What Universities Still Do Not Understand about Race in America

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This paper contains material, including information taken from interviews, from a forthcoming book by Richard Tapia and Cynthia Johnsonon the status of underrepresented minority students in science, technology, engineering, and mathematics.

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Unless universities make significant changes in the way they look at their relationship to the minority population of the United States, the faculty of the future will look very much like the faculty of the present, which looks very much like the faculty of the past--especially in science, technology, engineering, and mathematics. The awakening may not occur until we reach the point where white males can no longer fill all the positions in science and technology, and there are insufficient numbers of women and virtually no minorities prepared to join their ranks. In fact, if the disconnect between URM and science continues, we will be feeling the effects in other sectors of our society and in our economy well before we deal with the crisis in the university, if that is not the case already.

The Old Solution

Dwindling numbers in the STEM pipeline generally and in the academic pipeline in particular is not a new problem. The old, easy solution was to import talent. The U.S. has reaped enormous benefits from the importation of talent. It is difficult to imagine American science in the middle decades of the twentieth century without the scientists who fled Hitler or those who emigrated for a variety of other reasons to the U.S. between 1900-1950. In the past three decades, we have also imported considerable numbers of faculty of color. (This is not diversity, but more on this later.) And of course, the U.S. is

[1] Material for this paper is excerpted from Richard A. Tapia's forthcoming book on the education of American underrepresented minority students.

fortunate in the fact that large numbers of international students complete their education in this country and often remain here.

However the importation solution is becoming a less and less viable option as other countries strive to keep their talent at home and/or bring scholars back from the U.S. when they complete graduate work here. And just as it is becoming more difficult to import talent, the U.S. is requiring far larger numbers of highly trained scientists and engineers than ever before. Like other nations, we are increasingly dependent on technology and the foundational disciplines that produce it. Science and technology in turn continue to develop in complexity. Whereas in the past many people obtained adequate job training skills in high school or from vocational schools, society now depends on universities to produce the labor force. In the twenty-first century, you can't do science without a bachelor's degree, whether you intend to work in industry, large or small business, medicine, or many other sectors of the economy. We also need large numbers of K-12 teachers with a strong science background.

Ignoring the Obvious

So we have a shortage, and the old solution is no longer viable or adequate to our needs. But we do have resources—the untapped talent of minority Americans; this should mean we have the answer to the problem. We should we welcoming large numbers of minority students into STEM education. But this is not happening. Like a teacher who wants to calls on a favorite when ten other hands are waving in the air, we continue to look the other way, ignoring the potential of large and growing numbers of minority Americans. We have done this year after year. In spite of the social change of the past half-century – from the civil rights movement to affirmative action and a host of

related initiatives intended to right old wrongs and address bias, Hispanic Americans, Native Americans, and African Americans inhabit a separate educational world from the white majority population. Not only are they opting out or dropping out of higher education, particularly STEM disciplines, but there seems to be little concern that the U.S. might be losing valuable talent in critical sectors. Indeed, these minorities are viewed as having little to offer to science and technology.

Hispanic Americans and African Amerilcans represent only PERCENTAGE of the nation's science and math students at universities. And although universities have been active in civil rights advocacy and to a lesser extent, support for equal opportunity and affirmative action policies, things have changed very little within higher education itself--especially graduate education and faculty composition. Of faculty, PERCENTAGE of the STEM professoriate is Hispanic American; PERCENTAGE is African American.

By itself, then, the underrepresentation of minorities in higher education, which leads to their underrepresentation in the educated work force, represents a tremendous waste of talent. And the scale of this waste is increasing as the minority population grows. Industry is clamoring for more scientists and engineers—highly trained ones. They have done the math and are well aware that the new scientific and technological pool will have to be Brown and Black as well as white. Many of them are specifically asking for minorities to hire because their businesses serve a diverse American population and they understand the value of a balanced workforce.

