















Summary and Recommendations

Crisis or Opportunity?

Higher Education

and the New

Economy:







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INTRODUCTION

Higher education is currently facing an unprecedented economic crisis. The nationwide economic recession has left many state budgets in an upheaval and has severely impacted institutions of higher education across the United States. Public universities in particular are caught in a tight balancing act of generating additional revenue while maintaining their land-grant missions. While higher education scholars have investigated and theorized institutional change, few have actually engaged institutional leaders and the local community, including legislators, lobbyists, and foundation presidents on current problems, the decision-making processes, and creative solutions.

In the Spring of 2010, the Center for the Study of Higher Education in the College of Education at the University of Arizona, under the leadership of Dr. Jenny Lee, the Center's Director, organized an innovative speaker series, "Higher Education and the New Economy: Crisis or Opportunity," inviting prominent institutional and local leaders to share their experiences and insights and engage in meaningful dialogue on forging unchartered solutions (see Table 1 for list of guest speakers). Speaker sessions were open to the university and local community; the last portion of every presentation was designated for audience members to raise questions and converse with the speakers.¹

The variety of views that emerged from the speaker series suggests that crisis and opportunity are just parts of the equation; as a consequence of the changing economic landscape, what have emerged are fundamental questions related to the roles and goals of higher education, extending to the very definition of education itself.

¹ Note: The first two paragraphs of this Introduction are excerpted from the syllabus of "Higher Education and the New Economy."

Table 1. Speakers and Positions²

Tim Bee	Former President, Arizona State Senate			
Ernest Calderón	President, Arizona Board of Regents (ABOR)			
Dr. Michael Crow	President, Arizona State University			
Greg Fahey	Associate Vice President of Government Relations, University of Arizona			
Dr. Roy Flores	Chancellor, Pima Community College			
Dr. Nils Hasselmo	Former President, Association of American Universities			
Jack B. Jewett	President & Chief Executive Officer, Flinn Foundation			
Paul J. Luna	President & Chief Executive Officer, Helios Education Foundation			
Dr. Martha Kanter ³	Undersecretary of Education, U.S. Department of Education			
Dr. Ron Marx	Dean, College of Education, University of Arizona			
Dr. Gary Rhoades	General Secretary, American Association of University Professors			
Dr. Joaquin Ruiz	Executive Dean, Colleges of Letters Arts and Science, University of Arizona			
Dr. Robert Shelton	President, University of Arizona			
Christine Thompson	Assistant Executive Director of Government Affairs, Arizona Board of Regents			

In the summary report that follows, the various and disparate goals of higher education, as articulated by the speakers, are appraised. The first section, **Innovation**, reviews perceptions that various speakers have about change, and about its associated opportunities and constraints. The Innovation section then highlights areas where speakers feel institutions have maximized available resources, and presents speakers' viewpoints on new directions and transformations that they have witnessed or overseen as part of the current economic crises.

² While not one of the speakers, Congressman Raul Grijalva is also quoted in the summary report, from his Introduction of Dr. Martha Kanter

³ Dr. Martha Kanter's presentation was part of the Ernest W. McFarland Lecture Series at the University of Arizona. Her talk, "The Future of Higher Education in the Obama Administration," is included in this report because of its consistency with the overarching theme of the series.

The second part of this report, **Considerations and Compromises**, reviews the many claims made on higher education, ranging in scope from international to local, from K-12 education to university research. This section is divided into five main parts: Scope of Expectations; Student Access, Institutional Capacity, and Academic Success; Institutional Fund Allocation; K-12, Adult Education, and Vocational Education; and Community Needs.

While some disputes about how to best meet disparate obligations are reviewed in the Considerations and Compromises section, it is in the third part of this report, **Debate**, that the more acute points of philosophical departure are reviewed. These include contrasting perspectives on the importance of prestige; opposing views on the role and criticality of research as part of the undergraduate experience; the setting of tuition; and thoughts about low-cost educational alternatives.

Part four of the report, **Reenergizing and Reconnecting**, focuses on speakers' assessments of how and why economic, political, social, and cultural support of higher education appears to have diminished on the part of the state and some of its citizens. Competition with and from other state-funded programs and services is addressed first, followed by specific suggestions that speakers have about regaining the trust and support of the communities that institutions are charged with serving. The notion of accountability, raised by a number of speakers, is also addressed in this section.

The report concludes with **Conclusion and Recommendations**, highlighting recommendations that emerged when all speaker presentations were reviewed holistically.

INNOVATION

Undersecretary of Education Dr. Martha Kanter: "I look ahead over the next seven years and I say, 'How can we build an infrastructure and use the talent?' And the talent is in this room. The talent is in the faculty, the talent is in the grad students, the undergrads who are going to become the leaders in their communities, in our country, at our state level."

Diminished budgets have driven a need to think strategically about providing quality service with fewer resources. Themes related to innovation in student services, research agendas, departmental reorganizations and realignments, and existing assets all emerged during the series. In this section of the report, speaker reflections on the role and nature of change in higher education are examined, as are comments on how to best make use of available resources and thoughts on the opportunities that have resulted from the need to think strategically.

Innovation: The Nature of Change

A number of speakers reflected on the nature and role of change itself in higher education, both as an endemic part of education...

Dr. Gary Rhoades, AAUP (American Association of University Professors) General Secretary: "Everything is negotiable...that's what students have taught us about American higher education."

...and as a consequence of this particular economic crisis:

Dr. Ron Marx, Dean of the UA (University of Arizona) College of Education: "We need to look out the front windshield of our vehicles rather than into the rearview mirrors. We will never go back to the days where some of us started our higher education career 30 or 40 years ago with respect to state funding and contributions. That's gone and I don't believe that we'll ever recover that."

The perception of *how* change occurs in higher education is also germane:

Dr. Nils Hasselmo, former President of AAU (Association of American Universities): "There were times during my career as an administrator when I used to say that what we really need is a good rolling crisis. And my prayer has been fulfilled, maybe a little bit beyond what I really wanted. The reason that crisis is good, of course, is that it makes change possible."

Dr. Gary Rhoades, AAUP General Secretary: "One of the biggest challenges...is to find the energy to not just cope and survive but actually try and shape what's going on."

Dr. Michael Crow, ASU (Arizona State University) President: "The one thing that we've really tried to do at ASU is change our perception of change. Change is good, speed is good, that doesn't mean everything is fast."

Some cautionary statements about change also emerged, particularly the importance of reflection and patience to counter pressures to take immediate action:

Dr. Gary Rhoades, AAUP General Secretary: "We're not just passive victims of circumstance; we play a role in making history and we can choose to make really tough, really creative choices."

A number of speakers thus noted that the current crises and the changes it necessitated created opportunities to consider where change could be beneficial, provided enough time and care is allocated to evaluating all viable options.

Innovation: Making use of Available Resources

Speakers exhibited considerable optimism in higher education's potential to contribute to problem-solving in times of crisis. References relating to using academia's strengths in the way of research (i.e., educational policy and practice) and in the way of resources (i.e., the time and expertise of faculty, graduate students, and undergraduate students) arose in many of the presentations:

Ernest Calderón, ABOR (Arizona Board of Regents) President: "Who better to plan for the war than people who know about procurement, training, budgets, etc, (those who) do the research the planners?"

Dr. Ron Marx, Dean of the UA College of Education: "Our educational system is desperate. They need a lot of help and we have the talent. We just have to figure out a pathway to take our talent to be brought to bear on those problems....through all sorts of partnerships, and we need to really think differently about our work."

Dr. Gary Rhoades, AAUP General Secretary: "We have the potential - with the expertise we have and a variety of community groups in health care and in the justice system and the like - to form these kinds of partnerships."

Dr. Martha Kanter, Undersecretary of Education: "(We need) to improve quality in higher education and K-12 and early learning. And the way we do that is to learn from the research that we have. We really haven't done as good a job applying what works, so I think there is a real role for institutions of higher education like the University of Arizona to tell us what works."

Speakers noted that the milieu of higher education affords unique opportunities to innovate:

Dr. Martha Kanter, Undersecretary of Education: "How do you engage, how do you motivate students? What is the responsibility of the faculty? How can we use the outreach people? How can we use grad students to motivate the undergrads? How can we use the undergrads to motivate the high school students, the high school to middle school? So that we can create in this country a college going culture?"

Dr. Ron Marx, Dean of the UA College of Education: "One of the things that we have here on the campus of the UA is an awful lot of talent, a tremendous amount of talent distributed right across the university. We have freedom and autonomy; we have something that very few institutions have. The faculty at this university, I see some in the room, you guys, you folks determine what you want to do. We don't have bosses here in the same sense that industry has bosses; people decide what they want to do."

Dr. Robert Shelton, UA (University of Arizona) President: "We have smart people who understand economics, understand public policies."

Dr. Gary Rhoades, AAUP General Secretary: "There are a lot of really smart people in these institutions. In our work, we're imbedded with this skepticism and we try and examine data and challenge conventions that we think don't make any sense. We question pre-suppositions that we think are ill found."

Innovation: Excitement about the Possibilities

Without diminishing the severity of the current economic climate, a number of speakers spoke with optimism, enthusiasm, and conviction about the innovations emerging as a result of the need to do more with less:

Dr. Joaquin Ruiz, Executive Dean of CLAS (Colleges of Letters, Arts, and Science) at the UA: "I can envision new curricula that doesn't exist now because it existed at the edges of various disciplines, that this construct - (a combining of colleges) that we're creating - will allow us to think about in a better way."

