Hispanic Association of Colleges and Universities (HACU)
Hispanic Higher Education Research Collective (H3ERC)
Research Agenda:
Impacting Education and Changing Lives through Understanding

Lumina's Big Goal: To increase the proportion of Americans with high-quality degrees and credentials to **60 percent** by **2025**

--- *Lumina Foundation's Strategic Plan: Goal 2025*

Introduction

With support from the Lumina Foundation, the Hispanic Association of Colleges and Universities (HACU) has launched HACU's Hispanic Higher Education Research Collective (H3ERC). The first major task of this virtual gathering of researchers and practitioners in Hispanic higher education has been to assess the state of our knowledge of the key issues and develop a research agenda for the present and near future. The aim is not just to produce a document but also to stimulate discussion among researchers and practitioners about current and past research, ideas, directions, issues, and priorities regarding Hispanics and education. The goal of the discussion and the agenda itself is to provide a basis to evaluate, inform, and improve practice and policy impacting Hispanics and education.

Addressing the Hispanic educational achievement gap is indispensible if the United States as a whole is to reach the educational goals articulated by both President Obama and the Lumina Foundation. Hispanics are the nation's largest, youngest and fastest-growing minority population, comprising 16.3% of the U.S. total population and 22% of the K-12 student enrollment. One of every two people entering the workforce today is Hispanic. The nation cannot meet its workforce needs without Hispanic Americans and it cannot address the economic and technological challenges of today's economy without doing a better job of assuring higher education access and success for Hispanic students. The H3ERC is one step toward that ultimate end.

This research agenda is work in progress. It has been informed by the collective wisdom of some of the best researchers and practitioners in Hispanic education today. Preliminary work to review the literature on key issues was followed by workshops in Texas and New Jersey to develop the basis for the current agenda. It is HACU's intention to share this document with the participants in the Collective for updating and further refinement. We hope it will also be a work in progress in the sense that key research issues today will be addressed tomorrow and no longer need to be part of the "to-do" list. We hope it will not only be a guide for researchers but also lead to the changes in policy and practice and to closing the educational achievement gaps.

A Shared Big Goal

The Hispanic Association of Colleges and Universities (HACU) shares with the Lumina Foundation its Big Goal and seeks the full participation of Hispanics in achieving it. Lumina's Big Goal of increasing the percentage of Americans with high-quality degrees and credentials to 60 percent by 2025 is especially ambitious for Hispanic Americans.

Such a goal is clearly aligned with the mission of HACU "to champion Hispanic success in higher education." With the generous support of the Lumina Foundation, HACU formed its Hispanic Higher Education Research Collective (H3ERC) to positively impact human lives though an enhanced understanding of the condition of Hispanics in higher education.

Given the size of the U.S. Hispanic population (and its projected continued growth), the Big Goal cannot be achieved without specific attention to Hispanic educational attainment, which continues to lag that of the non-Hispanic white population. Hispanics find themselves in a complex situation which includes a legacy of both American and Latino cultural beliefs and societal structures, some of which are barriers and some enhancers.

Because of these complexities, the knowledge from which to base, develop, test and explore solutions to educational attainment gaps is inadequate. More knowledge and information, more analysis and data appropriate to theory or current understanding are required.

Hispanics and the Big Goal: Essential, but not Easy

Advancing Hispanic educational attainment to meet Lumina's Big Goal is not going to be an easy task. Current education, employment and income data for Hispanics document the national need for greater investment to assure academic access and success throughout the K-20 pipeline for the country's 50.5 million Hispanic Americans and for the 2.3 million Hispanics in higher education. Failure to address the current educational under-attainment and poverty statistics of Hispanics will erode our nation's economic strength and security.

- Hispanics make up 16.3 percent of the total United States population, and grew 43 percent from 2000-2010, the largest increase of all population groups.[1]

- If U.S. Hispanics were an independent country, it would be the 25th largest country in the world and the third largest Latin American country, behind Brazil (203.4 million) and Mexico (113.7 million).[2]

- In 2010 there are 33.3 million Hispanics ages 18 and older, 14.2 percent of the adult population, up from 11 percent and 23 million in 2000.

[1] Pew Hispanic Center, "Hispanics Account for More Than Half of Nation's Growth in the Past Decade," March 2011.

[2] CIA, *The World Factbook*, https://www.cia.gov/library/publications/the-world-factbook/rankorder/2119rank.html.

- By July 1, 2050, Hispanics are projected to number 132.8 million, or one-third of the nation's total population, nearly triple the Hispanic population in 2000.[3]

- Almost half (46 percent) of the nation's Hispanics live in California and Texas, and over 76 percent of all Hispanics are in nine states with long-standing Hispanic communities.[4] The national population of Hispanics is larger than the population of any individual state and larger than the 23 smallest states *combined*.

- Hispanic population growth from 2000-2010 has been most rapid in the South and Midwest, with nine states seeing their Hispanic population more than double.[5]

Consequently, the numbers involved in meeting the Hispanic educational goals are large and continuing to grow larger. The issues is critical in states like California and Texas (the two largest states in total population), but growing in importance in many other states, especially those not historically thought of as centers of Hispanic population and culture.

K-12 Education

With a median age of 27.5, Hispanics are almost a decade younger than non-Hispanic whites with a median age of 36.8.[6] The relative youth of the Hispanic population means that the Hispanic presence in school is even more visible.

- In 2008, Hispanics represented 22 percent of public school enrollment (up from 11 percent in 1988).[7] In addition, the U.S. Census Bureau projects a 60 percent increase in the Hispanic school-age population over the next 20 years.

- Among Hispanics 11.3 percent of the total are preschool ages, under age 5; for non-Hispanic whites, only 5.1 percent are under age five. Elementary school age children in the 5-13 year old cohort comprise 16.6 percent of the Hispanic population, compared to only 9 percent of non-Hispanic whites.

Educational Attainment

In spite of extraordinary growth of projected enrollments of preschool, elementary and secondary school students, Hispanic high school and college completion rates fall far below most major population groups in the nation.

- Hispanics have an 17.6 percent high school status dropout rate in 2009 compared to 5.2 percent for white students.[8]

[3] Census Bureau 2009 Projections.
[4] Pew Hispanic Center, March 2011 report.
[5] Ibid.
[6] U.S. Census Bureau, *Statistical Abstracts 2011*.
[7] National Center for Educational Statistics (NCES), "2010 Condition of Education."

- Hispanic students tend to score lower on ACT and SAT tests, thereby limiting their postsecondary options compared to white and other minority populations. The average SAT test scores for 2010 college-bound Hispanic students were 454 (reading) and 464 (math) compared to 528 and 536 for white students.[9] For the ACT, Hispanic students averaged 18.6 compared to 22.3 for white students.[10] This gap is hardly surprising, since it exists at each K-12 checkpoint in National Assessment of Educational Progress testing.[11]

- In 2009, only 61.9 percent of Hispanics ages 25 and older had a high school diploma, compared to 87.1 percent of white adults and 86.1 percent of African Americans.[12]

- Only 19.3 percent of Hispanics 25 and older have an Associate's Degree or higher.

- Only 13.2 percent of Hispanic adults had at least a bachelor's degree, compared to 30.0 percent of whites and 19.3 percent of African Americans.

- Only 3.6 percent of Hispanic adults had graduate degrees, compared to 10.7 percent of whites and 6.6 percent of African Americans.

Postsecondary Education Affordability

Postsecondary educational access for Hispanics involves more than teaching and learning. Affordability is an issue with annually escalating tuition and other costs that are even more of a barrier for low-income students than for others.

While higher education costs have continued rising at multiples of the annual consumer price index and many middle class Americans are daunted by tuition and fees charged even by some public universities, Hispanics as a group have even less disposable income to commit to higher education and can find affordability even more a barrier.

