



#FIRSTGEN

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

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**UNIVERSITY
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Feedback welcome at ccooper@ucsc.edu and
www.bridgingworlds.ucsc.edu

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**With gratitude to the UCSC Educational Partnership Center,
UCSC Hispanic-Serving Institutions,
and Bridging Multiple Worlds Alliance teams
and to the students and families in all of our partnerships**



Overview

- Educational equity and the academic pipeline problem
- Roots and remedies: Capital, alienation, or challenge?
- What is a Logic Model (LM)? Sketching your own LM
- What are Integrated Logic Models (ILMs)? How are they useful?
- A collaboration building ILMs by integrating:
 1. *Social science theories of change*
 2. *Research-based activities and outcomes across programs*
 3. *Outcomes with student-level longitudinal data*
- UCSC: A Hispanic-Serving Institution building its ILM
- Towards a common language
- Sketching your own ILM
- An invitation

Educational Equity and the Academic Pipeline Problem: A Longitudinal Data Dashboard for One Region Cal-PASS Plus - www.calpassplus.org

GREATER SACRAMENTO ACHIEVEMENT DASHBOARD

Sacramento City Unified
High School District

2011-2012
Academic Year

[Click here to reset](#)

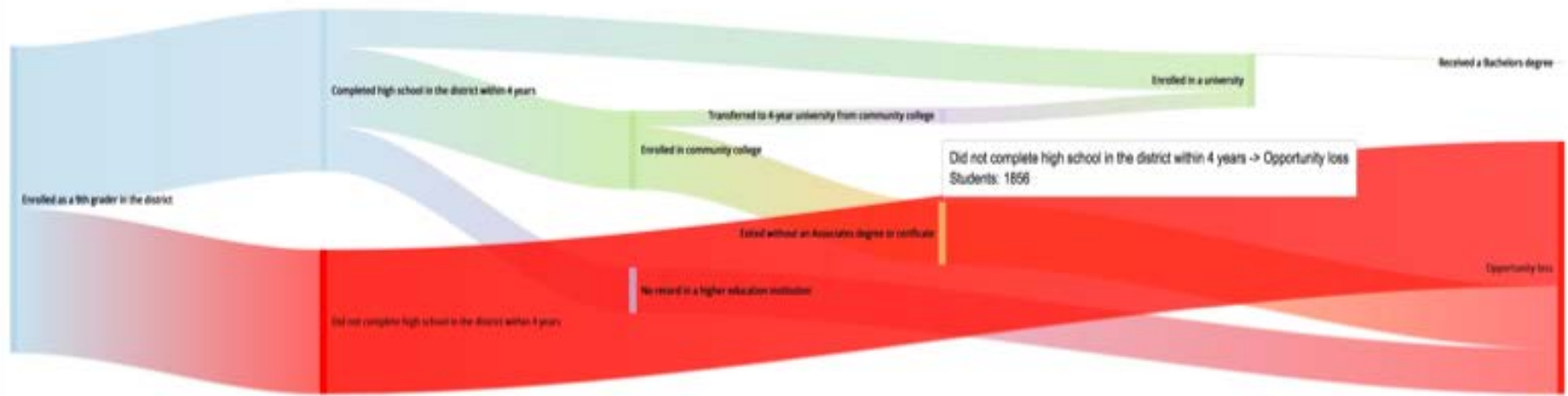
DATA VISUALIZATION

DATA TABLES

Drilldown by

Overall

Overall Momentum for 3,931 students



Converging Views of Roots and Remedies

Social capital: Cultural reproduction across generations, “the rich stay rich and the poor stay poor” (Bourdieu, 1986)

- Community Cultural Wealth (Yosso, 2005)

Alienation or belonging? Marginalization and oppositional identities (Fordham & Ogbu, 1986)

- Sense of belonging (Tajfel & Turner, 1986; Hurtado et al., 2012)

Challenge and resiliency: Navigating identities across challenges and resources with cultural brokers and “proving gatekeepers wrong” (Cooper, 2011; Azmitia et al., 2018)

Integrating capital, alienation, and challenge (Cooper et al., 2018)