Dr. Ron Marx, Dean of the UA College of Education: "We have to enter into all these kinds of partnerships; partnerships with lots of different organizations. I see my role as Dean of a College as developing the vision for how we can create an organization that is sustainable, economically, to achieve our goals. If we can succeed at this, through these kinds of partnerships, I think we can leverage our shrinking funds, we can get political support, for us and education. That is extremely important."

Dr. Martha Kanter, Undersecretary of Education: "We have to build the infrastructure during the recovery and figure out, I think at the federal level, at the state level, and at the local level how we can re-frame the resources that we have and what more do we need going forward to get this job done."

Dr. Robert Shelton, UA President: "I think what you're seeing is a new effectiveness in student affairs to serve a lot of communities even with a significant reduction in the budget."

In addition to statements about leveraging the general strengths institutions can muster, some suggestions for innovation and further development were very specific:

Dr. Michael Crow, ASU President, on the possibility of offering three-year Bachelor's degrees and five-year Master's degrees: "Maybe you could make the institution more effective and more efficient at the same time...how do you intensify the learning experience, how do you accelerate the learning experience, how do you be innovative? Let's allow students to move through when they demonstrate that they have the knowledge to move through."

Dr. Roy Flores, PCC (Pima Community College) Chancellor, on pedagogy: "What we're doing is shoe-horning people into the same kind of environment that we know has not produced results. You know, traditional classes, a traditional semester, put them in kind of a range of one of three boxes and that's simply not working for them... What we really have to find out - how to teach, and to do that well - is how to improve those (graduation and retention) numbers. Which probably will (also) mean we have to get away from the Gregorian semester approach."

Christine Thompson, ABOR Government Affairs Director, on transfer students: "(We could be) looking at retention rates, looking at developing transfer articulation programs where students who start at one university and move to another or start at a community college have an easy ability to transfer and finish in a number of years; providing the support network for students through advising and those types of programs in order to make sure that students aren't being lost."

Jack Jewett, Flinn Foundation President and CEO, on the wealth of knowledge and resources invested in Flinn Scholars: "Possible roles (for Flinn Scholars) could include developing future leaders, possibly targeting some of the bio-leaders, certainly beginning with Flinn Scholar graduates and others; bring educational opportunities to existing leaders engaging in important public policy discussions more rigorously... advocating for civic leadership agenda and partner(ing) with other stake-holders across sectors, beginning with philanthropies."

Dr. Nils Hasselmo, former President of AAU, on bureaucratic structures: "Researchers should be freed from as many unnecessary administrative reporting responsibilities as possible. So that more of their valuable time can be devoted to research and teaching.... Behind much of the current debate is a firm conviction that American strategy is highly productive and has led American world leadership in basic science. So by all means, maintain this strategy and correct the funding and regulatory problems that undermine the strategy."

Paul Luna, Helios Education Foundation President and CEO, on K-12 education: "We focus on early care and education. We focus on what we now call the transition years, which is the middle years of the education continuum. How do we engage with students beginning in the 5th grade and begin to address what the needs of that student might be, to help ensure that they are successful and prepared and able to go to college and be successful? And we provide scholarships.... We're a partner with the Arizona Assurance program - one of, I think, the first partners - because of that commitment and understanding of the importance of financial need for students."

Dr. Martha Kanter, Undersecretary of Education: "The Arizona Assurance program I think is a model for this nation because you are...(investing) in the future of this country, of this community, by looking at families who are (at or below) the poverty line, and providing them the opportunity for their children to go to college."

The enthusiasm and specificity with which speakers addressed a myriad of potential opportunities clearly demonstrates that economic crisis need not diminish vision and progress. The breadth and scope of suggestions — from reducing paperwork to increasing community partnerships, from supporting K-12 education to rethinking at what pace higher education should be offered — suggests that many prominent higher education supporters and scholars are finding ways to rethink what is possible in higher education in the current economic landscape.

Despite the value of the talent and knowledge held by institutions, and the optimism many hold in the potential of higher education's abilities to solve problems through innovation, there is also clear consensus that institutions of higher education are experiencing a crisis of funding that has necessitated tough decisions. As Dr. Gary Rhoades put it, however, constrained finances need not result in "the constraint of

imagination and the constraint of political will." To that end, some speakers discussed with enthusiasm a number of directions and opportunities that their institutions were currently pursuing:

Dr. Michael Crow, ASU President: "We've raised a lot of money...and a lot of resources and have been able to move forward.... We now have a school of Social Transformation, a School of Transborder Studies, a school of Family and Social Dynamics. Those are Schools devoted to those purposes, each with dozens and dozens and dozens of faculty members...and graduate students and speakers and everything else.... We're still continuing to hire faculty, we're still continuing to advance our faculty, we're still continuing to fill key positions and retain faculty and so forth because we're pooling and marshaling our resources."

Dr. Joaquin Ruiz, Executive Dean of CLAS at the UA: "What makes (the merging of four colleges and the Center for Exploratory Students into CLAS) a good idea is going back to the premise that we educate our students. And I think actually that a...partnership between fine arts and humanities and social and behavioral science and sciences will be able to create the curriculum which is going to be necessary for the students coming out of the 21st century to the workplace."

While not necessarily enthusiastic about some of the changes that the crisis has necessitated, other speakers spoke of the changes they are making as proactive where possible and feasible where necessary:

Dr. Roy Flores, PCC Chancellor: "We kept large vacancies and so we were able to save 14% of our positions by moving folks around. First that was a cultural shock...(but) you are a college employee and you have to move where you're needed. We reduced the number of administrative positions. Of those 14% that were vacancies, 7% were taken off the books; they no longer exist at the college. At the same time we increased the work week from 37.5 to 40 hours."

Dr. Robert Shelton, UA President: "We eliminated over 600 positions; fortunately, most of those have been through attrition, not filling empty positions. These are not just staff positions; these are faculty positions as well. We have not laid faculty off, but all of you in departments know that you have not been able to hire those tremendous faculty who want to come here. We've closed two dozen academic programs, merged nine academic programs, eliminated a college, and consolidated four colleges into one."

Important to the discussion of program closures and transformations is Dr. Gary Rhoades' cautionary point that "the big planning that these places ought to be doing isn't about jerking around academic programs and doing shotgun marriages.... The story line on program reorganization is so clear nationally: you don't save a whole lot of money." For example, relevant to the original institutional claim that consolidation of colleges into CLAS at the University of Arizona would result in significant savings, the Executive Dean of the new Colleges, Dr. Joaquin Ruiz, noted that his excitement stems not from potential cost savings but rather from the educational possibilities and interdisciplinary collaboration that such a merger encourages:

Dr. Joaquin Ruiz, Executive Dean of CLAS at the UA: "Some of you may believe that the Colleges of Letters, Arts, and Science was constructed as a cost saving measure. As you may expect, if you change the chairs around the Titanic, that doesn't make the Titanic not sink. So that's not really the reason why I am interested in it and that is not really the reason why I think it's a good idea. The savings will come at the edges."

While enthusiasm for the possibilities was addressed by many speakers, it was also acknowledged that the elimination of colleges, the reduction of faculty, staff, and administrative positions, and the altering of people's job responsibilities, reporting structures, and hours generated tension and fear. One consequence of such fear is a reluctance on the part of departments and individuals to speak out about proposed changes, closures, and mergers:

Dr. Gary Rhoades, AAUP General Secretary, about those committed to higher education: "We don't have the right to speak out, we have the responsibility to speak out...So if you speak out against a transformation process, you should not be punished with a variety of actions."

Including as many voices as possible in decision-making, and being sensitive to those affected, is critical to institutional morale during times of transformative change. Linking and merging departments may offer opportunities to reduce costs, but it is important to be cognizant of the impact such changes have on people's professional and emotional attachments.

Dr. Michael Crow, ASU President: "We've worked to move structures to the highest level of effectiveness that we can...as carefully and as gently as we can. There are always individuals who resist change of any type, all the time, no matter what it is; and that part is very hard for some of those folks, until we spend more time with them and talk with them and work with them and try to find the right place for them. So yes we've been disestablishing units, we've disestablished more than 25 academic departments as departments, more than 44 degree programs and 7 colleges, but we've not reduced a single faculty member.... We have put these faculty members into new intellectual constructs...(and) they see that there are new horizons, new vistas, new capabilities."

While speakers addressed the changes made and fingered the economic crises as the impetus, *how* the decisions were made was a topic that did not emerge: why were certain colleges merged? Where, exactly, were savings realized? Who was consulted in the process, and who was not? Was input solicited, or discouraged? Such questions bear considering.

Dr. Gary Rhoades, AAUP General Secretary: "You'd think the decisions would be driven by the data. But instead the decisions are driven by what you can actually do. Who can you get away with cutting? What can you get away with cutting? And we often, even on that, sort of miscalculate."

The notion of innovation in higher education — as evidenced by numerous references to nascent ideas, to programs in development, and to closures and mergers completed with relative dispatch — clearly emerged as a theme of the speaker series. The discourse around innovation was bifurcated, simultaneously acknowledging the challenges inherent in trying to function in an economic environment that dictates restraint, while concurrently celebrating the wealth of knowledge, resources, and creativity that higher education leaders must, could, and/or did bring to bear in response.

CONSIDERATIONS AND COMPROMISES

Pima Community College Chancellor Dr. Roy Flores: "We've been living in a world where community colleges are expected to do everything and we've come to believe that. We have actually believed our own press releases that we're just able to do all of these things. Well, I think that we have to get an A for effort, but I'm not so sure that we're as successful in all of these endeavors."