- Among the 2.3 million Hispanic young adults enrolled in postsecondary education, 48 percent are living at or near total poverty:

    - 24 percent are living on incomes near the poverty line; and
    - An additional 24 percent have gross incomes that are below the poverty threshold, compared to one in ten (8.6 percent) of non-Hispanic whites.[13]

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[8] National Center for Educational Statistics (NCES), "The Digest of Education Statistics 2010" (April 2011), Table 115.

[9] The College Board, "2010 College-Bound Seniors: Total Group Profile Report," http://professionals.collegeboard.com/profdownload/2010-total-group-profile-report-cbs.pdf.

[10] National Center for Education Statistics, "The Digest of Education Statistics 2010," Table 155.

[11] Ibid., see e.g., Tables 124, 133, 140.

[12] U.S. Census Bureau, *Statistical Abstracts 2011*, http://www.census.gov/prod/2011pubs/11statab/educ.pdf, Table 227. The next three bullets are from the same Table.

[13] U.S. Census Bureau, "Income, Poverty and Health Insurance Coverage in the United States: 2008."

- Low income levels also mean that potential students experience the economic pressure to choose work rather than education as the more urgent priority, or to work while pursuing education, creating an added barrier to persistence and success.

- The digital divide, fostered at least in part by economic conditions, means that access to adequate educational technology can also be an issue for Hispanic students, and this can limit information about college search, admissions and financial aid processes.

Achieving the Goal

The Big Goal of 60 percent by 2025 requires nearly doubling the 2009 proportion of Associate degrees or higher for the nation as a whole, 38.5 percent, in just a little more than 15 years. This is a tall order, but may be possible. For Hispanics to reach the Goal, more than ***triple*** the current proportion would need an Associate's degree.

The slow pace of progress in baccalaureate attainment for Hispanics over the last twenty five years is indicative of the seriousness of the challenge. On the other hand, access to community college is good for Hispanics. The percentage of Hispanics enrolled in two-year institutions is and has been almost the same as their percentage in the overall population for some time: 11.2 percent of enrollment in 1998 compared to 11.4 percent of the nation's population and 14.6 percent of enrollment in 2006 compared to 14.7 percent of the nation's population with similar comparisons for the intervening years.[14] What must be done to assure that AA degree attainment and four-year enrollment and completion follow suit?

Achieving the Big Goal is possible. However, we need more research, more data within an appropriate theoretical understanding, and particularly more research and theory-based data collection about Hispanics. For example, Bachelor's educational attainment varies considerably for different Hispanic subgroups: in 2007, Mexican-American Bachelor's educational attainment stood at 8.5%, Puerto Ricans at 15.7 percent, and Cubans at 29.7 percent.[15] These variations alone point to the need for more careful research about Hispanics and Hispanic sub-groups.

The Role of Research: Complementarity of Research and Practice

Good educational practice, particularly innovation and replication of effective practice, requires the solid understanding and evidence base provided by research, just as impactful educational research requires a good basis in practice and experience.

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[14] National Science Foundation (NSF), Division of Science Resources Statistics. "Table B-3. Undergraduate enrollment at 2-year institutions, by race/ethnicity, citizenship, sex, and enrollment status: 1998-2006." In *Women, Minorities, and Persons with Disabilities in Science and Engineering: 2009 (January 2009).* NSF 09-305, p. 26, Arlington, VA: National Science Foundation, 2009. http://www.nsf.gov/statistics/wmpd/race.cfm#enroll. U.S. Census Bureau, Population Division, "Table 3: Annual Estimates of the Resident Population by Sex, Race, and Hispanic Origin for the United States: April 1, 2000 to July 1, 2008 (NST-EST2008-03)," Release Date May 14, 2009, http://www.census.gov/popest/national/asrh/NC-EST2008-srh.html.

[15] National Center for Educational Statistics (NCES), "2010 Status and Trends in the Education of Racial and Ethnic Groups."

Research needs to arise from the challenges which educators and students actually confront and at some point needs to give rise to improved practice and policy. Prior research, practice, theory and practitioner's insight can help design rigorous analysis and logical modeling of the mechanisms and processes that make sense to the practitioner and fit real-world settings.

Including practitioners in the discussion makes their experience available and allows them an insider's access to and understanding of research and data. Similarly, including a diverse set of interdisciplinary researchers in the discussions helps to provide a common understanding of practice and policy grounded in conditions actually faced by practitioners and institutions. Research and theory need to be in line with and fit the practitioner's experience. When there is communication and receptivity between practitioners and researchers, each can inform the other, resulting in enhanced research, enhanced practice and enhanced outcomes.

One major hurdle to overcome is decoding each other's language. Too often researchers and practitioners talk around each other, and not with each other. This is not just a problem between researchers and practitioners, but also among different fields of research or practice, particularly as interdisciplinary approaches are brought to bear on complex problems. Beyond decoding language, there is a need to translate basic research into practice. Practitioners need to be open to research, and research needs to be directly relevant to practice for true complementarity of research and practice.

These introductory thoughts provide a context within the Big Goal for presentation of a research agenda on Hispanic higher education. This agenda is not intended to be complete or exhaustive. It focuses upon key aspects of research needed on:

- *Student success and engagement in and outside of classroom settings*
- *Transforming institutions: making HSIs stellar teaching and learning communities*
- *Graduate and undergraduate student success and engagement in science, technology, engineering and mathematics (STEM) fields*
- *Recruiting, preparing, supporting, and retaining more Hispanics in the teaching profession, and ensuring that all teachers are appropriately prepared to teach Hispanic students in elementary and secondary schools*

Each of the following major sections was developed from the input of separate sub-groups of researchers and practitioners. The recommendations were informed by a literature review by an established scholar and were developed collaboratively during face-to-face meetings September 11-12, 2007, and July 16-17, 2008 (on teacher preparation alone) made possible through the generosity of the Lumina Foundation. See Appendix A for complete list of participants.

Hispanic Higher Education Research Agenda

Student Success and Engagement in and outside of Classroom Settings

The Need for an Ethnicity/Race-Sensitive Framework

As noted throughout the workshops that were sponsored by HACU and Lumina, most models of student persistence are theoretically sound but ethnically or racially insensitive either in the way that variables are measured or in the exclusion of variables that may exert a strong impact on student outcomes. Three major conclusions were reached by Hispanic scholars and practitioners attending the meeting in Houston, Texas, in September 2007:

1. There is a vital need to examine *current definitions of success* that are used as the standard in providing measures of goal attainment, accomplishment or desired outcomes in research studies on Hispanic students.
2. A second, but just as important, need is the incorporation of *non-cognitive measures* in databases rather than simply focusing on cognitive outcomes.
3. A third, yet related, need is to develop *fully-comprehensive, theoretically-driven* and *culturally-sensitive databases* to study different student groups in every sector of higher education.

Areas within Framework that Require Research Attention

What specifically has been missing in previous research on minority students? Five initial areas were identified: *psychosocial factors*, *classroom experiences*, *economic factors*, *coping processes*, and *non-cognitive outcomes*.

Psychosocial factors would provide a more holistic profile of student experiences and allow investigators to examine any carryover effects of these events to higher education.

- Feelings, thoughts and considerations students face in selecting a college
- Participating in high school activities
- Interacting with other students
- Engaging in classroom discussion
- Actions and decisions of like-minded friends in high school
- The influence of social and family support systems

Classroom experiences would include participation and engagement of Latino students in the classroom; impact of instructional approach on outcomes such as persistence in a course, student engagement and year-to-year retention of Latino undergraduate students.

- Class content
- Pedagogy

- Cultural perspectives

Economic factors would include the impact of debt-burden (loans vs. grants) as a deterrent for different student groups; link between financial aid and student psychological impacts; more intangible (or psychological) components associated with financial assistance.

- Stress
- Anxiety
- Depression

Coping processes would provide a deeper and more complex view and represent the psychological and sociological nuances that underlie a student's behavior.

