

The Road to Higher Education: Closing the Participation Gaps for Arizona Minority Students



Preparation, Access, Affordability, Achievement

AMEPAC Arizona Minority Education
Policy Analysis Center

A policy analysis center of the Arizona Commission for Postsecondary Education

The Road to Higher Education: Closing the Participation Gaps For Arizona Minority Students

A POLICY REPORT BY:

**The Latina/o Policy Research Initiative in the College of Humanities
The University of Arizona**

José Luis Santos • Amy Scott Metcalfe • Sandra Guillen • Tom Rhodes
for the Arizona Minority Education Policy Analysis Center

Sponsored by AMEPAC

Arizona Minority Education Policy Analysis Center
A policy analysis center of the Arizona Commission for Postsecondary Education
2020 N. Central Ave., Suite 550 Phoenix, AZ 85004-4503
602.258.2435 (tel) 602.228.2483 (fax)
The report is available online at: www.amepac.org

Cover photography courtesy of Kristin Bjorge, R&R Partners

AMEPAC Members 2006

Ralph Romero – AMEPAC Chair

Arizona Department of Education

Geneva Escobedo

Pima Community College District

Dr. David Camacho

Northern Arizona University

Jaime P. Gutierrez

University of Arizona

David Castillo

Inter Tribal Council of Arizona, Inc.

Dr. Steven R. Helfgot

Maricopa County Community College District

Barbara Clark

Motorola, Inc.

Aleena Hernandez

Pascua Yaqui Tribe

Panfilo Contreras

AZ School Boards Association

Edmundo E. Hidalgo

Chicanos Por La Causa

Elisa de la Vara

Fannie Mae AZ Partnership Office

Fred Lockhart

Arizona Private School Association

Dr. Alfredo G. de los Santos, Jr.

(AMEPAC Founder)
Arizona State University

Dr. Louis Olivas

Arizona State University

Dr. Mark Denke

Arizona Board of Regents

Commission Staff:

Dr. April L. Osborn / Carol Williams

Executive Director / Program Administrator

PREFACE

This report contains data that has vast implications for the future of Arizona. It underscores that we continue on a pathway to equal education for a diverse population; yet the destination eludes us. The report exposes work that yet needs to be done to ensure that all children and young adults gain an education and prosper for themselves, their families, and for the benefit of Arizona.

The work of the Arizona Minority Education Policy Analysis Center (AMEPAC), characterized by this study, follows in the footsteps of organizations that for decades have charted a future of equal educational opportunity on behalf of our minority populations. It has been a protracted and arduous journey.

The nation's school integration process began in 1954 with *Brown vs. the Board of Education*; yet, the 1960's and 1970's saw minority students still struggling to find equity in schools. Locally, expectations that all Arizona children can learn and that race, ethnicity, and culture must be respected in the learning process were established through the leadership of organizations such as Arizona's Association of Chicanos for Higher Education, the Greater Phoenix Urban League, and the Arizona Tribal Council. Today, Arizona's communities and community-based organizations continue to advance these expectations.

The policy recommendations in this paper reveal an expanded opportunity for success due to a common desire on the part of a number of organizations for similar outcomes. Uniquely suited for this collective journey are the Governor's P-20 Council, the Arizona Business and Education Coalition, the Center for the Future of Arizona, the Arizona High School Renewal and Improvement Initiative, the Arizona Teacher Education Partnership Commission, the Teacher Quality and Support Committee, the Governor's Council on Innovation and Technology, and of course AMEPAC and its host, the Arizona Commission for Postsecondary Education.

This potential network of partners, each with a statewide perspective, presents economies of scale, opportunities for shared resources, and the promise of scalable solutions. Such a network could undertake the identification and implementation of scalable strategies with measurable outcomes that can be successfully adapted to the local environment.

Assembling this partnership network will leapfrog the state toward its goal of maximizing the educational potential of a rich and diverse population. It is imperative that we act rapidly to move these policy implications from recommendations to actions.

I. TABLE OF CONTENTS

<u>SECTION</u>	<u>PAGE</u>
I. TABLE OF CONTENTS	1
II. EXECUTIVE SUMMARY	2
III. INTRODUCTION	7
IV. RECOMMENDATIONS	9
V. OVERVIEW OF THE STUDY	10
<i>A. List of Figures and Tables</i>	11
VI. ARIZONA'S "PREPARATION GAP"	12
<i>A. Arizona's Minority Students in the K-12 Pipeline</i>	12
<i>B. Minority Success on the Arizona Instrument to Measure Standards (AIMS)</i>	13
<i>C. Arizona's Minority High School Graduates</i>	14
<i>D. High School Eligibility Study: Applying the 2006 Admission Requirements</i>	15
<i>E. Policy Recommendations</i>	17
VII. ARIZONA'S "ACCESS GAP"	18
<i>A. Arizona Minority Students Access to Postsecondary Education</i>	18
<i>B. Postsecondary Education in Arizona</i>	19
<i>C. Input Measure (Access): Total Headcount Enrollment</i>	20
<i>D. Community College Districts</i>	21
<i>E. Arizona Public University System</i>	26
<i>F. Tribal Colleges</i>	28
<i>G. Summary</i>	29
<i>H. Policy Recommendations</i>	29
VIII. ARIZONA'S "AFFORDABILITY GAP"	30
<i>A. Exploring Families' Incomes and their Ability to Pay for Postsecondary Education</i>	31
<i>B. Affordability and Arizona's Public Universities</i>	34
<i>C. Institutional Financial Aid</i>	35
<i>D. Policy Recommendations</i>	35
IX. ARIZONA'S "ACHIEVEMENT GAP"	36
<i>A. Output Measure (Success): Bachelor's Degrees Awarded</i>	36
<i>B. Policy Recommendations</i>	40
X. CONCLUSION	41
<i>A. A New Way of Thinking</i>	41
XI. APPENDICES	43
XII. REFERENCES	44
XIII. LATINA/O POLICY RESEARCH INITIATIVE/AUTHORS/ACKNOWLEDGEMENTS	47

II. EXECUTIVE SUMMARY

If Arizona is going to be successful not only in improving minority access to higher education, but more importantly, minority student success in higher education, a systematic approach needs to be developed. The answers to improving minority access and achievement in higher education requires a holistic view of education as a system as well as an integrated look into the drivers of academic success. Moreover, a conceptual framework to evaluate and interrelate policies is needed before Arizona can seriously expect further improvements in minority access and success in higher education.

A fundamental problem exists with current policies designed to improve minority representation in higher education. Arizona's lack of both a systematic view of the problem and the creation of a framework to evaluate policy ideas are sources of these disappointing results.

The purpose of this paper is to fill in the gap by providing a framework of focus-for academic success to be used to enhance Arizona's approach to higher education policy. This paper provides three valuable resources to the policymaking community.

First, *The Road to Higher Education: Closing the Participation Gaps for Arizona Minority Students* creates a framework for evaluating Arizona minority student postsecondary access and success. This framework can be used by policymakers in the future to evaluate issues against the determinates of academic success. Secondly, through the application of this framework this paper provides a holistic examination of the root causes of minority under-representation at the graduation ceremonies of Arizona's public universities. An under-representation that is even more disturbing in light of Arizona's community colleges' success in attracting minority students into postsecondary education.. Much of the value of this research lies in the provision of a benchmark and objective standards against which to measure new policy ideas.

Finally, this paper identifies policy recommendations to address the underlying conditions that limit minority academic success. While the purpose of the paper is not to produce detailed policy proposals, these proposed ideas should provide the foundation of future policy discussions.

Where We Are Today

Arizona must address the education needs of our minority populations as they will create the foundation of our future work force. Fifty-two percent of Arizona's K-12 enrollment is populated by Hispanic, American Indian, African American, or Asian American children. The number of minority students has grown an astonishing 79 percent from 1990 to 2003. With the growth in the minority population, it seems clear that the ability to educate individuals from varied races, ethnic backgrounds and cultures will become a determinate of the success of both Arizona's education system and the state's economic future.

Successful postsecondary students must be academically prepared for the scholastic rigors of a higher education system. One way to measure preparations is by looking at the percentages of students who are academically eligible for admission to Arizona's three public universities. As described in the "Preparation Gap" section of the report, 20 percent of white students and 33 percent of Asian American students have met the assured status for admission into universities. In contrast, only 11 percent of Hispanic students, 9 percent of African-American students and 6 percent of American Indians were able to achieve assured status. Assured status as defined by the Arizona Board of Regents provides admission to students who are in the top 25 percent of their graduating class and have completed 16 required courses. It is clear that there is a gap between the preparedness in white and Asian students and other minority groups. Until this gap is remedied, students participating in higher education will not reflect the demographic makeup of the Arizona population.

Imagine a goal of the proportional representation where the number of minorities in the state, or in a community, is reflected in the number of the students in postsecondary institutions. Looking at today's

II. EXECUTIVE SUMMARY

community college classrooms, one finds a proportionate number of minority students similar to that of the communities they serve. Unfortunately, proportional representation in Arizona's university system is not being achieved. Hispanic and Native Americans are significantly under-represented in Arizona's four-year universities while Asian Americans are over-represented. The lower cost and less-stringent admission standards found in community colleges impact their higher minority participation rates. In contrast, financial resources and a lack of academic preparation for many minority groups have produced under-representation in Arizona's three public universities. Although the challenge is great, this study provides a framework for addressing the root causes that will help Arizona's minority students succeed in the higher education.

A Framework for Academic Success

The logic of the framework is simple. For students to be successful in higher education institutions, whether they are in vocational schools or elite university programs, they must be prepared for success not only academically, but culturally and financially as well. There are four areas of focus in this holistic approach to improving under-represented student access to higher education. By looking at the gaps between how successful students compare to under-represented groups, approaches for system improvement can be developed.

Preparedness for Postsecondary Education: Prepared students have mastered a rigorous curriculum that allows them to successfully benefit from a higher education. The **"Preparation Gap"** is the gap between the skills students possess after high school and the skills required to succeed in college.

Access to Higher Education: Even if 100 percent of Arizona's high school graduates were academically prepared for higher education studies, not all that should attend would attend. College education is commonly predicted in part by the roles that parents, families and cultural environment play upon students. Students who do not have a supportive environment face more challenges during their higher education years than students who come from family and cultural systems where higher education is an expectation. The **"Access Gap,"** describes non-financial and non-academic impediments to attendance in higher education institutions.

The Ability to Afford: Students may have the grades, the skills and a supportive family structure, but they still may be unable to afford a higher education system. Improving K-12 achievement and convincing parents to support higher education goals of their children will not produce results unless the student can finance their education. **"Financial Gaps"** are the gaps that are created between the students' ability to pay and the cost of financing the education.

Achievement or Degree Completion: The achievement gap provides the measure of the students' ability to succeed and achieve a degree. Students from under-represented groups have unique challenges not faced by traditional students whose economic, academic and social backgrounds have prepared them for success. The **"Achievement Gap"** measures the ability of these students to persist and succeed. It also measures the effectiveness of the support provided by institutions of higher learning to keep these students once they are in the system.

It is important to note that while this research focuses on minority and under-represented populations, the gaps and associated framework provide an effective mechanism for improving achievement among all students regardless of race, gender or economic condition.

II. EXECUTIVE SUMMARY

System Wide Recommendations: Some of the policy recommendations generated in this report are described in terms of the “gaps” they address. In addition to these specific “gap” recommendations, AMEPAC has offered four system wide recommendations that are designed to provide the infrastructure necessary to identify problems and implement state wide strategies if minority access and achievement are to be improved. The combination of the system and gap recommendations provides the first step in developing a comprehensive system of policy proposals.

- 1. Create a single statewide databank to track students from entrance into the educational system through entrance into the workforce in order to evaluate educational outcomes, and to identify and enhance successful pathways for students. The gaps identified in this paper should be monitored throughout this data collection and analysis.**
- 2. Identify a single coordinating structure to develop an educational transitions strategic plan. This plan would identify data-driven, successful pathways into the work force, and into and among private and public postsecondary institutions; set statewide participation goals; and recommend implementation and assessment strategies. Issues considered in the development of this plan include Arizona work-force needs, alignment of standards and entrance requirements across the P-20 system, state demographic trends, racial parity, language acquisition, and institutional and system capacity.**
- 3. Develop new and strengthen existing statewide partnerships and collaborative efforts that seek to bridge and fill the gaps described in this study. These partnerships/ collaboratives will drive the implementation of statewide, successful pathways and transitional supports; thereby increasing both the college-going rates and career success of Arizona students leading to the fulfillment of state economic development needs.**
- 4. Undertake a study to determine what actions by postsecondary institutions facilitate graduation of minority and low-income students and implement these practices statewide.**

Preparation Gap Recommendations: The foundation of the preparation goals is built on the idea that a challenging curriculum combined with high-quality teaching and support can produce students who are prepared for the academic challenges of higher education.

- 1. The Arizona State Board of Education should raise the expectations of Arizona’s K-12 students by setting curriculum standards that require all students complete, in sequence, a common high school core curriculum that aligns with both work and post-secondary education entrance requirements. This curriculum should reflect current high school reforms including four years of English, mathematics, and science. Students should be encouraged to go beyond the standards and pursue accelerated options.**
- 2. This curriculum should be supported by a timely system of assessment and intervention that aids student learning, eliminates educational deficits and responds to individual cognitive development. Assessment and intervention should include development of English language proficiency as well as timely tutoring and relearning options supporting skill development and academic success.**
- 3. The Arizona Department of Education should insure that highly qualified teachers reflecting student diversity with skills in English language immersion techniques, as well as knowledge regarding the language needs and culture of the students, provide instruction in public K-12 schools.**

II. EXECUTIVE SUMMARY

4. **The Arizona Department of Education should implement a statewide, integrated curriculum that informs all K-12 students of career and work-force choices, and supports student/parent planning and action to achieve the required K-12 and post-secondary education for these choices. This program should build upon existing, effective programs and initiatives. Parent education must be a component of the program.**
5. **The Arizona Department of Education should undertake diligent measurement and evaluation of K-12 reform policies and their affect on low-income and minority student performance. This evaluation should shape interventions and support systems to ensure academic success of all students.**

Access Gap Recommendations: The community colleges are a primary access points for many minority students. The “Access Gap” recommendations address the idea that students should be able to move between community colleges and universities with ease. Secondly, AMEPAC believes that institutions of higher education should examine the impact of admission policies, financial aid and other policies on minority students. Specific recommendations include:

1. **The Arizona Board of Regents should implement a policy requiring Arizona’s public universities to admit any student who completes an Arizona community college associate degree including 60 credit hours, and approved general education course work, and lower division credits for a major.**
2. **The State’s community colleges and universities should enhance and improve current programs and practices, as well as identify and implement other research-based best practices that provide a seamless transition from community colleges to universities and into the student’s program of choice.**
3. **The Arizona Board of Regents (ABOR) should maintain the elements of its current admissions policy that provides access to the 50th percentile of Arizona high school graduates (A complete list of ABOR Admission Standards can be found at: http://www.abor.asu.edu/3_for_students/admin_stds.html.)**
4. **The Arizona Board of Regents should undertake a study to investigate the impacts of recent university admission, student financial aid, and tuition policies on postsecondary access and success for low-income and minority populations, and adjust the policies to increase minority student access.**

Affordability Gap: Academically well-prepared students will not realize their full educational potential if the financial barriers seem insurmountable. AMEPAC recommends that Arizona streamline its financial aid system and continually review the impact of tuition and financial aid policies on minority families. Specific recommendations include:

1. **The Legislature should enact a financial assistance program to close the gap between federal financial aid and the total cost of college attendance for low- and moderate-income families to help more students attend and graduate from college. Similar programs in other states should be used as a starting point for such legislation. This program should include aspects of early commitment, program transparency, and simplicity of eligibility criteria to encourage low-income and first-generation families to plan for and participate in college.**

II. EXECUTIVE SUMMARY

2. **Current programs and initiatives should serve as a foundation for a comprehensive statewide student and parent financial literacy program for both K-12 and returning adult students that informs of college costs, introduces the concept of investment, describes availability of student aid, and assists students and families in securing all available dollars to access and complete postsecondary education.**
3. **A study should be undertaken to determine how financial assistance available to Arizona low-income families has changed over time and how this has affected college participation and success.**

Achievement Gap: Adequate preparation and financial assistance are essential steps but do not guarantee persistence and success. AMEPAC recommendations to help minority students succeed once they are in the higher education system include:

1. **The State, as well as public institutions of higher education, should establish realistic goals so that the number of graduates reach parity in terms of race, ethnicity, family income and gender, to the communities they serve.**
2. **Institutions should provide for students a diverse faculty and administration to reflect the ethnic/racial makeup of the community population; setting parity as a hiring goal.**
3. **A study should be undertaken of Arizona postsecondary student persistence rates, graduation rates and work-force outcomes to assist in statewide postsecondary education system planning.**

III. INTRODUCTION

As the citizens of the state of Arizona face the opportunities and challenges of the Knowledge Economy, a college education is more important than ever. Yet, many students in Arizona, especially minority students, are not obtaining the postsecondary degrees necessary to fully benefit from and contribute to a thriving state economy. In addition, the overall “gap” between minority student achievement and non-minority achievement is widening. Upon closer examination, it can be said that several gaps exist along the pathway to higher education

This report identifies four opportunities that are closely linked and interrelated to each other for “policy bridges” that could span the chasms facing minority students in Arizona: a “**preparation gap**,” an “**access gap**,” an “**affordability gap**,” and an “**achievement gap**.” These main areas of inquiry are conceptualized as follows:

Preparation is the level of readiness needed to perform college-level work. For this report, preparation is estimated by using the results from the 2004 Arizona Instrument to Measure Standards (AIMS) exam and the Arizona Board of Regents (ABOR) High School Eligibility Report. In choosing these indicators we were interested in knowing if students are meeting the state standards for a high school diploma. The results from the AIMS provide us with a look at the level of preparedness and are simply one measure of overall academic preparedness. Another measure of preparation, insofar as preparation for entrance into Arizona’s four-year public universities, is the High School Eligibility Report that was commissioned by ABOR. This report provides us with an estimate and a gauge for the proportion of high school students that will meet the new Fall 2006 public university system admission standards. More to the point, it provides us with a racial/ethnic distribution of such eligibility.

