

**The Bridging Multiple Worlds Toolkit for Science, Policy, and Practice:
Helping Youth Build Pathways to College and Careers
In Partnership with Their Families, Schools, and Cultural Communities**

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In C. R. Cooper (in preparation). *Bridging Multiple Worlds: Culture, Youth Identity, and
Pathways to College*. New York: Oxford University Press.

May 1, 2006

The purpose of this work is to support low-income, ethnic minority, and immigrant youth in building pathways to college and careers without giving up their ties to their families and cultural communities.

This Toolkit provides sample questions, coding formats, and key research findings for five dimensions of partnerships that support these pathways to college and careers based on the Bridging Multiple Worlds Theory (Cooper, 2003). These five dimensions also align with similar dimensions of Social Capital theories of college-going cultures (McDonough, 2004); Sociocultural theories (Moran et al., 2005; Rogoff, 2003; Tharp, 2002); the Theory of Overlapping Spheres (Epstein, 2001); and other theories from anthropology, sociology, education, psychology, and economics.

Despite our community values of equal access to education and the high hopes of students and families, too many low-income, ethnic minority, immigrant, and rural youth slip off their pathways through school towards college and college-based work. This is common when parents have not attended college, schools lack qualified teachers and counselors, and support programs target only preschool, or high school youth.

We developed this Toolkit over the last 19 years in our work with families, teachers, counselors, program staff, school superintendents, researchers, policymakers, and youth. We found that our partners ask similar questions: How can we support students and their families more effectively? How can we improve return on our investments of time and money? What conditions support youth building pathways to college?

This Toolkit offers useful ways to ask your own questions, code and analyze your data, graph and communicate your findings, and align your work with other efforts underway across the U.S. and in other nations.

Bridging Multiple Worlds sample consent forms for students and families in English and Spanish; focus group interview and survey measures in English and Spanish, and activities for schools and programs - *It's All About Choices/Se Trata de Todas las Decisiones*, are available free, with prototypes in English and Spanish, at www.bridgingworlds.org. Family guides to college in English and Spanish are available on request from ccooper@ucsc.edu.

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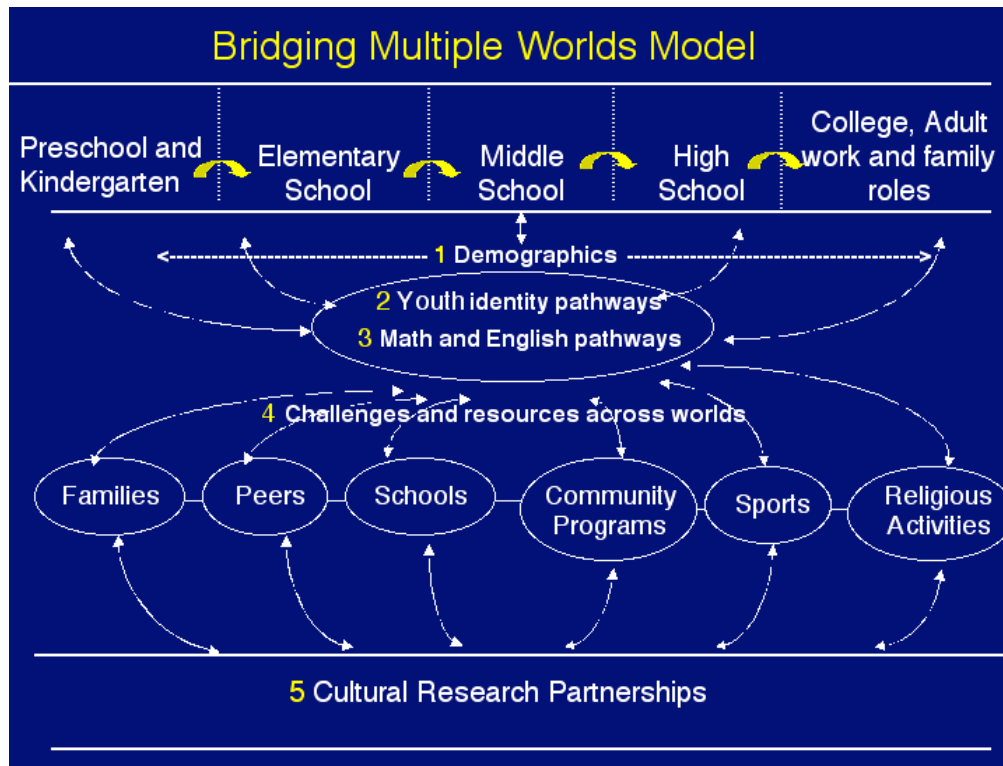
Introduction to the Bridging Multiple Worlds Theory

The Bridging Multiple Worlds Theory is designed for researchers, educators, and policymakers to build understanding of how diverse youth navigate their worlds of families, peers, schools, and communities on pathways to adulthood, college, and careers. The Theory (shown below) is compatible with many other theories across the social sciences. As shown in the figure below, the theory traces five dimensions over time.

1. **Demographics along the academic pipeline**--families' national origin, ethnicities, languages, and education from early childhood to adulthood reflect equity in access to education;
2. **Youth identity pathways to college and careers;**
3. **Math and language pathways** through school to work;
4. **Challenges and resources across worlds**- families, peers, schools, and communities;
5. **Cultural research partnerships** reach across lines of national origin, ethnicity, social class, and gender to boost resources across worlds to support pathways to college and careers. These partnerships connect children, families, schools, programs, and universities as researchers.