- Critical consciousness
- Emotional coping
- Instrumental coping

Non-cognitive outcomes. In addition to expanding on current definitions of student success (e.g., on-time graduation, degree attainment, persistence, transfer), other psychological and behavioral outcomes should enter into the discussion.

- Student satisfaction as the product of the academic and social experiences of students while enrolled in college
- Student's sense of belonging on a college campus
- Feeling of alienation and intolerance that is becoming prevalent on college campuses
- Impact that an undergraduate experience has on the prolongation of academic pursuits
- Attainment of a sense of intellectual identity for the student
- Belief that one is part of a community of life-long learners
- Desire to be an active participant in the larger community

Ethnicity/Race-Sensitive Framework

As previously mentioned, most models of student persistence are theoretically sound but ethnically or racially insensitive either in the measurement of latent constructs or in the exclusion of variables that, while applicable to all student groups, exert a much stronger effect on student outcomes. The identification of an ethnicity/race-sensitive conceptual framework is needed to help guide future investigations. The proposed theoretical structure consists of four major components: *psychological*, *social*, *cultural*, and *environmental* perspectives. The following table includes internal and external factors associated with the four major components:

Psychological	***Social***	***Cultural***	***Environmental***
Coping	Mentoring experiences	Cultural awareness as related to policy and environment	Family financial circumstances
Spirituality	Civic engagement	Cultural efficacy	Off-campus work
College efficacy	Family and community support	Academic family	Commuting vs. living on campus
Personal efficacy	Peer support	Ethnic identity	Quality of faculty/student interactions
Stereotype threat	Faculty and institutional support	Level of acculturation	Sense of community
Resilience	Cultural sensitivity	Class identify	Campus support programs
Depressive symptomatology	College adjustment	Campus climate	Perceived discriminatory behaviors
Self-esteem	College satisfaction	Cultural competence of faculty, administration, peers	Policy/politics at state and institutional levels
Distress	Social involvement and engagement		
	Academic integration		
	Sense of belonging		

Transforming Institutions: Making HSIs Stellar Teaching and Learning Communities

Over half of U.S. Hispanics in non-profit higher education today attend one of the nation's 307 Hispanic-Serving Institutions (HSIs). These are a unique category of colleges and universities that represent both an opportunity and challenge for the Hispanic community and the nation. HSIs present an opportunity because the Hispanic higher education experience is concentrated in a relatively small number of institutions. Consequently a substantial impact can be made by focusing on making HSIs stellar teaching and learning communities.

But HSIs also present a challenge: significantly underfunded, they receive on average only 66 cents for every federal dollar per student reported by all institutions of higher education. Over half are community colleges, adding transfer challenges to other barriers to baccalaureate completion. The four-year HSIs tend to be regional institutions with limited capacity for research experience and graduate education, especially at the doctoral level. Because of this dual role as opportunity and challenge, HACU's Hispanic Higher Education Research Agenda project gives special attention to HSIs and emerging HSIs.

Hispanic-Serving Institutions (HSIs) are defined in the federal Higher Education Act as non-profit institutions with a full-time equivalent (FTE) undergraduate Hispanic student enrollment of at least 25 percent.[16] This enrollment-based definition has a number of significant implications.

First, unlike HBCUs and TCUs, HSIs for the most part were not founded with a historical mission to serve Hispanic students. There are some notable exceptions: the National Hispanic University (CA), St. Augustine's College (IL), Boricua College (NY), Northern New Mexico College (NM), and of course the universities in Puerto Rico. Most of the rest of the 307[17] institutions evolved into the HSI status as their Hispanic enrollments grew.

Second, because of the dramatic demographic growth of the Hispanic population in the U.S. in recent decades, the number of HSIs has more than doubled since 1990. The presence of more than 100 emerging HSIs, with Hispanic enrollments between 18 and 25%, indicates that the number of HSIs will continue to increase in the foreseeable future. As the Hispanic population growth expands into areas of the country not traditionally thought of as Hispanic, HSIs are emerging in states like Connecticut and Massachusetts, Indiana and Georgia.

Third, since the HSI definition does not necessitate a historical or mission orientation to Hispanic education, the degree to which institutions embrace their HSI identity varies. Eligibility for federal Title V funding is important for a number of these institutions, but few explicitly include their HSI status in their mission statements. Inclusion (or not) in public relations and student recruitment materials is likely to reflect varied institutional positioning

[16] By the federal government in Title V of the Higher Education Act (at 20 USC 1101a).

[17] HACU analysis of 2010 enrollment data in the Integrated Postsecondary Education Data System (IPEDS) collected by the U.S. Department of Education.

strategies. One result of the variations of institutional commitments to HSI status is an on-going conversation about what institutions should be doing to be truly "Hispanic-serving" (in contrast to "Hispanic-enrolling").

HSIs are Diverse

HSIs cover a wide range of institutions.

- HSIs are in seventeen states and Puerto Rico, with the majority in California, Texas and Puerto Rico.
- Total undergraduate FTE enrollments range from under 100 students to almost 40,000.
- Over half (164 of 307 total HSIs) are two year institutions, 65 are four year public institutions, 78 are four year private institutions.[18]
- Only a handful of HSIs fall into one of the Carnegie classifications for research universities.
- Promising continued growth in the number of HSIs, there are 126 "emerging" HSIs with an 18-24 percent FTE Hispanic student enrollment on the way to becoming HSIs.
- Due to rapid Hispanic population growth and the increasing numbers of Hispanics pursuing postsecondary education, most of these emerging HSIs are expected to become HSIs within the next decade.

HSIs and Access

HSIs provide Hispanic Americans the greatest access to a college education.

- HSIs represent less than 9 percent of all higher education institutions, yet serve 54 percent of all Hispanic students.
- Between 1990 and 1999, student enrollment increased by 14 percent at HSIs, compared to 7 percent for all institutions.[19]
- The number of degrees awarded by HSIs grew by 36 percent between 1991-92 and 1999-2000 school years, compared to 13 percent for all institutions.[20]

HSIs and Minority Enrollment Growth

HSIs have experienced growth not only in the number of Hispanic students they enroll, but also among all minority populations.

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[18] Ibid.

[19] U.S. Department of Education, National Center for Education Statistics (NCES), 1990 through 1999 Integrated Postsecondary Education Data System (IPEDS), "Fall Enrollment Survey."

[20] NCES "Completions Survey" report for fall 2000

- Total number of Hispanic degree recipients at HSIs grew by 95 percent between 1991-92 and 1999-2000.
- Total number of minority degree recipients at HSIs grew by 87 percent for that period.[21]
- HSIs produce 37% of Hispanic baccalaureates across all fields, and 39% of non-science and engineering disciplines

HSIs are the institutions where Hispanics have chosen to enroll. Impacting Hispanic higher educational attainment requires developing the research, education, support and administrative capacity of these institutions. The strategy of focusing on the greatest concentrations of Hispanic college students promises to be the most efficient approach to Hispanic educational attainment. Since HSIs are the institutions that provide greater access to higher education for Hispanics, they are the primary vehicle for developing the intellectual capital of Hispanics as required by the emerging knowledge-based economy and society.

A deeper understanding is needed for the on-going transformation of institutions as Hispanic-Serving and thus for increasing the quality and quantity of Hispanic college graduates in support of the Big Goal. Research-based strategies that focus on improving student success in HSIs will be efficient and effective approaches to addressing the achievement gap for Hispanic students.

A meaningful discussion on the transformation of Hispanic-Serving Institutions must include a grasp of what HSIs currently are and of what they need to become. Currently, neither is clearly understood. This understanding must be guided by an empirical body of literature. A major shortcoming is the absence of a typology of HSIs to allow reasonable comparisons among similar institutions. The existing Carnegie classification system is not sufficiently nuanced. The unique nature of HSIs, the students they serve, their variety, and a host of other key characteristics provide the array of variables needed to make meaningful comparisons. Hence, a foundation for the development of an overall HSI typology is proposed to help administrators, researchers, policy makers and others make useful comparisons for improved policy-making that may eventually lead to transformation opportunities.