Sample Logic Model for One Program

Halimah, 2011; Kekahio et al., 2014

Inputs		Implementation		Outcomes		
Needs/ Challenges	Resources	Activities	Outputs	Short-term	Intermediate- term	Long-term and Impact
<p>Families High % low-income, limited English, low educational attainment</p> <p>Schools Low-performing</p> <p>Students Low college prep, enroll, graduation</p>	<p>Families Aspirations for child's education</p> <p>Staff, database, funding</p> <p>Partners Students, schools, campus, region, state, nation</p>	<p>Academic Advising</p> <p>Family Engagement</p> <p>Professional Development</p>	<p># Students advised # with</p> <p>Individualized College and Career Plans</p> <p># attended each activity</p> <p>Who was there? Who was missing?</p>	<p>Grades 6-9 Basic college and financial aid knowledge; Develop and update IAPs</p> <p>Grade 10 Take PSAT</p>	<p>Grade 11 Take SAT/ACT; college & financial aid knowledge</p> <p>Grade 12 Complete college-prep, AP, and honors classes; college and financial aid applications</p>	<p>Increased equity in:</p> <p>College enrollment</p> <p>Transfer from community college to 4-year universities</p> <p>Graduation</p>

Sketching Your Own Logic Model for One Program

Mission:

Community/communities served:

Inputs		Implementation of Theory of Change		Outcomes		
Needs/ Challenges	Resources	Activities	Outputs	Short- term	Intermediate term	Long- term

Integrated Logic Models (ILMs):

What are they? How are they useful?

What are they?

- ILMs integrate multiple programs in one logic model—in mission, theories of change, inputs, activities, outputs, outcomes, and impacts
- Collaborations in one institution or across P-20 academic pipeline

How are they useful?

- ***Integrating scientific theories of change*** unifies fragmented and fragile work; advances equity research, practices, and policies
- ***Integrating research-based activities and outcomes*** unifies strategic planning, grant proposals, implementation, onboarding staff, evaluation, feedback loops, compliance, and long-term sustainability
- ***Integrating longitudinal databases*** unifies case management and Individualized Academic Plans for students, families, programs, partners, and stakeholders while increasing collective impact

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 School → Careers

- **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 through college to careers

- **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 Social Science Theories of Change to Increase Educational Equity

- **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

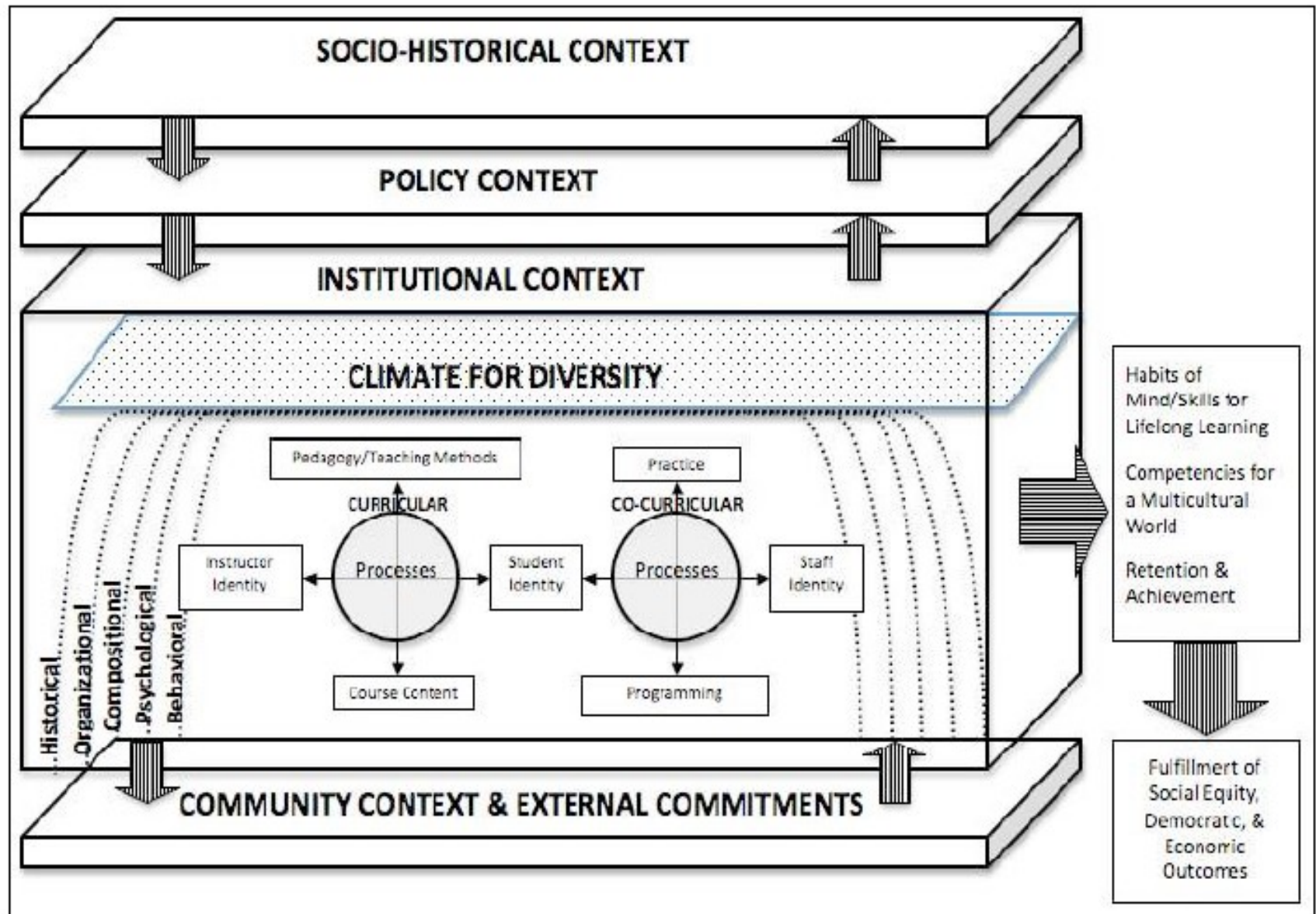
A Common Framework for P-20 Research, Policy, and Practice in the 10-campus University of California System