It is simply not possible for universities, on any pretext, not to reach and teach far larger numbers of minority students. If things continue as they are, universities will

deserve to be called “ivory towers,” having lost any claim to relevancy or social commitment. Ironic indeed, given the academy’s prominent role in rights advocacy.

Figures

Only 3.5% of the Hispanic American population and 2.5% of the African American population earned degrees in science, technology, engineering and mathematics in the U.S in 1998. In 1977, the figures were 1.2% for both groups, an increase of only 1.3% for Blacks and 2.3% for Hispanics. For Native Americans, the figures are even worse: 0.4% earned STEM degrees in 1998 compared with 0.2% in 1977. There is a serious attrition problem for these students at both the undergraduate and graduate level.

Hispanics, Blacks and Native Americans make up approximately 30% of the American population, and their numbers are growing.

Minority Students and STEM:

For nearly thirty years, then, we have been at a virtual standstill.[2] To understand why this is so, we have to look at the education process as a whole. When we do, we see that there are problems all along the way, from elementary school children who think they can’t do math to high school seniors counseled into “soft” disciplines and away from

[2] There is general awareness that the situation for minority students in the social sciences and humanities is better. Far more minority students choose social science and humanities majors at the beginning of their academic careers and still others transfer to the humanities at a later point. The explanations advanced for these phenomena range from the more nurturing environment of the humanities to the desire to serve the minority community that draws these students to fields such as social work. However, overall the minority experience in the university is problematic, and it is especially so in STEM. The very nature of STEM fields shows the minority plight in sharp relief, revealing educational deficits, faculty expectations, and the rigidity of thinking that characterizes performance assessment and predictions of success or failure of minority candidates. Additionally, although minority students often find the humanities and social sciences to be a better environment, there is much progress to be made in faculty hiring in these areas as well. The problem of representation has by no means been “solved” in the humanities and social sciences.

science. Of course, this is what spells disaster for minorities in science and math, for these are cumulative disciplines.

And, paradoxically, because so few minorities do science, few minorities do science. STEM disciplines are unknown territory for large numbers of Hispanics and Blacks. Minority students have few role models in STEM. Students who want to do math or medicine may not know how to make the academic choices to support their decisions. The science climate is a new social experience for many of these students. All in all, pursuing a degree in STEM represents an uphill climb for underrepresented minorities. More than fifty years after Brown v. Board of Education, they are educational outsiders. They doubt themselves, and when they overcome self-doubt sufficiently to venture into higher education, they are met with low expectations; their advantages are undervalued; and their probability of failure is exaggerated; they are evaluated by standards developed for a different student population; they find few peers; and there are not many people, including faculty, who understand their challenges and want to talk about them.

Civil Rights, Affirmative Action, and "Stage Three"

Although universities embraced the civil rights movement of the sixties, the nation's academic institutions have a strange relationship with America's minorities. It is reasonable to say that nearly all university professors believe themselves to be without racial or ethnic bias. As we noted above, the university community has maintained a strong role in rights advocacy. In policy at least, they also supported affirmative action and equal opportunity, although reactions to the Hopwood case revealed that support for affirmative action was less wholehearted than that evinced for the dismantling of

segregation law. But at the present time, there is not much energy in evidence on our campuses when it comes to minority issues.

Many majorities thought that ending *de jure* segregation was all that was needed for minorities to begin living the good life. That of course was not the case. The same optimism and naivete surrounded affirmative action. What the majority population was learning is that although ending legal segregation and affirmative action legislation were critically important, they were also basically just stages one and two in the long process of righting very old wrongs and leveling the playing field for historically disadvantaged groups.

Those of us who are minorities knew that the process would take time, and that neither of these two prior stages could with strokes of the pen transform the lives of millions of people. Cultural change is a slow, on-going process. We are now in what could be called the third big stage, working through the problems that are deeply rooted in our society and the races and ethnicities of which it is composed. What better place to do this work that in the university?