HSI Typology: Key Characteristics/Variables

A total of 13 major features comprise the typology framework.

Key Feature in Typology	***Nature of Characteristic/Variable***
Intentionality	• The degree to which an institution is purposeful in serving Hispanic students. • Ability to identify the institution's intentions on campus.
Clarity of Purpose	• The degree to which the institution embraces the fact it is a Hispanic-Serving Institution. • The degree to which the mission of the university in serving Hispanic students is made clear.

[21] Ibid.

Level of Selectivity	• The level of selectivity during the admissions process. • Admissions criteria used in recruiting/admitting students.
Institutional Capacity	• The level of appropriateness of the institution's comprehensive plans in serving Hispanic students. • The level of resources available to the institution to carry out its comprehensive plans.
Behavior related to crossing the 25% enrollment threshold (pre- and post-25%)	• Hispanic student enrollment prior to reaching the 25% enrollment threshold. • Hispanic student enrollment after reaching the 25% enrollment threshold. • Funding patterns pre- and post-enrollment threshold. • Selectivity patterns pre- and post-enrollment threshold.
Sources of Revenue	• Levels and sources of revenue available to the institution. • Levels and forms in the institution's share of revenue flows.
Expenditures	• Types of expenditures dedicated for Hispanic students. • Levels of expenditures in activities designed to serve Hispanic students.
Faculty/Staff Proportionality	• Number and proportion of Hispanic faculty at the different ranks (e.g. Assistant, Associate, Full). • Number and proportion of Hispanic staff at the different levels (e.g. upper administration, midlevel administration, entry-level administration).
Enrollment Size	• Total enrollment at the institution. • Enrollment trends over five-year periods.
Retention and Graduation	• First- to second-year retention rates for different student populations. • Four- or two-year graduation rates for different student populations. • Six- or three-year graduation rates for different student populations.
Remediation	• The proportion of first-time entering students required to take remedial courses. • The proportion of remedial students that successfully transition out of developmental courses. • The number of staff and services available to Hispanic students with remedial needs.
Athletics	• The NCAA division, NAIA, or NJCAA to which the institution belongs. • Participation of Hispanic students in sports, by gender and sport.
Graduate and Professional Schools	• The existence of medical, law, or other professional schools at the institution. • The amount and types of graduate programs, especially doctoral programs.

HSI "Maturity" Chronology

The call for an HSI typology is also driven by the desire to develop an *HSI "Maturity" Chronology*. The preliminary research question is whether there is a typical pattern of development for HSIs, or HSIs of a particular institution type. If so, a chronology of the maturity of an institution can help to explain the trajectory of a maturing Hispanic-Serving Institution.

Usefulness of chronology includes:

- The possibility of examining the predictive value of factors accounting for the degree of maturity of an institution.
- The ability to contextualize how an institution becomes an HSI, whether the transition was intentional or simply due to demographics.
- The possibility that the chronology can be charted on an *X*-*Y* grid providing details on specific milestones of interest over a time horizon.
- Information for administrators and researchers as to which characteristics are key in the HSI Typology, and how to classify emerging HSIs versus existing HSIs in a continuum of maturity.

Graduate and Undergraduate Student Success and Engagement in Science, Technology, Engineering and Mathematics (STEM) Fields

Hispanics are critically underrepresented in the science, technology, engineering and mathematics (STEM) fields that are driving the developing knowledge-based economy. Although Hispanics are needed throughout the academy, STEM education could potentially have the greatest impact on the economic and social well-being of the Hispanic community and the nation.

Although the numbers of Hispanics attending HSIs and other institutions continues to grow, not every field of study is equitably represented by Hispanics. One of the major challenges in the future will be to prepare Hispanics in K-12 education with the strong academic skills needed to pursue degrees in the STEM areas projected to be the most critical in the 21st century.

Hispanic percentages in key STEM areas are exceedingly low. For the academic year 2006-07, Hispanics students received:

- 2.2 percent of the Ph.D. degrees in physical sciences and science technologies, 1.8 percent in engineering and 1.7 percent in mathematics and statistics.
- 3.2 percent of masters' degrees in physical sciences and science technologies, 3.8 percent in engineering, and 3.3 percent in mathematics and statistics.
- 4.5 percent of the baccalaureate degrees awarded in physical sciences and science technologies, 6.1 percent in engineering and 6.4 percent in mathematics and statistics.[22]
- Hispanics comprise 14.3 percent of the total workforce in 2010. However, in STEM fields requiring advanced degrees, Hispanics comprise only 6.8 percent of the country's physicians, 6.0 percent of natural scientists, 5.5 percent of mathematical and computer scientists, 3.8 percent of aerospace engineers, 1.0 percent of chemical engineers, 6.9 percent of civil engineers, 3.7 percent of mechanical engineers. [23]

Many HSIs provide the baccalaureate foundation for Hispanic doctoral scientists and engineers: five of the ten most productive institutions of future PhDs are HSIs. Development of HSIs is an efficient and effective strategy for Hispanics in STEM as individuals and as a community, at least at the master's level or below. (Few HSIs award STEM doctoral degrees.) HSIs have the expertise, proximity and commitment to their students and communities to provide front-line leadership and support in the effort to close the gap and promote the graduation of more Hispanics with STEM degrees.

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[22] U.S. Department of Education, National Center for Education Statistics (NCES), *Digest of Education Statistics 2009*.

[23] U.S. Department of Labor, Bureau of Labor Statistics, *Current Population Survey 2010,* http://www.bls.gov/cps/cpsaat11.pdf.

A 21st century workforce trained in STEM fields is critical to our nation's economic strength, social well-being and security. Hispanics, the nation's largest ethnic population, comprise the fastest-growing sector of our U.S. labor force and 15 percent of the general population.

- Hispanics represent only 3.2 percent of the doctoral degrees in science and engineering, compared to 42.9 percent by non-Hispanic whites.[24]

- Hispanics represent only 3.4 percent of the employed scientists and engineers at the bachelor's level.

- More than 34 percent of Hispanic college students expect to major in science and engineering, compared to 30.5 percent of non-Hispanic whites.[25]

- HSIs are producing Hispanic STEM baccalaureates at a rate disproportionate to their numbers among institutions of higher education (IHEs). Although less than 10% of all IHEs, HSIs produced about 103,000 Hispanic science and engineering baccalaureates from 2000 to 2008, about a third of all STEM bachelors produced.[26]

HACU has taken the initial steps to begin the study of STEM education and Hispanics with its NSF-funded study of STEM education at HSIs that produced a 2005 report outlining the obstacles to K-12, undergraduate, graduate, and Ph.D. completion. The study also highlighted recommendations and areas for further study. In particular, it emphasized that no significant increase of Hispanics graduating from colleges and universities in the STEM fields would result unless an integrated K-20 approach to the problems was instituted. Some of the approaches discussed in the preliminary meetings of this project mirror that recommendations below, e.g. "problem-to-solution," "P-20 pathway" and "trans-generational" perspectives and approaches.

Getting Hispanics into STEM fields and graduating them with quality degrees is a complex problem. Differences among STEM disciplines dictate that discipline-specific efforts and models will be required, in addition to general efforts similar to general efforts and models for all fields. Disciplines vary in their approaches to education and socialization into the discipline, and some are currently undergoing transformations (e.g., biological sciences) to enhance their education practices. It is hoped such transformations will be informed by research on Hispanics and prove beneficial for Hispanic inclusion and retention. Hispanics are achieving parity sooner in some disciplines than others, just as women are no longer underrepresented in psychology and biology. This development can be expected to continue, with some disciplines making great progress while others stall along the way. Research will be needed into the nature of the stalling and the nature of the great strides, to overcome the stall and, perhaps, find understandings that may be useful to other disciplines.