For important variables related to each of the five dimensions, we provide sample questions in survey, interview, and activity formats; coding; and research findings.

For each of the five dimensions, we also include activities, with sample data templates, that our partners have found useful for research, policy, and practice: demographic portraits, aspirations over time, graphing pathways to college, building resources across worlds, and longitudinal case studies.



A Closer Look at the Five Dimensions: Sample Questions, Coding, and Research Findings

1. Demographics along the Academic Pipeline

We often ask how typical are the students and families who participate in a school, program, or study compared to their broader communities and to other regions, states, and nations, whether by national origin, home languages, ethnicity, gender, or parents' education, occupation, or income? Demographic measures help monitor equity as students move through school. For example, because the U.S. Civil Rights Act of 1964 forbids discrimination in education based on "race, color, or national origin," the U.S. Office of Education requires all schools receiving federal funds to report achievement by demographic subgroups rather than by race, color, or national origin.

1.1 National origin

Sample Questions	<i>Where were you born? Where were your family members born?</i>
Sample Coding	Researchers and educators can map variation and similarities within and across groups of students by country of origin. A current list of nations is available from the United Nations (www.un.org).
Sample Findings	One study of how college students communicate with their parents found that most Chinese, Mexican, Filipino, and Vietnamese heritage students in the study were immigrants and tended to value consulting with family members about important educational decisions more often than non-immigrant students. But students in all ethnic groups, including European American, felt more comfortable talking with their mothers than fathers about personal topics (Cooper et al., 1993).

1.2 Home languages

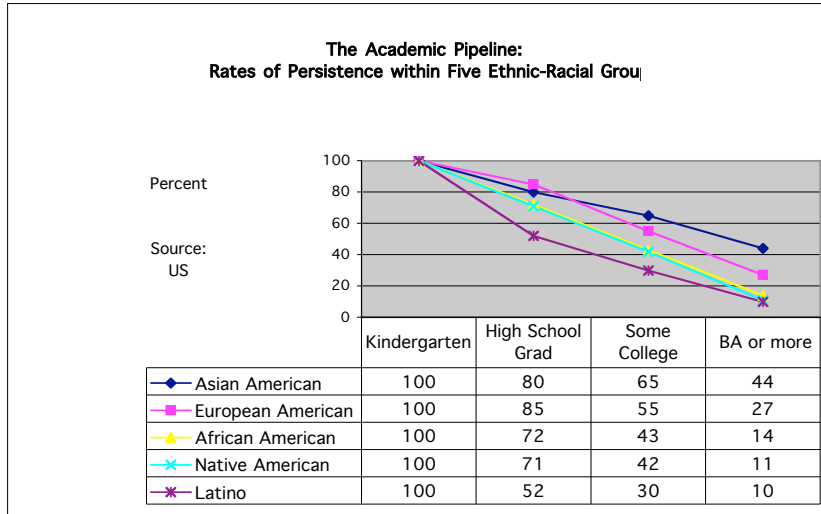
Sample Questions	Closed-ended: <i>Please check the languages spoken in your home.</i> Open-ended: <i>What language(s) is/are spoken in your home? What is/was the student's first language? Does the student speak a language other than English? If yes, specify the language.</i>
Sample Coding	Based on the Home Language Survey required by U.S. law, some states report the specific home languages spoken by English learners in each school, such as California (see www.cde.ca.gov), and others report the total number of English learners.
Sample Findings	When the California Department of Education found that the four

most common home languages were English, Spanish, Vietnamese, and Hmong, they produced family materials for planning pathways to college in these languages (available at www.cde.ca.gov). When Trinh and Behrens (2006) compared Department of Education websites in six states in response to the federal home language survey question, they found 132 languages reported, with many parallels across states. Cross-state alliances can pool resources to locate and produce materials about college in more home languages.

One kindergarten teacher held a “Language Treasure Hunt” by asking students and their families the following open-ended questions: *What languages do you speak with your family? What holidays does your family celebrate? How do you say to have a good holiday in your family’s languages?* After families compiled the languages and holiday traditions they found with holiday recipes, the teacher distributed their book at a family-school event (Cooper et al., 2005).

1.3 Ethnicities

Sample Questions	Closed-ended: <i>Please check one box.</i> Open-ended: <i>What is your ethnicity or ethnicities?</i>
Sample Coding	The U.S. Office of Education uses five ethnic-racial categories (White, Asian, Native American, Hispanic, Black) to monitor ethnic trends in school achievement.
Sample Findings	The figure below shows different rates of school persistence, based on U.S. Census 2000 data within these five ethnic-racial categories, starting from 100% at kindergarten through age 25 (Cooper et al., 2005).



Sample Findings,
Continued.

One study of how California high school students described their own ethnicities asked, “What is your ethnicity or ethnicities?” In contrast to the 5 standard labels, youth reported 38 ethnic labels, including 20 different multi-ethnic labels, such as Black/Ethiopian, American/Filipino, Black/Chinese, Black/ European American/ Italian, Chicano/Native American, Colombian/ Italian, Creole/Native American, Filipino/Pakistani, Mexican/ Japanese, Mexican/Polish, and Peruvian/Japanese (Cooper et al., 2002). These results show how personal definitions of ethnicity include mixed heritage for many youth.