Change does not occur only during times of crises, of course; as Dr. Michael Crow noted, many institutions of higher education have "a culture...grounded in changing (and) grounded in maximum service." Discussion around this particular economic crisis, however, has brought to light the compromises that many speakers see coming in where, how, and to whom higher education can be offered. In addition to discussions on innovation and opportunity, what also clearly emerged during the speaker series was a sense of just how much is expected of institutions of higher education, and how difficult it is to balance the many claims made on those charged with delivering service. In this section of the report, the scope of demands and expectations placed on institutions of higher education are examined, including international, national, state, and community claims. Issues related to student access, institutional capacity, and academic success are also addressed, as are thoughts on internal fund allocation within institutions. Speaker reflections on the obligations educational institutions have to k-12, adult, and vocational education are then reviewed, and the section ends with speakers' thoughts on meeting specific community needs.

Considerations and Compromises: Scope of Expectations

Endemic to the missions of public institutions is the mandate to provide education to the citizens of their states. Institutions are also expected to contribute to their states' and to the nation's collective good, by way of economic development, technological and medical advancement, and cultural expansion. Internationally, institutions in the United States are also expected to contribute to the country's international standing. The scope of expectations is tremendous.

On a global scale, international competition fuels some of the drive to provide education:

Dr. Nils Hasselmo, former President of AAU: "Other nations are rumored to be lying in wait to try to overtake us in what they regard as the most successful and valuable part of our country, our unequalled university-based research and graduate enterprise.... Foreign higher education systems are passing us by at the time when education is more important for our collective prosperity then ever."

Tim Bee, former President of the Arizona State Senate: "I've worked on higher education issues for a long time. I believe that (for) the future of our nation, it is critical that we have a higher

education system that prepares the best around the world. Our ability to compete internationally depends on our ability to produce the best technology, the ability to defend our nation."

Dr. Martha Kanter, Undersecretary of Education: "For generations now our competitors have been passing us by."

The value of international awareness goes both ways; competitive national institutions draw international talent:

Dr. Joaquin Ruiz, Executive Dean of CLAS at the UA: "The entity in this country that has always been the envy of the world has been higher education. And a thing that I keep reminding people is that if you go and look at the list of US Nobel Prize winners, historically - and there are tons of them - they're mostly foreigners that have come here to this country, these institutions, because they've offered them freedoms that they didn't have anywhere else."

In addition to the role higher education plays in international competition and betterment, some speakers also noted the obligation institutions have to national interests:

Congressman Raul Grijalva: "The strength of our economy (rests) on our intellectual capacity and on the strength of our leadership, and our ability to continue to be a strong, educated, and productive nation."

Relative to a national scope, some speakers also noted that while public institutions may be tasked with serving their states, they must also focus outside state boarders for recruitment purposes. During difficult economic times, as Christine Thompson notes, "Tuition has really had to fill the gap that the general fund has made for the university system." Because (higher) non-resident tuition generates much-needed funds for state schools, crafting an incoming class that includes those who can contribute to the institution's financial health becomes increasingly critical to enrollment managers. A consequence of the increased reliance on tuition, therefore, is an increased incentive to recruit out-of-state students. Unfortunately, this need (whether actual or perceived) has its own consequences.

Dr. Gary Rhoades, AAUP General Secretary: "You end up going for the wealthier kids, you end up tuition discounting that kid in Marin County who actually doesn't score quite as well as that kid in Bisbee. But the kid in Bisbee's expensive - that's just a crazy calculus."

Such a calculus is particularly egregious given Regent Ernest Calderón's observation that "Arizona ranks 50th in state-by-state college-going rate." The University's mission of public education thus must be balanced against its international and national interests, as well as its need to capitalize on funding opportunities. There are many tensions inherent in these multiple obligations:

Dr. Ron Marx, Dean of UA College of Education: "On the one hand we are thought to and expected to contribute to the local economy, through the development of teachers and other educators to work in the schools. That is not always the main mission of research universities, whose communities stretch around the globe. But we are also research scholars and our research needs to have the same kind of rigor and value that other researchers do across campus. So we have these dual missions: local and global."

Dr. Marx's statement also brings to light the fact that when people speak of "an institution" as one organization, differences in departmental cultures, goals, and missions are obfuscated. While research universities as such may have national and international obligations to meet, some departments within those institutions have a more local focus by design.

Relative to local focus, Regent Ernest Calderón notes that based on the current direction of higher education, the emerging generation of children will be the first in history whose parents are more educated than they will be. In addition, he notes that over half of the high school graduates in the next ten years are from ethnic minorities, "which don't traditionally perform well in higher education."

Some speakers spoke broadly to the importance of education to the stability and strength of the state and its citizens:

Dr. Robert Shelton, UA President: "The future success of this state depends upon the success off the University of Arizona and our mission to foster access, quality, and discovery."

Jack Jewett, Flinn Foundation President and CEO: "The mission, quite simply, and certainly a mission that attracted me to the (Flinn) foundation, is to improve the quality of life of Arizona for future generations."

Other speakers focused on the specific value of higher education to economic development, particularly the need to prepare an educated workforce for national businesses seeking to expand. When higher education is framed as a necessary investment in Arizona's economic soundness for potential corporate outlay, the loss of educational opportunities is conceptualized not only as a loss to Arizona citizens without college degrees, who will earn less than their college-educated peers, but also to the state as a whole:

Ernest Calderón, ABOR President: "We're going to have less educated people running the state, working in the state, contributing to the state."

Tim Bee, former President of the Arizona State Senate: "(Corporations seek) a qualified workforce, an educated workforce.... The economic development of the state...depends on our ability to maintain this structure and these core (higher education) services in our government.... The way out of this (state budget gap) problem is to rebuild the economy, get jobs here, develop jobs here not just bringing jobs in, but we need to create jobs here, and keep our people here earning good incomes."

Paul Luna, Helios Education Foundation President and CEO, on the importance of having business leaders voice the value of education: "We're asking you to vote for education because if you don't vote for education the workers that I need to run my company aren't going to be here and I will leave, and we will leave."

Christine Thompson, ABOR Government Affairs Director: "We have a very low college going rate in the state of Arizona. In order for the state to be economically competitive, we need more people with baccalaureate degrees living here."

Higher education has long been envisioned as both a public good, benefiting the community, state, country, and world, and a private good, benefiting the individual receiving the education. The focus on public good — educating future political leaders, creating environments prepared to welcome national investments — was balanced by statements acknowledging that in the current climate, education is largely perceived as a private good.

Dr. Nils Hasselmo, former President of AAU: "Funding for state universities is dwindling, tuition is rising, students are borrowing more than they receive in grants, and these seem to be indications that our society increasingly sees higher education as a private good, only of value to the person receiving it."

The notion of private good was reflected in the remarks of a number of speakers, many of whom referenced the illustrious history of education in the United States to underscore its current and continued importance:

Ernest Calderón, ABOR President: "If you graduate your income is about \$20,000 higher than someone who isn't a graduate. Automatically."

Dr. Joaquin Ruiz, Executive Dean of CLAS at the UA: "I strongly believe that the equalizers in this country, which really take us to what the Constitution suggests, have been the Universities. Universities were really the ones that were able to equalize our silver spoon or wooden spoon."

Dr. Robert Shelton, UA President: "If you look back and see the role and the commitment to universal basic education for this nation, it is unparalleled."

Dr. Martha Kanter, Undersecretary of Education: "The truest measure of a society's worth is whether it offers everyone the opportunity to go and get an education, to do what they want to do."

Tim Bee, former President of the Arizona State Senate: "Any (academic) area where a student can achieve and better themselves is going to make our state, and our nation, and our family all stronger."

While the scope of expectations - international, national, and state; public and private good - may be broad, higher education's potential to contribute to all of these emerged as a theme throughout the speaker series. What differed were perspectives on which constituents and obligations to prioritize, suggesting that the scope of expectations is difficult to balance.

Considerations and Compromises: Student Access, Institutional Capacity, and Academic Success

In addition to addressing the (oft-competing) obligations that institutions have vis a vis international, national, and state interests, and the mandates institutions have to contribute to both the state (public) and individual (private) good, a number of speakers also addressed the critical importance of expanding access to as many students as possible, increasing the capacity of state institutions to serve students, and refocusing energies on retention and pedagogical research.

Regarding Student Access:

Raul Grijalva, Arizona Congressman: "Right now, this country's having very, very important conversations about our economy, our workforce, and what that economy and workforce would look like in the 21st century. And, above all, extending opportunities to all students for higher education needs to be a major part of the conversation."

Dr. Martha Kanter, Undersecretary of Education: "We're really committed to try to think about... what we can do at the federal level, at the state level, and locally to make more of this happen, so that...we can have that commitment and deliver on that commitment, and educate the top 100% of people in America."

Dr. Michael Crow, ASU President, comparing public institutions to private institutions whose goal is to enroll only a "hand-picked class": "Public universities that have gone down that path, in my view, are failures to the public. What we have decided to do is build our universities around, and measure our success by, who we include and what we can do with them.... Access means no one is left out for financial reasons and we admit every qualified student. Again, we don't care how they got here, we don't care where they came from, we don't care about anything all we care about giving them access to the greatest faculty that we can assemble."

Dr. Robert Shelton, UA President, despite tuition increases: "I think we have found a situation in which we can work with higher tuition and higher aid and still demonstrate to families that we are open for business and that we are accessible and that everybody - no matter what socioeconomic background, no matter what ethnic background, no matter what your history - you get the grades and you qualify, that you can get in."