Access is considered an input measure to a cross-section of postsecondary education institutions in the state. Access is measured by examining the enrollment rates at the various institutions in Arizona. Private postsecondary education institutions were excluded from the analysis because we were unable to obtain enrollment data broken down by racial/ethnic groups. Even if students graduate from high school, they still need to meet the admission requirements, apply, and get accepted into a postsecondary institution. For this reason, it is important to know what institutions under-represented minorities are attending.

Affordability is measured by the average family income and the percent share that must be used for net college costs — tuition, room and board minus financial aid. It is crucial to understand if Arizona’s minority students can afford to pay for college. Therefore, affordability is an indicator as to the financial ability of minority students to pursue a college education — hence, access to postsecondary education.

Achievement is considered an output measure and indicated by university graduation rates. Degree attainment is a critical indicator for minority education. We recognize that achievement can be viewed as multidimensional and due to limitations in data gathering we chose to focus our achievement measure on graduation rates.

A primary goal of this report is to provide a systemic understanding of minority participation in Arizona’s postsecondary education system in order for policymakers and state leaders to use this information to begin shaping state education policy that can advance the opportunities to achieve equitable educational outcomes for students in Arizona. Nearly half of Arizona’s minority students drop out of the educational system before achieving a high school diploma (IDRA, 2002). Thus, the “preparation gap” that exists between K-12 education and postsecondary education is substantial and is often due to factors related to the socio-economic status of the student, underachieving schools, and individual characteristics. Regardless of the cause, this preparation gap directly contributes to the postsecondary “access gap” for minority students. As such, the state of Arizona ranks 48th in college participation nationally (NCES, 2000). Racial/ethnic minority students are not the only student population that faces barriers to college; students who are the first in their families to attend college and from low-income families also face challenges making their way through the educational system.

III. INTRODUCTION

Of the students who are eligible for entry to college, rising costs of postsecondary education remain a formidable obstacle. Among minority and low-income Arizonans, the “affordability gap” is widening as tuition increases throughout various levels of postsecondary education have considerably outpaced inflation in recent years due to aggressive tuition setting policies. For this reason, it is necessary to closely evaluate the impacts of admission and tuition policies on Arizona’s families vis-a-vis the state’s role in providing adequate need-based financial relief. Some students will be “priced out of the market” for their education institution of choice while others will be forced to discontinue their postsecondary studies before degree completion due to rising costs compared to their ability to pay for higher education. As such, the “affordability gap” affects the depth of the “access gap” and the “achievement gap” for students in Arizona.

Finally, minority students who enter college and manage to find ways to pay the cost of attendance face yet another hurdle. Postsecondary completion for minority students is very low when compared to non-minorities. The “achievement gap” is perhaps the most tragic of all the chasms along the pathway to higher education. Many minority college students have already been successful in the face of adversity, yet they often do not leave the system with a degree in hand, even after many years of hard work. More research needs to be done to better understand the reasons why some minority students leave college without a degree. Although better off than those students who have had no college coursework, students who drop out of college earn less than those who complete a degree, and some may have student loans to repay without the benefit of a higher salary base. Therefore, minority degree completion is a critical measure of equity and success in Arizona’s educational system as the disparities are far-reaching and long-lasting.

Estela Bensimon (2003), a scholar on equity in higher education, notes that “equity involves educational results as well as opportunity.” We use Bensimon’s basic premise on parity that includes performance accountability metrics for minority student participation and success as a central component of the oversight of public education institutions. These measures would inform policymakers how well our institutions are doing at equitably educating and graduating the citizens they are charged to serve.

Arizona is currently experiencing a population boom. The percentage of minorities in the state is growing rapidly, which can be seen in the enrollment patterns in Arizona’s K-12 system. While growth in the number of individual students is important and shows steady progress, measuring “representation” is a much better indicator of the equitable distribution of educational opportunity. We have chosen this approach because it is a straightforward concept: simply, how representative are the state’s public postsecondary institutions in admitting and graduating the population they are charged to serve — the citizens of Arizona?

IV. RECOMMENDATIONS

Members of the Arizona Minority Education Policy Analysis Center (AMEPAC) make the following macro recommendations to close the gaps: preparation, access, affordability and achievement.

1. Create a single statewide databank to track students from entrance into the educational system through entrance into the workforce in order to evaluate educational outcomes, and to identify and enhance successful pathways for students. The gaps identified in this paper should be monitored throughout this data collection and analysis.
2. Identify a single coordinating structure to develop an educational transitions strategic plan. This plan would identify data-driven, successful pathways into the work force, and into and among private and public postsecondary institutions; set statewide participation goals; and recommend implementation and assessment strategies. Issues considered in the development of this plan include Arizona work-force needs, alignment of standards and entrance requirements across the P-20 system, state demographic trends, racial parity, language acquisition, and institutional and system capacity.
3. Develop new and strengthen existing statewide partnerships and collaborative efforts that seek to bridge and fill the gaps described in this study. These partnerships/collaboratives will drive the implementation of statewide, successful pathways and transitional supports; thereby increasing both the college-going rates and career success of Arizona students leading to the fulfillment of state economic development needs.
4. Undertake a study to determine what actions by postsecondary institutions facilitate graduation of minority and low-income students and implement these practices statewide.

V. OVERVIEW OF THE STUDY

The purpose of this study is to provide a framework and benchmarks for understanding minority participation in the postsecondary education system in Arizona using a basic proportional metric outlined by Estela Bensimon (2003) and Donald Heller (2005). It is necessary to have a mechanism to address the systemic factors that impact minority under-representation in higher education as well as a system to address the state of Arizona's progress toward improving the educational outcomes for minority students. Much of the educational policymaking of the state has been made in an isolated fashion which has implications for minority access to higher education. Policymakers can use this study to develop a cohesive statewide policy approach to evaluate the impact of their decisions on the state's minority populations and to inform policy making in order to improve the overall educational outcomes for minorities in Arizona.

While no formal state-wide accountability system is currently in place, we use previously collected data in this report to serve as proxies for preparation, access, affordability and achievement in order to provide a "snapshot" of minority participation in the state of Arizona. A systematic approach for understanding minority postsecondary participation should be created in order to ensure that all students in the state of Arizona have the opportunity to enter and succeed in some form of postsecondary education. There are many "gaps" between minority and non-minority students, as well as gaps among socio-economic status, in Arizona. These gaps — preparation, access, affordability, and achievement — are illustrated in separate sections of this report.

Limitations of the Study

This study has several limitations that should be noted. First, we examined participation rates at public postsecondary institutions and did not analyze data from the private institutions as we were unable to gather such data to include this sector in the analysis. Second, we presented the graduation rates from the three public universities as reporting graduation rates from the community colleges would have extended this discussion to outcomes that go far beyond the scope of this study. Also, we were unable to provide graduation rates for the private postsecondary institutions due to the lack of data. As a result of the data that was and was not available, this report has an inherent bias towards public four year universities.

Notwithstanding the limitations, this study adequately addresses the four gaps. Moreover, an important set of facts are revealed as a result of this undertaking: 1) data for Arizona's private institutions are not accessible for researchers and policy-makers; 2) we cannot know the full extent of the four gaps addressed in this report without having a central data repository whereby participation and graduation rates from all sectors of postsecondary education can be readily and publicly available; and 3) without a systematic way to collect and interpret data for Arizona's postsecondary education system, it is very difficult to advance any set of policy options for desirable policy outcomes. In short, Arizona's private postsecondary education institutions are part of the solution.

V. OVERVIEW OF THE STUDY

LIST OF FIGURES AND TABLES

FIGURES

<u>Figure #</u>	<u>Description</u>	<u>Page</u>
1a	Arizona Enrollment Trends: Grade Level K-12 by Ethnicity, Fall 1990-Fall 2003	13
1b	Arizona High School Graduates by Ethnic Group, 2000-2002	15
1c	Percent of 2002 Arizona High School Graduates Eligible for Admission to the Three Public Four-Year Universities under Assured and Delegated Status by Ethnicity	16
2a	Arizona Postsecondary Enrollment Distribution by Sector	19
3a	Arizona Families' Share of Income Needed to Pay for Net College Costs for Postsecondary Education by Sector	32
3b	Arizona Low- and Middle-Income Families' Share of Income Needed to Pay for Net College Costs for Postsecondary Education by Sector	33
3c	Arizona University System, Resident Undergraduate Tuition and Mandatory Fees	34
4a	Arizona's Educational Pipeline	36

TABLES

<u>Table #</u>	<u>Description</u>	<u>Page</u>
1a	Percentage of Arizona High School Students who met AIMS Academic Standards, 2004.	14
2a	Maricopa Community College District, Total Headcount Enrollment and Percent from Parity by Ethnicity, Fall 1994 and Fall 2003	21
2b	Pima Community College District, Total Headcount Enrollment and Percent from Parity by Ethnicity, Fall 1994 and Fall 2004	22
2c	Coconino Community College District, Total Headcount Enrollment and Percent from Parity by Ethnicity, Fall 1994 and Fall 2004	22
2d	Yavapai Community College District, Total Headcount Enrollment and Percent from Parity by Ethnicity, Fall 1994 and Fall 2004	23
2e	Cochise Community College District, Total Headcount Enrollment and Percent from Parity by Ethnicity, Fall 1995 and Fall 2004	23
2f	Mohave Community College District, Total Headcount Enrollment and Percent from Parity by Ethnicity, Fall 1994 and Fall 2004	24
2g	Northland Pioneer College, Total Headcount Enrollment and Percent from Parity by Ethnicity, Fall 1995 and Fall 2004	24
2h	Arizona Western Community College, Total Headcount Enrollment and Percent from Parity by Ethnicity, Fall 1994 and Fall 2004	25
2i	Central Arizona College, Total Headcount Enrollment and Percent from Parity by Ethnicity, Fall 1994 and Fall 2003	25
2j	Eastern Arizona College, Total Headcount Enrollment and Percent from Parity by Ethnicity, Fall 1994 and Fall 2003	26
2k	The University of Arizona, Total Undergraduate Headcount Enrollment and Percent from Parity by Ethnicity, Fall 1994 and Fall 2004	26
2l	Arizona State University, Total Undergraduate Headcount Enrollment and Percent from Parity by Ethnicity, Fall 1994 and Fall 2004	27
2m	Northern Arizona University, Total Undergraduate Headcount Enrollment and Percent from Parity by Ethnicity, Fall 1994 and Fall 2004	27
2n	Arizona University System, Total Undergraduate Headcount Enrollment and Percent from Parity by Ethnicity, Fall 1994 and Fall 2004	28
3a	Arizona Families' Average Family Income by Quintiles	31
3b	Arizona's Families' Ability to Pay Percentage Change in the Last Decade	34
4a	The University of Arizona, Baccalaureate Degrees Awarded	37
4b	Arizona State University, Baccalaureate Degrees Awarded	37
4c	Northern Arizona University, Baccalaureate Degrees Awarded	38
4d	Arizona University System Summary, Baccalaureate Degrees Awarded	39

VI. ARIZONA'S "PREPARATION GAP"

Why in 2002 did only 6% of American Indian, 11% of Hispanic, and 9% of African American high school graduates meet the assured admittance requirements for Arizona universities?

Academic preparation in the educational pathway continuum is a significant and powerful predictor as to whether or not a young person chooses to attend a postsecondary education institution and whether or not that person can be admitted to the institution of choice. How well Arizona's students are prepared for postsecondary education coursework is an important question that must be addressed in the context of new and more rigorous admission standards at the three public four year universities and the context of costly remedial education at the community colleges. The policy relevant question that this gap analysis seeks to address is what proportions of students currently enrolled in secondary education meet or exceed levels of preparation that will allow them to meet the three public universities impending minimum admission requirements (Fall 2006).

This section reports data regarding minority enrollment trends in K-12 education in Arizona, recent high school graduation numbers by ethnicity, and information regarding minority student success on the Arizona Instrument to Measure Standards (AIMS) test.

Arizona's minority students are not on an even playing field when it comes to preparation for postsecondary education.

- Cabrera et al. note that the likelihood of a student entering college rests on three critical tasks: having minimum college qualifications, graduating from high school, and applying to a postsecondary institution (Cabrera et al., 2001). At present, Arizona's minority students are not achieving these tasks, as data presented in this section indicates.
- A factor known to affect college attendance is having at least one college-educated parent (Hamrick & Stage, 2004; McDonough, 1997), a status not held by a large number of Arizona's "first generation" minority students.

Without parental familiarity with postsecondary education and the cycle of college preparation, Arizona's minority students are dependent upon the public education system to guide them toward higher education. As such, minority students often face the burden of overcoming social barriers to college entrance coupled with a lack of academic preparation.