1.4 Parents’ education

Sample Questions

Closed-ended: *Please check the highest level of education your mother has completed.*
Open-ended: *What is the highest grade your mother has completed?*

Sample Coding

Responses can be coded by number of years (0-20); by level, such as no schooling, elementary school, middle school or junior high, high school, some college, bachelor’s degree, or post graduate; or college education or less than college education. The concept of students who are the “first generation” to attend college can be based on both parents completing less than a bachelor’s degree (GEAR UP, 2005) or on both parents completing less than high school (California Department of Education, 2004).

Sample Findings

Comparing students’ learning by their parents’ education is helping schools as they work to close achievement gaps (www.cde.ca.gov).

1.5 Parents’ occupations

Sample Questions	Closed-ended: <i>Please check your mother’s job or occupation.</i> Open-ended: <i>What is your mother’s job or occupation?</i>
Sample Coding	Occupations can be coded by rank, based on education and responsibilities, ranging from 7 = “professionals and higher executives” to 1 = “unskilled employees and manual laborers” (Hollingshead & Redlich, 1958).
Sample Findings	In one study, many Vietnamese immigrant college students reported their parents had worked as professionals in Vietnam but had to work in lower-skilled occupations in the U.S. because their credentials were not accepted. Many of these parents expected their sons and daughters to attain professional careers (Cooper, 1999).

To monitor inclusiveness as measured by persistence over time, schools can track the *percent of student retention* each year from a baseline year and grade level by *demographic subgroup*. Under federal law (NCLB: Public Law 107-110, 2002), K-12 schools report achievement scores by the following subgroups: *socioeconomic disadvantage* (either students whose parents both have not received a high school diploma or who participate in federal free or reduced-price lunch program); *English learners*; *ethnicity/race* (African American or Black, not of Hispanic origin; American Indian or Alaska Native; Asian; Filipino; Hispanic or Latino; Pacific Islander; or White, not of Hispanic origin; and *students with disabilities*).

2. Youth Identity Pathways to College and Careers

2.1 Students’ aspirations and expectations for their education and careers

Whereas *aspirations* represent hopes or ideal choices, *expectations* reflect more realistic or accessible options, and *identities* represent long-term commitments. Students, families, teachers, and community members can all be asked about their views of children’s futures.

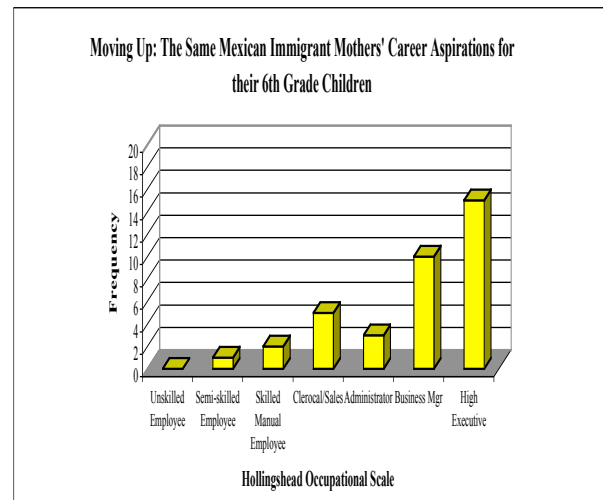
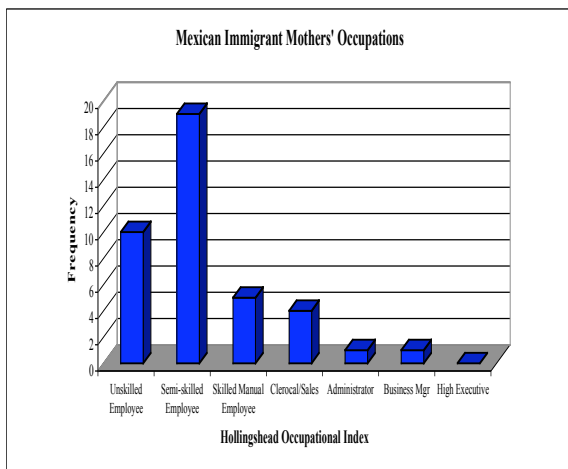
Sample Questions	Aspirations: <i>What is the highest level of education you hope to attain? What kind of job or career do you hope to have in the future?</i> Expectations: <i>Of the jobs listed, which one comes closest to the job you expect to have in the future? What is the highest level of education you actually expect to attain?</i>
Sample Coding	Students’ educational and occupational aspirations and expectations can be coded as described above for parents’ education and occupations (see 1.4 and 1.5 above).
Sample Findings	One study found students adapted their career aspirations at age 12 such as becoming a doctor to working as a medical assistant at age 26, yet kept their long-term dreams (Cooper et al., 2005).

2.2 Parents’ aspirations and expectations for their children’s education and careers

Sample Questions Aspirations: *What is the highest level of education you hope your son/daughter will attain?*
 Expectations: *Thinking about your child’s abilities, interests, what he/she is like, how he/she is doing in school, and what he/she wants out of life, what is the highest level of education you actually expect her/him to attain?*

Sample Coding Parents’ educational and occupational aspirations and expectations can be coded as described above for parents’ actual education and occupations (see 1.4 and 1.5 above).