Institutional Capacity.

Offering access to every qualified student requires finding ways to increase the capacity that public institutions in Arizona have to educate all who qualify. As Dr. Martha Kanter noted about community college transfer students, "you have students at the community colleges wanting to come - there isn't enough capacity." Other speakers seconded that observation:

Tim Bee, former President of the Arizona State Senate: "We need to produce a much larger number of baccalaureates in this state. We are behind on some of the national averages on that."

Ernest Calderón, ABOR President: "We have to increase degree production by about 1/3 in the next 10 years."

Dr. Gary Rhoades, AAUP General Secretary: "We have to build our capacity. Not just physical capacity because we've invested a lot more in facilities over the past 10 years than we have in faculty. We've got kind of this edifice complex going, we like to build edifices.... What a lot of people nationally are saying is we need to expand our capacity and this is taking place at the same time that the states are just hacking, hacking, hacking. So I think that's the challenge. It's not the structure of the system primarily. It's fundamentally: will the state invest in educating lower income kids?"

Solutions for increasing capacity range from creating new campuses governed by existing institutions to exploring alternate modes of educational delivery, such as increasing online learning. A proposal to create branch campuses around the state, taught by faculty not as interested or invested in research, and

therefore believed to be more able to focus on teaching, was proposed as one feasible way of making college more accessible:

Christine Thompson, ABOR Government Affairs Director, on a proposal to create alternate four year degree-granting options: "The model of a research university is the highest-cost model that there is. And in Arizona, the way that our system has developed (is that) we have got two research universities and one research intensive university. So, we are providing higher education at the highest cost. The Regents want to look at providing lower costs options. Not at the expense of the university system that we have now, but enhancing the university system.... As part of that, the Board of Regents have been working with the universities to identify new, high-access, lower-cost options that would allow both a lower cost to the students and a lower cost to the state."

Ernest Calderón, ABOR President: "We're expecting 27,000 to avail themselves to the new lowercost model. Why? Because we don't have the money and we have got to provide options for people....We should be able to deal with growing enrollment while maintaining the quality that we have at our universities."

Echoing Calderón, other speakers also noted that increased capacity should not mean a reduction in quality:

Dr. Roy Flores, PCC Chancellor, regarding online learning: "We want to make sure that our online courses are going to be successful. And we need to understand how: what are the criteria, what makes a good online course, what makes it successful?"

Academic Success.

Along with the need to increase student access and the need to increase the capacities of institutions to educate students, many thoughts emerged on the broader challenges that keep students from academic achievement. Suggestions ranged from the need to increase self-expectations in students and families to the need to provide more effective recruitment and retention programs:

Dr. Michael Crow, ASU President, noting that schools in Arizona have below-par retention rates: "How do we improve our retention? That's those fantastic students walking out the door and revenue walking out the door, that's a huge impact on the student, huge impact on the institution."

Paul Luna, Helios Education Foundation President and CEO: "We've come to realize the importance of culture and expectation and fundamentally creating a mindset in students that they can go to college and graduate - regardless of where they were born, regardless of where they are being raised, regardless of whether or not anyone else in their family has ever gone to college and been successful. We have to create an expectation in themselves, in the families, in the community that yes, these students can in fact be successful in college. And without that culture, that collegegoing culture, the fact of the matter is these students will not go and will not be successful; that we already know. So our challenge is, how do we create that expectation and that culture? I think that's where the role of philanthropy on a broader scale comes into play."

Dr. Martha Kanter, Undersecretary of Education: "We have a real opportunity to raise educational quality in the kinds of things were doing, whether it's curriculum or assessments, whether it's K-12, early learning, or higher education. It's more than really increasing enrollment."

Dr. Gary Rhoades, AAUP General Secretary: "At the national level now, people are no longer talking about access; it's really success.... We should be investing in the kinds of programs that are going to reach those kids (who are underrepresented in higher education), and pull our whole community up, because we're all going to benefit from that program."

The need to increasingly focus on the needs of students with different levels of academic preparedness also emerged:

Dr. Joaquin Ruiz, Executive Dean of CLAS at the UA, referencing the educational needs of underprepared students coming to college: "We get too little money to do what we're told to do, and we would like to actually charge more money for something that we may not be able to do."

Dr. Roy Flores, PCC Chancellor: "If you want to know what makes a successful organization, I'll tell you right now: it's to run it in such a way that the average person succeeds. Anyone can find success if you're surrounded with geniuses, but the key is how do we make it work when you're only going to have average talent and average effort, and that's the hard part.... I'm hopeful that we can have better diagnostics and meet the individual learning needs of every student. And, we have to do it in a way that's scalable. And also to find the different modalities that are more advantageous for the individual student. Already what we're looking at in terms of the data we've started examining at the college is that not every modality has the same effect on every student."

Dr. Martha Kanter, Undersecretary of Education: "When looking at access, quality, and completion, college completion is really what our answer is going to be...how can we make sure there is a better match between student aspirations and their performance?"

Christine Thompson, ABOR Government Affairs Director: "In the more strategic plan they're not only looking at increasing the venues for access but also increasing the efficiency we have within the system....We need to do more to bring people in, to keep them in, and get them to their degrees as quickly as possible because that also is a mechanism of cost savings for the state and for the citizens who are attending school.... We're looking at improving retention and improving the number of baccalaureate degrees we put out at our universities that we have right now, but then also carrying that over into expanded access."

This triad of considerations — access, capacity, success — exist both individually and in tandem, and the pressure of each exacerbates the others. Giving more students access necessitates an increase in capacity; that increase in turn necessitates an increased preparedness on the part of the institution for the various learning styles, academic strengths, and extra-institutional pressures (financial, familial) that students bring with them.

Considerations and Compromises: Institutional Fund Allocation

It is clear that institutions of higher education are being tasked with balancing claims from international, national, state, and student interests. Relative to the state and its students, public institutions also must balance access, capacity, and the need to provide quality education to students from all backgrounds and with varying levels of academic preparedness. Addressing these many demands involves

making and promoting various strategic decisions about academic departments, and then deciding how and where to allocate funds based on these decisions.

The tension between STEM fields (Science, Technology, Engineering, and Math) and non-STEM fields arose as the clearest indication of the pressures institutions face in seeking to balance their educational offerings and priorities. Financial support of academic fields has implications for students' educational choices at institutions, as well as for the kinds of academic preparation incoming classes are expected to have in order to succeed within those choices:

Paul J. Luna, Helios Education Foundation President and CEO: "We're very focused on the importance of STEM education, and how we need to be able to provide better quality teachers in middle schools, to be able to teach math and science and some of the subjects that have traditionally held students back."

Tim Bee, former President of the Arizona State Senate: "If our country lags behind in an area, it's an area of science, math, engineering. And it's important to work to make sure that our country is on the cutting edge of things if we are going to maintain our competitiveness."

Dr. Joaquin Ruiz, Executive Dean of CLAS at the UA: "Thirty percent of the students that enter the University of Arizona do not pass into the lowest mathematics course we offer."

Dr. Robert Shelton, UA President: "Engineering and science were important to the country because the country invested in it. But somehow, right now, not just as a state, but as a country overall, we have lost this focus....We have forgotten that this type of investment in education paid dividends immediately and in the long run."

A strong institutional commitment to STEM fields can impact not only students but also institutional grants and national attention. A number of speakers noted that federal grants and private industry funds have largely flowed to STEM-related fields:

Dr. Nils Hasselmo, former President of AAU: "(There are) several hundred million dollars that flow into the state of Arizona in funding from the federal government...and the major funds have gone to research areas."

Jack B. Jewett, Flinn Foundation President and CEO: "Most recently, in modern history, the Foundation has placed a great deal of emphasis on the biosciences."

The critical importance of non-STEM fields to higher education also emerged in a number of presentations:

Dr. Robert Shelton, UA President: "We are entering into a time where education is imperative. Everything you can think about in terms of this nation's health: The physical health of its people, that depends on new advances in science. The health of this economy, that depends on people who are tech savvy, those who understand how to interconnect all the traditional disciplines and who can adapt to this diverse and rapidly changing world business culture. Speaking of culture: we need people who appreciate these multiple cultures...that are multi-lingual, that can understand the materialistic, the social side of how you bring people together to be successful.

National security...we need people there who are not only tech savvy, but who have an appreciation for and the understanding of other cultures. It goes on and on and on."

Dr. Joaquin Ruiz, Executive Dean of CLAS at the UA: "The problem is that we should be much more than a technological institution and we should have the fine arts, we should have the humanities, we should have the political science, we should have all that stuff because we should be educating students and we shouldn't only be training students."

While both STEM and non-STEM fields were supported in the rhetoric, the funds to each were not proportionately allocated by external funding sources:

Dr. Nils Hasselmo, former president of AAU, after noting that federal stimulus funds are available to STEM disciplines: "Unfortunately, NAH and NEA were cut."

Jack B. Jewett, Flinn Foundation President and CEO: "The other part of our program is Arts and Culture.... This year it also didn't work out and that program lost some of its luster in terms of finding a sustainable funding source. In short, it was a victim of the times."

The fact that institutions have considerably flexibility in allocating funds *internally* was pointedly addressed:

Dr. Gary Rhoades, AAUP General Secretary: "(There is) a lot of money in this institution being allocated every year, and we are making choices about where it goes."

Dr. Michael Crow, ASU President: "We've been investing in English, we've been investing in core disciplines in the humanities... The core of the institution are in fact the keepers and the philosophers about culture - who we are and where we came from and why we're here and what our origins are and everything else that has evolved from language...."