A. Arizona's Minority Students in the K-12 Pipeline

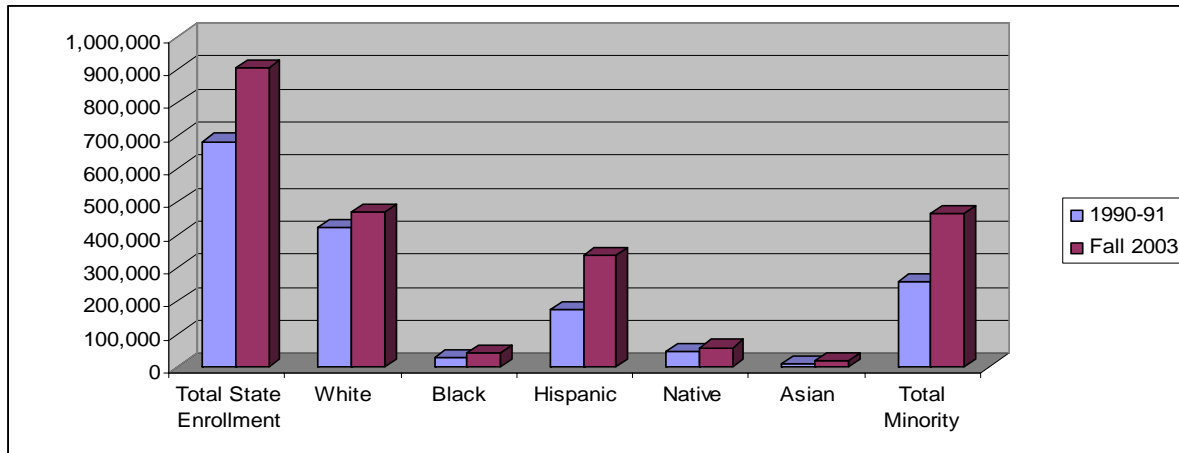
According to the *Knocking at the College Door, December 2003: Projections of High School Graduates by State, Income, and Race/Ethnicity* (WICHE, 2003) the South and the West are experiencing a surge in the school-aged population. The number of high school graduates in public and non-public schools is projected to rise from 51,644 in 2001-02 to 80,274 in 2017-18, a 55% increase. Under-represented racial/ethnic groups will account for over half of all public high school graduates. In the same time period the Hispanic population is expected to rise from 12,320 to 32,772, a 166% increase, making up the largest share of the total under-represented racial/ethnic groups.

In Arizona, the dramatic demographic shift is already occurring. The percentage of minorities in the state is growing rapidly, which can be seen in the enrollment patterns in Arizona's K-12 system. According to the Arizona Department of Education, the number of minority students in Arizona has risen 79% from 1990 to 2003. The largest gain in minority students has come from the Hispanic population, with a net gain of 164,903 students (a percent change of 95%) over this time period. In comparison, the percent change for White students has risen just 10%, with a net gain of 44,083 students. See Figure 1a.

VI. ARIZONA'S "PREPARATION GAP"

Figure 1a
Arizona Enrollment Trends: Grade Level K-12 by Ethnicity, Fall 1990-Fall 2003

	Total State Enrollment	White	African American	Hispanic	Native American	Asian	Total Minority
1990-91	683,041	423,666	28,574	174,112	46,381	10,308	259,375
Fall 2003	903,987	467,749	44,646	339,015	59,361	20,216	463,238
Net Gain	247,946	44,083	16,072	164,903	12,980	9,908	203,863
% Change	36%	10%	56%	95%	28%	96%	79%



Source: Arizona Department of Education, Research & Evaluation Section (October 2003)

The Morrison Institute for Public Policy's *Arizona Policy Choices: Five Shoes Waiting to Drop on Arizona's Future* (2001) states that Arizona's fast-growing "Latino population offers the state tremendous promises — and a challenge." Policymakers should reframe this part of the discussion and conceive of this demographic shift as an asset that can be seized upon through effective policy-making.

- The Latino population has surged by 88% in the last decade and now makes up 25% of the state's population and 36% of the state's 18 years and under population (US Census, 1990, 2000)
- Half of the 18 years and under population (K-12) in both Phoenix and Tucson is now Latino — accounting for 85% of the 10-year growth of the 18 years and under population (US Census)

B. Minority Success on the Arizona Instrument to Measure Standards (AIMS) Test

In 1995, the Arizona Department of Education began to discuss a state-wide accountability measure that would assess student learning at various points in the K-12 system. The product of this effort, the Arizona Instrument to Measure Standards (AIMS) test, is expected to be fully administered by 2006, with high school graduation directly tied to successfully passing the exam. To prepare for full implementation of the test, Arizona's high school students have been taking AIMS exams for several years, with alarming results. For example, in 2004 only 31% of Arizona's high school students met the testing standard for mathematics, just 49% met the standard for reading, and only 54% met the standard for writing. The numbers of passing minority students were substantially lower than the overall total. At the current low rate of success, more than half of Arizona's minority students would not be eligible for a diploma. The full results for Arizona's minority students in 2004 are shown in Table 1a.

VI. ARIZONA'S "PREPARATION GAP"

Table 1a
Percentage of Arizona High School Students who met AIMS Academic Standards, 2004

	All	Asian	African American	Hispanic	Native American	White	Other
MATH							
% MET STANDARD	31%	57%	19%	17%	14%	45%	14%
Number tested	98,208	2,175	4,741	36,989	7,588	46,215	500
READING							
% MET STANDARD	49%	64%	40%	31%	28%	68%	32%
Number tested	97,646	2,230	4,816	36,928	7,665	45,440	567
WRITING							
% MET STANDARD	54%	72%	51%	41%	40%	68%	40%
Number tested	94,052	2,218	4,524	34,759	7,174	44,822	555

Source: Arizona Department of Education (2004)

The outcomes of AIMS are especially important since passage of the test will be a precursor to college eligibility (high school graduation) in 2006.

- Most minority students did not perform as well as their White and Asian peers in the math section of AIMS. The outcomes for African Americans (19%), Hispanics (17%) and Native Americans (14%) were lower when compared to Asians (57%) and Whites (45%).
- More Whites (68%) and Asians (64%) met the reading requirement than other minority students. The percentage of African Americans who scored at or above the reading standard was 40%. This is followed by Hispanics (31%) and Native Americans (28%).
- For the writing section, Asians (72%) had the highest percentage of meeting the standard while Native Americans (40%) and Hispanics (41%) were the lowest in the state (68% of Whites and 51% of African Americans met the writing standard).

Understanding who is eligible for admission to the public universities is essential when examining issues of preparation and access to college. At present, an Arizona student cannot enter an Arizona university without a high school diploma or its equivalent.

C. Arizona's Minority High School Graduates

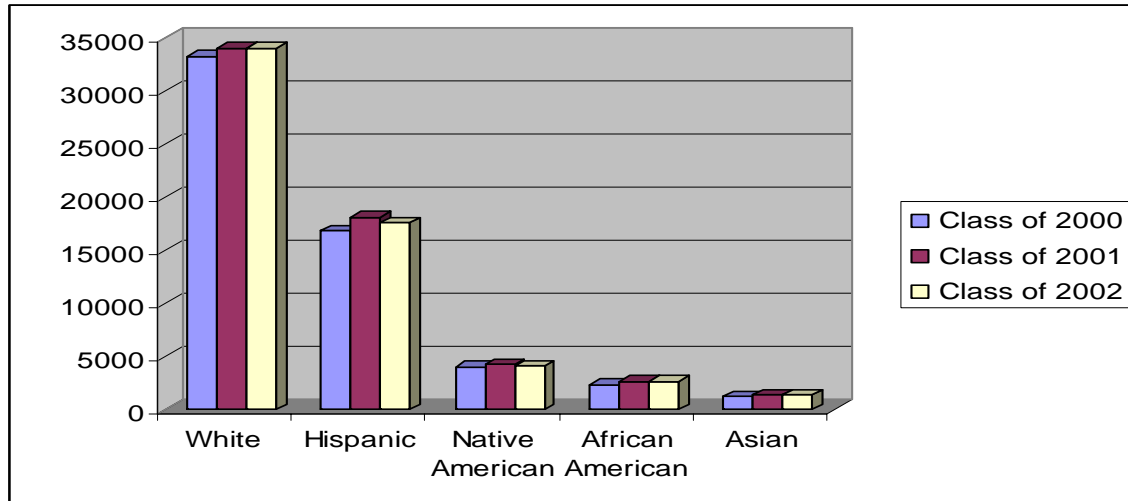
In 2002, 43% of Arizona's high school graduates were minority students. The future of these graduates, however, might not include college attendance due to a variety of factors, including deficiencies in basic skills preparation.

VI. ARIZONA'S "PREPARATION GAP"

Figure 1b
Arizona High School Graduates by Ethnic Group, 2000-2002

Cohort Membership by Ethnic Group, 2000-2002

	White	Hispanic	Native American	African American	Asian	Total
Class of 2000	33,236	16,814	3,968	2,367	1,200	57,585
Class of 2001	34,025	18,089	4,243	2,652	1,358	60,367
Class of 2002	34,002	17,588	4,102	2,693	1,368	59,753



Note: The category "Other" or "Unknown" was not utilized in these studies.

Source: Arizona Department of Education, Graduation Rate Studies (2000, 2001, & 2002)

D. High School Eligibility Study: Applying the 2006 Admission Requirements

Determining the proportion of Arizona high school graduates who are eligible for admission to the three public universities is essential to fully understand the "access gap" to a four-year education, especially in the context of the Arizona Board of Regents (ABOR) "Changing Directions" initiative.¹ This section does not address whether or not the K-12 curriculum is aligned for higher education success; however, such (mis)alignment is part and parcel of understanding the preparation gap.

- In 2003, ABOR requested a study of 2002 Arizona high school graduates to understand the eligibility rates for Arizona high school graduation under current ABOR admission policy and to examine the possible impact of the admissions policy changes that were approved as part of "Changing Directions" (ABOR, 2004).
- The preliminary findings were presented at the ABOR in June 2004 and the results are alarming as those who meet either "assured" requirements for eligibility or "delegated" status vary widely by ethnicity. Notwithstanding the findings of the study, ABOR's new admission policies will take effect Fall 2006.

¹ In August 2002, the Regents launched a higher education reform initiative entitled, Changing Directions. This initiative is based upon the comprehensive review and revision of funding streams and management strategies to strengthen support of instructional, research and financial aid programs for the purpose of increasing student participation and learning, workforce preparation and economic development. As part of this initiative, the admission standards for the three public universities for which it has governing authority will take effect Fall 2006 academic school year.

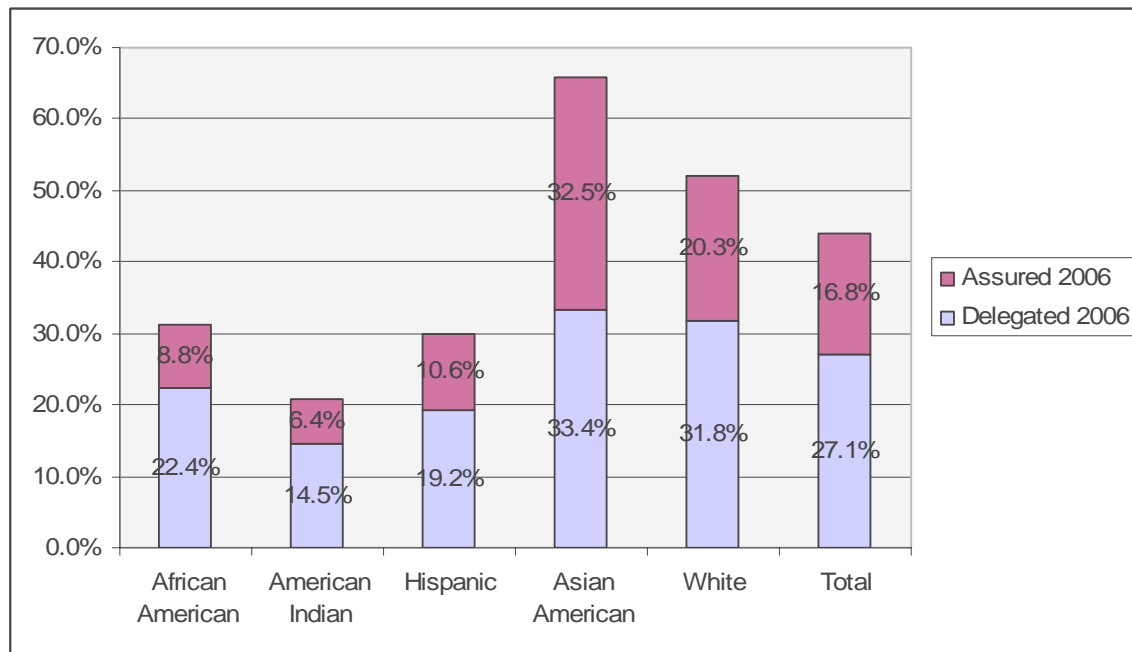
VI. ARIZONA'S "PREPARATION GAP"

Under current ABOR admission policy, it was found that an estimated 43.9% of the Class of 2002 graduates were eligible for admission into the three universities. However, only 16.8% would be admitted under "assured" status as that is the percent of students who met the requirements for assured admittance. Students are "assured" admittance if they are in the top 25% of their graduating class and have completed all 16 of the required competency courses, while "delegated" admittance is for students who are in the top half of their class or have at least a 2.50 grade point average. See Figure 1c. The ABOR admission requirements can be found at:

http://www.abor.asu.edu/3_for_students/admin_stds.html.

- Only 8.8% of African Americans would have met the requirements for assured admittance while 22.4% of them might have been eligible for admittance if they eventually met all 16 ABOR competencies
- Only 6.4% of Native Americans would have met the requirements for assured admittance while 14.5% of them might have been eligible for admittance under "delegated" status
- Asian Americans (32.5%) and Whites (20.3%) have the highest percent of graduates that would have met the assured status

Figure 1c
Percent of 2002 Arizona High School Graduates Eligible for Admission to the Three Public Four-Year Universities under Assured and Delegated Status by Ethnicity



Note: The category "other" or "unknown" was not included in this study. Moreover, transcripts that had missing data were excluded from the analysis.

Source: Arizona Board of Regents (2004)

VI. ARIZONA'S "PREPARATION GAP"

The findings in this section suggest that Arizona minority students are not meeting the minimum standards of the AIMS exam nor having the appropriate academic competencies to apply and enroll in postsecondary education. Preparation is the first component along the continuum since all other factors highlighted in this report must build off this first premise of being eligible to enroll in college. The "preparation gap" that exists between K-12 education and postsecondary education is substantial and is often due to factors related to the socio-economic status of the student, underachieving schools, and individual characteristics. Regardless of the cause, this preparation gap directly contributes to the postsecondary "access gap" for minority students.

E. Policy Recommendations

Members of the Arizona Minority Education Policy Analysis Center AMEPAC make the following recommendations regarding the "preparation gap."

1. The Arizona State Board of Education should raise the expectations of Arizona's K-12 students by setting curriculum standards that require all students complete, in sequence, a common high school core curriculum that aligns with both work and postsecondary education entrance requirements. This curriculum should reflect current high school reforms including four years of English, mathematics, and science. Students should be encouraged to go beyond the standards and pursue accelerated options.
2. This curriculum should be supported by a timely system of assessment and intervention that aids student learning, eliminates educational deficits, and responds to individual cognitive development. Assessment and intervention should include development of English language proficiency as well as timely tutoring and relearning options supporting skill development and academic success.
3. The Arizona Department of Education should insure that highly qualified teachers reflecting student diversity with skills in English language immersion techniques as well as knowledge regarding the language and culture of the students should provide instruction in public K-12 schools.
4. The Arizona Department of Education should implement a statewide, integrated curriculum that informs all K-12 students of career and workforce choices and supports student/parent planning and action to achieve the required K-12 and postsecondary education for these choices. This program should build upon existing, effective programs and initiatives. Parent education must be a component of the program.
5. The Arizona Department of Education should undertake diligent measurement and evaluation of K-12 reform policies and their affect on low-income and minority student performance. This evaluation should shape interventions and support systems to ensure academic success of all students.

VII. ARIZONA'S "ACCESS GAP"

Access to postsecondary education can be thought of as a notion of who and by what magnitude have access to Arizona's postsecondary education institutions. The "who" part is addressed by examining who is attending the various sectors of postsecondary education. The "what" part is addressed by analyzing the market share of various student populations across various types of postsecondary institutions. The access gap is critical for effective policy-making as it is a critical and measurable "input" for creating an educated citizenry and a workforce that can meet the demands of the Knowledge Economy.

In Arizona, there is no meaningful way to capture the level of access to postsecondary education beyond basic and standard headcount enrollment (input) reports. This form of reporting is inadequate for determining whether or not Arizona's postsecondary education system is adequately serving its constituency. More to the point, a state-level report for measuring whether or not Arizona's minorities are adequately represented in its postsecondary education vis-a-vis their representation in the general population does not exist — a report that is essential for assessing how equitable postsecondary education is in Arizona thereby allowing policy-makers to put forward as a policy goal a representative and equitable postsecondary education system. As a result, in this section we seek to provide a basic framework for understanding how representative various sectors of postsecondary education are with respect to Arizona's population bases on various levels of US Census data.