[24] National Science Foundation, Division of Science Resources Studies, *Women, Minorities, and Persons with Disabilities in Science and Engineering: 2009.*
[25] Higher Education Research Institute, Survey of American Freshman: National Norms, special tabulations (2009).
[26] National Science Foundation, op.cit.

To address this complex issue, it is recommended that a broad view of the whole issue be taken which would use "problem-to-solution," "P-20 pathway" and "trans-generational" perspectives and approaches. The "problem-to-solution" perspective and approach with multiple lines or "strands" of efforts focuses on both ends of the issue. That is, rather than simply describing the problem in further detail or jumping to "solutions," work on both ends is conducted simultaneously, with each thereby informing the other.

Problem-to-solution "strand" approach

The first strand of the approach should focus on:

- Identification of problems that up to now have not been addressed, either because they are not known or simply because not enough attention has been paid to them.
- Clarification of issues pertinent to improving the access and success of Hispanic students in STEM.
- Descriptive findings and trend analyses of major outcomes for STEM majors.
- Definition or redefinition of key inputs, outputs, and outcomes culturally specific and sensitive to Hispanic students.

The second strand of the approach is to use the findings from phase one to inform future research. The goal of the research associated with the second strand is to:

- Develop implications for practice, interventions and policy.
- Identify pertinent outcomes and factors that predict those outcomes for program/institution evaluation.
- Refine programmatic and administrative efforts.

P-20 Pathways Perspective

The K-12/higher education notion would focus research on:

- Preparation of Hispanic students in elementary, middle and high schools for majors in engineering, biochemistry, computer science, technology, and medicine.
- Generating K-12 studies which address specific research questions:
    - What practices/policies or structural barriers currently exist that prevent Hispanic students from becoming academically prepared to enter STEM majors once enrolled in college?
    - What factors inspire Latinos to want a career in a STEM field? Or, what barriers deter Hispanic students from considering STEM fields?
    - What are the attitudes of teachers toward Hispanics when encouraging students to go into science/math majors?
    - Are Hispanic students being counseled appropriately so that they will seriously consider a career in a science- or math-related field?

The higher education perspective would focus on:

- Case studies on Hispanics in STEM majors.

- Examining the enrollment in those majors at two-year and four-year institutions and in graduate schools.
- Career choices made by Hispanics in STEM fields.
- Factors that influence Latino persistence in the major.
- Generating higher education studies addressing specific research questions:
    - Why are Hispanics more inclined to select a major in education, business, or the social sciences over one in a STEM field?
    - What advising are Latino students receiving upon entering college regarding the selection and pursuit of a STEM major?
    - What negative attitudes or stereotypes impact the advisement Hispanic students receive as undergraduates?

Practical implications for P-20 Pathways Perspective include:

- Providing valuable information to improve the quality of education in STEM.
- Making undergraduate and graduate education more aligned with the learning sciences and an inquiry-based active learning approach.
- Framing a taxonomy of formal and informal mentoring, making it easier to investigate mentoring experiences as experienced by Hispanics.

Trans-generational perspective of STEM development in Hispanic community

This multi-faceted perspective would concentrate on three major issues:

- Building cultural capital across generations.
- Retrospective analysis of extant data and surveys.
- Building social/institutional/STEM capital for Latino students and their communities and families.

Recruiting, preparing, supporting, and retaining more Hispanics in the teaching profession, and ensuring that all teachers are appropriately prepared to teach Hispanic students in elementary and secondary schools

TEACHER PREPARATION

The Hispanic Association of Colleges and Universities (HACU) considers the preparation of teachers to teach Hispanic K-12 students one of the pillars of Hispanic success in higher education. It is not surprising, then, that teacher preparation—viewed broadly to include pre-service programs for prospective teachers as well as programs of induction and professional development for in-service teachers—is one of the four strategic areas of the HACU Hispanic Higher Education Research Collective (H3ERC). The teacher preparation agenda is organized into two themes: (1) increasing the number of well-prepared Hispanic teachers, and (2) ensuring that all teachers have the preparation needed to teach Hispanic students.

Why increase the number of Hispanic teachers? A strong case can be made for increasing the number of well-prepared Hispanic K-12 teachers. It has been argued that Hispanic teachers function as role models for Hispanic students. In this capacity, they are said to motivate Hispanic students to strive for academic success. According to this thinking, all Hispanic students—but especially those who lack faith in the potential of schools to improve their lives—stand to benefit from exposure to Hispanic teachers (Hidalgo & Huling-Austin, 1993). Hispanic students are thought to benefit from Hispanic teachers in a second important way. Despite the wide variation that exists among Hispanics, members of this group are more likely than members of any other group to bring to teaching at least some understanding of the language and/or culture of Hispanic learners (Achinstein, & Aguirre, 2008; Garcia-Nevarez, Stafford & Arias, 2005; Ochoa, 2007; Rueda, Monzo, & Higareda, 2004). Such linguistic and/or cultural insight, if properly tapped, enables Hispanic teachers to build the necessary bridges to learning for Hispanic students. Also relevant, Hispanic teachers are more willing to teach in hard-to-staff urban schools (settings that serve the overwhelming majority of Hispanic students) than White teachers (Villegas, 2007). Furthermore, there is evidence that Hispanics have higher retention rates in hard-to-staff schools than their White counterparts do (Kirby, Berends, & Naftel, 1999). This commitment to working in hard-to-staff schools lends stability to the learning experiences of Hispanic students in those settings.

Why must all teachers be prepared to teach Hispanic students? Historically, Hispanic students have not fared well in elementary and secondary schools. As a group, Hispanics have consistently underperformed their White peers on all salient indicators of educational outcomes, including grade retention, scores on standardized tests, and high school graduation. The urgency of addressing this problem is underscored by the rapid growth of the Hispanic student population noted during the past two decades. In 2002, Hispanics became the single largest racial/ethnic minority group in this country, accounting for 17.8 percent of total

enrollments in elementary and secondary public schools (U.S. Department of Education, 2004), and by 2050 they are expected to account for nearly one-third of the entire student population (U.S. Department of Commerce, 1996). Many factors contribute to the academic difficulties experienced by Hispanic students, including the lack of quality teaching. Clearly, the preparation of teachers to teach Hispanic students is a topic that merits focused attention and monitoring.

The urgency of attending to the preparation of all teachers to teach Hispanic students is further underscored by the dismantling of bilingual education currently underway in this country, triggered largely by political opposition to the use of languages other than English. As bilingual programs are eliminated, non-specialized classroom teachers (rather than trained bilingual teachers) become increasingly responsible for providing the majority of instruction to Hispanic students (Lucas & Grinberg, 2008). While some pre-service teacher education programs at colleges and universities have worked diligently to infuse attention to issues of cultural diversity throughout their curricula, questions remain about the capability of traditional pre-service programs to prepare future teachers to teach students from backgrounds other than the mainstream, including Hispanic students. To make matters more complex, a large number of Hispanic students are English language learners (ELLs). However, university-based programs of pre-service teacher education are not designed to prepare all teachers to teach ELLs (Lucas & Grinberg, 2008). Given that approximately one quarter of all Hispanics currently employed in U.S. public schools enter teaching through non-university-based routes, more information is needed about the preparation of candidates entering through these various routes to teach culturally diverse and ELL students. We do know, however, that over two-thirds of all teachers employed in U.S. public schools during the 2003-04 school year reported having little or no preparation to teach ELLs. Furthermore, a majority of teachers that year also indicated that teaching ELLs was a top professional development priority for them[27].

The research agenda that follows reflects the input of scholars who were invited to participate in an agenda-setting meeting that was held at Montclair State University, Montclair, New Jersey on July 17, 2008. Participants were selected for their expertise on issues related to teacher education and the education of Hispanic students.[28] The two themes detailed above organized discussions at that meeting.