How institutions choose to allocate internal funds to departments is important in that such decisions reflect institutional priorities. STEM fields generate more in the way of recognition and funds; since non-STEM fields are more vulnerable in times of economic crisis, some speakers suggested that institutional support of non-STEM fields was all the more critical during such times.

Considerations and Compromises: K-12, Adult Education, and Vocational Education

In addition to recognizing that education is both a public and a private good, that student access and success require consideration of variables ranging from socio-cultural to pedagogical, and that competition for university funds requires careful consideration of priorities, the speaker series also highlighted the challenges that state institutions of higher education face vis a vis the responsibilities they have specific to the state and its citizens. The breadth of expectations ranges from providing support to K-12 education to developing adult/remedial education and vocational training opportunities:

Dr. Martha Kanter, Undersecretary of Education, noted that public institutions have been tasked with "educating the widely diverse population of students, from low income families, to immigrants, to first generation students, to returning adults - especially now (that) the dislocated population that are coming back because manufacturing has declined or shifted into robotics

and they don't have the skills to move across careers to get new careers. This is the role that the university and the community college play for families, (as well as serving) students from more traditional upper and middle income families."

K-12 Education.

The need of institutions to contribute to K-12 educational preparation for college emerged in a number of presentations. Per Dr. Ron Marx, "we have largely failed the nation with respect to our K-12 education mission." A number of speakers spoke to the critical importance that colleges and universities should place on this part of higher education's responsibilities, and included references to ways they are working to provide K-12 support and service:

Paul J. Luna, Helios Education Foundation President and CEO: "In my experience, there is nothing more powerful in helping someone to understand the importance of early care and education than if you have a University President telling the story of how important they believe it is to focus on early care. Or to have individuals involved in the K-12 system talk about how important it is for their students to know and understand that they can in fact go to college, and link with the university systems and the community college systems.... We believe very strongly that it's not a competition within that education continuum. It is all education, it all merits support, and yes, we have to address all the issues and strengthen education across the entire pathway of that continuum."

Dr. Michael Crow, ASU President: "We can produce better and more prepared teachers for the world that we are actually encountering, drawn from the best possible students that we can attract into teaching: (students) that have the right psychology, the right forms of intelligence, drawn from disciplines like math and English and Spanish... We're restructuring dramatically how we're organizing teacher preparation at ASU, we're restructuring the whole thing from the bottom up inch by inch by inch.... We're hiring four faculty lines in engineering that will work only with K-12 in engineering - so how do you get kids interested in technology, how do you move forward in new and different ways?"

Dr. Joaquin Ruiz, Executive Dean of CLAS at the UA: "If you have undergraduate students in the lab, you can go to TUSD (the Tucson Unified School District) and actually partner with them to have their best students - which are just as good as our students - be in our labs, so that's what we're doing there."

Disproportionate internal funding cuts to departments charged with educating future educators was thus seen by some to be particularly problematic:

Dr. Ron Marx, Dean of UA's College of Education: "There are differences in the allocations (which) reflect the values of the institution, and that's how it should be.... We serve 5% of the students, award 6% of the degrees, and spend $2\frac{1}{2}\%$ of the state dollars. So, we are a bargain and we were in the high cut group in this year's piece."

Dr. Gary Rhoades, AAUP General Secretary: "(There are educators) who are engaged in trying to lift up the student population in Tucson and it's a sizeable, it's a small enough city that that's actually a doable project. It's not doable if the College of Education takes disproportionate cuts. The cheap college, as Ron (Marx) has nicely articulated, we do more bang for the state buck than most or any other college in the institution, but we get gouged."

Adult and Vocational Education.

Along with obligations to K-12 schooling, institutions have also been charged with supporting and providing adult, vocational, and remedial education:

Dr. Roy Flores, PCC Chancellor: "Adult education is just really, really important for the state. As an economic tool, it's very important. It's rational. It makes sense as an investment, as a social investment."

Dr. Martha Kanter, Undersecretary of Education, regarding community colleges: "The focus will be on dislocated workers from the economic downturn that we had."

Christine Thompson, ABOR Government Affairs Director: "Higher education is countercyclical - when people can't find a job they go back to school and re-tool; either (at) a community college or a university."

Inconsistencies in where and how adult and vocational education are provided also emerged as a topic, particularly in the opportunities that the current economic crises has created for strategic development of programs:

Dr. Martha Kanter, Undersecretary of Education: "(Some) adult education is done in K-12 schools, other adult education programs in community colleges, and what we don't have, and what we want to work on in terms of incentives... (are) bridge programs between adult education and credit-bearing academic programs, whether (at) two-year or four-year colleges and universities."

Considerations and Compromises: Community Needs

In addition to the competing claims of international, national, and state stakeholders, the various needs of the state, and the obligation to deliver education to people across the age spectrum and with a variety of academic goals (from remedial education to doctoral degrees), educational policymaking and prioritizing must also take into consideration the communities that institutions are intended to serve. Many speakers addressed the importance of seeking input from those in the community that state schools are charged with serving:

Dr. Roy Flores, PCC Chancellor: "I'm thinking that we're going to have to enlist the support and aid of neighborhood organizations, libraries, K-12, obviously universities and community colleges. And half the conversation, now, (is) what are we dealing with? And do we have a commitment to make significant changes? I think we ought to offer the programs that people want, and not necessarily the programs that we would love to continue teaching. We have to provide programs that are needed now, whether that means modifying what we're doing, or make transfer more effective, or developing occupational programs for the needs of the 21st century."

Dr. Ron Marx, Dean of UA College of Education: "It's my job...to find partners for P-20 education, higher education, and early childhood education, to collaborate in research and to be involved in policy."

Paul J. Luna, Helios Education Foundation President and CEO, on the options foundations have to engage communities: "Foundations should be community engagement organizations, should be truly partners in our approach, should not be viewed solely as an entity that writes checks."

Dr. Gary Rhoades, AAUP General Secretary: "A variety of groups, variety of coalitions, are working to re-define what it means to be public when you are in public higher education. (It is) coalitions of students, of staff, of faculty, and of community groups... (who can) choose to articulate a different vision of what public higher education can be."

Dr. Robert Shelton, UA President: "We now and maybe always will have to work a little bit harder to ensure that people who come from different backgrounds - not just different ethnic backgrounds but different socioeconomic and international backgrounds - get included and have their voices heard."

Dr. Michael Crow, ASU President: ASU is "trying to design a different university....why would we design the same thing that's here (at the University of Arizona)? Why would we build what exists up in Flagstaff? Great learning environment, great culture. Why would we build what's over in Irvine or UCLA? We don't need another one of those. We need a differentiated institution, designed in a more modern era, focused on those things that the present era requires from that design.... We've decided to go out and ask the people, our students, our faculty, our staff, everyone, what are the great challenges that lie ahead of all of us? What are those challenges that are really, really important for Arizona? And then, what can we do with those challenges? Now if you think we can approach all those challenges and just be the same old institution, unchanging, unwavering, inflexible, slow, like lots of universities are, it's not going to work."

The importance of identifying the unique opportunities and responsibilities that institutions in Arizona have to their communities also means paying particular attention to where we are geopolitically:

Dr. Gary Rhoades, AAUP General Secretary: "I think we're on an unsustainable path. I think we need to take the lead. I think the path we're on is a failure of imagination about what a university in the borderlands of Southern Arizona could be."

Dr. Michael Crow, ASU President: "The cultures that make up our communities, the history through which our community evolved, the history of Arizona, the dynamics of Arizona, our closeness to Mexico, our closeness to Mexican culture - whatever the features of place are, leverage place, the Sonoran Desert. This all makes common sense, until you look at how most universities are run, where place is irrelevant. It also means that if you are going to leverage your place, it means you are going to have to be embedded in that place."

Clearly, higher education is operating in an environment where it's expected to serve a variety of interests (international, national, state, local) through a myriad of educational offerings (including STEM and non-STEM fields) and at a variety of educational levels.. Further, it is expected to do this in collaboration with the communities it is charged with serving. The potential for conflict is tremendous. Finding the balance requires collaboration and compromise.

DFBATE

Dr. Gary Rhoades, AAUP General Secretary: "The choices we make now will determine whether universities will continue on the margins, on balance to increasingly move monies towards administrative non-academic personnel and activities, or whether...we begin to make the apparently really tough choice of moving more monies on balance to the core academic mission."

One thing the new financial landscape has highlighted particularly well are deep rifts that exist in interpretations of the roles and responsibilities of higher education — in other words, there is a lack of consensus on what that core academic mission that Dr. Rhoades alludes to might actually **be**. Clearly, differences of opinion exist about the responsibilities that state institutions have to international and national progress, to state advancement and security, to the communities in which they are housed, and to internal funding priorities. Compromise is often the result, as educators balance (and rebalance) various demands and priorities as needed.

About some issues, however, the differences of opinion are divergent enough that compromise would be difficult if not impossible, as these opinions represent radically different conceptions of "core academic mission." The importance of prestige, the function and role of research within higher education, and the cost of tuition are three particularly acute points of philosophical departure that emerged from the speaker series.

Debate: The Role and Importance of Prestige

As institutions grapple with diminished funds, questions about the importance of prestige become particularly acute; as Dr. Gary Rhoades posits, "the question before us is whether we focus, in my view, on feeding our status-driven aspirations for higher rankings."

For some, the answer is largely yes (either out of choice or necessity):

Dr. Nils Hasselmo, former President of AAU: "I think that we are going to see even more rankings, and they are going to play an even larger, greater role in strategic planning for our universities."