Nationally, minority students do not attend college at the same rate as Whites. Moreover, first generation African American, Hispanic, and Native American youth continue to lag behind the college-going rates of their White and Asian American peers (Tierney & Hagedorn, 2002). Often, college enrollment patterns are stratified by socio-economic status (Perna & Titus, 2004). Among the best prepared young college students, nearly 60% of Latinos attend non-selective colleges and universities², in comparison to 52% of white students. Nearly 66% of high achieving Latinos initially enroll in non-selective institutions (Fry, 2004). This has enormous implications in Arizona as the community colleges and the three public universities have been traditionally thought of as "open door" institutions. Moreover, this has many implications for access as the three public universities move toward more selective admission criteria. In short, under current and non-selective criteria the three universities enroll too few minority students. Under more stringent admission criteria Arizona minority representation at the three universities is sure to decrease unless these students are better prepared downstream in K-12.

This section reports data regarding minority enrollment trends in Arizona's postsecondary institutions with particular attention to minority "representation" in selected postsecondary education sectors. (Note: Data limitations on student ethnicity from private institutions constrain our ability to examine this sector in detail with respect to representation. Nonetheless, aggregate data allow us to show where students seek post-secondary education and training in Arizona). Ten years of enrollment and degree data were compiled. In addition to providing a comprehensive snapshot of where we are now on access and success, time series data allow us to examine progress in minority enrollment and graduation market shares over time. We are interested in understanding the progress that has been made over the last 10 years. In Arizona, the rate at which young people attend college has dropped by 11% in the last decade, according to *Measuring Up 2004*, a national report card on higher education released September 15, 2004 by the independent, nonpartisan National Center for Public Policy and Higher Education. The decline in college participation is a serious concern, as the state is experiencing substantial growth in the number and diversity of high school students.

A. Arizona Minority Students Access to Postsecondary Education

We use Estela Bensimon's basic premise on parity that includes meaningful performance accountability metrics for minority student participation and success as a central component of the oversight of public

² Non-selective institutions do not have rigorous admission standards. The three public universities are considered non-selective or are sometimes referred to as "open door" institutions because the current admission standards are set to admit those students who are in the top 50% of their class that have met certain minimum GPA, and SAT/ACT standards.

VII. ARIZONA'S "ACCESS GAP"

education institutions. These measures would inform policymakers how well our institutions are doing at equitably educating and graduating the citizens they are charged to serve.

While growth in the number of individual students is important and shows steady progress, representation is a much better indicator of the equitable distribution of educational opportunity. We have chosen this approach because it is a straightforward concept: how representative are the state's public postsecondary institutions in admitting and graduating the population they are charged to serve — the citizens of Arizona?

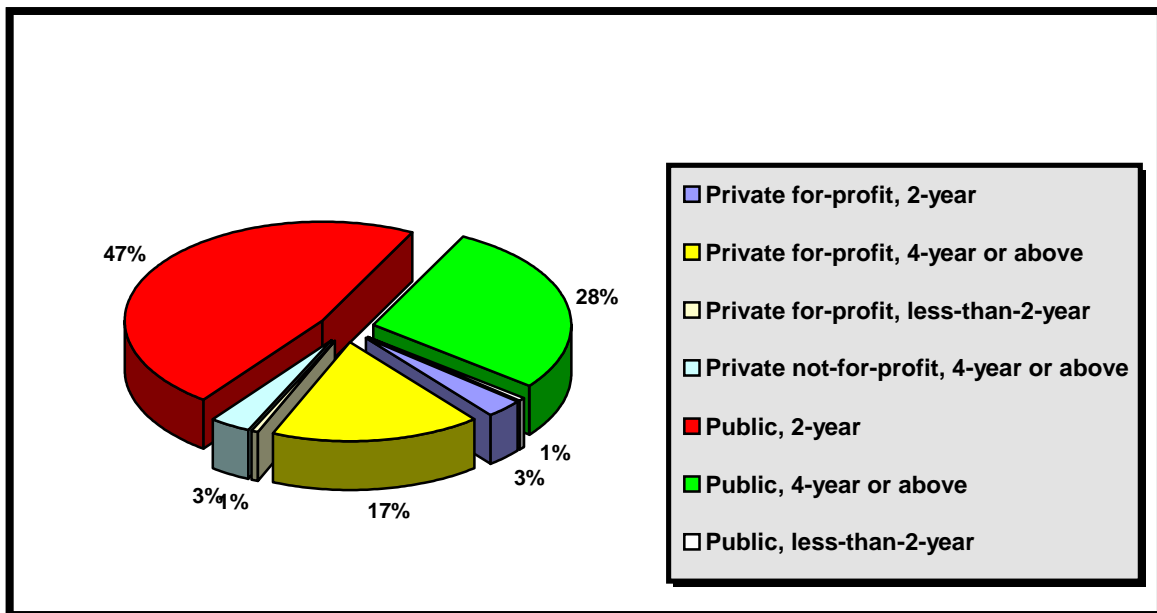
- Are African Americans, Hispanics and Native Americans enrolled and graduating with bachelor degrees at levels comparable to their share of the state's population?
- While we do not claim these two measures as the sole indicators of educational equity, they serve as useful measures of service parity for state education policymakers.

But how close are we to achieving parity — the concept of no divergence in the access of minority and majority students where their percentage of the total equates to their share of the total population? To get at that question, we look at a comparison of market share by ethnicity compared to an established benchmark that is reflective of the area that each postsecondary institution primarily serves. For the community colleges, we use 1990 and 2000 Census data with the *county* ethnicity percentages as the relevant benchmarks. For the three public universities, we use 1990 and 2000 US Census data with the *state* ethnicity percentages as the relevant benchmarks.

B. Postsecondary Education in Arizona

How can we build on community college success in attracting minority students to higher education?

Figure 2a
Arizona Postsecondary Enrollment Distribution by Sector



Source: IPEDS (2002)

VII. ARIZONA'S "ACCESS GAP"

Although limitations exist in gathering enrollment data for the private sectors of postsecondary education, we were able to compile data from the latest Integrated Postsecondary Education Data System (IPEDS) regarding Arizona's postsecondary enrollment distribution by each sector.

According to IPEDS data on enrollment distributions, nearly half of all post-secondary students in Arizona are enrolled in the community college system and over a quarter are enrolled in the 3 public universities with the remaining quarter in private institutions.

C. Input Measure (Access): Total Headcount Enrollment

In assessing access as an input measure we were interested in assessing how far from parity each racial/ethnic student group was from a reasonable US Census benchmark in the population. That is, we wanted to know whether or not any particular group was over or under-represented in a certain postsecondary education sector when compared to its representation in the state or the respective county that it serves as is the case for the community college districts. For example, according to the US Census (2000) Hispanics represent 25 percent of the population. Do Hispanic students in the Maricopa Community College District mirror the US Census benchmark?

In order to examine the proportion of enrollment to each group relative to the underlying population in the state, we combined enrollment data with US Census data at two points in time (1990 & 2000). This relationship was calculated for each racial/ethnic group in the following equation:

$$\frac{(\text{Proportion of enrolled students} - \text{Proportion of county population})}{\text{Proportion of county population}}$$

For example, in Fall 2003, African Americans in the Maricopa Community College District (MCCD) represented 4.9% of the enrolled students, but only 3.5% of Maricopa County's total population. For purposes of this report, we interpreted this to mean that African Americans were over-represented in MCCD by 39%. Similarly, in the same time period Hispanics represented 17.8% of the enrolled students, but represented 24.8% of the county's population, which we interpreted as Hispanics being under-represented in MCCD by 28%. See Table 2a. If a group's representation among enrolled students was equivalent to its representation in the county's population, the ratio is zero which is absolute parity. Additionally, over and under-representation is the percentage variance from parity any given racial/ethnic group is from zero, and allows us to interpret both the direction from parity (negative or positive) and the magnitude of the direction. This methodology is a common baseline methodology that has been employed by several scholars (Bensimon; 2003; Heller, 2005)

A set of tables providing a disaggregated view of access to Community College Districts and the Arizona Public University System are presented in the following sub-sections. (Note: data for private postsecondary education institutions was not readily available and Tribal Colleges are addressed later). We present enrollment numbers, percentage distribution for each racial/ethnic group, percentage distribution for each racial/ethnic group of the county population where the community college district resides. Included in this section, we provide the % from parity or over and under-representation for each racial/ethnic group. Moreover, we present enrollment data that represents two points in time (Fall 1994 and Fall 2004—or otherwise noted due to data availability) in order to assess the change in enrollment representation relative to the change in representation in Arizona's county and state population.

VII. ARIZONA'S "ACCESS GAP"

D. Community College Districts

Maricopa Community College District

Table 2a
Maricopa Community College District
Total Headcount Enrollment and Percent from Parity by Ethnicity, Fall 1994 and Fall 2003

	Fall 1994				Fall 2003			
	Students	% of Total	County Population (1990)	% from Parity	Students	% of Total	County Population (2000)	% From Parity
African American	3,396	3.9%	3.3%	17%	5,859	4.9%	3.5%	39%
Asian American	2,688	3.1%	1.6%	91%	4,238	3.5%	2.1%	68%
Hispanic	10,677	12.1%	16.3%	-26%	21,340	17.8%	24.8%	-28%
Native American	2,271	2.6%	1.5%	72%	3,235	2.7%	1.5%	82%
Other	5,098	5.8%	—	—	14,750	12.3%	—	—
White	63,892	72.6%	77.1%	-6%	70,305	58.7%	66.2%	-11%
Total	88,022	100.0%			119,727	100.0%		

Sources: Maricopa Community College District (2005); US Census (1990, 2000)

Clearly, the numbers of minority students accessing higher education have increased substantially over the last decade at the Maricopa Community College District. For example, the number of Hispanics enrolled district-wide doubled from 10,677 to 21,340. However, this group became more under-represented when accounting for its growth in the county population between Fall 1994 and Fall 2003, 26% and 28%, respectively — an under-representation that has grown rather than improved over the last decade. Other minority student groups garnered numeric gains over the decade as well. However, their parity outcomes paint a different picture. In the case of African Americans, Asian Americans, and Native Americans, their numbers increased while maintaining significant over-representation.

Following established literature, we would expect to find minorities generally over-represented in the community college system, particularly where the proportion of county residents that are served is largely populated by minorities and under-represented in the universities. The Arizona data largely bear out this finding which has been made at a higher level of regional and national analysis; however, this unanticipated finding presents an opportunity for district administrators to investigate the nature of this result.

VII. ARIZONA'S "ACCESS GAP"

Pima Community College District

Table 2b

**Pima Community College District
Total Headcount Enrollment and Percent from Parity by Ethnicity, Fall 1994 and Fall 2004**

	Fall 1994				Fall 2004			
	Students	% of Total	County Population (1990)	% from Parity	Students	% of Total	County Population (2000)	% From Parity
African American	1,025	3.7%	2.9%	26%	1,241	4.0%	2.9%	41%
Asian American	1,091	3.9%	1.7%	130%	1,172	3.8%	2.0%	46%
Hispanic	7,374	26.4%	24.5%	8%	9,257	29.9%	29.3%	2%
Native American	726	2.6%	2.5%	4%	981	3.2%	2.6%	23%
Other	—	—	—	—	696	2.2%	—	—
Non Reported	—	—	—	—	985	3.2%	—	—
White	17,744	63.5%	68.2%	-7%	16,621	53.7%	61.5%	-13%
Total	27,960	100.0%			30,953	100.0%		

Sources: Pima Community College District (2005); US Census (1990, 2000)

Given the composition of Pima County, the Pima Community College District is doing an exemplary job providing minority student access, with all three traditionally under-represented groups above parity. Significant gains were made in African American and Native American representation over the last ten years.

Coconino Community College District

Table 2c

**Coconino Community College District
Total Headcount Enrollment and Percent from Parity by Ethnicity, Fall 1994 and Fall 2004**

	Fall 1994				Fall 2004			
	Students	% of Total	County Population (1990)	% from Parity	Students	% of Total	County Population (2000)	% From Parity
African American	58	1.5%	1.4%	10%	52	1.3%	1.0%	31%
Asian American	68	1.8%	0.8%	126%	60	1.5%	0.8%	95%
Hispanic	361	9.6%	10.0%	-4%	338	8.4%	10.9%	-23%
Native American	487	12.9%	28.7%	-55%	806	20.0%	28.0%	-28%
Other	7	0.2%	—	—	70	1.7%	—	—
White	2,783	73.9%	58.9%	26%	2,695	67.0%	57.6%	16%
Total	3,764	100.0%			4,021	100.0%		

Sources: Coconino Community College District (2005); US Census (1990, 2000)

The Coconino Community College District made significant progress providing access for African American minority students compared with the county population demographics. There was also progress in Native American and Hispanic access, but still lags in Hispanic and Native American representation overall. Hispanic representation has declined considerably over the last ten years and should be investigated by district leadership.

VII. ARIZONA'S "ACCESS GAP"

Yavapai Community College District

Table 2d
Yavapai Community College District
Total Headcount Enrollment and Percent from Parity by Ethnicity, Fall 1994 and Fall 2004

	Fall 1994				Fall 2004			
	Students	County			Students	County		
		% of Total	Population (1990)	% from Parity		% of Total	Population (2000)	% From Parity
African American	38	0.6%	0.3%	124%	65	0.9%	0.4%	151%
Asian American	53	0.9%	0.4%	103%	73	1.0%	0.5%	99%
Hispanic	269	4.5%	6.4%	-30%	400	5.4%	9.8%	-45%
Native American	165	2.8%	1.5%	88%	226	3.1%	1.4%	118%
Non-Resident Alien	1	0.0%	—	—	—	—	—	—
Other	479	8.0%	—	—	883	11.9%	—	—
White	4,975	83.2%	91.3%	-9%	5,733	77.7%	86.6%	-10%
Total	5,980	100.0%			7,379	99.9%		

Note: Fall 2004 "% of Total" does not sum to 100% due to rounding error.

Sources: US Census (1990, 2000); Yavapai Community College District, (2005)

Compared to the composition of Yavapai County, the Yavapai Community College District is doing an excellent job providing access for all minority student groups with the exception of Hispanics.

Cochise Community College District

Table 2e
Cochise Community College District
Total Headcount Enrollment and Percent from Parity by Ethnicity, Fall 1995 and Fall 2004

	Fall 1995				Fall 2004			
	Students	County			Students	County		
		% of Total	Population (1990)	% from Parity		% of Total	Population (2000)	% From Parity
African American	308	7.0%	4.9%	42%	290	6.2%	4.3%	45%
Asian American	179	4.1%	2.2%	88%	152	3.3%	1.6%	105%
Hispanic	1,100	25.0%	29.1%	-14%	1,384	29.8%	30.7%	-3%
Native American	54	1.2%	0.7%	83%	42	0.9%	0.8%	9%
Other	112	2.5%	—	—	255	5.5%	—	—
White	2,650	60.2%	63.0%	-5%	2,527	54.3%	60.1%	-10%
Total	4,403	100.0%			4,650	100.0%		

Sources: Cochise Community College District (2005); US Census (1990, 2000)

The Cochise Community College District continues to do an excellent job providing African American and Native American student access and has improved Hispanic access over the last 10 years to near-parity levels.

VII. ARIZONA'S "ACCESS GAP"

Mohave Community College District

Table 2f
Mohave Community College District
Total Headcount Enrollment and Percent from Parity by Ethnicity, Fall 1994 and Fall 2004

	Fall 1994				Fall 2004			
	Students	County			Students	County		
		% of Total	Population (1990)	% from Parity		% of Total	Population (2000)	% From Parity
African American	29	0.5%	0.3%	61%	41	0.7%	0.5%	30%
Asian American	84	1.4%	0.5%	164%	107	1.7%	0.7%	139%
Hispanic	498	8.6%	5.3%	63%	801	12.9%	11.1%	17%
Native American	202	3.5%	2.1%	70%	165	2.7%	2.1%	27%
Other	—	—	—	—	676	10.9%	—	—
White	4,985	86.0%	91.8%	-6%	4,413	71.1%	84.0%	-15%
Total	5,798	100.0%			6,203	100.0%		

Sources: Mohave Community College District (2005); US Census (1990, 2000)

All minority student groups are above parity in the Mohave Community College District.

