE, MEP, STEM Diversity, LSS, EOP
Advising	Math 2 and Writing Advising, CFL/iMAP, Multicultural Competence Adviser Training	Transfer/Retention Counselor, Graduate Student Mentoring, Financial Literacy	Holistic STEM Counselors STEM Academy Career Development
Transfer and Dual Enrollment	-	Research Opportunities Articulation - SJCC Cross Enrollment: LALS	STEM Transfer Academies and Articulation Review
Professional Development, Research & Eval	Writing and Math faculty PD -----→-----	Faculty PD-SJCC & UCSC -----→-----	STEM faculty PD TA Training Certificate -----→-----

Equity Analysis: White/Caucasian and Latino Students' Math Grades



Longitudinal Data in Ribbon Diagram: Math 2 Fall 2010 Graduation by Winter 2016



Towards a Shared Language across Theories, Activities, and Longitudinal Outcomes

Template: Scientific theories of change, research-based activities, & longitudinal outcomes

- Cross-Institutional College-Going, Transfer, and Completion Partnerships
- Rigorous Curriculum
- Academic and Social Support
- Multicultural College and Career Identity Pathways
- Sense of Belonging
- Family Partnerships
- Financial Aid
- Transfer and Dual Enrollment
- Professional Development
- Collaborative Research, Evaluation, and Equity Analysis
- **Sample Outcomes:** Increasing rates and closing equity gaps in: Transfer-level math & English, grades, persistence, STEM majors, transfer, 6-year graduation

Sketching Your Program and Integrated Logic Models

Inputs		Implementation (Theory of Change)		Outcomes and Impact		
Needs	Resources	Activities	Outputs	Short-term	Long-term	Impact
		Cross-Institutional College-going, Transfer,& Completion Partnerships Rigorous Curriculum Academic and Social Support Multicultural Competence and College and Career Identities Sense of Belonging Family Partnerships Financial Aid Transfer and Dual Enrollment Professional Development Research, Evaluation, Equity Analyses		2nd	3rd	1st

An Invitation:
Bridging Multiple Worlds Alliance
www.bridgingworlds.ucsc.edu

- Growing network of state, national, and international partners
- How immigrant, low-income, and URM youth build college and career pathways without losing ties to families and cultural communities
- Advancing research, practice, and policy in collaboration with alliance partners and youth themselves
- **Bridging Multiple Worlds Tools** (Cooper, 2011) and on website
- **Roundtable on Integrated Logic Models and Databases**

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