Dr. Robert Shelton, UA President: "(It is critical) to maintain the prestige (that brought students here)...for twenty or thirty years after they graduate. That's the promise we have to keep."

For others, the answer is a resounding no:

Dr. Michael Crow, ASU President: "I couldn't care less about the rankings. What I could care about is that the kid that comes to the university thinks and believes that they are attending a great university."

Dr. Gary Rhoades, AAUP General Secretary, on grants that generate prestige: "What we give up when we give up the idea that we have public missions that we ought to be attending to, when we grade everybody by what's the latest grant you brought in and we don't ask *what* the grant was, we just ask *how much* it was - we give up a place that critiques the system and society that we're a part of."

Prestige is typically endowed from the outside in; universities are largely evaluated based on standardized criteria which do not take into account institution's unique missions or particular community demographics and obligations. Thus the relationship between state/local focus and institutional prestige is sometimes framed as fundamentally adversarial. Some speakers in the series, however, noted the potential that Arizona's talented and remarkable students have to contribute to the reputation of state schools from the inside out; in other words, the importance of bringing in the best from *in*:

Jack B. Jewett, Flinn Foundation President and CEO: "The best and the brightest students from Arizona high schools (are) competing for scholarships, and these are students that can attend any university they choose to attend in the country, and they choose one of our universities in Arizona.... We are celebrating our twenty-fifth year and we have about 450 Flinn Scholars around the country, around the globe. About a third of those scholars come back to Arizona. And that was the basis for the program: to avoid a brain drain early on, to keep as many of these bright students in Arizona."

Dr. Gary Rhoades, AAUP General Secretary: "The central identity (of the UA currently) has to do with these abstract rankings and aspirations about becoming a top ten place rather than about changing the place that we're in...maybe because we conceive of those communities (the public mission is intended to serve) as poor communities only, instead of recognizing that there's actually a lot of political strength and economic wealth in those communities which could benefit us."

Thus while some differences of opinion emerged about balancing the scope of expectations when considering obligations to international, national, and community interests, it is through the lens of prestige that conflicts between these interests most clearly emerges.

Debate: The Role and Importance of Research

Another striking divergence of opinion among the speakers was on the role and importance of research. In many of the presentations, research was framed a vital part of education, contributing to sociopolitical opportunities and technical progress across the world:

Dr. Nils Hasselmo, former President of AAU: "Basic research is essential to our economy, our security, our health, and our social and cultural well being... The big winners in the increasingly fierce global scramble for supremacy...will be those who develop talent, techniques and tools, who advance where there is no competition."³

³ Dr. Hasselmo is referencing findings of a 2007 AAU report entitled "Rising Above the Gathering Storm: Energizing and Employing America for a Brighter Economic Future."

In other words, the "big winners" will be researchers. Others echoed this point:

Ernest Calderón, ABOR President: "Life is better with engineering...and all of this has sprung from this university-based research enterprise, going all the way from electricity and automotive technology down to lasers in fiber optics and high performance materials."

Dr. Michael Crow, ASU President: "Pursuing research and discovery...benefits the public good."

It was also noted that research is not the sole provenance of the STEM fields:

Dr. Martha Kanter, Undersecretary of Education, regarding research around education and pedagogy: "(We need to) learn from the research that we have - that we really haven't done as good a job applying what works - so I think there is a real role for institutions of higher education like the UA to tell us what works."

Other presenters offer a more forceful take on the role of research in educational policy and practice. To them, research is not simply one (supporting) facet of education; it *is* education, and therefore cannot be divorced from the broader mission of colleges and universities:

Dr. Robert Shelton, UA President: "Students come to the university, yes to get classroom experience; also (for) hands on practical experience. And that's what a research university provides. It provides that hands-on experience. Whether it's research in one of the world's great libraries. Whether it's going on a dig in Greece in the summer. Whether it's working in the Bio 5 lab. Whether it's sleuthing out the intricacies of words in order to preserve an almost-dead language. It's part of a great educational opportunity. That's what a research university does."

Dr. Nils Hasselmo, former President of AAU: "(Education should focus on) sowing the seeds: sustain and strengthen the nation's commitment to long-term basic research. Best and brightest: develop, recruit and retain top students, scientists and engineers from both the United States and abroad."

Dr. Joaquin Ruiz, Executive Dean of CLAS at the UA: "I think that the mission of all state-aided institutions is to allow our undergraduate students access to our research.... Sixty percent of the undergraduate students in the College of Science are engaged in research. We make it available. And how do we make it available? Well we have some federally funded contracts that do that. We have some privately funded grants. But in fact what we have is a community of scholars that finds that to be an important part of what they do."

While acknowledging the importance of retaining "research-intensive campuses," however, Regent Ernest Calderón conversely posits that "we're going to have to create high-access low-cost programs" that do not focus on research, arguing that an education focused on classroom and online learning serves the needs of those students seeking higher education as a mechanism for upward mobility. In other words, while research may be important, research opportunities are not essential to all learning, and public institutions in Arizona need not be bound by the (high cost) obligation to provide research opportunities to all seeking higher education.

The recommendation to create lower-cost community outlets of higher education that are not researchoriented, featuring faculty more focused on teaching than research, is a point of intense debate. A pointcounter-point emerges:

Low-Cost/High-Access a good choice for Arizona

"Tiered system" model is wrong for Arizona

Ernest Calderón: "What we have to do is have a differentiated program in delivering services... we want to retain these researchintensive campuses (UA, ASU, and NAU) but we're going to have to create high-access low- cost programs... We need to have one new Baccalaureate campus in the state within a year or two. It might be built in a Wal-Mart box (or) empty building somewhere, because we don't have the money to create the halls of ivy that you expect at a university. And it might have a lot of online interaction in it, etc, but we need to have a Baccalaureate institution that only provides BAs and BSs, Bachelor's of Arts and Bachelor's of Science and no research component to it. No football team, no basketball team, maybe not even a library, maybe they'll share the library with the UA or ASU or NAU. And in return, we charge (less) tuition at that school. Let's say tuition at Arizona is \$7,000, they'll pay \$3,500. Gives the citizen a choice."

Dr. Gary Rhoades: "Part of the reason a tiered system in my view makes more sense in California than necessarily it does here is the University of California really is - particularly the flagship campuses - (admitting only) the top 5 to 6 percent of most of the state population. That's just not true of the UA and ASU. We are not now, nor will we ever be, accepting only the top 5 to 6 percent of the students. So, the game here I think is not necessarily going to be solved by setting up what fundamentally is going to be cheaper - not just cheaper cost but (a) cheaper investment for the state. If you're opening up mall sites ...people understand the difference between going to a university that's in a mall and going to a university that's like ours, that has a mall but that isn't rental space *in* a mall. They actually understand that. So that in itself is just the wrong message to be sending to people."

Christine Thompson: "Most of the people getting a Baccalaureate degree are in the high cost program. So, in the long term, something like this will save both citizen's tuition dollars and save the state money."

Dr. Robert Shelton: "What person...thinks that businesses want to come to a state with a broken education system, whether it is K-12 or higher education? This nation's health... requires a robust and, I will argue, research- centered university, (as opposed to) schools producing cheap degrees."

Clearly, for some speakers, the notion of a higher education system that does not require research compromises the very goals of higher education, and in doing so affects the value of the education that students receive and the value of education to the economic health of the state:

Greg Fahey, UA Associate Vice President of Government Relations: "We're doing basic research that allows other things to happen in our society even if you can't connect a certain line. Secondly, the research grants we bring in are a very valuable component in the economy of the state, especially in Arizona."

Research can bring in funds. However, discourse focused on research has strategic implications for funding that are *not* always positive; as Fahey also noted, an emphasis on research in institutional promotion can paradoxically alienate some stakeholders:

Greg Fahey, UA Associate Vice President of Government Relations: "The President and the Provost (at the University of Arizona) are constantly talking about the 'Research University,' and sometimes that rankles people. A lot of legislators say, 'I'm sick of hearing about research, I want to hear about teaching now.' But it's hard to talk about. You can give people examples, if you bring them here, of some exciting things in teaching. It's hard to go to the legislature and talk about teaching as an entity that's exciting."

If community members and legislators are conceptualizing the relationship between research and teaching/learning as adversarial but institutional leaders hold that research and learning are synonymous, a fundamental tension arises.

Debate: High-Tuition/High-Aid

While the importance of prestige and the role of research were the most obvious points of contention, another point-counter-point suggested a lack of consensus in the prospect of increasing tuition, and increasing aid concomitantly.

High-Tuition, High-Aid Viable	High-Tuition/High-Aid Not Viable
<i>Dr. Robert Shelton:</i> "What I have reluctantly concluded is that this state situation we are in is now forcing us to a higher-tuition, higheraid model I think it can work. And let me tell you why: over the last three years the debt incurred by graduates who are residents of this state has virtually remained constant in spite of the tuition increases."	Representative Raul Grijalva: "Increases in college tuition are burdening American families across this nation. Students depend on federal grants and loans in order to advance their careers (and are) struggling to make ends meet and to repay that obligation. And, when students fail to access education, or (leave universities) without a degree, our economy is going to suffer and we'll suffer."
Christine Thompson: "There are other states who spend hundreds of millions of dollars on financial aid in addition to supporting the institutions. In Arizona, the only real program that we have is the financial trust The research bore out that low tuition meant low financial aid because the state wasn't investing in financial aid. It actually wasn't affordable for students to attend the university. It sounds counterintuitive, even though tuition was low; you have these other costs of attendance that couldn't be borne by the students."	Dr. Gary Rhoades: "For three decades we have shifted the burden from the state to the student."
Greg Fahey (acknowledging benefit): "Arizona is especially cheap in providing financial aid from the general fund. So, aside from the federal money, which is a hefty amount, most of what counts as State financial aid doesn't come from what we call the State, it comes from the University, from tuition. And as we all know, one way we justify the tuition increase beyond sheer necessity is because we are able to protect needy students by channeling over 17% of the tuition monies to need-based financial aid."	Greg Fahey (acknowledging problems): "You can't protect everyone with financial aid. You do get questions on the middle-class. You do change things from what they were, where we were a real cheap -tuition state and a very pleasant place for many people."