(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)

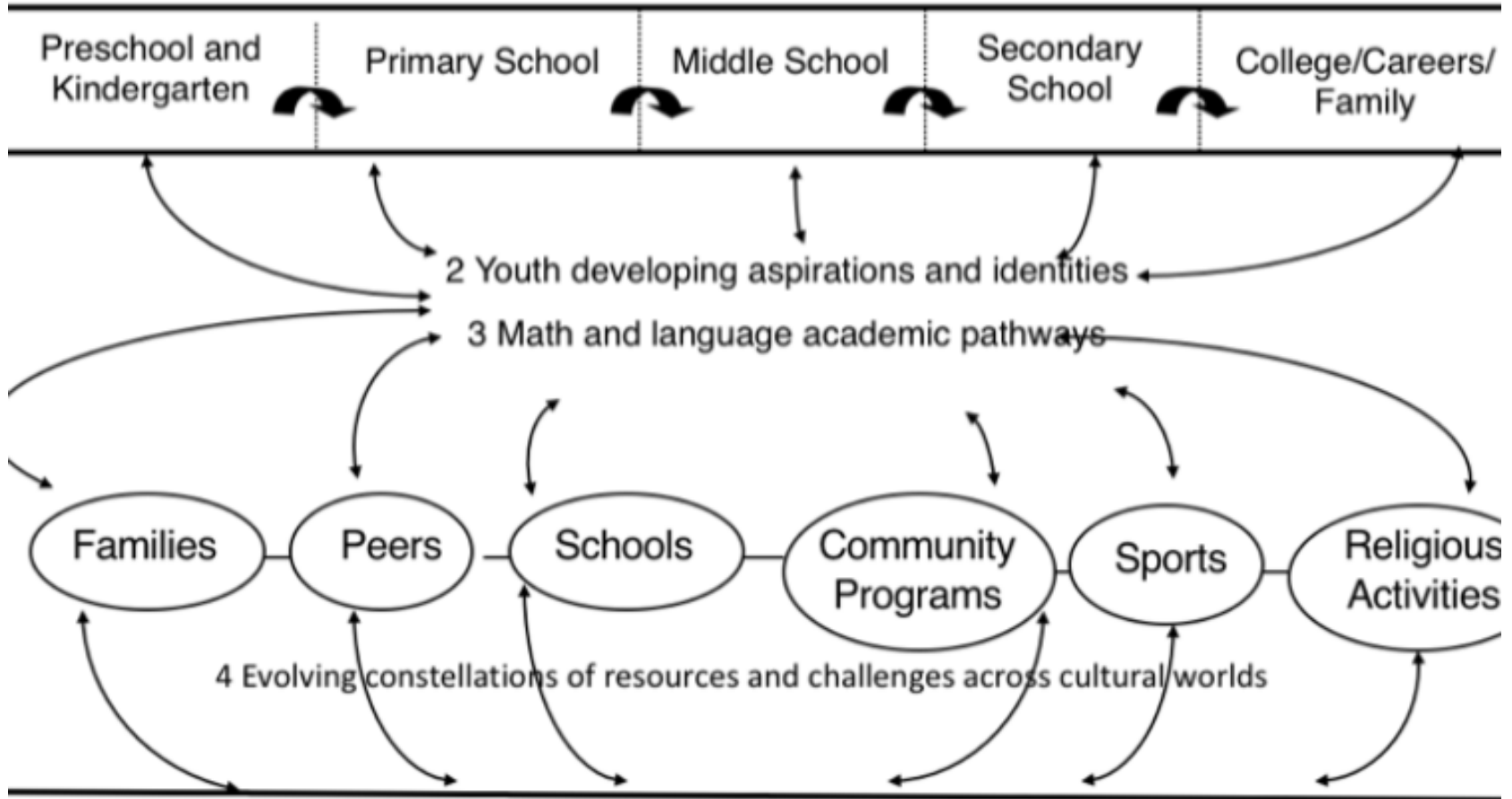


Building Multiple Worlds Theory

(Cooper, 2011, Cooper et al., 2018)

The Academic Pipeline

1 Demographics of families navigating through the academic pipeline from childhood to careers



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

Adapting Theories and Practice to Local Realities (Gagne et al., 2018)