But many academics, known for their analytical abilities and problem-solving skills, seem uncharacteristically quiet on the topic of minority problems, or unwilling to become involved in these issues, which they perceive to be outside the scope of their professional responsibilities. They tend to express the opinion that race is a non-issue for them and for their colleagues, and are at a loss to explain why we still have low levels of minority participation in higher education, particularly in STEM. They are generally certain that there is no bias in the system, but unsure of what to do about minority student attrition, and cite these students' often weak academic preparation as a factor in their

performance. Still others feel that these problems, or challenges, should be dealt with before students enter the university. As to their feelings about the university and their profession, faculty are not at all disaffected; they speak with enthusiasm about their research and are generally very satisfied with the academic life. They are unlikely to be involved in outreach or knowledgeable about K-12 education. By contrast, minority students may express reservations about whether they want to become part of the academic world at all.

There are, of course, departments with a good climate for minorities and thriving minority students throughout the country, but all too often these happy situations are serendipitous, depending, for example, on a department chair who works successfully with minority students. There is no guarantee that the next chair will do so.

Institutionalizing change is challenging in an academic setting. There may in fact be considerable resistance to change. For example, in spite of what we have learned about the unreliability of standardized tests in predicting the academic success of women and minorities, teaching faculty strongly uphold the use of standardized tests, and in this issue we have a prime example of the irresistible force of changing demographics meeting the immovable university. As long as standards are invoked, albeit tactfully and indirectly, as a reason for the small numbers of minorities in STEM education, we alienate the minority community.

In other respects, universities are changing rapidly—even in name--, becoming "research universities" or "urban research universities." Institutes, centers, and consortia—where faculty work with other faculty, less often with students— are proliferating. Outreach initiatives and mentoring programs—often directed by staff,

seldom by faculty-- proliferate as well, although the line between K-12 and university education continues to be clearly drawn. There is grant money in helping K-12, but outreach is nonetheless viewed to some extent as a charitable endeavor. In fact, universities are distancing themselves from K-12 education, as if the challenges that exist in these schools had no bearing on their own future.

Universities are increasingly defining themselves as institutes in everything but name. The undervaluation of teaching is by now an old story on our campuses.

American education is on two separate trajectories serving two populations, and this cannot last. Unless universities intend to shut themselves off from half of the population, they need to learn how to reach minority students. We might think about the K-12 teachers' refrain: "You teach the kids you get."

A Third Era in Higher Education

If we can succeed with underrepresented minority students—in other words, if we deal with the third stage of the civil rights movement-- we could also launch the third era in higher education in the U.S. From colonial times through the early years of the twentieth century, colleges were of course mainly for the elite, although the nation's leaders showed considerable wisdom and foresight in also establishing some specialized institutions to meet teacher training needs or serve other populations of students, as in the case of agricultural and mechanical schools.

The second era began with the G.I. bill; education became the great equalizer. The returning soldiers of sixty years ago brought a very different kind of life experience to university classrooms. Many of these students were different in significant ways from the youth who matriculated in the late nineteenth and early twentieth century; they most

likely not have earned a degree without the stimulus and assistance the government provided.

The inclusions of large numbers of students who have a cultural and racial history that defines them in a very different way from the students of the past would create a third era in American education. In many ways, this shift in campus demographics, if it occurs, will parallel the change that occurred with the introduction of the GI bill. Like these students of the 40's, HA and AA when they are present in sufficient numbers will transform the landscape on our campuses.

Clearly, then, when we ask why there are so few minorities on university faculties, we are beginning at the end. The questions begin with the early education of minority students. But some of the answers are to be found in America's universities: in how the university defines itself and views its role in society; how faculty members describe themselves and their professional responsibilities; in academic competition that affects the choices made by administrators and department chairs; and in our faculties' ability to assess potential and nurture talent in students very different from those of the past in significant ways. For the present, most universities are majority enclaves and majorities do not experience race in the way that minorities do— not emotionally, not personally, and not intellectually.

Minorities and Education: Deficits

The greatest problem that minority students face in higher education is poor preparation at all levels.