Sample Findings As shown in the two graphs below, one study found that in a group of Mexican immigrant parents who mainly worked in lower-skilled jobs, most parents held aspirations for their children to work in college based-careers, such as doctors, lawyers, and teachers (Mena, 2002).



2.3 Students’ career identity development

Students’ identity development can be measured by asking about their exploration and commitment to their careers, political beliefs, and other domains of identity.

Sample questions and coding: The Ego Identity Interview (Grotevant & Cooper, 1987, 2005) includes open-ended questions such as, “What people or experiences have been major influences on your plans for the future? Important people may be teachers, family members, friends, or other people. The experiences that have influenced you may be positive or negative, such as a field trip to a college or company or a friend getting into trouble. We would appreciate your telling us about your important experiences. “ Responses can be coded for person and for the interplay of challenges and resources.

The Extended Objective Measure of Ego Identity Status (EOMEIS-2; Bennion &

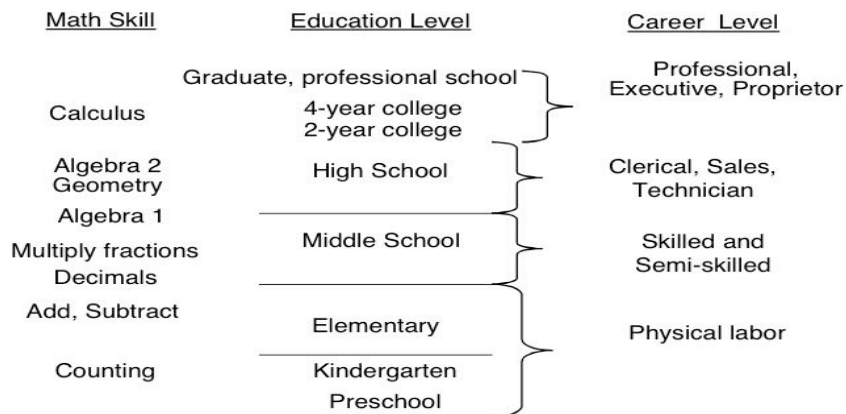
Adams,1986) is a survey of closed-ended questions across 8 domains. On the occupational scale, youth rate their agreement or disagreement with statements like “I’m still trying to decide how capable I am as a person and what jobs will be right for me” (reflecting moratorium); “I might have thought about a lot of different jobs, but there’s never really been any question since my parents said what they wanted” (foreclosure); “I haven’t chosen the occupation I really want to go into. Right now, I’m just working at what is available until something better comes along” (diffusion); and “It took me a while to figure it out, but now I really know what I want for a career” (identity achievement). Responses can be coded into these four identity statuses or given a continuous score for each status.

Sample findings: In one study, Latino high school students who reported more career identity exploration (moratorium and achievement) described their families and peers as encouraging both individuality (e.g., “I feel free to take a stand on something even if this person had a different opinion”) and connectedness (e.g., “When we disagree, I really try to negotiate with this person to reach a compromise”) (Lopez, 2004).

3. Students’ Math and Language Pathways through School

Measures of math and language learning can be drawn from school transcripts of classes, grades, and test scores; completing classes required for university entrance; college graduation, community college transfer, and graduate and professional school pathways to careers (Cooper et al., 2002). Longitudinal data help track how different math and language pathways open or constrain options for future careers and income. Passing Algebra 1 is one benchmark used by researchers, policymakers, and educators. As shown below, math skills predict career options.

A Math Ladder through School to Careers



3.1 Five math and language pathways of students’ classes and grades over time

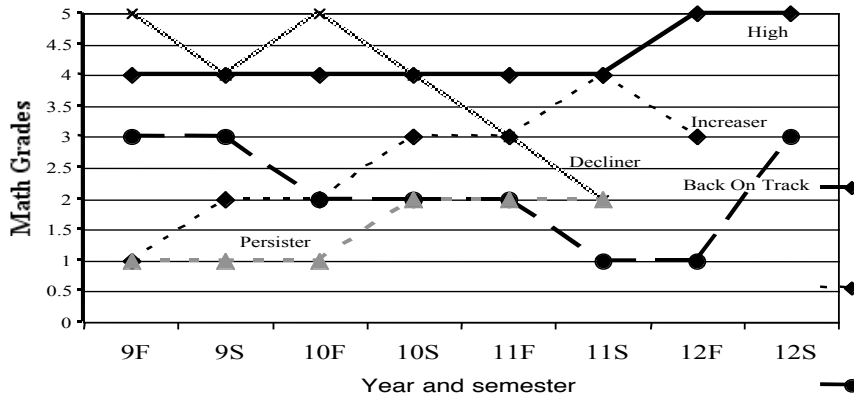
Sample Questions *What math and language classes did students take through school? What grades did they make over time?*

Sample Coding As shown below, math and language grades can be graphed over time by using school transcripts or report cards; these patterns can be coded as *high, increasing, declining, back on track,* and

persisting pathways (Cooper et al., 2005).

Sample Findings Students with higher math and English pathways were more likely to attend four-year colleges and universities directly from high school, but grades did not always predict where students enrolled (Cooper et al., 2002).