[27] These statistics were derived from the survey of public school teachers administered by the National Center for Education Statistics during the 2003-04 school year as part of the Schools and Staffing Survey.

[28] The agenda-setting meeting was chaired by Ana María Villegas, of Montclair State University. Other participants included Belinda Flores, University of Texas at San Antonio; Ofelia Garcia, Graduate Center, CUNY; Sonia Nieto, University of Massachusetts, Amherst; Pedro Pedraza, Hunter College, CUNY; Pedro Portes, University of Georgia; Christine Sleeter, California State University, Monterey Bay; Ken Zeichner, University of Wisconsin-Madison; Ada Beth Cutler, Jaime Grinberg, Tamara Lucas, Jeremy Price, and Jennifer Robinson, Montclair State University; and Alex Ramirez, HACU.

Research Agenda

The research agenda is presented by teacher education theme. The agenda is prefaced by an overriding concern discussed at the meeting. Because Hispanics in the U.S. are a highly diverse group, meeting participants underscored the importance of providing as much information as possible about the specific backgrounds and characteristics of Hispanics involved in the proposed studies.

Theme 1: Increasing the Number of Hispanic Teachers

Meeting participants recommended three types of research activities related to the theme of increasing the number of Hispanic teachers: (1) two literature reviews; (2) a set of database analyses; and (3) a series of studies involving the collection of new data.

1.1 Literature Reviews

a. What do we know from research about increasing the number of Hispanics in teaching?

Historical background. The shortage of racial/ethnic minority teachers first gained national attention at the end of the 1980s when it became evident that the teaching force was becoming more homogeneous just as the student population was growing more diverse. In response to these conflicting demographic trends, a number of school districts, colleges and universities, and state departments of education began adopting minority teacher recruitment policies and programs in the early 1990s. Such initiatives included early recruitment efforts that targeted pre-college students, preparing them for college while motivating them to pursue a teaching career; partnerships between two- and four-year colleges to facilitate the transfer of minority students from two-year colleges into programs of teacher education at four-year institutions; career ladder programs for paraprofessionals; and programs of alternative routes to certification designed to attract mid-career switchers and retirees from other professions (Villegas & Lucas, 2004), as well as foreign trained teachers (Flores, 2001; Flores, & Clark, 2002).

Needed review. The features and outcomes of some minority teacher recruitment programs implemented over the past 15 years have been systematically studied and the results are reported in the literature. In fact, several reviews of this literature are available (see Clewell & Villegas, 1998, 2001; Gay, Dingus, & Jackson, 2003; Villegas & Lucas, 2004). These syntheses, however, focus broadly on "minority teachers," without disaggregating findings by racial/ethnic group. As a result, we lack a detailed understanding of programmatic strategies that have been successful in recruiting, supporting, and preparing Hispanics for teaching. While the results reported in existing research syntheses for minorities—broadly defined—are likely applicable to Hispanics, a new synthesis that focuses specifically on what we know about successful recruitment programs for this particular group is needed. This new synthesis should be guided by the following questions: What do we know from research about approaches that have

been successful in increasing the number of Hispanics in the K-12 teaching force (e.g., early recruitment programs, partnerships between two- and four-year colleges, career ladder programs for paraprofessionals, programs of alternative certification, and programs for foreign trained teachers)? What are the implications of what is learned from this review for the design of pre-service teacher preparation programs? What are the implications for policy?

For each recruitment approach depicted in the literature, attention will be given to the following topics:

- Description of the target population: Who is targeted for recruitment? What are the characteristics of this pool of potential teachers? What are the needs and strengths of recruits from this pool?
- Barriers to recruiting Hispanics from the targeted pool (including problems resulting from the legal status in this country of potential recruits) and how these have been overcome.
- Beyond recruitment, what are the barriers for college retention or factors for attrition?
- Experiences of Hispanic recruits in their pre-service teacher preparation programs and factors that account for patterns noted.
- Types of support provided to enable Hispanic recruits to successfully complete their pre-service preparation and secure a teaching position.
- What happens to Hispanic teacher candidates who leave the program before completing it? Do they return to complete a degree? If so, do they enter the teaching force? Do they work as paraprofessionals?
- What is the focus of the preparation provided to Hispanic recruits?
- Evidence of program impact on teacher candidates (e.g., teaching effectiveness, cultural competence, sense of efficacy, ethnic/sociocultural consciousness, leadership abilities).

b. **Policy analysis**

Currently, we lack a comprehensive understanding of policies that affect the supply of Hispanic teachers. Such understanding is needed to appropriately interpret findings regarding the supply and demand of Hispanic teachers. The results of this review will also facilitate the articulation of recommendations for policy changes (should they be needed).

The needed policy analysis will be guided by the following questions:

- What policies at the national, state, and local levels directly address issues related to Hispanic teachers?
- What policies at the national, state, and local levels indirectly affect Hispanic teachers?
- How and by whom have these policies been implemented?

- What have been the impacts and influences of these policies on the recruitment, preparation, and support of Hispanic teachers?
- What are the benefits of existing policies relative to the goal of increasing the number of Hispanics in teaching? What are their disadvantages?

1.2 Database Analyses

A second glaring gap in the research literature is the lack of a clear portrait of practicing Hispanic teachers. Because the shortage of racial/ethnic minority teachers—including Hispanics—has been framed largely as a recruitment problem, relatively little empirical attention has been paid to the new recruits once they enter the teaching force. Consequently, we lack a comprehensive and systematic understanding of the backgrounds of practicing Hispanic teachers, their actual preparation and qualifications for teaching, the types of supports they receive at their schools, the conditions of schools that employ them, their attitudes toward teaching, and their rate of attrition from the profession and reasons for their departure.

Fortunately, two national databases are available to address this gap in the research—the Schools and Staffing Survey (SASS) and the Teacher Follow-up Study (TFS), both managed by the National Center for Education Statistics (NCES). Through SASS, NCES periodically surveys a large nationally representative sample of teachers (over 58,000 teachers during the latest administration). The survey is designed to gather extensive information about teachers' characteristics and qualifications, placements, professional development, school conditions, and attitudes toward teaching. The TFS is a supplement to SASS. Its purpose is to determine how many teachers remained at the same school, moved to another school or left the profession in the year following the SASS administration. A sample of teachers who complete the SASS questionnaire is surveyed the year after as part of TFS. The TFS uses two questionnaires, one for teachers who left teaching since the previous year and another for those who are still teaching either in the same school as the year before or in a different school. The topics in the *Current Teacher Questionnaire* include teaching status and assignments, ratings of various aspects of teaching, the time teachers spend on different aspects of the job, professional development over the past two years, and ratings of various strategies for retaining more teachers. The topics for the *Former Teacher Questionnaire* include employment status, ratings of various aspects of teaching and their current jobs, information on decisions to leave teaching, and ratings of various strategies for retaining more teachers.

Participants at the research agenda setting meeting recommended the use of SASS and the TFS to carry out the three analyses outlined below.

a. Portrait of Hispanic Teachers. This analysis would use data from the last administration of SASS to develop a comprehensive and detailed description of Hispanics in the teaching force. Among the questions to be answered are the following:
- What is the size of the Hispanic teaching force?
- What are the demographics of the Hispanic teacher population?

- What type of preparation and qualifications do Hispanic teachers have? If they are generalists, special education or content area teachers, are they specifically prepared to teach ELLs?
- Who and where do they teach?
- What are their teaching assignments?
- In what areas are they certified? What percentage of the group is certified to teach science and mathematics, areas of concern for HACU?
- Are they certified to teach in the areas of their primary teaching assignments? What percentage is teaching out-of-field?
- What types of professional development do they participate in? What supports do they receive for their participation in professional development activities? How helpful do they find such activities?
- What are working conditions like in the schools in which they teach? What is the climate of those schools?
- What are their attitudes toward teaching? What factors (teacher characteristics, school characteristics) account for their level of satisfaction/dissatisfaction with teaching?