Much has been said and written about the plight of American public education; it is widely acknowledged that our schools are in need of reform. The problems that beset

these schools have especially serious consequences for minority students, who are nearly always enrolled in public education, and whose families are among the most vulnerable sector of the population, with limited financial resources. Parent levels of education still tend to be low. This means more than not being able to help students with their homework, although that too is a problem. It also means that parents cannot successfully guide their children through the educational process. This is of course a far greater problem when we are talking about higher education. Many minority families are simply not acquainted with higher education. They are not aware of the far greater opportunities open to students with a baccalaureate degree, much less the career options for Ph.D.'s. They are not aware of what has to be done—from selecting the right courses in high school to signing up for the SAT-- to prepare for college. Recent immigrants from Mexico have been schooled in a very different system, one in which parents participate little to not at all. Both students and parents may be limited by weak English language capabilities. An apt analogy for not only Hispanic but African American students is to think of higher education as a foreign land, where the lifestyle and language are different, for in fact they are, from matriculation to commencement. All in all, many minority parents are not able to give their children informed support through the trials of education, trials which all students experience but which may be devastating in their consequences for these students, as Bowen and Bok pointed out in their in-depth study of minorities in higher education, The Shape of the River.[3]

[3] One of those trials for graduate students is often the advisor relationship. Over the years many students have suffered under a demanding professor whose goal seems to be to drive off as many students as possible. The old European model required students to say, "How high?" when the professor said, "Jump." Many of today's faculty members can give examples of these tough masters and the paces they were put through to get their own degrees. Unfortunately, academic "hazing" to weed out the weak still exists. For minorities, this kind of behavior can be unbearable. Hazing is no picnic even without the element of race,

Many public K-12 schools are extending their social mission, providing extraordinary services to students and parents. They have developed tutoring, parent education, and food programs to support families and to create a foundation for education, but resources are limited. Urban schools face daunting problems in staffing alone. They are usually viewed as unattractive work environments, where challenges are great and rewards few and far between. Not surprisingly, recruiting good teachers is a challenge for these schools, as is teacher burnout.

Communities in stress, parents without resources, and under-funded schools have a hard time producing good scholars. So do teachers ill-prepared or unqualified to teach the subjects they are assigned. Even the schools on higher rungs of American education cannot be assumed to be exemplary. An illustration: of the 20,000 high school physics teachers in the U.S., 2,000 were trained in teaching physics. But this is not the place to digress on the condition of American education as a whole. It may be enough to note that foreign graduate students who enter our universities expose by comparison the deficits in academic preparation of many of our students, majority and minority alike.[4]

But while universities and politicians are quick to point out the inadequacies of K-12 teachers and schools for their part in the poor performance of our students, similar performance issues in the academy are rarely ascribed to professors and universities.

Further complicating the situation in STEM is the nature of scientific disciplines, which are cumulative—especially mathematics. A weak math background is hard to correct. It puts students at risk not only in math courses themselves, but in science and

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and many students have been made miserable or chosen to drop out because of it. But adding the element of racial difference (for most STEM faculty are white, still) and it is a recipe for disaster.

[4] To be fair, the caliber of students who come to the U.S. may not be typical for the country of origin. However these students are competing with our best, and coming out on top. They do not need developmental work.

engineering as well. No matter what a student's level of talent, it is nearly impossible to succeed in a doctoral program in mathematics or a math-based field without excellent preparation, and excellent preparation is not the norm for most underrepresented minorities. Other skills related to professional achievement less directly but still significantly (writing, development of arguments, understanding of research methods) are likely to be poorly developed as well in minority students.

Educational deficits, then, loom large as a problem for minority students. And to add insult to injury, attempts to remedy these deficits such as support programs often stigmatize the students enrolled in them. If not carefully designed and implemented—and sometimes in spite of careful design and implementation--these programs are viewed as remedial. Majority students may feel that this additional support is a form of favoritism extended to minorities.