Such debates — about prestige, about research, about how to serve greater numbers, about tuition—suggest that there are some significant points of points of departure about how to best meet some of the disparate demands placed on institutions of higher education.

REENERGIZING AND RECONNECTING

In addition to innovations, considerations and compromises, and debates, a large number of speakers addressed the seeming diminishment of local and state support for higher education among the citizens of Arizona. In this section, speaker reflections related to support from the state and its constituents - where it went, why it went, and how to get it back — are presented. In particular, competition for state funds from other programs and services, regaining stakeholder trust and support, and accountability are addressed.

Reenergizing and Reconnecting: Competition for State Funds

As previously noted, some funding pressures and choices come from within the institution, in the ways administrators choose to allocate resources and implement differential internal cuts. Recently, significant funding pressures have also come from outside the institution, including drastic reductions in state funds, fewer gifts from grantors, and diminished support from donors. A number of speakers noted that part of the loss of support for higher education has been a result of competition for state funds. In other words, the issue is less that citizens do not value higher education per se; the issue is that they value other services *more* than higher education in times that call for economic restraint. While higher education, as Regent Ernest Calderón notes, may be a major industry, it must compete (or is perceived to compete) with a number of other critical services that rely on state funds to function:

Tim Bee, former President of Arizona State Senate: "(The Departments of Health, Economic Security, and Corrections) are at the point where additional revenue cuts will impair their ability to provide core public services and core public safety."

Christine Thompson, ABOR Government Affairs Director: "There gets to be a point when the factions start getting pitted against each other. And is the public worth of the universities really that much more important than - some will put this out there - is it more important than keeping prisoners in the corrections system? Is it more important than providing child protective services?"

Greg Fahey, UA Associate Vice President of Government Relations: "You have competition from other things...that tug the heartstrings more."

De-prioritizing education relative to competing interests for state funds has ramifications for how higher education is perceived in Arizona:

Jack B. Jewett, Flinn Foundation President and CEO: "Last year with our twenty scholarships, valued at about eighty thousand each for a four-year academic program, we were only able to recruit seventeen students. So you ask how that happens. Well, students are pretty—these are Flinn Scholars—they're pretty smart, so they ask the question 'Are these universities going to be

there for me in four years? What is the investment in Arizona in higher education? I know that if I pick a university, I know that university is distinguished and supported. Is that so in Arizona?'"

Dr. Ron Marx, Dean of UA College of Education, on diminishing state support for higher education: "My claim is that policymakers, and what I mean by this, certainly members of legislature and people that allocate funds, have determined by their behavior that higher education is a private good, not a public good. They might from time to time talk about the public good and so on, but they really mean by their actions that higher education is private."

Dr. Robert Shelton, UA President: "One thing is for sure, it is impossible not to see the damage that this economic situation is...causing - problems of the state. It is both significant and deeply troubling, not just for the numbers; this is important for what it signifies about our priorities as a state and as a people."

Some speakers posited that people in Arizona *do* value the importance of higher education and its role in state well-being:

Tim Bee, former President of the Arizona State Senate: "The Constitution of the State of Arizona requires that we have a higher education system that provides education to the citizens of Arizona, and so you would have (to have) that constitutional change if you were to dramatically alter the ways those are structured. And I don't believe that's the desire here. The desire here is to maintain these systems, and to ultimately build on them and make them stronger."

The above statements are deductive, based on interpretations of the meaning of state cuts and a lack of action to change the Constitutional status quo. A number of speakers suggested that a superior way to find out what citizens of the state really want and need from higher education is to simply ask them:

Dr. Roy Flores, PCC Chancellor: "I'm thinking that the time has come for us to go back to the people of Arizona and ask the honest question: Do you want public higher education? Do you want to fund public higher education? If you do, tell your legislative (district representatives) that you do, and elect people who will follow your wishes. If you don't, tell us. Just tell us if you don't want education, in the case of community colleges, to be funded by the state. Then I have to find an annual 16 million bucks more and that kind of thing. Just give us a little bit of a transition period and we'll do what we have to do. But this death by a thousand cuts is not good for anybody."

Educators and educational leaders are competing for public attention; the question then becomes, how do those committed to higher education share their passion with a community whose attentions seem focused elsewhere? A number of speakers addressed the critical importance of increasing support from the people of Arizona, the legislature, and the business community:

Jack B. Jewett, Flinn Foundation President and CEO: "The business community, or certain segments of it, are not nearly as engaged, and in some cases have become dis-engaged."

Paul J. Luna, Helios Education Foundation President and CEO: "Often times we found ourselves just talking to ourselves, and to the same people all of the time, and what became clear, what many business and community leaders were saying to us on the P-20 council, is (that) what we don't have in Arizona is a true voice for education. And that's what's missing...we don't have a

voice and we don't have a mindset of education, and that's where the philanthropic community first came in."

Dr. Robert Shelton, UA President: "We can all do the numbers and some of you heard me say 'If it's just numbers on a spread sheet, we can figure it out, we can cope with this.' (The challenge is) the personal side of it, it's the philosophy of where this state is going. The people who lead this state, do they want higher education? Can we keep our talented people here, whether they are students, undergrads, grads, professional, faculty, staff? As they begin to see that this state really doesn't want a higher education system in it, in its current form, how do we convey a sense of optimism, a sense that we can master this in the middle of the fiscal, numerical challenge?"

Speakers noted a range of reasons that account for the sense that higher education is not as valued as it used to be in the state, among them a loss of community support:

Greg Fahey, UA Associate Vice President of Government Relations: "(In the past), the UA was the most powerful lobbying force because they had a united community behind them...(today), people don't see us as something that has to be protected."

Dr. Michael Crow, ASU President: "All this stuff going on relative to financing of public education, public higher education....that is nothing but a manifestation of universities, in my view, having drifted from a mission of maximization of their impact.... People of Arizona will invest large amounts of resources into our institutions. And if we are having difficulty convincing them to do that now, it is because they don't know exactly why we are here. And if they don't know exactly why we are here, it is not their fault."

Dr. Robert Shelton, UA President: "People are worried that they are paying too much, that the services that are provided maybe are not the ones that are priorities for them."

Dr. Gary Rhoades, AAUP General Secretary: "There's a lot of knowledge and power and organization in the communities that we have not been systematically sufficiently serving in this state."

Shifts in political leadership and government spending are also germane:

Greg Fahey, UA Associate Vice President of Government Relations: "You have got political opposition to the liberal university that surfaced nearly twenty years ago.... There was a real hostility to any money going to state government. Especially universities, often we don't think of ourselves as part of the state government and they do. It was 'starve the beast,' and we were part of the beast."

While lack of state support was addressed on many fronts, however, a few speakers cautioned against conflating state funds with university funds:

Dr. Gary Rhoades, AAUP General Secretary: "You've heard a lot about constraint, economic constraint by way of the state's economy and budget. I just want to point out...(that) the state's budget is not the university's budget."

Dr. Michael Crow, ASU President: "We have seventeen revenue sources; fourteen of them are up and three of them are down...so most of our revenue sources are up.... We believe that the state has been irresponsible by cutting the universities to the level that they've cut. Ok, they've cut, so you can cry about it all you want. It won't bring it back tomorrow. You've got to figure out how to advance the institution, so you advance by developing models which enhance your revenue

streams."

Competition from other departments and services that rely on the state for their functioning — among them protected, critical programs — was thus clearly identified as a cause of loss of state support. However, speakers also noted that the diminishment of support has come not just from legislators but from members of the community, and largely attributed this loss to a lack of communication between institutions and communities on the value of each to the other.

Reenergizing and Reconnecting: Regaining Stakeholder Trust and Support

The speakers in the series spoke uniformly of the contributions that higher education makes to the public good, which brings into sharp relief the unfortunate fact that many in the public sector do not appear to perceive higher education as a major contributor to such good. As Dr. Ron Marx noted, "for our nation to endure, for our democratic institutions to succeed, for our economy to be robust, we must do things quite differently." A number of speakers therefore addressed how universities can do things differently, to best convince constituents of the value of higher education for the public good:

Dr. Martha Kanter, Undersecretary of Education: "(Institutions need to be) able to show the public that (in earning) a Baccalaureate degree...a graduate degree...a doctoral degree: *this* is what students have learned, *this* is what they know, *this* is what they can do; this is really meeting the economic but also the social demand of our society.... (When) all the partners in education meet together, you can then go out to business, you can then go out to philanthropy, you can then go out to the Congress and say 'We need to make these changes, and here are our priorities. Because we have worked together in ways that we hadn't in the past'."

Dr. Gary Rhoades, AAUP General Secretary: "If we expect more public support we need to rebalance and shift our focus in order to recapture and re-feature our public-ness and our public spirit.... We for some reason underestimate and under-invest in partnering with any of those communities - any and all of those communities (it is the public mission to serve) - in effecting the sort of network that (is critical)."