Bridging Multiple Worlds Theory

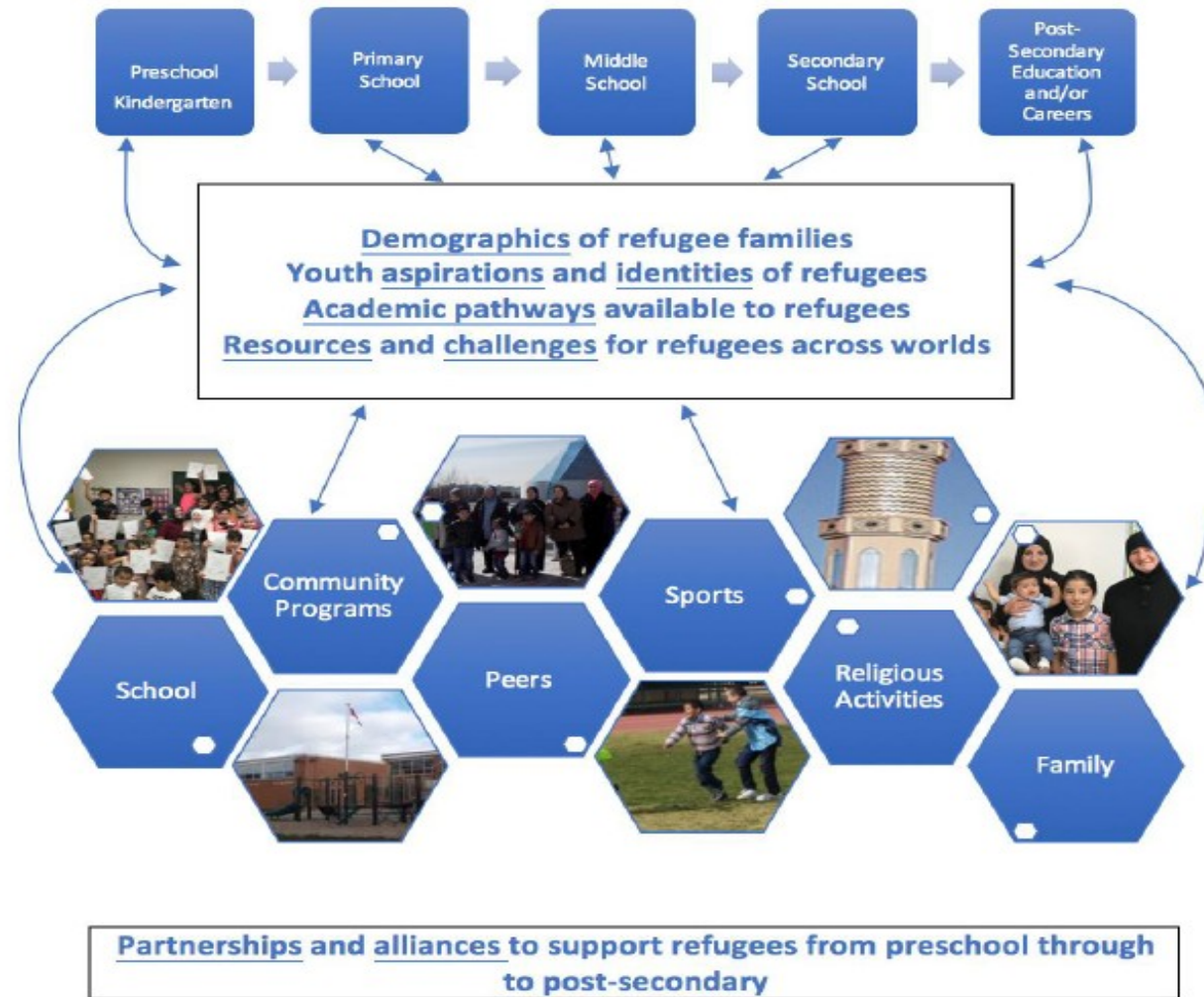


Figure 1. *Bridging Multiple Worlds - Syrian Refugee Children and Youth in Ontario (Adapted from Cooper, 2014)*

Strategy 2: Integrating Activities and Outcomes across Programs

UCSC Educational Partnership Center: EAOP, MESA, GEAR UP, and Cal-SOAP

Inputs		Implementation		Outcomes and Impact		
Needs	Resources	Activities	Outputs	Short-term	Long-term	Impact
<p>Families High % low income limited English educational attainment, college knowledge</p> <p>Schools Low performing; support for college enrollment, completion</p> <p>Students Low college readiness, enrollment, graduation</p>	<p>Families Aspirations for child's education</p> <p>EPC staff, experience, database, funding</p> <p>Partners Students, families, schools, districts, post-secondary, campus, regional, state, and national</p>	<p>Students <i>Advising & mentoring</i></p> <p>College, career, financial aid College visits Workshops Tutoring</p> <p>Families <i>Workshops</i></p> <p>Teachers <i>Professional Development</i></p> <p>Data analysis Formative & summative evaluation</p>	<p># advised with <i>Individualized Academic and Career Plans (IACPs)</i></p> <p># attended # attended # tutored, hrs./ student</p> <p># attended</p> <p># trained & implemented PD</p> <p>Program action plans Center strategic plan</p>	<p>Increase: Grades 6-9 Basic college & financial aid knowledge</p> <p>Develop & update IAPs</p> <p>Grade 10 Take PSAT</p>	<p>Increase: Grade 11 Take SAT/ACT</p> <p>College and financial aid knowledge</p> <p># with GPA 3.0/ above</p> <p>Grade 12 College prep, AP, & honors completion</p> <p>College and financial aid applications & completion</p>	<p>Increase: High school graduation</p> <p>Post-secondary enrollment & completion</p> <p>Transfer from community college to university</p>

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, CTE & 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 merging student-level data:

- Demographics
- Program participation (Outputs)- Who came? Who was missing?
- Surveys: Program activities-Theory of change: Cooper (2011, 2018)
- **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