Five Typical Pathways of Math or Language Grades: High, Decreasing, Increasing, Back on Track, and Persisting
Each line shows one student's pathway



In one pre-college program, students used the graph below to map their own math pathways to their long-term goals (Cooper et al., 2005).

My Math Pathway

	Middle School			High School				Long-Term Goal
	6 th	7 th	8 th	9 th	10 th	11 th	12 th	
College Prep Math Classes			PreAlgebra	Algebra	Geometry	Algebra II	Trig/Calculus	
My Math Classes								
My Future Agenda								

Example:

My Grades	A	X						
	B		X					
	C			X				
	D				X		X	
	F							X
		6 th	7 th	8 th	9 th	10 th	11 th	12 th

My Grades	A														
	A-														
	B+														
	B														
	B-														
	C+														
	C														
	C-														
	D+														
	D														
	D-/F														
		6 F	6 S	7 F	7 S	8 F	8 S	9 F	9 S	10 F	10 S	11 F	11 S	12 F	12 S

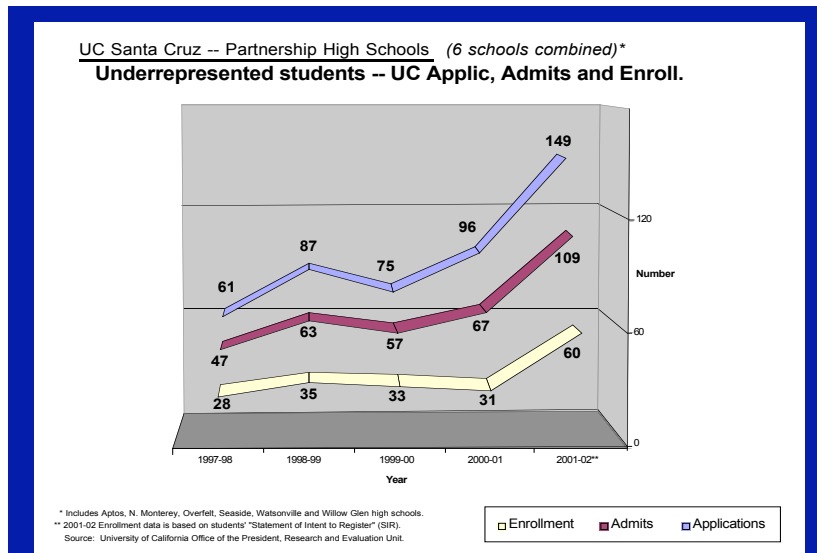
3.2 Algebra 1 as a gateway to college and careers

Sample Questions	<i>Have you taken Algebra 1? What year did you take it? What grade did you get?</i>
Sample Coding	Year in school student passed Algebra 1 with grade of C or better.
Sample Findings	Low-income students who passed Algebra by 9 th grade were more likely to attend four-year universities, while those who took Algebra 1 after 9 th grade tended to have more difficulty passing it in high school, and some left high school without it (Cooper et al., 2003).

3.3 University eligibility, application, admission, and enrollment

The term *college* can refer to technical school, community college, or four-year university.

Sample Coding	In California students’ transcripts are assessed to determine if they have passed (with a grade of C or better) the required college-prep classes for eligibility for the University of California and the California State Universities. These are called the <i>a through g courses</i> from their listing as: a) history or social science, 2 years; b) English, 4 years; c) math, 3 years, 4 recommended, including Algebra 1, geometry, and Algebra 2; d) laboratory science, 2 years, 3 recommended; e) language other than English, 2 years, 3 recommended; f) visual and performing arts, one year, and g) college-prep electives.
Sample Findings	Based on completing the a-g courses, the UCSC Educational Partnership Center identifies 10 th grade students who are almost “on track” for university eligibility and provides support for getting “back on track,” applying and enrolling. Shown below, their strategy led to increasing applications, admissions, and enrollment at UC among underrepresented students (Moran et al., 2005).



4. Cultural Brokers: Bridging Resources and Challenges across Worlds

The term *worlds* refers to cultural knowledge and behavior seen in families, peer groups, schools, work, community organizations, and other settings (Phelan, Davidson, & Yu, 1996). Questions below are drawn from the Bridging Multiple Worlds Survey (Cooper et al., 1998).

4.1 What are your worlds? How much are your worlds connected?

Sample Questions	Open-ended: <i>What are your worlds?</i> Closed-ended: <i>Please circle your worlds.</i>
Sample Coding	Responses can be coded by worlds such as families, peers, and programs.
Sample Findings	In one study, students reported that their worlds included their families (often more than one), neighborhoods, pre-college programs, school, church, sports, friends' houses, clubs, the shopping mall, band/music/dance, and arcade/video games (Cooper et al., 1995). One student wrote her mother as participating in the world of her college-prep program; this shows connections between her family and program worlds.

4.2 Expectations in each world

Sample Questions	Closed-ended: <i>Please check what people expect of you in your main worlds.</i> Open-ended: <i>Please write in what people expect of you in your main worlds.</i>
Sample Coding	Students can select from lists of positive and negative expectations they experience from each of their worlds and also write in expectations.
Sample Findings	In one study, youth reported positive expectations like “working hard” and “being smart” most often from their families and negative expectations like “being a failure” and “selfish” most often from their neighborhoods (Cooper et al., 1995).