Northland Pioneer College

Table 2g
Northland Pioneer College
Total Headcount Enrollment and Percent from Parity by Ethnicity, Fall 1995 and Fall 2004

	Fall 1995				Fall 2004			
	Students	County			Students	County		
		% of Total	Population (1990)	% from Parity		% of Total	Population (2000)	% From Parity
African American	59	1.3%	0.2%	727%	34	0.7%	0.2%	179%
Asian American	31	0.7%	0.1%	395%	34	0.7%	0.1%	434%
Hispanic	379	8.5%	4.2%	100%	388	7.5%	4.5%	66%
Native American	1,216	27.1%	77.0%	-65%	1,669	32.1%	76.4%	-58%
Other	13	0.3%	—	—	269	0.05176	—	—
White	2,785	62.1%	18.4%	237%	2,803	53.9%	17.7%	205%
Total	4,483	100.0%			5,197	100.0%		

Sources: US Census 1990, 2000; Northland Pioneer Community College District, 2005)

All student groups are above parity in Northland Pioneer College in the Navajo County Community College District with the exception of Native Americans. Given the relative proximity of Diné Community College, the below-parity numbers at Northland Pioneer may not be a cause for concern.

VII. ARIZONA'S "ACCESS GAP"

Arizona Western Community College District

Table 2h
Arizona Western Community College
Total Headcount Enrollment and Percent from Parity by Ethnicity, Fall 1994 and Fall 2004

	Fall 1994				Fall 2004			
	Students	County			Students	County		
% of Total		Population (1990)	% from Parity	% of Total		Population (2000)	% From Parity	
African American	207	3.7%	2.6%	41%	184	2.9%	2.0%	46%
Asian American	62	1.1%	1.1%	-1%	104	1.6%	0.9%	89%
Hispanic	2,417	42.8%	40.6%	5%	3,877	60.1%	50.5%	19%
Native American	117	2.1%	1.1%	88%	140	2.2%	1.1%	91%
Non-Resident Alien	—	—	—	—	36	0.6%	—	—
Other	99	1.8%	—	—	144	2.2%	—	—
White	2,747	48.6%	54.4%	-11%	1,965	30.5%	44.3%	-31%
Total	5,649	100.0%			6,450	100.0%		

Sources: Arizona Western College District (2005); US Census (1990, 2000)

Compared to the composition of Yuma County, the Arizona Western Community College in Yuma County Community College District is doing an excellent job providing access for all minority student groups. Moreover, in the ten year period, it has increased access for all minority student groups.

Central Arizona College

Table 2i
Central Arizona College
Total Headcount Enrollment and Percent from Parity by Ethnicity, Fall 1994 and Fall 2003

	Fall 1994				Fall 2003			
	Students	County			Students	County		
% of Total		Population (1990)	% from Parity	% of Total		Population (2000)	% From Parity	
African American	524	3.7%	3.0%	24%	519	4.5%	2.6%	74%
Asian American	99	0.7%	0.4%	86%	92	0.8%	0.6%	44%
Hispanic	3,412	24.1%	29.3%	-18%	3,322	28.8%	29.9%	-4%
Native American	963	6.8%	8.1%	-16%	727	6.3%	6.9%	-9%
No Response	—	—	—	—	415	3.6%	—	—
Other	—	—	—	—	46	0.4%	—	—
White	9,160	64.7%	59.2%	9%	6,413	55.6%	58.8%	-5%
Total	14,157	100.0%			11,535	100.0%		

Sources: Central Arizona College Registrar's Office (2005); US Census (1990, 2000)

Central Arizona College in the Pinal County Community College District has had a noticeable decrease in total enrollments from Fall 1994 to Fall 2003 causing the proportional distribution of its student body to shift. Considering such shifts, African Americans have increased their representation dramatically in large part due to a corresponding decrease in African Americans in Pinal County. Representation for Hispanics and Native Americans also increased in the same time period and are much closer to parity.

VII. ARIZONA'S "ACCESS GAP"

Eastern Arizona College

Table 2j

Eastern Arizona College

Total Headcount Enrollment and Percent from Parity by Ethnicity, Fall 1994 and Fall 2003

	Fall 1994				Fall 2003			
	Students	County			Students	County		
% of Total		Population (1990)	% from Parity	% of Total		Population (2000)	% From Parity	
African American	79	1.3%	1.8%	-24%	139	3.7%	1.8%	107%
Asian American	48	0.8%	0.4%	123%	32	0.9%	0.5%	58%
Hispanic	1,259	21.4%	25.2%	-15%	759	20.3%	27.0%	-25%
Native American	308	5.2%	14.5%	-64%	182	4.9%	14.4%	-66%
Non-Resident Alien	14	0.2%	—	—	19	0.5%	—	—
Other	58	1.0%	—	—	121	3.2%	—	—
White	4,116	70.0%	58.1%	20%	2,479	66.4%	55.2%	20%
Total	5,882	100.0%			3,731	100.0%		

Sources: Eastern Arizona College District (2005); US Census (1990, 2000)

In Annual Year 1996, Eastern Arizona College in Graham County Community College District (GCCCCD) experienced a sharp decline in its part-time enrollment and AY 2001 was the last year GCCCCD served Gila County. As a result, GCCCCD has had a noticeable decrease in total enrollments from Fall 1994 to Fall 2003 causing the proportional distribution of its student body to shift. Considering such shift, African Americans have increased their representation dramatically in large part due to a corresponding decrease in African Americans in Pinal County. Representation for Hispanics and Native Americans also increased in the same time period and are much closer to parity in Fall 2003 than they were in Fall 1994.

E. The Arizona Public University System

University of Arizona

Table 2k

The University of Arizona

Total Undergraduate Headcount Enrollment and Percent from Parity by Ethnicity Fall 1994 and Fall 2004

	Fall 1994				Fall 2004			
	Students	State			Students	State		
% of Total		Population (1990)	% from Parity	% of Total		Population (2000)	% From Parity	
African American	643	2.4%	2.9%	-16%	868	3.0%	2.9%	4%
Asian American	1,403	5.3%	1.4%	274%	1,617	5.6%	1.7%	224%
Hispanic	3,603	13.5%	18.8%	-28%	4,315	15.1%	25.3%	-40%
Native American	517	1.9%	5.2%	-63%	548	1.9%	4.5%	-58%
Non-Resident Alien	877	3.3%	—	—	875	3.1%	—	—
Unknown	476	1.8%	—	—	1,683	5.9%	—	—
White	19,170	71.8%	71.7%	0%	18,747	65.4%	63.8%	3%
Total	26,689	100.0%			28,653	100.0%		

Sources: The University of Arizona Integrated Information Warehouse (2005); US Census (1990, 2000)

The University of Arizona has made excellent progress in African American student access and is now above representative parity for this minority student group. While the number of students has increased

VII. ARIZONA'S "ACCESS GAP"

considerably, Hispanic representative access has declined as enrollment failed to keep pace with the state's surging Hispanic population growth rate. Access for Native Americans has improved over the last 10 years but is still well below representative parity.

Arizona State University

Table 21
Arizona State University
Total Undergraduate Headcount Enrollment and Percent from Parity by Ethnicity
Fall 1994 and Fall 2004

	Fall 1994				Fall 2004			
	Students	% of Total	State Population (1990)	% from Parity	Students	% of Total	State Population (2000)	% From Parity
African American	931	2.8%	2.9%	-4%	1,735	3.7%	2.9%	27%
Asian American	1,304	3.9%	1.4%	174%	2,330	5.0%	1.7%	187%
Hispanic	3,144	9.3%	18.8%	-50%	5,991	12.8%	25.3%	-49%
Native American	634	1.9%	5.2%	-64%	1,071	2.3%	4.5%	-50%
International	1,132	3.3%	—	—	1,203	2.6%	—	—
Unknown	1,001	3.0%	—	—	1,884	4.0%	—	—
White	25,660	75.9%	71.7%	6%	32,456	69.5%	63.8%	9%
Total	33,806	100.0%			46,670	100.0%		

Sources: Arizona State University Office of Institutional Analysis (2005); US Census (1990, 2000)

Arizona State University has achieved tremendous progress in African American access. Despite the large numeric increase in Hispanic numbers, it has failed to make progress in representative parity. Numerical and representative progress has also been made in Native American student access over the last ten years, but is still well below parity.

Northern Arizona University

Table 2m
Northern Arizona University
Total Undergraduate Headcount Enrollment and Percent from Parity by Ethnicity
Fall 1994 and Fall 2004

	Fall 1994				Fall 2004			
	Students	% of Total	State Population (1990)	% from Parity	Students	% of Total	State Population (2000)	% From Parity
African American	180	1.3%	2.9%	-55%	273	2.0%	2.9%	-30%
Asian American	199	1.4%	1.4%	1%	284	2.1%	1.7%	22%
Hispanic	1,190	8.5%	18.8%	-55%	1,440	10.8%	25.3%	-57%
Native American	948	6.8%	5.2%	30%	997	7.5%	4.5%	64%
International	273	1.9%	—	—	242	1.8%	—	—
Unknown	117	0.8%	—	—	273	2.0%	—	—
White	11,111	79.3%	71.7%	11%	9,824	73.7%	63.8%	15%
Total	14,018	100.0%			13,333	100.0%		

Sources: Northern Arizona University Office of Planning, Budget and Institutional Research (2005); US Census (1990, 2000)

Northern Arizona University excels in the representative access of Native American students but lags in its representative access for both African Americans and Hispanics.

VII. ARIZONA'S "ACCESS GAP"

Arizona University System

Table 2n
Arizona University System
Total Undergraduate Headcount Enrollment and Percent from Parity by Ethnicity
Fall 1994 and Fall 2004

	Fall 1994				Fall 2004			
	Students	% of Total	State Population (1990)	% from Parity	Students	% of Total	State Population (2000)	% From Parity
African American	1,754	2.4%	2.9%	-18%	2,876	3.2%	2.9%	11%
Asian American	2,906	3.9%	1.4%	177%	4,231	4.8%	1.7%	174%
Hispanic	7,937	10.7%	18.8%	-43%	11,746	13.2%	25.3%	-48%
Native American	2,099	2.8%	5.2%	-46%	2,616	3.0%	4.5%	-35%
International	2,282	3.1%	—	—	2,320	2.6%	—	—
Unknown	1,594	2.1%	—	—	3,840	4.3%	—	—
White	55,941	75.1%	71.7%	5%	61,027	68.8%	63.8%	8%
Total	74,513	100.0%			88,656	100.0%		

Sources: Arizona Board of Regents (2005); US Census (1990, 2000)

Much of the university system-wide data for representative minority access is a cause for concern among state policymakers; however, African Americans have made major progress over the last ten years and are now above parity. Hispanic representative access has failed to keep pace with the dynamic growth of the state's Hispanic population and as such, is the least representative of the three target minority student groups. Native American access, while improved, continues to lag parity.

F. Tribal Colleges

Nationally, there are 34 tribal colleges and universities serving approximately 30,000 students. Arizona ranks third in the number of Native Americans, 256,000 — just under 5% of the state population, with more than 10% of the national total of nearly 2.5 million Native Americans (US Census, 2000).

Tribal colleges are essential to the aspirations of both their Native and larger state communities. They provide higher education opportunities by serving rural populations with unique cultural needs and economic, employment and educational challenges. Tribal Colleges serve a wide range of students, from young adults to senior citizens, including non-American Indians. In addition to encouraging greater participation by American Indians in higher education, tribal colleges play a vital role in maintaining the unique cultural heritage of their communities. In Arizona, improving higher education access and success for Native Americans is critical to the economic success of the state.

Arizona has two tribal colleges: Diné College with district offices in Chinle located in Northeastern Arizona and Tohono O'odham Community College (TOCC) in Sells located in Southern Arizona.

Diné College currently serves approximately 2,000 students in eight locations throughout Arizona and New Mexico. TOCC opened in 2000 and currently serves about 200 students.

VII. ARIZONA'S "ACCESS GAP"

G. Summary

In this section, much information was provided with respect to access to Arizona's community college districts, the Arizona University System broken down by each of the three universities, and some information on Arizona's Tribal Colleges. Unfortunately, we were unable to provide the same level of data for Arizona's private postsecondary education institutions as it was not readily available. In this section we presented enrollment numbers, percentage distribution for each racial/ethnic group, percentage distribution for each racial/ethnic group of the county population where the community college district resides which allowed us to provide an indicator of how representative access was for Arizona racial/ethnic groups over the last ten years.

In doing so, it was found that Arizona's minorities are largely concentrated in the community college districts in relation to the proportion of minorities in the county where that district is situated. However Hispanics are underrepresented at Maricopa, Coconino, Yavapai, and Cochise community college districts and Native Americans are underrepresented at Coconino and Northland Pioneer community college districts. The three public four year universities and the Arizona University System as a whole tell a different story — one of significant magnitude. Hispanics and Native Americans are grossly underrepresented in the Arizona University System while Asian Americans are significantly over-represented. These findings point to wide variation in access to the Arizona University System.

So why does the broad variation in access to postsecondary education in both the community college system and the public university system exist and widen for certain racial/ethnic groups? Although there are many reasons, we chose to focus our attention on a widely known and significant barrier to access — students and their parents' ability to pay for postsecondary education after need-based aid is considered. Ability to pay is commonly referred to as the affordability of postsecondary education institutions to Arizona's students and their families.

In short, even if students graduate from high school, they still need to meet the institution's admission requirements — a proxy for the quality of their academic preparation, apply and get accepted to that institution, and be able to afford to attend that institution. In the next section, we present information that addresses the gap in affordability.

H. Policy Recommendations

The members of the Arizona Minority Education Policy Analysis Center (AMEPAC) make the following recommendations to improve the "access gap."

1. The Arizona Board of Regents should implement a policy requiring Arizona State's public universities to admit any student who completes an Arizona community college Associate degree including 60 credit hours, and approved general education course work, and lower division credits for a major.
2. The state's community colleges and universities should enhance and improve current programs and practices and other research-based best practices that provide a seamless transition from the community colleges to the universities and to the student's program of choice.
3. The Arizona Board of Regents (ABOR) should maintain the elements of its current admissions policy that provides access to the 50th percentile of Arizona high school graduates (along with limitations on deficiencies and core requirements). A complete list of ABOR Admission Standards can be found at: http://www.abor.asu.edu/3_for_students/admin_std.html.
4. The Arizona Board of Regents should undertake a study to investigate the impacts of recent university admission, student financial aid, and tuition policies on postsecondary access and success for low-income and minority populations, and adjust the policies to increase minority student access.

VIII. ARIZONA'S "AFFORDABILITY GAP"

More than 1/2 of all Latino parents and nearly 1/2 of Latino young adults were unable to name a single source of financial aid.

Why?

Postsecondary affordability in one's state has generally been thought of as a combination of "institutional price, the adequacy of state effort to meet students' financial need, and students' personal or family income" (The National Center for Public Policy and Higher Education, 2003). From a student's perspective, costs of tuition and fees and the availability of financial aid or scholarships all factor into whether or not he/she can afford to attend a postsecondary institution. Moreover, a student can receive all of the preparation necessary to succeed at the postsecondary level and still not be able to afford a college education. As a result, from a policy perspective, if academic preparation is improved significantly as a policy outcome, policy-makers would still fail to significantly increase access if need-based financial aid is not addressed.

We used the following data to assess Arizona's "affordability gap."

- Average family income for various income groups;
- Percent share of various income groups that must be used for net college costs — tuition, room and board minus financial aid;
- Percent tuition increases since academic year 1993-1994 at Arizona's three public universities.