Dr. Joaquin Ruiz, Executive Dean of CLAS at the UA: "(We need to make efforts at) clarifying what our mission is. Something that I think we haven't done very well. Specifically state aided institutions.... And then, how we transmit that knowledge and how we actually affect the community that we live in? Outreach."

Dr. Robert Shelton, UA President: "Smart, hard-working people are good for this society. So (what) we have to think about in this country and this state (is): how are we going to articulate the importance of having an educated populous? In the end, it costs society so much more to not educate people than it does to educate them."

Christine Thompson, ABOR Government Affairs Director: "We do make the argument that investing in the university is investing in human capital and that...companies (are) coming here because we have an educated work force.... The sales technique depends on who you're talking to, but we are making those arguments.... We know that education is not only a key to developing a stronger economy but to answering a lot of those questions that put pressure on other social

services and government. When you have an educated population, you have less activity in corrections; you have fewer people on Medicaid and Medicare. We've been trying to sell that message and we're doing our best, and we're working with the universities, with the business schools, and others to help put that data forward."

Paul J. Luna, Helios Education Foundation President and CEO: "If we're going to create a voice for education, it's really going to have to start with us.... What we learned is that in Arizona when you ask individuals to describe education, it really was very specifically the K-12 education system, and it was a very limited understanding of higher education and the importance of early care. And so the commitment of, initially, the foundations coming together was that we would begin to help to create a strategic partnership, a collaborative partnership, that would focus on raising the quality of education for all students, at all stages of the education continuum, and begin to educate the State of Arizona to what we meant by that full education continuum."

In addition to noting the importance of increasing outreach and collaboration with constituents, some speakers also addressed a converse need — to advocate for increased political action from constituents on behalf of institutions:

Dr. Robert Shelton, UA President: "(The UA has) Advocats; these are business people, sometimes alumni, sometimes students here, who are in all the congressional districts in the state, the political districts in the state. Because if I'm a Representative or Senator of the state, I want to hear from people in my district. There is (another) group called PAWS, Parents and Alumni Working With Students. So we're trying to get this set of materials out that then people can pick and choose (from), and then decide what speaks fully to them."

Paul J. Luna, Helios Education Foundation President and CEO: "How do we get more people to get out and vote, to understand who they are voting for, and quite frankly to begin to create a call to action? We're just going to ask the question: Do these people (running for office), who have these signs asking for your vote, care about education?"

Jack B. Jewett, Flinn Foundation President and CEO: "We're quite serious about civic leadership, and we believe that it is possible to have a very huge quality program, and we're looking seriously at what our role might be and what the role of Flinn Foundation and other philanthropies (might be)....We need to equip individuals with the qualities and skills sets and the opportunity and the desire to serve, whether it's in public service or private service. (We can) focus on a civic leadership whereby individuals, emerging leaders, are equipped with the knowledge and skill sets to operate in a public environment."

And some addressed the importance of targeting state legislators for messaging:

Dr. Robert Shelton, UA President: "This huge challenge that we face, that I certainly face day in and day out, is how to help our legislators understand this fundamental concept: not only is the UA dependent, but *their* success as political leaders (is) dependent, on the economic drivers that are produced at the University of Arizona. The success of our political leaders depends on the success of this university. And we want to help. We are part of this state; we are part of the solution."

Greg Fahey, UA Associate Vice President of Government Relations: "Legislators could easily say we want a lot more of that and a lot less of this research stuff which is more expensive and we aren't real sure what we get anyway. But the fact is, we have to do a better job of explaining what we provide with a research university."

Many ideas on how to connect, and reconnect, with local, community, and state constituents arose as part of the series. The importance of better articulating what it is that institutions offer, and what value those offerings hold for the state and its citizens, emerged as imperative. While debates thus exist as to how prioritize funds, what elements are critical in higher education, and how broad a net institutions should cast when it comes to research and prestige, there was remarkable consensus about the need to reenergize relations with the state, its citizens, local and state businesses, and the communities that institutions in Arizona are intended to serve.

Reenergizing and Reconnecting: Accountability

One consequence of convincing constituents of the public good that emerges from education, and of gaining public support for education, is that institutions then need to be prepared to be held accountable for that support. A number of speakers addressed the issue of accountability, specifically the responsibilities associated with accepting state support:

Dr. Roy Flores, PCC Chancellor: "You have to have some skin in the game if you're going to call the shots. If this continues, I think it makes sense for Pima Community College to petition to get out of the state system and look for something else. I'm talking about rational decisions, you know...because at some point it'll cost us a buck twenty to report on the dollar they give us."

Dr. Joaquin Ruiz, Executive Dean of CLAS at the UA: "As we move forward and the money sort of...disappear(s) from the state, the question is: will they disappear without their oversight? Or will they disappear but will maintain their oversight? Then we're really in a bit of a pickle."

Greg Fahey, UA Associate Vice President of Government Relations: "A lot of people would say 'you belong to the state of AZ,' and if you start talking like you are independent, you know that's really going to cause trouble and they (the state) may try to control us more."

A cautionary note regarding need to balance the support of the state against its demands and bureaucratic structures thus also emerged as an element of reenergizing the relationship that institutions of higher education have with the state.

CONCLUSION AND RECOMMENDATIONS

Given the disparate and varied perspectives on what higher education could and should be, is it not altogether surprising that interpretations of crisis and opportunity, and the attendant proposed solutions to economic turmoil, varied wildly across and between speakers. While agreement emerged on the tremendous resources that institutions can bring to bear in times of economic crisis, and on the pressing need to better engage local and state communities, there were also issues around which a distinct lack of consensus emerged. For every claim about the best next steps, it seems, there was an equally viable counter-claim. Can a high-tuition/high-aid structure succeed in a public university in this state? Can growth and prestige co-exist? Can lower-cost non-research-intensive community outlets provide students with a quality education?

Many solid recommendations came from the speakers in the series, who suggested opportunities and avenues for communicating and furthering the *actual* value that higher education has for the state, in terms of economic, political, social, cultural, and medical health. In addition, numerous recommendations for improving the *perceptions* that citizens, businesses, philanthropies, and government have about higher education's value also arose. Among the most consistent recommendations that emerged focused on the critical importance of including local communities to the greatest extent possible during strategic planning. Such inclusion not only increases institutions' abilities to meet community needs, but also demonstrates to constituents that institutions are committed to supporting local and state endeavors. A cycle thus can emerge, wherein institutions and constituents increasingly acknowledge and recognize the critical role the other plays in collective security, success, and progress.

A second issue of critical importance that emerged from the speaker series is an urgent need to draw explicit connections between the choices that universities and colleges are making and the implications of those choices for stakeholders. Every conversation about increased tuition, for example, needs to include an unequivocal reference to the attendant increased aid that will mitigate the burden for families. Every reference to education as public good needs to be backed with specific, community-appropriate examples. The discourse around lower-cost, higher-access community outlets needs to be cognizant of the fact that citizens may have to be convinced of the value of such degrees; the citizens ultimately charged, through their vote, with determining the value of low-cost, high-access, non-research-based Baccalaureate opportunities are at risk of hearing such mixed messages and hyperbole that already-strained community-academy relations may be tested further.

Additionally, given the urgency of generating support, it may be important to create programs that can have an immediate and tangible benefit, particularly since, as Dr. Robert Shelton notes, people expect short-term ("weekly reports") feedback. Including a mandatory service-learning requirement in higher education may address this need. Some departments already contribute in visible ways to the public good; the College of Education at the University of Arizona, for example, operates Project SOAR, through which higher education students in various college majors mentor students in under-resourced area middle schools, promoting an ethos of college attendance.⁴ The Anthropology department at the University of Arizona has college students leading museum tours, focused on cultures of the Southwest, to public school students.⁵ The Journalism department has student editors working on a Spanish-English bilingual newspaper for residents of South Tucson.⁶ Wildlife and Fisheries Science teaches students water harvesting techniques — certainly a public good in the Sonoran desert — for home and campus.⁷ Outreach efforts through projects such as these have an immediate impact on those benefiting from the service, as well as a strategic impact in the message such service sends about the value institutions place on community involvement.

It is clear from the speaker series that educational leaders believe that education is a public good, and it is equally clear that most feel constituents do not see it is such. This disparity suggest that there needs to be more intentionality in the curriculum, in the communication of organizational mission, and in the solicitation of feedback from the communities higher education serves, so that those benefiting from education as a public good are exposed to its contributions in more immediate, collaborative, and meaningful ways.

If more public K-12s had student mentors from a cross-section of higher education disciplines, if more non-profits benefited from the efforts of higher education students earning credit for service learning, if every scholarship — from Arizona Assurance grants to foundation gifts to institutional awards — came with an explicit expectation of civil leadership, how might that potentially change perceptions of public versus private good? If anti-elitism is diminishing support for universities, can strategic institutional outreach, featuring students, faculty, administrators, and leaders as ambassadors, counter the sentiment that research universities do not sufficiently contribute to the public good? The suggestions and recommendations that emerged from the speaker series certainly lay the groundwork to start finding out.

(Footnotes)

Dr. Martha Kanter's presentation was part of the Ernest W. McFarland Lecture Series at the University of Arizona. Her talk, "The Future of Higher Education in the Obama Administration," is included in this report because of its consistency with the overarching theme of the series.

⁴ H ED 350 — Student Outreach

⁵ ANTH 302 — Educational Applications in Museum Anthropology

⁶ JOUR 490B — El Independiente

⁷ WFSC 454 — Water Harvesting