4.3 Challenges and resources across domains: Who helps you? causes you difficulties?

Sample Questions	<i>Who helps you (or causes difficulties) in math? with schoolwork? staying on track to college? planning your future? with your problems?</i> Open-ended essay formats can also be used (Holt, 2002).
Sample Coding	Responses can be coded by which person helps or causes difficulties

or by worlds such as family, peers, school, or program.

Sample Findings As shown below, one longitudinal study of middle school youth in a pre-college program found that students' listing their mothers and peers as helping them with schoolwork and going to college increased over one year, listing fathers remained high and stable, and listing extended families and siblings remained lower and stable (Mena et al., 2003). This finding differs from typical declines in family-school involvement during adolescence and shows students were forming networks of peers engaged in school.

4.4. Challenges and resources for students: What are your challenges and resources?

This open-ended format stimulates students to express broad views of their lives, while “who helps and who causes difficulties” asks them to name particular people.

Sample Questions Open-ended: *What are your long-term goals? What are your challenges and resources to reaching these goals?*

Sample Coding Responses can be coded by individuals or by worlds of family, peers, school, and program. The open-ended format can reveal rich details of students' lives.

Sample Findings Students in one program listed resources as their families, friends, teachers, counselors, coaches, and outreach program staff, and their own persistence (Azmitia & Cooper, 2001). Students more often listed their families as resources than challenges (70% vs. 10%), but they listed peers as both challenges and resources (30% vs. 40%). With peers, students listed challenges from boyfriends, girlfriends, peer pressure, “temptation of friends dropping out,” “friends as bad examples,” gangs, “bigger students,” and “enemies.” Many listed “drugs,” “sex,” “having babies,” or “pregnancies.” As resources, students listed friends, boyfriends, “bigger students,” girlfriends, and “leave your boyfriend if he takes too much time.”

5. Cultural Research Partnerships from Childhood to College

Cultural research partnerships reach across lines of national origin, ethnicity, social class, and gender to boost resources across students' worlds to support their pathways to college and careers. These P-20 (preschool through graduate school) or K-16 partnerships also connect children, families, schools, community programs, and university staff all as researchers.

Partnerships may involve school systems, community programs, business partners, universities, students and their families, as well as researchers, who form a network of support for students' pathways to college and careers (see also www.cal-arches.org, www.edtrust.org, www.idra.org).

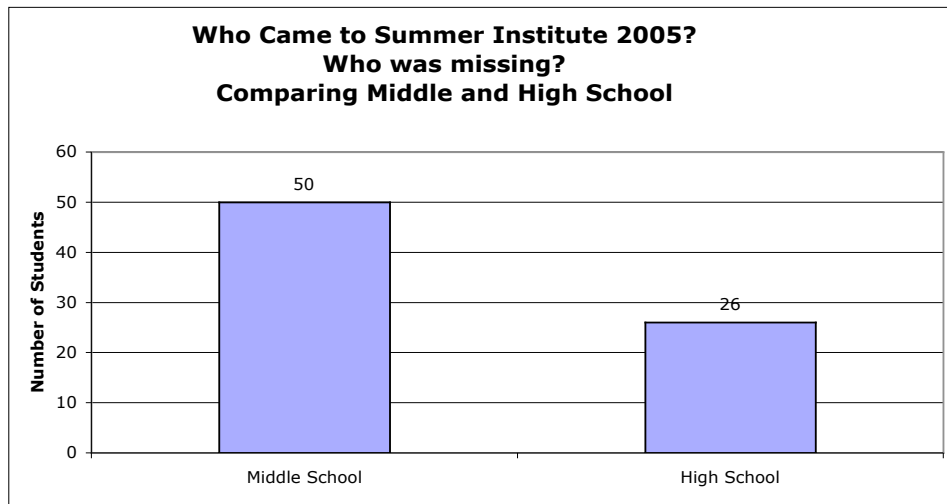
In one partnership between university researchers and a community college program, the program director helped adapt Bridging Multiple Worlds tools into an activity format for the program, *It's All About Choices/Se Trata de Todas las Decisiones - Activities to Build Identity Pathways to College and Careers* (Dominguez et al., 1999). In these activities, youth write about their college and career goals, chart their math and English pathways, and describe who helps and causes them difficulties in schoolwork, math, staying in school, and thinking about college. In this partnership, youth also write their reflections on research findings, ways to improve the program, and its impact on their lives.

5.1 Demographics of attendance and inclusiveness: Who came? Who was missing?

Sample Questions Based on attendance records, such as in a pre-college program: *Who came? Who was missing? Why do you think this is true?*

Sample Coding Demographics: Age, grade level, gender, home languages, ethnicity, or other variables of interest (see Section 1 above).

In one pre-college program, more middle school than high school students, and more girls than boys attended the program's Summer Institute in 1996 and 1997 (Cooper, Dominguez, & Rosas, 2005). Both patterns are common in other college-prep programs (Gándara & Bial, 2001). But in 2005, a larger proportion of boys attended the Summer Institute, showing its growing inclusiveness. Also, the program did not draw only "stars." Youth from all skill levels attended. In the partnership, youth looked at graphs like the one below and then wrote why they thought these patterns happened.



5.2 What is success? Partnership goals for students, families, schools, and communities

Successful partnerships set and adapt goals so they continue to have meaning and value in local, regional, state, national, and sometimes international perspectives. They also work

with multi-site systems to monitor both regional and centralized data over time to align their activities and overall capacity to attain their valued outcomes.