In Arizona, of the students who are eligible for entry to college, rising tuition and related expenses of postsecondary education remains a formidable obstacle. Among minority and low-income Arizonans, the "affordability gap" is widening as tuition increases have outpaced inflation in recent years.

Because affordability can also be thought of as a policy lever to increase opportunity for low-income, first generation, and minority students for whom tuition comes at a high cost, Arizona policymakers should consider the impacts of admission and tuition policies and their linkages in order to insure that Arizona's families can afford postsecondary education. Our research reveals:

- Over the past two decades, changes in state funding, tuition and financial aid have made postsecondary affordability a growing problem. While the average cost of college tuition has risen by 110% over the past 20 years, median family income has risen by only 27% (The College Board, 2001). Moreover, while some state and federal support for financial aid have increased over the past decade, they have not kept pace with tuition increases.
- From 1991 to 2001, the purchasing power of a Pell Grant — the largest need-based financial aid program in the country — decreased by half (The National Center for Public Policy and Higher Education, 2003).
- The popularity of merit-based scholarships also has cut into the amount of funding states devote to need-based financial aid. Between 1981 and 2000, the percentage of aid that states allocated on the basis of need declined from 91% to 78% (The College Board, 2002).
- The amount of borrowing by students of all income levels has also dramatically increased over the last two decades. Since 1980, loans have overtaken grants as the primary form of financial aid for postsecondary students (The College Board, 2001). What is more, those who borrow incur large debts that often are difficult to pay back — especially when students fail to complete their education.
- The rising "sticker price" of postsecondary education, coupled with a decline in need-based aid, places low-income, first-generation, and minority students for whom tuition comes at a high cost in jeopardy of not being able to continue their education at the postsecondary level. Research shows

VIII. ARIZONA'S "AFFORDABILITY GAP"

that poorer students are more sensitive (influences their decision on whether to apply to and attend college) to the price of tuition and the amount of financial aid available (Heller 1997; Leslie & Brinkman 1987; The National Center for Public Policy and Higher Education, 2003). This is particularly important in Arizona as its three public four year public universities had the largest public tuition increase in the nation in academic year 2003-2004 at 40%.

- Research shows that financial aid alone is not sufficient for increasing access to college (Mumper, 1998; Perna, 2000). Moreover, there are significant racial differences in the importance of being offered financial aid when choosing a college (Kim, 2004). That is, White students are more likely to attend their first-choice institutions if they receive grants or a combination of grants with loans. Whereas, Latino and African American students attendance to their first choice was not influenced by financial aid.
- According to the Tomás Rivera Policy Institute (2004), 75% of Latino young adults not currently enrolled in college would have been more likely to attend if exposed to better information of financial aid; more than half of all Latino parents and 43% of Latino young adults could not name a single source of financial aid.

A. Exploring Families' Incomes and their Ability to Pay for Postsecondary Education

According to *Measuring Up 2004*, the state has lost ground in college affordability for Arizona students and families. As higher education becomes less affordable, access is reduced for low-income students. Some may choose not to attend and those who do must assume greater financial indebtedness. In short, the debt burden — the amount of debt Arizona's families have to incur through loans to make up the difference between need-based financial aid and total costs to attend a postsecondary education — shifted to Arizona's poorest families and has dramatically increased.

Arizona families' ability to pay for postsecondary education is largely dependent on what income group to which a family belongs. For example, Arizona's poorest families (20% of the population with the lowest income) earn, on average, about nine and a half times less than the richest families. See Table 3a.

Table 3a
Arizona Families' Average Family Income by Quintiles

Income groups used to calculate 2004 family ability to pay	Average Family Income
20% of the population with the lowest income	\$11,726
20% of the population with lower-middle income	\$26,000
20% of the population with middle income	\$42,000
20% of the population with upper-middle income	\$67,064
20% of the population with the highest income	\$111,342
40% of the population with the lowest income	\$18,863

Source: The National Center for Public Policy and Higher Education (2004)

A common affordability indicator for Arizona's families is the percent of average family income needed to pay for net college costs for attendance at various income levels. (*Note: Net costs equals tuition, room, and board minus financial aid.*)

VIII. ARIZONA'S "AFFORDABILITY GAP"

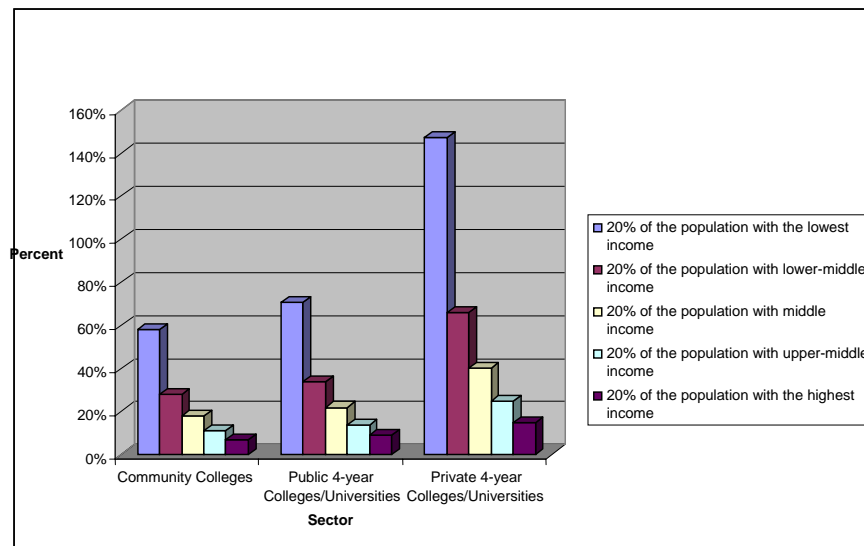
- Net community college costs for the poorest of Arizona families represents 58% of their annual family income to attend community colleges, 71% of their annual family income to attend public four year colleges, and 147%, of their annual family income to attend private four year colleges and universities. See Figure 3a
- For the richest students the opposite is true. That is, for students in the top 20% with the highest income to attend community colleges, public four year colleges and universities, private 4 year colleges and universities represent 7%, 9%, and 15%, respectively, of their family income. See Figure 3a on the following page.

Arizona families who are striving to reach the middle class or stay there face a difficult and often times insurmountable financial barrier for access to postsecondary education.

- Net community college costs for low- and middle-income students represent nearly 40% of their annual family income. For the same students at public four-year institutions and private four-year colleges and universities, net college costs represent 46% and 91%, respectively, of their income. See Figure 3b on the following page.

Moreover, these data only speak to those students who were able to find a way to overcome these financial obstacles. What about those who could not?

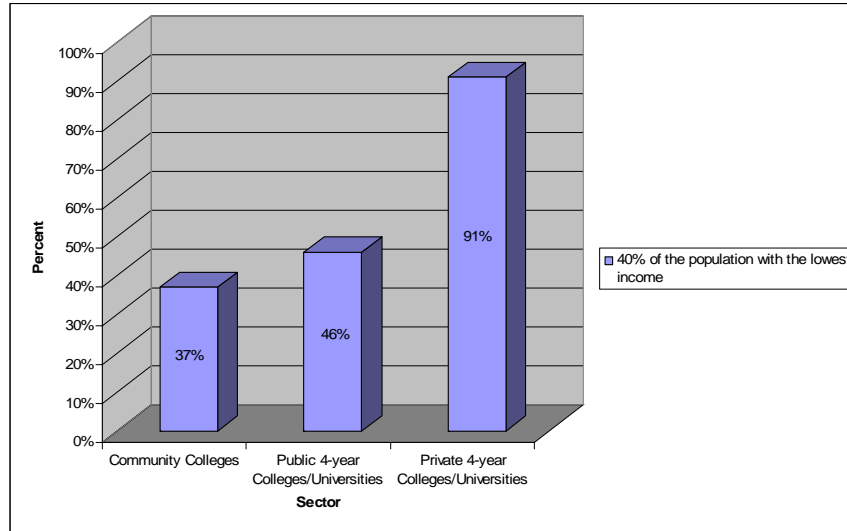
Figure 3a
Arizona Families' Share of Income Needed to Pay for Net College Costs
for Postsecondary Education by Sector



Source: The National Center for Public Policy and Higher Education (2004)

VIII. ARIZONA'S "AFFORDABILITY GAP"

Figure 3b
Arizona Low- and Middle-Income Families' Share of Income Needed to Pay for Net College Costs for Postsecondary Education by Sector



Source: The National Center for Public Policy and Higher Education (2004)

In the span of the last decade, affordability for Arizona's families has declined. Looking at Table 3b, the average debt burden of all income groups has increased for all levels of postsecondary education.

- The average debt burden for community colleges increased from 23 % to 24%, an absolute increase of 4%.
- The average debt burden for public four year colleges and universities increased from 25 % to 30%, an absolute increase of 20%.
- The greatest impact in debt burden was for students attending private four year colleges and universities. At the same time, when the debt burden for Arizona's families has risen in this ten-year period, their reliance on loans has also increased from \$3,128 to \$3,622, an absolute increase of 16%. This is consistent with national trends where students are offsetting their postsecondary costs by incurring more debt.
- Making matters worse is the impact on affordability for the poorest students. In the last decade, the state has virtually absolved itself from its responsibility to provide need-based financial aid relief to its poorest students. Instead, the state relies completely on the federal government and other methods to provide such aid. What is more, the top performing states on this state indicator provide a significant percentage amount of need-based financial aid when compared to the federal government.

VIII. ARIZONA'S "AFFORDABILITY GAP"

Table 3b
Arizona's Families' Ability to Pay Percentage Change in the Last Decade

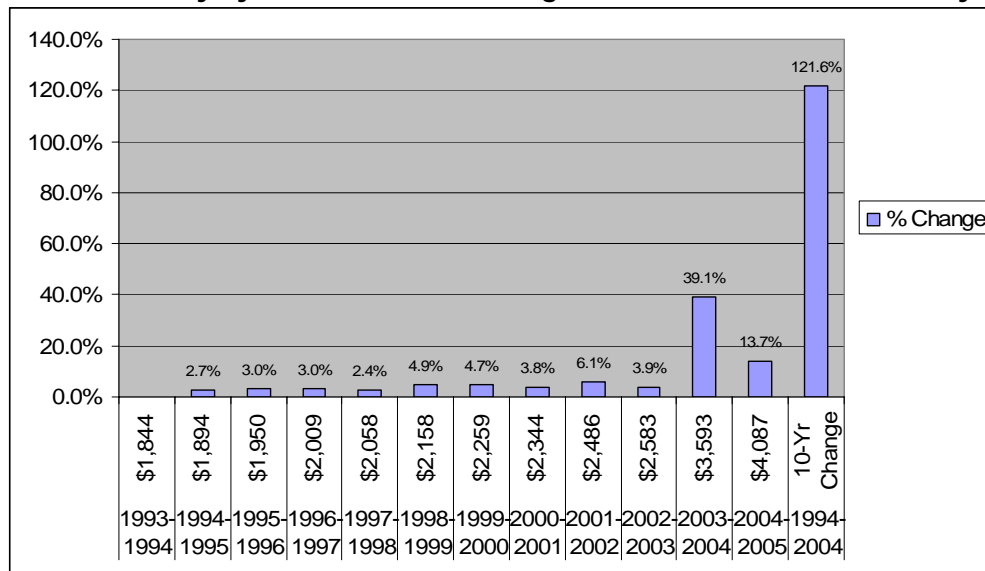
	A Decade Ago	2004	Percent Change	Top States 2004
FAMILY ABILITY TO PAY				
Percent of income (average of all income groups) needed to pay for college expenses minus financial aid.				
Community Colleges	23%	24%	4%	15%
Public 4-year colleges/universities	25%	30%	20%	16%
Private 4-year colleges/universities	44%	58%	32%	32%
STRATEGIES FOR AFFORDABILITY				
State investment in need-based financial aid as compared to the federal investment.				
	2%	0%	-100%	89%
RELIANCE ON LOANS				
Average loan amount that undergraduate students borrow each year				
	\$3,128	\$3,622	16%	\$2,619

Source: Adapted from Measuring Up 2004; Calculations performed by the authors

B. Affordability and Arizona's Public Universities

Arizona's Rising Tuition – Over a ten-year period, tuition and fees for resident students at Arizona's three public universities has steadily grown, with a sharp increase in the last three years. Although the rate of change was small and incremental in the late 1990s, tuition and fees rose 39% in 2003-2004 compared to the previous academic year. While this rise continues into the current academic year, ABOR's Changing Directions guidelines permit the three universities to set differential tuition and fees. As such, the academic year 2004-2005 is the first year that the three universities will have a different cost, although the variation is small at the present time. Figure 3c shows the rise in tuition and fees for resident students at the three universities from 1993-1994 to 2004-2005.

Figure 3c
Arizona University System, Resident Undergraduate Tuition and Mandatory Fees



Note: For AY 2004-2005, The University of Arizona's price of tuition was used. Arizona State University posted a price of \$4,062 and Northern Arizona University posted a price of \$4,072. Source: Arizona Board of Regents (2004)

VIII. ARIZONA'S "AFFORDABILITY GAP"

C. Institutional Financial Aid

State Universities – Institutional Set-Aside Financial Aid

In FY 2004, tuition in the Arizona University System was increased by \$500 per semester, and the institutional set-aside for financial aid was increased to fourteen percent (14%). In FY 2005, the Arizona University System awarded nearly \$184 million in institutional grants (includes Regents Set Aside, Grants, Scholarships, and Waivers. Additionally, \$41 million was allocated to on campus employment (does not include federal work-study). Arizona state funding sources represent less than 1 % of the financial aid distributions from federal, state, institutional, and private sources. This contribution amounts to approximately \$2 dollars per student as compared to other states where the amount is closer to \$600. The issue of affordability is impacted by a State's failure to invest; federal and institutional monies are allocated generally in the same fashion annually. These monies by themselves can sustain only moderately the needs of students (many students have unmet needs). State dollars "fill in the gap" and allow more opportunities for students to attend college at very little present or future cost. Arizona's lack of state funding shows a limited commitment to financial aid for Arizona's universities' students, particularly those with insufficient financial means. In addition, it puts pressure on institutions to generate aid through tuition set-asides and loans, which are clearly less attractive options. This perspective is shortsighted since the economic benefits to the State are immense: increased tax collections, decreased unemployment, less dependence on public assistance programs, and more active civic participation. The cost of reaping these benefits should be shared equally among all entities that benefit, including the State.

Community Colleges – Institutional Financial Assistance

Data for Community College Institutional Financial Assistance was unavailable at the time this report was written.

D. Policy Recommendations

The concept of affordability is important since without financial assistance, many low-income, 1st generation, and minority students may relinquish their college aspirations. This section highlights the ways, mainly raising tuition costs and the families' ability to pay for college, in which education costs may hinder the opportunities for minority students.

The members of the Arizona Minority Education Policy Analysis Center (AMEPAC) make the following recommendations about the "affordability gap."

1. The Legislature should enact a financial assistance program to close the gap between federal financial aid and the total cost of college attendance for low- and moderate-income families to help more students attend and graduate from college. Similar programs in other states should be used as a starting point for such legislation. This program should include aspects of early commitment, program transparency, and simplicity of eligibility criteria to encourage low-income and first-generation families to plan for and participate in college.
2. Current programs and initiatives should serve as a foundation for a comprehensive statewide student and parent financial literacy program for both K-12 and returning adult students that informs of college costs, introduces the concept of investment, describes availability of student aid, and assists students and families in securing all available dollars to access and complete postsecondary education.
3. A study should be undertaken to determine how financial assistance available to Arizona low-income families has changed over time and how this has affected college participation and success.