For purposes of interpretation, the resulting Hispanic teacher profile will be compared to the profile of White (non-Hispanic) teachers. Differences noted between the two groups will be tested for statistical significance. A regression analysis of the determinants of teacher dissatisfaction with teaching (a precursor to attrition) will also be conducted.

b. Comparison of the Profile of New Hispanic Teachers to the Profiles of Experienced Hispanic and New White Teachers. This study will also use data from the last SASS administration to compare new Hispanic teachers (those with three or fewer years of teaching experience) and experienced Hispanic teachers (those with more than three years of teaching experience) as well as new White teachers. First, a **profile for each group** will be prepared. Each profile will respond to the following questions:

- What is the size of the group?
- What are its main sources of supply?
- What are the demographics of the group (age, gender)?
- What are the types of preparation and qualifications of teachers in the group?
- Who and where do teachers in the group teach? What are their teaching assignments?
- What subject areas are teachers in the group certified to teach? What proportion is certified to teach science and mathematics? Are teachers in the group certified to teach in areas of their primary teaching assignments? What percentage of the group teaches out-of-field?
- What types of professional development do teachers in the group participate in? What supports do they receive for their participation? How helpful do they find these activities?

- What are working conditions like in the schools in which teachers from the group teach? What is the climate of those schools?
- What are the group's attitudes toward teaching? What factors (teacher characteristics, school characteristics) account for their level of satisfaction/dissatisfaction with teaching?

In addition to preparing a descriptive profile, a regression analysis will be carried out to identify determinants of dissatisfaction with teaching (a precursor to attrition) for each group of teachers.

Second, the profile of new Hispanic teachers will be compared to that of experienced Hispanic teachers to gain insight into possible changes in the preparation, distribution, and experiences of Hispanic teachers over time. Differences between these two groups will be tested for statistical significance.

To maximize our understanding of the preparation, distribution, and experiences of novice Hispanic teachers, their profile will be compared to that of new White (non-Hispanic). This third analysis will also give attention to induction and mentoring opportunities available to new teachers from both groups and the extent to which they found those supports. Differences between the two groups will be tested for statistical significance.

c. Attrition of Hispanic Teachers

Both recruitment and attrition are critical factors that affect the supply of teachers. Yet, those concerned with the shortage of Hispanic teachers have focused nearly all their efforts on recruitment while paying scant attention to issues of attrition. Such a strategy is shortsighted because numerical gains made through recruitment can be easily wiped out by the premature departure of Hispanic teachers. This study is intended to bring some balance to our understanding of the supply of Hispanic teachers by attending to matters of attrition, a topic that is currently ignored both by researchers and policymakers.

The analysis will draw on data from SASS and its supplement, the TFS. The following questions will guide the analysis:

- What are the rate and magnitude of Hispanic teacher attrition? How does the rate of Hispanic teacher attrition compare to the rates for other racial/ethnic groups?
- What are the destinations of Hispanics who leave teaching?
- What reasons do Hispanics give for leaving the profession? To what extent do school conditions influence their decision to leave?
- What suggestions do Hispanics who leave teaching have for improving teacher retention?

- What evidence is there, if any, that the ongoing dismantling of bilingual education programs in this country is having an effect on the attrition of Hispanic teachers?

1.3 Studies Involving the Collection of New Data

a. Case Studies of Successful Hispanic Teachers

Much can be learned from Hispanic teachers who are successfully teaching low income Hispanic students in hard-to-staff urban schools and have persisted in those positions over time despite the odds. This investigation is intended to give insight into the motives those teachers had for entering teaching, the pathway they followed into the profession, their cultural competence and sense of efficacy, why they stay in the profession, and what factors account for their success and persistence. To qualify for participation in this study, Hispanic teachers must be teaching in urban schools that serve low income Hispanic students, have a minimum of five years teaching experience in those settings, and be considered successful teachers of Hispanic students. (Successful teachers will be identified with the use of indicators yet to be determined and/or a nomination process involving parents/guardians of Hispanic students and school-based educators.) Data will be collected through classroom observations and interviews with the teachers. Case studies of individual teachers will provide the following information: (a) relevant teacher background; (b) decision to pursue a teaching career; (c) preparation for teaching; (d) teaching history; (e) description of the school context in which the teacher works; (g) descriptions of his/her teaching; and (h) teacher's perception of factors that account for his/her success and persistence (e.g., personal characteristics, preparation for teaching, supportive school environment). The data will also be examined across cases to identify patterns.

b. Case Studies of Pre-service Programs Designed to Prepare Hispanics for Teaching That Have an Established Record of Producing Qualified Hispanic Teachers

This study looks at the broad range of program configurations that prepare Hispanic teachers, including university-based programs, programs offered by school districts and other non-university entities in the U.S., and programs outside the U.S. that prepare Hispanic teachers specifically for U.S. schools. (Programs could have been designed broadly to produce teachers of different racial/ethnic backgrounds, but Hispanics account for a large number of students served.) What can we learn from such programs that might inform the redesign of pre-service teacher education in general?

The work involves in-depth case studies of selected sites. To qualify for selection, programs must provide evidence of producing Hispanic teachers who enter and stay in teaching; they also need to show evidence that graduates/completers are well qualified to teach. Priority will be given to those programs that have evidence of the impact of their graduates/completers on K-12 students. Attention will be paid to the following topics:

- Strategies for recruiting Hispanics into the program

- Candidate selection (what characteristics does the program look for in applicants, academic and otherwise)
- Types of supports that candidates are provided to see them through completion/graduation
- Preparation they receive as part of coursework, field experiences, and community projects
- Instructional practices used by program faculty/instructional staff
- Assessment strategies used to monitor the growth of Hispanic teacher candidates as they go through the program, and the types of feedback provided
- Quality of placements for extended field experiences in schools
- Faculty/instructional staff backgrounds and preparation
- Candidate experiences in the program
- Mentoring/induction support services provided to teacher candidates: When does mentoring/induction support begin? How many years of support do they provide?
- Experiences the program might have had with undocumented Hispanic students

c. The Role of Hispanic-Serving Institutions in Producing Hispanic Teachers

This study will explore the role of Hispanic-Serving Institutions in producing Hispanic teachers. The work will be carried out in two phases. First, all Hispanic-Serving Institutions will be surveyed to learn about their involvement in producing Hispanic teachers. The survey will solicit information about the program of teacher education at the institution (e.g., recruitment of Hispanic students into the program; selection criteria; support services provided; program size; percentage of Hispanic students enrolled; 4-year, 5-year, and 6-year graduation rates). Based on the survey results, institutions representing different program configurations will be selected for participation in case studies intended to provide an in-depth look at teacher education at Hispanic-Serving Institutions. These cases will be similar to those detailed in 1.3b, above.

Theme 2: Ensuring that All Teachers Are Prepared to Teach Hispanic Students

Participants at the agenda-setting meeting suggested the use of a two-pronged strategy for addressing the second teacher preparation research theme—two literature reviews and a set of studies involving the collection of new data.

2.1 Literature Reviews

a. The Preparation All Teachers Need To Teach Hispanic Students--Both English-Proficient and English Language Learners

While much has been written about the knowledge base for teaching students from culturally diverse backgrounds—a broadly defined group—relatively little attention has been paid in the teacher education literature to the knowledge base for teaching Hispanic students in particular. Works that focus on Hispanic students tend to address

the preparation needs of specialists, such as bilingual and ESL teachers, not mainstream classroom teachers. Similarly, little attention has been paid to the preparation that mainstream classroom teachers need to teach ELLs they are now finding in their classes with increasing frequency, Hispanic or otherwise. Given the growing number of K-12 Hispanic students and the trend toward eliminating programs of bilingual education, a systematic and comprehensive synthesis of the literature, both empirical and conceptual, focused specifically on the preparation of all teachers to teach Hispanic students, including ELLs, is needed. To ensure that all relevant work is considered, such a synthesis must extend beyond the literature on teacher education and include works in areas such as second language development and instructional practices for students in bilingual programs.