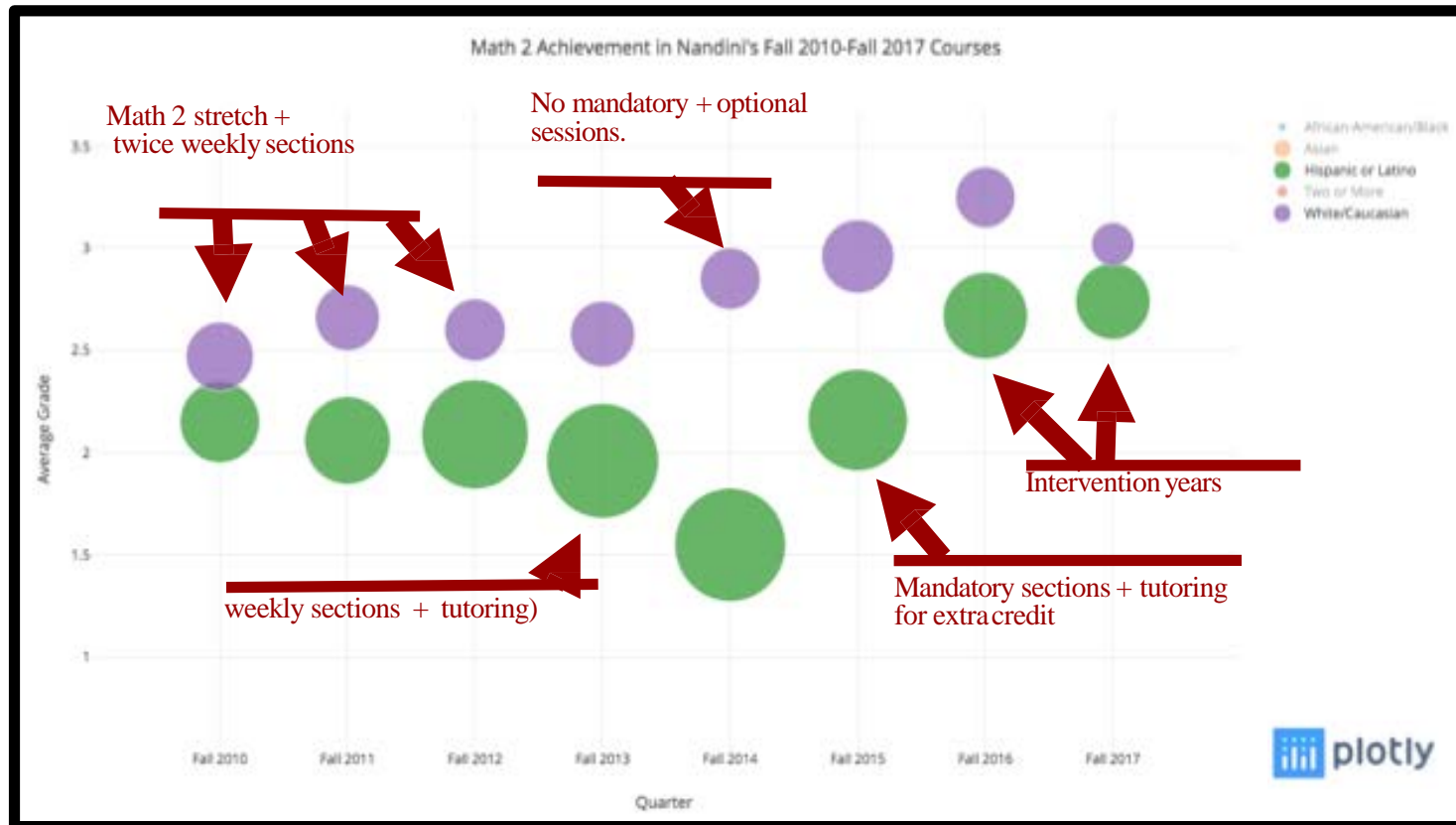
<https://studentsuccess.ucsc.edu/hsi>

Activities	UCSCMAPA	SJCC-UCSC	HSI STEM - SEMILLA
Math	Collaborative Math 2 – College Algebra	-	STEM Learning Center, LSS, ACE, College Math 3 Seminars
Writing	WORD Regional Institutes (SF, Oakland, Los Angeles)	Research Writing Course at SJCC	Writing support for internship applications
Sense of Belonging	Regional Family Conferences El Centro Internships Student Focus Groups Campus Forums	SJCC Student UCSC Campus Visits , 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 Dual Enrollment - LALS	STEM Transfer Academies Articulation Review
Prof Dev and Equity Analysis	Writing and Math faculty PD -----à-----	Faculty PD -UCSC & SJCC Counselor PD - SJCC -----à-----	STEM faculty and TA PD -----à-----

Working Draft: University of California, Santa Cruz Hispanic-Serving Institutions - Integrated Logic Model
Mission: Building Equity in Higher Education Opportunities and Attainment and Disrupting Institutional Barriers to Equity
 (Feedback welcome to ccooper@ucsc.edu)