IX. ARIZONA'S "ACHIEVEMENT GAP"

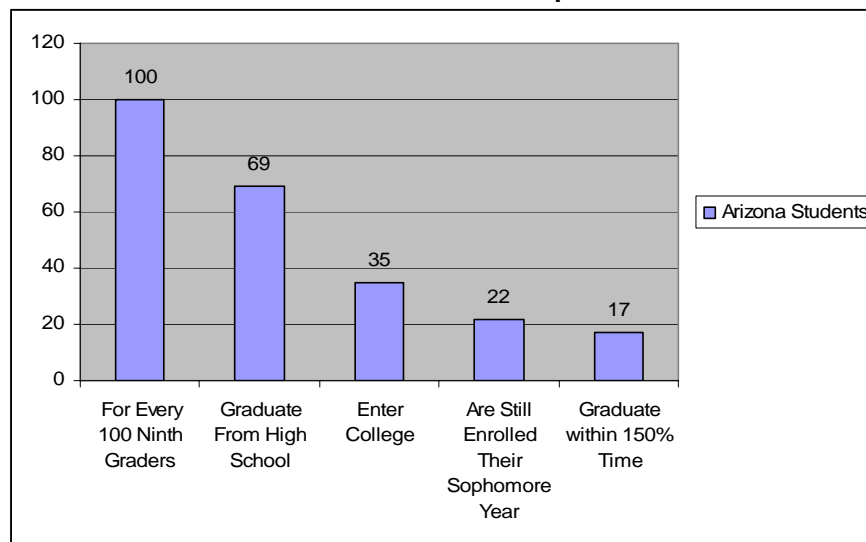
This section reports graduation trends for Arizona's three public universities with particular attention to minority "representation" in baccalaureate attainment.

Success is indicated at the university level by baccalaureate degree attainment. Degree attainment is a critical indicator for the health of minority education in Arizona with broader implications for society as a whole beyond the benefits it confers to individuals. In her initial comments on the proposed university system redesign, Governor Napolitano made it clear that the future economic and social success of Arizona depends on our collective ability to graduate more of our first-generation — largely minority — students.

Ten years of degree data were compiled. The ten-year period provide a comprehensive snapshot of what kind of progress our three public universities have made over time in graduating minority students and what those graduation market shares are over time. Some questions that help guide this section: What progress has been made over the last ten years in Arizona? How far do we have yet to travel?

The White/Latino gap in finishing college is larger than the high school completion gap. (Fry 2004; The National Center for Public Policy and Higher Education, 2004); however, according to *Measuring Up 2004*, Arizona has led the nation in increasing the proportion of students completing certificates and degrees relative to the number enrolled. The state's improvement on this indicator has been primarily in certificates awarded.

Figure 4a
Arizona's Educational Pipeline



Source: www.higheredinfo.org/analyses, accessed March 4, 2005

A. Output Measure (Success): Bachelor's Degrees Awarded

While the percentage of total undergraduate enrollment by ethnicity is an important measure in monitoring representational progress in higher education access, enrollment is an input and close attention needs to be paid to the output — success. What the state most needs to address is Governor Napolitano's goal of graduating more first-generation students as a key to Arizona's future — for minorities to earn more bachelor degrees at rates that approach their share of the state's population demographics.

IX. ARIZONA'S "ACHIEVEMENT GAP"

Using the same methodology employed to assess over and under-representation by various racial/ethnic groups we assess the change of proportional degree attainment. In this case we discuss the divergence from parity in terms of the proportion of degrees awarded to various racial/ethnic groups relative to the proportion of racial/ethnic groups in the state population during the last decade.

Table 4a
The University of Arizona, Baccalaureate Degrees Awarded

	1993-94				2003-04			
	Students	State			Students	State		
		% of Total	Population (1990)	% from Parity		% of Total	Population (2000)	% From Parity
African American	89	1.9%	2.9%	-34%	121	2.3%	2.9%	-21%
Asian American	163	3.5%	1.4%	146%	316	6.0%	1.7%	245%
Hispanic	511	10.8%	18.8%	-42%	800	15.2%	25.3%	-40%
Native American	54	1.1%	5.2%	-78%	75	1.4%	4.5%	-69%
Unknown / Other	225	4.8%	—	—	370	7.0%	—	—
White	3,672	77.9%	71.7%	9%	3,574	68.0%	63.8%	7%
Total	4,714	100.0%			5,256	100.0%		

Sources: The University of Arizona Integrated Information Warehouse (2005); US Census (1990, 2000)

The University of Arizona has made representative gains in all three underrepresented minority groups over the last ten years—African Americans, Hispanics and Native Americans. Unfortunately, all three of these groups continue to be underrepresented at the state's flagship institution. African Americans have made the most progress over the last ten years in achieving higher education success parity at the University of Arizona.

What did Arizona State University do to more than double their number of African American graduates over the past 10 years?

Table 4b
Arizona State University, Baccalaureate Degrees Awarded

	1992-93				2002-03			
	Students	State			Students	State		
		% of Total	Population (1990)	% from Parity		% of Total	Population (2000)	% From Parity
African American	104	1.6%	2.9%	-43%	245	2.9%	2.9%	-2%
Asian American	206	3.2%	1.4%	128%	396	4.6%	1.7%	166%
Hispanic	369	5.7%	18.8%	-69%	943	11.0%	25.3%	-56%
Native American	62	1.0%	5.2%	-81%	150	1.8%	4.5%	-62%
International	202	3.1%	—	—	297	3.5%	—	—
Unknown	67	1.0%	—	—	252	2.9%	—	—
White	5,421	84.3%	71.7%	18%	6,283	73.3%	63.8%	15%
Total	6,431	100.0%			8,566	100.0%		

Sources: Arizona State University Office of Institutional Analysis (2005); US Census (1990, 2000)

Arizona State has made progress over the last ten years in all three under-represented minority groups. Especially noteworthy is the significant progress in African American graduates where they are nearly at parity. Unfortunately, representative student success at ASU continues to lag parity substantially for Hispanics and Native Americans.

IX. ARIZONA'S "ACHIEVEMENT GAP"

**Table 4c
Northern Arizona University, Baccalaureate Degrees Awarded**

	1993-94				2003-04			
	Students	% of Total	State Population (1990)	% from Parity	Students	% of Total	State Population (2000)	% From Parity
African American	39	1.4%	2.9%	-49%	41	1.5%	2.9%	-49%
Asian American	18	0.7%	1.4%	-52%	41	1.5%	1.7%	-15%
Hispanic	196	7.3%	18.8%	-61%	318	11.4%	25.3%	-55%
Native American	108	4.0%	5.2%	-23%	160	5.8%	4.5%	27%
International	78	2.9%	—	—	38	1.4%	—	—
Unknown	9	0.3%	—	—	8	0.3%	—	—
White	2,245	83.4%	71.7%	16%	2,172	78.2%	63.8%	23%
Total	2,693	100.0%			2,778	100.0%		

Sources: Northern Arizona University Office of Planning, Budget and Institutional Research (2005); US Census (1990, 2000)

How has NAU increased the proportional representation of Native American graduates over 10 years from -23% to +27 %?

NAU shows impressive performance in Native American student success, moving from 23% below parity to 27% above over the last ten years. Success for Hispanics has improved, but still considerably lags parity. African American student success is well below parity and has remained constant over the last 10 years.

Sylvia Hurtado (2004) articulates the primacy of overall institutional climate in the success of underrepresented minority students. Part of NAU's impressive success with Native students may be in reaching the threshold of critical mass where these students see enough familiar faces in the learning community that all students feel like they belong in the institution. Geographic proximity to a large Native population base in northeastern Arizona is a natural advantage for NAU with this minority student population. Regardless of the causal factors, NAU's record speaks for itself, is impressive, and should be recognized for the significant contribution they are providing in creating higher education success for this minority group.

IX. ARIZONA'S "ACHIEVEMENT GAP"

Table 4d
Arizona University System Summary, Baccalaureate Degrees Awarded

	1993-94				2003-04			
	Students	State			Students	State		
% of Total		Population (1990)	% from Parity	% of Total		Population (2000)	% From Parity	
African American	232	1.6%	2.9%	-42%	407	2.4%	2.9%	-18%
Asian American	387	2.8%	1.4%	96%	753	4.4%	1.7%	155%
Hispanic	1,076	7.7%	18.8%	-59%	2,061	12.1%	25.3%	-52%
Native American	224	1.6%	5.2%	-69%	385	2.3%	4.5%	-50%
International	505	3.6%	—	—	705	4.2%	—	—
Unknown	301	2.1%	—	—	630	3.7%	—	—
White	11,338	80.6%	71.7%	13%	12,029	70.9%	63.8%	11%
Total	14,063	100.0%			16,970	100.0%		

Sources: Arizona Board of Regents (2005); US Census (1990, 2000)

The University System Summary provides a comprehensive view of minority student higher education success in Arizona. What does this summary show?

- African American graduates approached parity largely based on surging numbers at ASU and significantly increasing numbers at UA. The largest success gains were achieved in Arizona over the last ten years within this minority group.
- Although the number of Hispanic graduates nearly doubled, their market share was far behind parity ten years ago and has made little progress since, declining from 59% below representative parity to 52% below today. The large system-wide numerical increase, from 1,076 graduates ten years ago to 2,061 today, has failed to keep pace with the surging growth of Arizona's Hispanic population.
- The representative level of Native Americans began in the worst position of any minority ten years ago — 69% below parity, but was displaced by Hispanics in poor representative performance — ending at 50% below parity. NAU has done an impressive representative job graduating Native students.
- The UA and ASU have also increased their Native American graduate numbers considerably. Without improved performance at all three universities, the state picture would be even bleaker as a whole than it is for this group. While NAU's performance is likely a bright spot for northern tribes in the state, further investigation is needed to determine how the Native American success at NAU is distributed among Arizona's tribes. Because of the continued poor representative performance of Native American success at ASU and UA, are central and southern Arizona tribes especially hard hit by lagging higher education participation?

Given the exploding demographics of our minority and first-generation student-age population, primarily Hispanics, and the concomitant growing educational requirements for the state's entry and full participation in the emerging Knowledge Economy, it is imperative that we increase Arizona's aggregate minority student achievement and success in earning baccalaureate degree.

IX. ARIZONA'S "ACHIEVEMENT GAP"

B. Policy Recommendations

Members of the Arizona Minority Education Policy Analysis Center (AMEPAC) make the following recommendations regarding the "achievement gap."

1. The state, as well as public institutions of higher education, should establish realistic goals so that the number of graduates reaches parity in terms of race, ethnicity, family income, and gender, to the communities they serve.
2. Institutions should provide for students a diverse faculty and administration to reflect the ethnic/racial make-up of the community population; setting parity as a hiring goal.
3. A study should be undertaken of Arizona postsecondary student persistence rates, graduation rates, and workforce outcomes to assist in statewide postsecondary education system planning.

X. CONCLUSION

In this report we identified and explored four opportunities for “policy bridges” that could span the chasms — gaps in preparation, access, affordability and achievement — facing minority students in Arizona’s educational pipeline. These gaps make up the body of evidence for the status of minority participation and success in postsecondary education. Moreover, it is believed that when the state engages in policy making that embraces and nurtures the body of evidence relating the success of the state with the success of its minority population, access and success in postsecondary education for Arizona’s minority students should increase, thereby, increasing Arizona’s human capital endowment and the state’s competitive potential.

The findings in this report suggest that the level of academic preparation is sadly lacking and has enormous implications for access to postsecondary education for all of Arizona’s students. In particular, there exist consequential implications for a sizable share of Arizona’s minority students. Based on the findings of this report we highlight the fact that for many of Arizona’s minority students gaining access to postsecondary education is further complicated by their inability to pay or afford the rising costs of postsecondary education.

Without question, affordability has become a major barrier for access for Arizona’s poorest students in light of the most recent tuition increases across the state’s postsecondary education institutions. The literature is clear when it comes to the relationship between affordability and access to postsecondary education — that is, as tuition and fees increase, access for the poorest students decreases. Although this relationship was not the main focus of this report it is unlikely that Arizona’s poorest students, especially poor, 1st generation, and minority students, will not be affected as measured by enrollments by the most recent trend in tuition increases.

Finally, achievement as measured by graduation rates in the university system is an important output measure that highlights the deplorable outcomes for African Americans, Hispanics, and Native Americans.

In short, the findings suggest that Arizona has a long way to go to achieve parity in postsecondary education outcomes. However, it is believed that close attention to the benchmarks outlined in this report will lead to increased accountability and improved outcomes. The way to do so is to not solely focus on one gap reported in this document. The need exists to address all of the gaps at once as they are interrelated — hence, a systemic approach that would be the most efficient and effective.

A. New Way of Thinking Required

All of these gaps are necessary to understand and think about in a way that leads policy-makers to transform the present and lacking minority educational outcomes into future and stellar educational outcomes.

Policymakers must recognize that human capital is the state’s primary strategic resource in the increasingly globalized and competitive Knowledge Economy. Arizona’s economy, historically, has operated on a low-wage, low-productivity model. But today, Arizona can no longer beat out lower-cost competitors such as Mexico, China and Indonesia at the old game; this approach is no longer a feasible option for state policymakers. States that are competitive in this new environment will reap an abundance of future economic prosperity with the rest left to make due with second-rate economies.

From the perspective of *equity* policymakers must acknowledge the key roles of fairness, social justice and accountability in guiding the allocation of essential public goods and services. Education level is a foundational factor that drives individual and aggregate social and economic outcomes. Public higher education should be equally available to all citizens of Arizona regardless of their ethnicity, household wealth or educational attainment. Proponents of this view hold that it is fundamentally unjust for

X. CONCLUSION

ethnicity or the economic attributes of one's family to play a strong role in determining an individual's educational level — and hence, social and economic opportunities and trajectory.

While both arguments are compelling, their appeal differs greatly depending on the political orientation of individual policymakers. Nonetheless, they both point to the same conclusion: increasing our current low minority educational outcomes is in the best interest of the future well-being of Arizona. Clearly, the state cannot aspire to become a competitive player in the emerging Knowledge Economy without making an educational transformation in Arizona that broadens higher education participation to include minority students at the higher rates necessary to achieve critical mass.

The challenges that lie ahead in transforming our rigidly stratified and fragmented educational system seem daunting at the moment, considering the broad gaps outlined in this study. However, policymakers must exhibit the political courage and will to transform Arizona's inadequate educational outcomes by reframing the discussion of education in the state from individual and independent systems to a system that is comprehensive, purposeful, and serious about accounting for its shortcomings.

Arizona's educational enterprise needs unification and effective coordination. This infant education system (Pre K-20) must be fully integrated and seamless so that an entity with budget authority can systematically monitor progress of its citizens for its future economic viability.