This review will be guided by the following questions:

- What do we know about the dispositions, knowledge, and skills all teachers need to teach Hispanic students? What does the literature suggest regarding the needed pre-service teacher education curriculum?
- What do we know about the dispositions, knowledge, and skills all teachers need to teach ELLs, including Hispanic students? What does this literature suggest regarding the needed pre-service teacher education curriculum?
- What do we know about the dispositions, knowledge, and skills all teachers need to teach undocumented Hispanic students enrolled in U.S. schools? What does this literature suggest regarding the needed pre-service teacher education curriculum?
- What is unique to teaching Hispanic students that is typically not addressed in the established teacher education curriculum of pre-service programs? How might the dispositions, knowledge, skills that are unique to teaching Hispanic students (including ELLs) be integrated into the teacher education curriculum given the tight constraints on credit hours in pre-service programs?

b. Pre-service Teacher Education Practices

A second review of the literature is needed to answer the following question: What do we know from the research on teacher education about practices that are effective in preparing all teachers to teach Hispanic students—both English-proficient and ELLs? Among the questions this review will address are the following:

- What criteria (academic, attitudinal, experiential) could be used to select into programs of pre-service teacher education candidates who are likely to become good teachers of Hispanic students?
- How can the specific dispositions, knowledge, and skills all teachers need to teach Hispanic students/ELLs be best incorporated into the established teacher education curriculum? (See 2.1a, above)

- How does university coursework outside teacher education (e.g., Chicano studies, history of minority education) contribute to the preparation of all teachers to teach Hispanic students?
- What pedagogy has been found effective in cultivating the dispositions, knowledge, and skills teachers need to teach Hispanic students?
- How is cultural knowledge developed or incorporated into the teacher education program? Do these practices produce culturally efficacious teachers?
- How is personal knowledge (ethnic identity, cultural self, teacher identity) developed in creating an ethnic/sociocultural consciousness? Do these practices produce culturally efficacious teachers?
- What field experiences within schools have been found effective in cultivating the dispositions, knowledge, and skills teachers need to teach Hispanic students?
- What is the role of community learning experiences in cultivating the dispositions, knowledge, and skills needed to teach Hispanic students?
- What are effective strategies for assessing teacher candidates' preparation for teaching Hispanic students, including ELLs?
- What type of professional development do faculty members need to successfully teach the revised curriculum?

2.2 Studies Involving the Collection of New Data

a. Case Studies of Teacher Education Programs that Successfully Prepare Pre-service Teachers to Teach Hispanic Students

This study will explore the nature and characteristics of pre-service teacher preparation programs that successfully prepare teachers to teach Hispanic students. Teacher education programs that have experienced success (criteria to be developed) in preparing pre-service candidates to teach Hispanic students, including ELLs, will be identified. Then, in-depth case studies of selected programs will be developed, giving attention the following:

- *Institutional context*: extent to which the institutional mission attends to issues of diversity; commitment to having Hispanics appropriately represented in the college/university community; representation of Hispanics in the student population, faculty, administration, and staff.
- *Program context*: extent to which the program mission attends to issues of diversity; commitment to having Hispanics appropriately represented in the student population, faculty, administration, and staff; extent of involvement of the Hispanic community in the program; partnerships with schools that serve large numbers of Hispanic students.
- Criteria used to select teacher candidates.
- How the curriculum addresses the dispositions, knowledge, and skills all teachers need to teach Hispanic students, including ELLs.

- Preparation of faculty relative to the knowledge base for preparing all teachers to teach Hispanic students.
- Pedagogy used to develop the dispositions, knowledge, and skills all teachers need to teach Hispanic students, including ELLs.
- Use of field experiences and community-based projects to prepare teacher candidates to teach Hispanic students, including ELLs.
- Cultural knowledge: how is cultural knowledge developed or incorporated into the teacher education program?
- Development of personal knowledge: knowledge of ethnic, cultural self in creating an ethnic/sociocultural consciousness, cultural efficacious teacher identity.
- Assessment that focuses on teacher candidates' preparation to teach Hispanic students, including ELLs.

b. Preparation Experiences of Teachers Who Are Successful in Teaching Hispanic Students

This study will examine the ways in which successful teachers of Hispanic students learned to teach. First, teachers who are successful in teaching Hispanic students will be identified through a nomination procedure and/or based on criteria for success derived from the synthesis of research described under 2.1a. Then, focus group interviews will be held with those teachers to learn about the broad range of experiences that best prepared them to teach Hispanic students, including teacher preparation, university coursework, life experiences prior to teaching, mentoring, learning from students, learning from the community, and professional development. This study will conceptualize "learning to teach" broadly in order to capture significant forms of professional learning that may not emerge in studies that focus specifically on teacher preparation or professional development, but that have implications for recruiting, preparing, and supporting teachers.

c. Survey of Practicing Teachers Regarding their Preparation to Teach Hispanic Students

This study will seek to produce a snapshot of how teachers are being prepared to teach Hispanic students. A sample of practicing teachers will be selected to reflect multiple grade levels, geographic locations, and subject areas and to include both teachers who were prepared through traditional programs and who entered teaching through programs of alternate routes. This sample will be surveyed to learn about the type of preparation they received for teaching Hispanic students, and to what extent they feel prepared to teach both English-proficient Hispanic students and ELLs. The findings will be reported for the entire sample and for different groups of teachers. Special attention will be given to comparisons between those who completed traditional programs and those who completed alternative routes to teaching.

d. Survey of Pre-service Teacher Preparation Providers

There is evidence that teacher preparation programs are beginning to give more attention to preparing teachers to teach ELLs, although this evidence consists mostly of

case studies and program descriptions. We know very little about how programs prepare teachers to teach Hispanic students who are not ELLs. This study will address this gap in our knowledge. Providers of pre-service teacher preparation from both traditional and alternate routes programs will be surveyed to learn about how they prepare candidates in their programs to teach Hispanic students (including ELLs), and the types of professional development they themselves need (or have engaged in) to deliver such preparation.

Appendix A: Participants in the Agenda Setting Conferences

September 11-12, 2007
University of Houston Downtown
Houston, TX

Student Success and Engagement in and outside of Classroom Settings
Amaury Nora, University of Houston-Downtown, Chair
Jeanett Castellanos, UC Irvine
Alberta Gloria, University of Wisconsin, Madison
Catherine Horn, University of Houston
José Jaime Rivera, Universidad de Sagrado Corazon

Transforming Institutions: Making HSIs Stellar Teaching and Learning Communities
Jose Luis Santos, UCLA, Chair
Jorge Chapa, University of Illinois, Urbana Champaign
John Moder, HACU
Vasti Torres, Indiana University

Graduate and Undergraduate Student and Faculty Success and Engagement in Science, Technology, Engineering and Mathematics (STEM) Fields
Jose Mestre, co-Chair, University of Illinois, Urbana Champaign
Carlos Rodriquez, co-Chair, AIR
Ricardo Duran, UC Santa Barbara
Manuela Romero, University of Wisconsin, Madison
Victor Saenz, UCLA

July 16-17, 2008
Montclair State University
Montclair, NJ

Recruiting, preparing, supporting, and retaining more Hispanics in the teaching profession, and ensuring that all teachers are appropriately prepared to teach Hispanic students in elementary and secondary schools
Ana María Villegas, Montclair State University, Chair
Belinda Flores, University of Texas at San Antonio
Ofelia Garcia, Graduate Center, CUNY
Sonia Nieto, University of Massachusetts, Amherst
Pedro Pedraza, Hunter College, CUNY
Pedro Portes, University of Georgia
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