Hispanics and Blacks are, in fact, caught between a rock and a hard place when they try to compensate for their poor preparation. If these programs were designed to bring majority Americans up to the level of their international peers, would they "taint" participants in the same way that programs designed to help minority students have tended to do? Or would they be viewed as "enrichment?" Most likely, a program designed to accelerate the learning of traditional students would carry none of the negative connotations that minority programs do. If minority programs are viewed differently, it is because minorities are viewed differently.

Obstacles

The second set of problems facing minority students are those of racism, bias, and low expectations. It is good to be able to say that most minority students do not

complain of outright racism and bias, but ironically the issue of low expectations is perhaps more acute at the university level than in K-12 and so is the specter of affirmative action--still. Minority students express anger and hurt at the implication that they were admitted to the university as an act of charity and have not earned the right to be there, for that is the attitude they sense in others. The fact that comparatively few minorities do science and math, the existence of programs to bring these students up to speed, and minority performance on standardized tests create a climate of skepticism about the abilities of Hispanics and Blacks..

Critical Race

The third group of problems are the most difficult to address because they deal with the beliefs minority students carry within them. Most white people do not think in terms of race anything nearly as often as minority students do—and certainly not in the same way. Race is on the minds of Hispanics Americans, African Americans, Native American, and Asian students. They think about how they are perceived as minorities, not just as students or individuals.

Minority students often feel that they lead two lives—one personal and individual, the other as a representative of their race: For Hispanic Americans and African Americans, failure carries the terrible risk of failing for all Hispanics or all Black people. It is not difficult to see how the assumption of this symbolic role may adversely affect performance—especially the risk-taking that is so important in creative research. Minority students most emphatically do not want to let their race down and this is a source of inner conflict as they reconcile the demands of their work with their need to

avoid risk. Reassurance from majorities that they do not need to feel this responsibility makes no difference. These feelings are the results of years of negative conditioning and self-doubt, of meeting standards set by people very different from oneself, of alienation from the experience of higher education.

Many university faculty find this deep, constant awareness of race on the part of minorities hard to comprehend—unless they are minorities themselves. They say, "I do not care what color my students are," thinking that the issue of race has been laid to rest. Perhaps it has been—for them. But telling a minority student that the bad old days are over means nothing. Minority youth are still randomly stopped by the police. Harm was done and continues to be done, and minorities are keenly aware of this. They will identify forms of bias that majority people do not observe. They may, in fact, sometimes believe there is prejudice where none exists—or at least, nothing was intended. But their feelings are "real in their consequences," as the sociologist W. I. Thomas put it. It may not occur to a white professor who invites students to her home that an eighteen-year-old African American will be nervous about driving to her house in a comfortable white neighborhood after dark. Because of her life experience, the professor is not thinking in terms of race; she has never worried about being in a white neighborhood at night. The minority view of that situation is conditioned by decades of "clear out before dark."

Weak educational preparation, families who cannot provide informed support and guidance, programs that can stigmatize as well as help, the minority internalization of the experience of race, and thirty years of racial status quo in our universities are formidable problems. Is there anything positive to say?

Approaches that Work

Although we do not have systems in place to address these issues in a coherent manner, and we certainly have no solutions that work in every case for specific challenges, we have collected a good deal of information about what it takes to recruit, retain, and graduate minority scientists.

- New approaches to assessment and re-evaluation of the uses of standardized tests.
- Mentoring
- Establishing critical mass of minority students
- Creating support networks and where student numbers are exceptionally low, creating them across departmental lines.
- Development of a departmental mission statement and plan to ensure faculty commitment

When support programs are implemented successfully, the undergraduate years can be a relatively successful experience for minority students who do make it into higher education.

Graduate Education

For minorities who are often the first in the family to navigate these new waters, points of transition are particularly challenging. Minority students increasingly have friends or relatives who have attended college, but Ph.D. programs are still the unknown. For most minority students, the transition from undergraduate school to graduate education is nearly as significant an adjustment as going from high school to college.