XI. APPENDICES

Appendix 1 Arizona Public and Nonpublic High School Graduates 1987-88 through 2001-02 (actual), 2002-03 through 2017-18 (projected)

ARIZONA

Public and Nonpublic High School Graduates 1987-88 through 2001-02 (actual), 2002-03 through 2017-18 (projected)

	PUBLIC BY RACE/ETHNICITY						PUBLIC TOTAL	NONPUBLIC TOTAL	PUBLIC & NONPUBLIC TOTAL
	ACE/ETHNICITY TOTAL	American Indian/ Alaska Native	Asian/Pacific Islander	Black, non- Hispanic	White, non- Hispanic	White, non- Hispanic			
1987-88	-	-	-	-	-	-	31,130	-	31,130
1988-89	-	-	-	-	-	-	31,638	-	31,638
1989-90	-	-	-	-	-	-	32,103	1,230	33,333
1990-91	-	-	-	-	-	-	31,283	1,670	32,953
1991-92	-	-	-	-	-	-	31,264	1,971	33,235
1992-93	31,097	1,918	715	1,161	7,038	20,265	31,097	1,833	32,930
1993-94	31,799	2,072	783	1,126	6,880	20,938	31,799	2,038	33,837
1994-95	32,438	2,096	801	1,204	7,386	20,951	32,438	1,201	33,639
1995-96	32,677	1,957	815	1,138	7,453	21,314	32,677	1,498	34,175
1996-97	34,082	2,139	835	1,255	7,873	21,980	34,082	2,955	37,037
1997-98	36,385	2,182	908	1,269	8,637	23,389	36,385	4,412	40,797
1998-99	42,726	2,370	1,040	1,670	10,079	27,567	42,726	4,470	47,196
1999-00	38,818	2,474	960	1,619	9,865	23,900	38,818	4,529	43,347
2000-01	46,006	2,529	1,236	1,931	11,780	28,530	46,006	4,690	50,696
2001-02	46,774	2,726	1,277	1,996	12,320	28,455	46,774	4,870	51,644
2002-03	48,286	2,885	1,398	2,147	13,164	28,692	48,389	5,355	53,745
2003-04	49,771	2,886	1,331	2,282	13,948	29,325	50,015	5,525	55,540
2004-05	49,245	2,887	1,420	2,311	14,413	28,215	49,653	5,511	55,164
2005-06	52,450	3,122	1,580	2,477	15,817	29,455	52,841	5,611	58,451
2006-07	54,019	3,197	1,737	2,621	16,910	29,554	54,432	5,872	60,304
2007-08	56,984	3,188	1,811	2,906	18,901	30,179	57,466	6,197	63,663
2008-09	58,341	3,298	1,933	2,945	19,900	30,266	58,847	6,322	65,169
2009-10	59,299	3,145	1,995	3,079	21,502	29,579	59,794	6,299	66,094
2010-11	59,316	3,170	2,209	3,154	22,047	28,737	59,676	6,253	65,929
2011-12	61,059	3,015	2,332	3,184	23,750	28,778	61,328	6,385	67,712
2012-13	60,547	2,864	2,533	3,034	23,604	28,513	60,668	6,271	66,939
2013-14	64,691	2,877	2,655	3,004	26,473	29,683	64,346	6,734	71,080
2014-15	65,516	2,654	2,775	3,240	27,101	29,745	64,880	6,781	71,661
2015-16	67,732	2,824	3,077	3,387	28,139	30,304	66,979	6,989	73,968
2016-17	70,434	2,828	3,258	3,580	30,286	30,482	69,343	7,228	76,571
2017-18	74,126	2,973	3,668	3,591	32,772	31,122	72,697	7,577	80,274

Source: Western Interstate Commission for Higher Education, 2003.

The definition of a high school graduate has been determined by the state. The sum of the graduates by race/ethnicity may not equal the total public graduates due to differences in the way the historical data are reported by the state and because the graduates for each race/ethnicity were projected separately from the total public projections.

Public: No additional notes.

Nonpublic: The number of twelfth graders is used to estimate the number of graduates because graduate data are unavailable. Enrollment data through 1995-96 are from the Arizona Department of Education. From 1996-97 forward, enrollment data are estimated based on state data and the National Center for Education Statistics' *Private School Survey*.

Additional state-specific notes are also contained in the *Compendium of Supplementary Tables* to complement this report.

XII. REFERENCES

Arizona Board of Regents. (1989). *Our Common Commitment: Enhancing Ethnic Minority Integration and Achievement in Arizona's Universities. A Report and Recommendations of The Regents' Ad Hoc Committee on University Access and Retention, September 1989*. Accessed online November 11, 2004. Available at http://www.abor.asu.edu/3_for_students/minority/commit.html.

Arizona Board of Regents. (2003). Minutes of a Meeting, January 23-24, 2003: *Study Session, Student Admissions: Principles, Policies, and Possible Changes*. Accessed online November 11, 2004. Available at http://www.abor.asu.edu/1_the_regents/meetings/minutes/jan2003.html.

Arizona Board of Regents. (2004). *Arizona University System, Resident Undergraduate Tuition and Mandatory Fees*. Accessed November 11, 2004. Available online at http://www.abor.asu.edu/1_the_regents/reports_factbook/financial/6_tuitionhist.htm

Arizona Board of Regents. (2004a). *Changing Directions: Initiative to Ensure Excellence at Arizona's Public Universities*. Brochure accessed online November 11, 2004. Available at http://www.abor.asu.edu/1_the_regents/initiatives/changing_directions/Changing%20Directions%20brochure.pdf.

Arizona Board of Regents. (2004b). *Proposed Scope Of Work For Feasibility And Planning Study Of Proposals For The Redesign Of The Arizona University System*. Accessed online November 11, 2004. Available at http://www.abor.asu.edu/special_editions/redesign/proposed_redesignscope.htm#Guiding%20Principles.

Arizona Board of Regents. (2004). *Arizona University System, Resident Undergraduate Tuition and Mandatory Fees*. Accessed November 11, 2004. Available online at http://www.abor.asu.edu/1_the_regents/reports_factbook/financial/6_tuitionhist.htm

Arizona Board of Regents (January, 2005). *Sources and Types of Financial Aid Awarded: Arizona University System – 2003-04*. Presented at the Arizona Board of Regents Meeting at Arizona State University.

Arizona Board of Regents Admission Standards (2006). Available online at http://www.abor.asu.edu/3_for_students/admin_stds.html.

Arizona Department of Education, Graduation Rate Studies 2000, 2001, 2002

Arizona Department of Education, Research & Policy Division (October, 2003).

Arizona Department of Education, (2002). *Dropout Rate Study: 2001-2002 Dropout Rates Arizona Public Schools Grades Seven Through Twelve*. Phoenix, Arizona: Arizona Department of Education.

Arizona Department of Education. (2004). AIMS results. Accessed December 9, 2004. Available online at <http://www.ade.state.az.us/standards/aims/>

Bensimon, E. M., Hao, L., & Bustillos, L. T. (October, 2003). *Measuring the State of Equity in Public Higher Education*. Paper presented at the Harvard Civil Rights and UC Conference on Expanding Opportunity in Higher Education: California and the Nation. Sacramento, CA.

Cabrera, A., & La Nasa, S. M. (2001). *On the path to college: three critical tasks facing America's disadvantaged*. *Research in Higher Education*, 42, 119-150.

XII. REFERENCES

- Fry, R. (2004). *Latino Youth Finishing College: The Role of Selective Pathways*. Report from the Pew Hispanic Center.
- Hamrick, F., & Stage, F. (2004). College predisposition at high-minority, low-income schools. *The Review of Higher Education*, 27(2), 151-168.
- Heller, D. E. (1997). Student price response in higher education: an update to Leslie and Brinkman. *Journal of Higher Education*, 68(6), 624-659.
- Heller, D. E. (2005). Public subsidies for higher education in California: An exploratory analysis of who pays and who benefits. *Educational Policy*, 19(2), 349-370.
- Intercultural Development Research Association (IDRA) (2002). Dropping out of Arizona's schools: The scope, the costs, and successful strategies to address the crisis, commissioned by the Arizona Minority Education Policy Analysis Center, Phoenix, AZ.
- Kim, D. (2004). The effect of financial aid on students' college choice: Differences by racial groups. *Research in Higher Education*, 45(1), 43-70.
- Leslie, L., & Brinkman, P. (1987). Student price response in higher education: The student demand studies. *Journal of Higher Education*, 58(2), 181-204.
- Measuring Up (2004). San Jose, CA: National Center for Public Policy and Higher Education.
- McDonough, P. (1997). *Choosing Colleges: How Social Class and Schools Structure Opportunity*. Albany: State University of New York.
- Morrison Institute for Public Policy (2001). *Arizona Policy Choices: Five Shoes Waiting to Drop on Arizona's Future*. Tempe, AZ: Arizona State University
- Mumper, M. (1998). Beyond financial aid: Alternative Approaches to improving college participation. *Review of Higher Education* 22, 83-97.
- National Center for Education Statistics (2000).
- Perna, L. W. (2000). Differences in college enrollment among African Americans, Hispanics, and Whites. *Journal of Higher Education* 71, 117-141.
- Perna, L., & Titus, M. (2004). Understanding differences in the choice of college attended: the role of state public policies. *The Review of Higher Education*, 27(4), 501-525.
- Thomas, S. (2000). Deferred costs and economic returns to college major, quality, and performance. *Research in Higher Education*, 41, 281-313.
- The College Board (2001). *Trends in College Pricing, 2001*. New York: The College Board.
- The College Board (2002). *Trends in College Pricing, 2001*. New York: The College Board.
- The National Center for Public Policy and Higher Education (2003). *Losing Ground: A National Status Report on the Affordability of Higher Education*. San Jose, CA: Author.

XII. REFERENCES

The National Center for Public Policy and Higher Education (2003). *College Affordability in Jeopardy*. San Jose, CA: Author.

The Tomas Rivera Policy Institute (March 2004). *Caught in the financial aid information divide: A national survey of Latino perspectives on financial aid*. Los Angeles: Author.

Tierney, W., & Hagedorn, L. (2002). *Increasing access to college: extending possibilities for all students*. Albany: State University of New York.

US Census Bureau (1990) and (2000).

Walpole, M. (2003). Socioeconomic status and college: How SES affects college experiences and outcomes. *The Review of Higher Education*, 27(1), 45-73.

WICHE (2003). *Knocking at the College Door - 2003: Projections of High School Graduates by State, Income, and Race/Ethnicity*. Boulder, CO: WICHE.

XIII. ACKNOWLEDGEMENTS

The Latina/o Policy Research Initiative, sponsored by The University of Arizona College of Humanities, is a public policy research initiative designed to bridge the gap between academic research and public policy. The Initiative is committed to generating a program of evaluation and research, articulating its research findings to policymakers, business and community leaders, and communities throughout the region, and applying such insights in order to transform public policy outcomes for Latinos in Arizona and the Southwest.

**Latina/o Policy Research Initiative, College of Humanities
The University of Arizona, César E. Chávez Building, Suite 106
PO Box 210023, Tucson, Arizona 85721-0023
Phone: 520-626-1059, FAX: 520-626-0783**

About the Authors

José Luis Santos is an assistant professor of higher education and organizational change in the Department of Education at the UCLA Graduate School of Education & Information Studies and an affiliate scholar of the Higher Education Research Institute. Also, Professor Santos is the founding director of the Latina/o Policy Research Initiative (LPRI) in the College of Humanities at the University of Arizona. Dr. Santos earned his Ph.D. in the area of higher education economics and finance policy from the University of Arizona's Center for the Study of Higher Education. He specializes in quantitative methods, public policy in higher education, governance, and finance. Dr. Santos can be reached at: jsantos@gseis.ucla.edu for any correspondence regarding this report.

Amy Scott Metcalfe is an assistant professor of higher education in the Department of Educational Studies at the University of British Columbia and a past research fellow at the Latina/o Policy Research Initiative. Professor Metcalfe researches the intersections between higher education, the state, and the market as well as science and technology policy. Dr. Metcalfe is also interested in the ways in which social class and family income affect college attendance and persistence for Arizonans.

Sandra Guillen is a research associate at the Latina/o Policy Research Initiative. She earned a Master of Arts degree from the University of Arizona in 2004 and is currently pursuing her Ph.D. in Higher Education with an emphasis in Organization and Administration. Sandra's research interests include organizational behavior and decision making and issues of equity and access in higher education.

Tom Rhodes is a public policy economist and an institutional researcher at the University of Arizona. He worked as a resident economic policy advisor to the Government of Kenya, in Latin America on international trade issues, and for the State of Arizona on welfare reform. His current work focuses on policy reform in Arizona to create a modern education system that equitably allocates quality public education to all state residents regardless of family income or ethnicity that lays the necessary groundwork for Arizona to become a competitive player in the emerging Knowledge Economy.

Acknowledgements

The authors are grateful to many individuals and organizations for their efforts in making this study a success. We especially thank Ralph Romero, Chair, Arizona Minority Education Policy Analysis Center (AMEPAC), for his continuing encouragement and guidance as this project evolved. Thanks also to all of the members of the Arizona Minority Education Policy Analysis Center for their time and input towards the shaping of the document and improving its content.

We also would like to thank the many persons throughout the state who provided us with data and information that have been critical to the substantive analysis contained in this report. We would

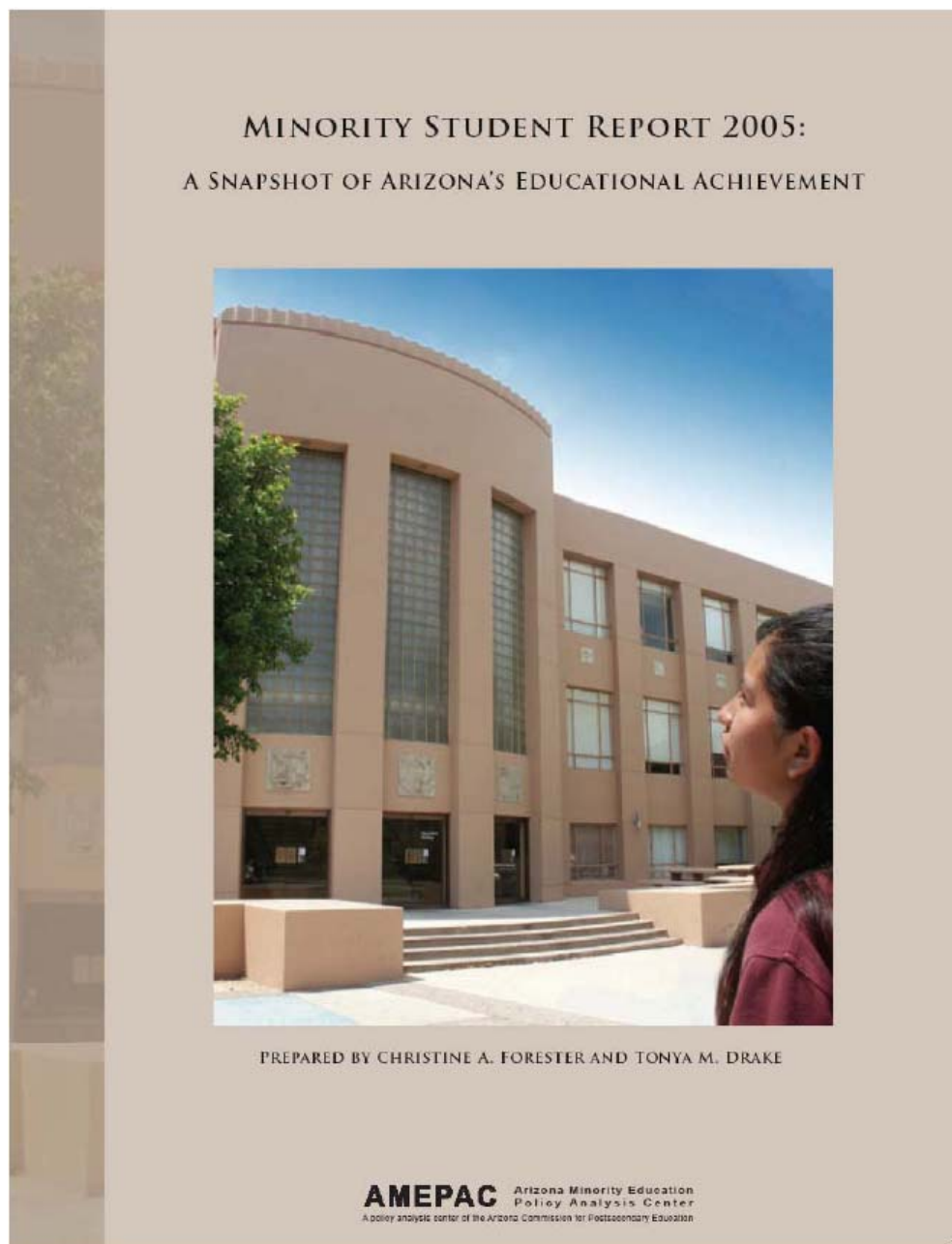
XIII. ACKNOWLEDGEMENTS

especially like to thank the many offices of institutional research at the various community college districts and universities.

Sincere thanks are extended to Chuck Tatum, Dean, College of Humanities at The University of Arizona for not only supporting this project, but for his leadership in helping to launch the Latina/o Policy Research Initiative.

Finally, we would like to acknowledge the critical role of Toni Fleisher, Program Specialist, Arizona Commission for Postsecondary Education for her persistent and timely feedback from initial conception to final design.

Review this report and the Minority Student Report 2005 at the AMEPAC web site:
www.amepac.org.



AMEPAC Vision

All students succeed in higher education as a result of quality research that shapes policy on critical issues