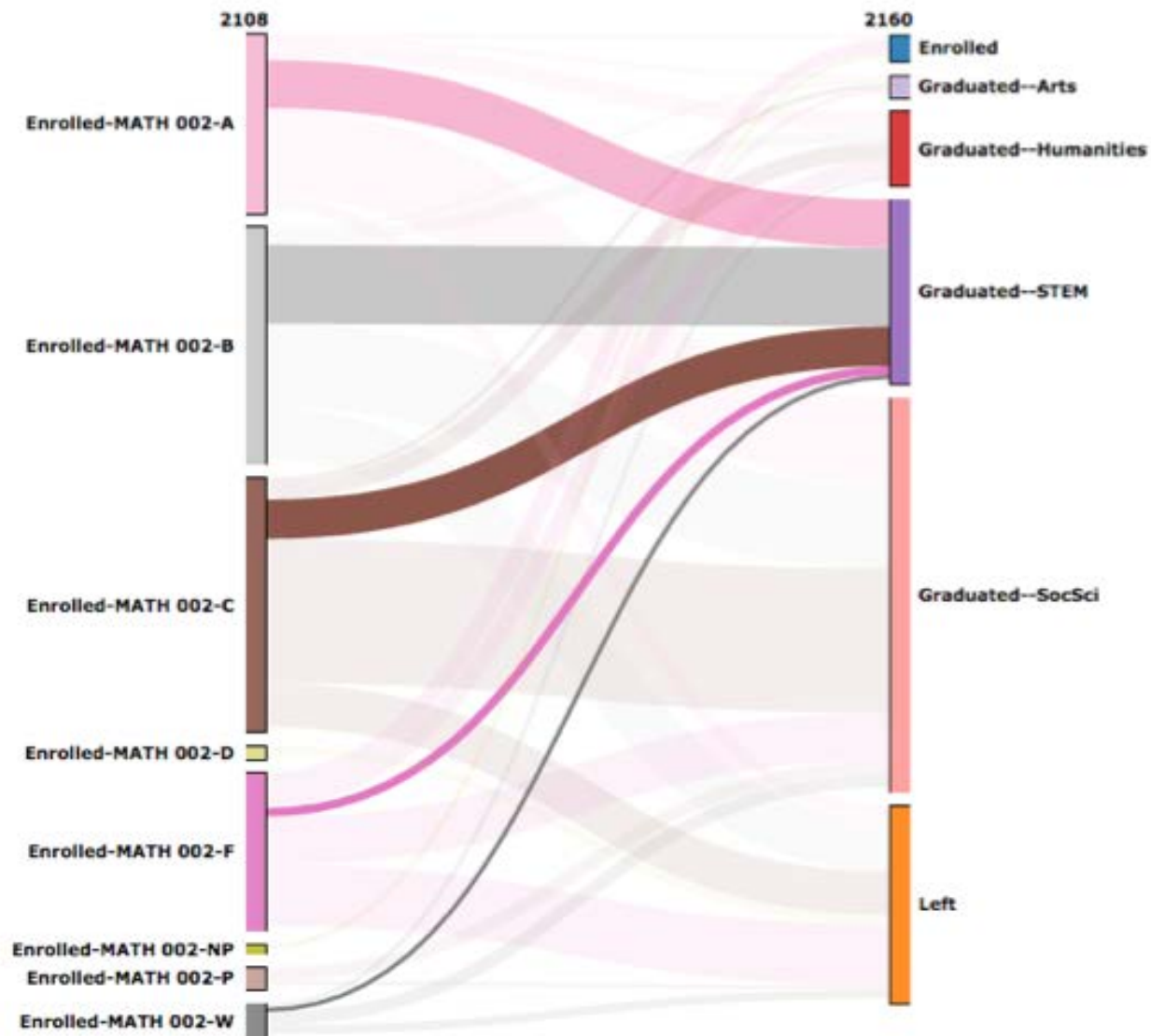
Inputs/Resources and Challenges	Activities Theories of Change and Evidence Hurtado et al.; Bensimon, and others	Outputs # students attending, frequency	Short- and Intermediate-Term Outcomes for Latino, Low-Income, & All Students	Long-Term Outcomes for Latino, Low-Income, and All Students
<p>• U.S. Dept. of Ed, UC system, UCSC equity policy investments, practice, research, and analysis</p> <p>• Latino and low-income students with college, career, cultural aspirations increasingly represent CA demographics</p> <p>• Engaged faculty, staff, administrators, students, and families</p> <p>• Community college partners</p> <p>• Undergrad research opportunities</p> <p>• Research team</p> <p>• Information systems</p> <p>Challenges</p> <p>• Low-performing K-12 schools</p> <p>• Underprepared faculty, staff, and students</p> <p>• Institutional barriers</p>	<p>Math, Writing, and STEM Pathways</p> <ul style="list-style-type: none"> • College Math Redesign • College Writing Regional Institutes • ACE, Modified Supplemental Instruction • Support in gateway courses: General Chemistry, Cellular Molecular Biology • Engineering Academy, Math and Science Academy <p>Sense of Belonging</p> <ul style="list-style-type: none"> • Family Regional Conferences • SJCC-UCSC Family Day • El Centro Internships • Public forums, Focus groups • STEM student-led workshops <p>Advising: Early Alert, Improving My Academic Progress (iMAP), Crossing Finish Line (CFL), holistic advising, STEM Career Course</p> <p>Transfer and Research Pathways: Connecting undergrads to research opportunities, Research Institute, STEM Transfer Scholars Program</p> <p>Professional Development: Math & Writing faculty, TAs, tutors, advisors</p> <p>Collaborative Inquiry, Equity Analysis, Integrated Logic Model</p>	<p># in math and writing academies, workshops, tutoring, problem-solving sessions, supplemental instruction</p> <p># attending events</p> <p># courses implementing redesign</p> <p>#, demographics of families and students attending-who came and who was missing?</p> <p># contacts: Early Alert, iMAP, CFL, other advising</p> <p># in students in Research Institute</p> <p># in faculty & grad student mentoring</p> <p># in Transfer Programs</p> <p># faculty attending</p> <p># TAs earning certificates</p> <p># students using faculty TA office hours</p>	<p>Pass rates: Math, Writing, English Language Writing Requirement (ELWR), gateway courses to majors, upper-division</p> <p>Persistence: 1st to 2nd year # UCSC GPA and STEM at/above 3.0; SJCC, 2.8 # declaring STEM major</p> <p>Sense of Belonging: UCUES, focus groups</p> <p>Transfers: # applying from partner community colleges</p> <p>Research skills: poster presentations, contributing/ collaborating on research</p>	<p>Persistence/retention at major declaration milestones by 20% and overall</p> <p>4- and 6-year graduation rates</p> <p>Transfers from partner community colleges, including STEM</p> <p>3-yr graduation rate</p> <p>Institutional Equity, e.g.,</p> <ul style="list-style-type: none"> • Math department investing • SJCC-UCSC cross-enrollment