Of course the transition from undergraduate school to a graduate program poses challenges to most if not all students. Graduate study is intense and often characterized by isolation. In fact, isolation is even a worse problem in the humanities, where research

is done individually rather than as part of a team. The relative solitude of graduate school is exacerbated for underrepresented minorities by the fact that graduate minority populations are generally small. It is not unusual for an African American or Hispanic to be the only minority student in a department. Minority students repeatedly cite racial isolation as a problem.

University Culture

University presidents have tremendous influence and power. They are public intellectuals, opinion-shapers, and the primary force for change on their campuses. But most universities are, nonetheless, highly decentralized places. In spite of all that a president can do, without buy-in at the departmental level there will be no real change in how a university supports minority students. Decisions on admissions, graduate student recruitment, hiring, tenure, testing—those activities that lie at the heart of the academic enterprise—all take place within academic departments. The university as a whole may have any number of policies on sexual harassment, equal opportunity hiring, discrimination and so forth, but the department is where the policies are implemented—or not. What we need and need badly are middle-range activities that support minority representation. There is a great deal of politically correct conversation on our campuses, and a great deal of ineffective boiler-plate; neither is helpful in solving the problems minority students face.

We also need to face the fact that educators are not necessarily good communicators, and good communications across cultural lines are essential in reaching minority students. We need to look objectively at the social structure of the university

and the social structure of science in particular as they relate to race and ethnicity. We need to understand that nature and numbers are without prejudice, but human endeavors are not.

The distribution of talent in the world appears to be rather equitable. It is societies that play favorites. When a country does not have a well educated population, it says more about social behavior and institutions than intellect or ability.

Diversity

The full title of this presentation is "Diversity and Underrepresentation: What Universities Still Do not Understand about Race in America." The conflating of these two terms shows how things have changed since the sixties.

"Diversity" was a by-word of an active civil rights movement. But over the past decade and a half, "diversity" has come to signify far less than it once did. "Diversity" has lost its ties to the struggle for equality and become a sort of "culture fair" concept, a lighthearted response to the difficult problem of race in the U.S.

Of course a diverse campus is a good thing. Of course all people should be not only accepted but welcomed. But what about the numbers? Without significant numbers of Hispanic Americans, Native Americans, and African Americans, our universities are diverse in letter but not in spirit. A diverse campus does not mean a campus in which we have one student from every nation, ethnicity, and so forth—good as that may be. It was the problem of underrepresentation that was behind the drive to create a diverse university, but underrepresentation has slipped below the radar. The fact that this could happen says a great deal about universities' lack of commitment to America's Hispanics and Blacks. Hiring a professor from Buenos Aires is not a diversity achievement, hiring

a Chicano from East L.A is. Hiring one black professor and giving him six titles is a new tokenism, not changing the composition of the faculty.

Perhaps we lost interest in creating a truly diverse university because in America we like for things to happen quickly; we are known for that. (All of us, minorities included; Americans are all alike in many ways.) We are known for our impatience with things that take time.

Achieving racial fairness, of course, does take time. It calls for profound change in everyone involved in the process—including minorities. But we cannot afford to lose--or not regain--our momentum. A large segment of the U.S. population is still underserved by colleges and universities.

The challenges are there, but so are the success stories. We have learned a great deal about what works: connecting with K-12 educators; creating minority recruitment programs; new approaches to assessment; the importance of getting critical mass of minority students on campus; establishing minority support groups within departments and also across disciplinary lines—essentially creating for minorities what already exists for majority students: a sense of belonging in education.

A scattering of Hispanics of Blacks on every campus is not representation. We have to keep our eyes on the numbers. Until we see far higher numbers of minorities enrolled in higher education, embarking on graduate study, and represented on our faculties, diversity will be mere window-dressing and universities will have little to do with the world beyond campus. Not just administrations but departments need to commit to this goal and make the mission clear to faculty, students, post-docs, and staff. Otherwise there will be no institutional change, and underrepresentation will persist.

So we must grow and adapt. It would be hard to estimate the harm that will continue to be done to the minority population and to our nation if we remain as we are.