- Sample Questions** *Did you graduate from high school? Did you attend college after high school? If yes, where?*
- Sample Coding** As the partnership followed students through the CAP Program, the director, scholarship donors, and community college leaders defined *success* broadly to include graduating from high school and entering the world of work; attending college--whether community college, university, or technical school; or entering military service (Dominguez et al., 2001).
- Sample Findings** In the early years of the program, about half the seniors enrolled in community college directly after high school, and about half graduated from high school but did not attend college immediately, although some enrolled later. Five years later, a new pattern emerged: about one-fourth of seniors enrolled in community college, one-fourth went directly to four-year universities, and about half finished high school.

5.3 More than one path to success: Longitudinal case studies

Longitudinal case studies help partners understand realities of individual students’ lives as they build pathways through school to college and careers. Shown below are cases from the CAP program from a partnership that followed the youth from age 11 to 22 (Cooper et al., 2005).

Student	Year passed		Follow-up at age 18
	Algebra 1	HS Math Pathway	
Luis	9th	High	Directly to university
Nora	9th	High	Community college and plans for university
Soledad	10th	Increasing	Community college and transfer to university
Jana	10th	Back on track	Community college and transfer to university
Raul	9th	Declining	High school graduation and work
Charles	?	Persisting	High school graduation and work
Ernie	?	Second chances	High school dropout then community college

By using data templates showing these math pathways, schools and programs can enter and chart data for their own students (available from ccooper@ucsc.edu).

Longitudinal Case Studies for Cultural Research Partnerships

(Cooper, Chavira, & Mena, 2005)

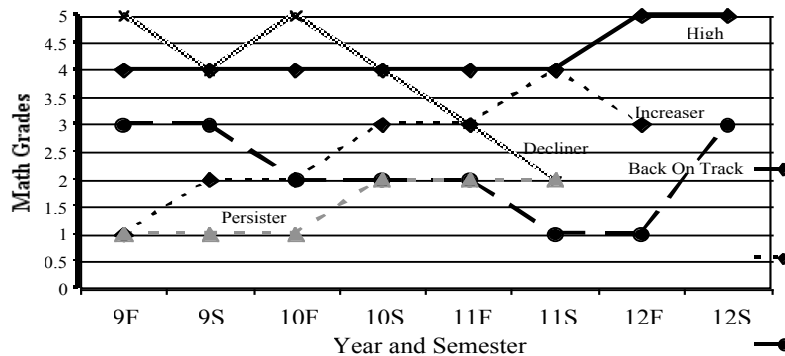
Bridging Multiple Worlds tools help trace patterns over time with data available for each student across five dimensions that align with many theories and frameworks. Comparing theories with longitudinal case studies helps partnerships among families, schools, community organizations, and youth understand challenges and resources and build pathways through school to college and careers.

1. *Demographics over time* – age, school location, families’ national origin, ethnicities, home languages, parents’ education/occupation.

2. *Aspirations and expectations* over time for education and careers

3. *Math and language pathways over time*

- Students’ school grades over time are shown for math in the graph below:



Other measures include standardized achievement test scores, the year in school that a student passed Algebra 1, and completing college-prep courses for university eligibility.

4. *Resources and challenges across families, peers, schools, and communities* over time.

6th grade----->9th grade----->10th grade----->12th grade---->age 21

Families

Peers

School

Community activities, including music, sports, religious, college prep programs

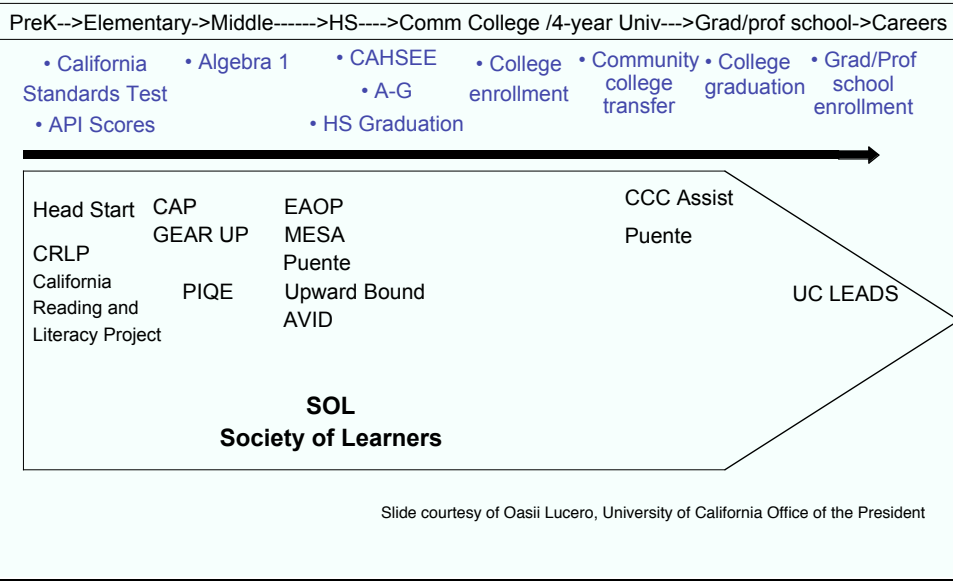
5. P-20 alliances can use longitudinal case studies to support pathways from childhood to adulthood. Mena (2004) compared longitudinal case studies to patterns predicted by contrasting theories reveal students’ resources and challenges for pathways through school to college and careers and lead to useful new questions.