Equity Data Analysis: Cross-Sectional Data on White/Caucasian and Latinx Students' Grades in College Algebra



Tracing Longitudinal Data with the Ribbon Tool

College Algebra Grades Fall 2010 → Graduation by Winter 2016



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

- College-Going, Transfer, and Completion Partnerships (P-20)
- Rigorous Curriculum
- Academic and Social Support
- Multicultural College and Career Identity Pathways
- Sense of Campus and Career Belonging
- Family Partnerships
- Financial Aid
- Transfer and Dual Enrollment
- Professional Development
- Collaborative Research, Evaluation, and Equity Analysis

Outcomes: Increase rates & close equity gaps: enrollment, transfer-level math & English, grades, persistence, STEM majors, transfer, 6-year graduation, Graduate & professional schools

Sketching Your Individual and Integrated Logic Models

Inputs		Implementation (Theory of Change)		Outcomes and Impact		
Needs	Resources	Activities	Outputs	Short-term	Long-term	Impact
		<ul style="list-style-type: none"> • College-going, Transfer, & Completion Partnerships (P-20) • Rigorous Curriculum Academic and Social Support • Multicultural College & Career Identities • Sense of Belonging Family Partnerships Financial Aid • Transfer and Dual Enrollment Professional Development • Research, Eval., Equity Analyses 				

An Invitation: Bridging Multiple Worlds Alliance

www.bridgingworlds.ucsc.edu

- Growing network of state, national, and international partners
- How immigrant, URM, and low-income youth build college and career pathways without losing ties to their families and cultural communities
- Advancing research, practice, and policy in collaboration with partners and youth themselves
- Bridging Multiple Worlds Tools (Cooper, 2011) and on website
- Roundtable on Integrated Logic Models and Databases
- Animating Pathways to College and Careers
- Cal-PASS Plus Regional Learning Collaboratives

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