5.4 Transforming the academic pipeline: Building systemic P-20 alignment from childhood through college to careers

As programs and partnerships move through cycles of activities, data collection and analysis, and efforts to improve future activities, each does not need to work alone. UC developed a common framework for its Student Academic Preparation and Educational Partnerships (SAPEP) across its 10 campuses to build synergy and provide accountability to the

state legislature for funding. Similarly, the National Governors Association issued a P-16 policy brief urging federal and state programs that support youth as they move from childhood to adulthood to share data more effectively. The figures below show how UC is aligning measures and ways to share data so P-20 alliances coordinate efforts on behalf of students.

5: Connecting Student Learning from Childhood to Careers Aligning Programs with Educational Systems from P-20 (preschool-grad school)

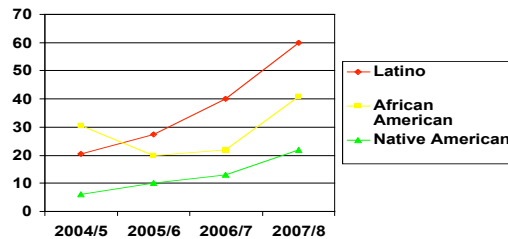


The next graphs show idealized data over time for progress towards three goals of partnerships: improving demographic inclusiveness, student learning, and organizational excellence.

Goal 1 Sample Graph of Idealized Data on Improving P-20 Inclusiveness in Opportunities to Learn

Percent of students within demographic subgroups in each regional alliance who persist from elementary through high school

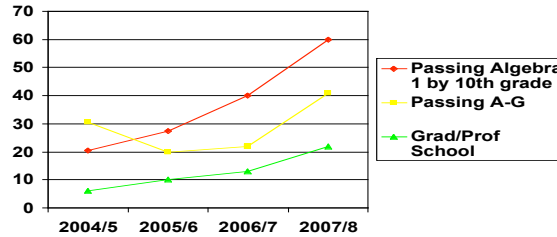
Can be compared to baseline year and region or to Similar Schools (CDE)



Goal 2 Sample Graph of Idealized Data on Improving P-20 Student Learning

Percent of all students in each regional alliance compared to region or Similar Schools on these indicators:

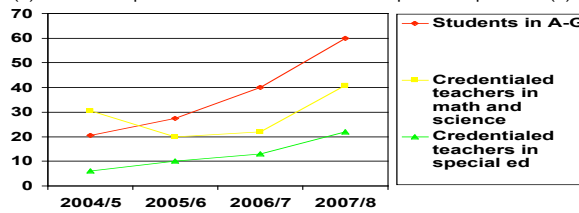
- score at or above grade level on California Standards Test • Algebra 1 by 10th grade • CAHSEE
- HS graduation • pass A-G courses for UC/CSU eligibility • enroll in four-year university
- transfer from community college to four-year university • enroll in graduate or professional school



Goal 3 Sample Graph of Idealized Data on Improving P-20 Organizational Excellence

Organizational growth in each regional alliance compared to baseline year on these indicators (with number of campuses addressing each indicator in SAPEP report):

- Dollars of leveraged funding (9)• Approved and scheduled A-G courses (6)• Number and percent of students enrolled in A-G courses (5)• Numbers of families, school staff, community members in alliance activities (5)• Number and enrollments in university service learning courses (3)• University faculty in K-14 activities (8)• Number and percent credentialed teachers in math, science, and/or special ed (6)• Number of partners and/or number of formal partnership MOU's (6)



A benefit of P-20 alliances is that alignments with common frameworks such as the one shown above do not limit programs from providing different services or force them to lose their autonomy. Rather, common frameworks mean that partners can help each other improve what they do while preventing costly duplication in services as well as data collection and analysis.

An Invitation

We invite you to use this Toolkit to ask your own questions, code and analyze your own data, graph and communicate your findings, and align your work with other work underway across the U.S. and other multicultural nations.

We have found these measures, coding systems, graphs, and findings to be useful tools for addressing questions we each ask as researchers, educators, and policy makers in forging common efforts to address the academic pipeline problem. We welcome your comments and suggestions on improving them.

Acknowledgments. This work is based on partnerships among faculty, staff, and students at the University of California, Santa Cruz, San Jose State University, UC Berkeley, and Cabrillo Community College, as well as youth, families, schools, and community programs: Margarita Azmitia, Robert G. Cooper, Ben Tucker, Gabriela Chavira, Elizabeth Domínguez, Yvette Gullatt, Carrol Moran, Jacquelyne Jackson, Edward Lopez, Jill Denner, Nora Dunbar, Sara Stanley, and Soledad Rosas and her family. We appreciate support from the UC Linguistic Minority Research Institute, University of California Office of the President, US Office of Education, UCSC Educational Partnership Center, Rockefeller Foundation, John D. and Catherine T. MacArthur Foundation, and W. K. Kellogg Foundation. Comments welcome: C. R. Cooper, Department of Psychology, UC Santa Cruz, Santa Cruz, CA 95064 ccooper@ucsc.edu.

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