Announcer: Ladies and gentlemen, please take your seats, our program will begin shortly. Ladies and gentlemen, please take your seats, our program will begin shortly. Thank you.

Tamar Jacoby: Good morning everyone. Thank you so much for joining us. I'm Tamar Jacoby, President of Opportunity America. We apologize for running a little late, apparently there's a protest downstairs—Ferguson protest, so some people are having trouble getting in. We want to get started, reward you people who were on time and not punish you because other people are stuck.

Thank you so much for being here. We're very pleased to be co-sponsoring this with Arizona State University. I'm here to welcome you and frame the day a little bit and hand the mic over to our keynote.

What we're here to talk about today is the purpose of college, the social role of college and higher education. We believe that purpose is changing—changing really quite dramatically in a way that perhaps doesn't get talked about enough.

People talk and write a lot about college of course, the class, the debt to pay off, is it worth it conversation. There isn't very much discussion of the social role of college in American life.

Consider one set of numbers, cause they sum it up for me—in 1940, five percent of Americans over 25 had a four year college degree. As recently as 1965—I was alive, some of you probably were—it was still less than 10 percent of Americans had college degrees. We're now close to a third and people in the higher education establishment want to basically double that and go to 60, if not beyond.

Platted on the grass, that's a pretty steep curve, five, ten, thirty to sixty, that's dramatic change. What it means is that an institution that was created and designed to prepare the nations tiny elite—the very, very top tier—is now charged with a very different task. A much more democratic task, basically preparing at least half—if not close to everyone—in some peoples mind.

The point here is not to question or dispute that changing purpose, but to acknowledge it, honor it and to look at how colleges are managing the transition—this shift from elite institution to—for want of a better word—mass institution. How can colleges do it

without trade-offs? Trade-offs in quality, trade-offs in success rates, trade-offs for students, trade-offs for society? That's our subject.

The other thing we want to do today—and I'm a little bit subversive here, I like being subversive—that will make today a little bit, I hope different from other education events, is we're going to try to get beyond the usual framing and vocabulary of education conferences.

Apparently there was a piece yesterday—I didn't see it—talking about edu-speak. We want to get a little outside of edu-speak because obviously, many people in the education world do notice this change I'm talking about and deal with it—work with it—try to deal with the scope of the challenge every day, day in, day out. They tend to talk about it in functional how-to terms.

For example, the term completion rate. The conversation about completion rates is a conversation about the shift in purpose from elite institution to mass education. That's a hugely important conversation, completion rates. A lot of people in this room are very engaged in it—the presidents, President Crowe, President Daniels, the University Innovation Alliance.

The goal toady is to stand a little bit back from that conversation and look at the picture with a little bit longer lens. Part of the plan, I think, is that this isn't just an education issue, it's a social issue. I think it can be helpful to explore it in those terms. To think about meaning and significance as well as how-to practicality.

We've got a lot of exciting people here to talk about it. Starting with our keynote, Hillary Pennington. Before I introduce Hillary, I have to two—I've been told to do, assigned to do—two important things, two instructions. Number one- we get to Q and A and there's a Q and A in pretty much every section. Hold your fire until somebody brings you a mic. We'll all be able to hear you in this room, but the people watching on video far away—Arizona or whatever—won't be able to hear you until you get that mic, so please wait until you get the mic.

Number two-please Tweet, early and often, as they say in Chicago about voting. When Hillary is brilliant, Tweet about it. When Presidents Crowe and Daniels say something particularly profound, Tweet about it. The hash tag is higheredaccess, please use it liberally.

That's the house keeping. It's really my pleasure to introduce Hillary Pennington. She doesn't really need much introduction in this room—it's for once, true. She's Vice President of the Ford Foundation, she runs the foundations Education Creativity and Free Expression Program—what a great term. She leads the—that means she leads the foundations work on school reform in the US and higher eds reform around the globe.

Many of you worked with her in some of her prior jobs at the Gates Foundation, at CAP at the Next American University Project of New America and ASU. Before that, of course, for 22 years—she was 22 years at Jobs for the Future, she was co-founder, president, CEO—built one of the most influential organizations in the country in education and workforce space. We're thrilled you're with us. Thank you so much.

Hilary Pennington: Thanks, Tamar. Just to build on where Tamar set us off. To me, one of the critical issues that we are here to really, I hope, have a candid conversation about is the disjuncture between what the American public believes is true about our higher education system and the role it plays in our economy, and what distressingly seems to be increasingly a diverging set of facts.

The American public believes our higher education system creates a path for upward mobility, regardless—that it's one of the best and fairest ways to make sure everyone has a fair shot at the American dream and at creating a good life. In fact, this no longer is the way that our system is operating. We really risk the opposite, that our higher education system will reinforce privilege rather than disrupt it.

There was a report that the Century Foundation did a couple of years ago—partly funded by the Ford Foundation—that looked at the likelihood that it—different income—students born into different income cortiles in our country, would get a Bachelors degree by the time they were 24 years old.

They started in 1970 and they plotted forward 'til today. In 1970, if you were born in the top cortile of income in the country, you had about a 40 percent chance of getting a BA degree by the time you were 24 years old. Today that has risen to above 83 percent.

In 1970, if you were born into the bottom quintile in this country, you had about a seven to eight percent chance of getting a Bachelors degree by the time you were 24 years old. Today it's basically the same, despite massive changes in policy, massive amounts of public expenditure.

This is happening, of course, in a moment in this country and in the world. Where inequality is riveting us and creating all kinds of social unrest, cultural unrest and really inequality, of course, is when the top pulls away from the bottom and who is in the bottom is not mandam. We know that intelligence and talent are not distributed by race, or ethnicity, or cast, or income.

That's a big problem and people—in their guts—know we have that problem. I think people—in their guts—increasingly don't know, don't trust that higher education, in fact, is about solving that problem. They read about all of higher education's concerns about itself, its status, its funding, its cost curves and there is a disconnect. I think that this is a really critical challenge for the sector and it's a critical challenge for our democracy—given the role that higher education, and particularly—as Tamar said—mass higher education needs to be.

What mass public education K12 did for our democracy and our economy in the 20th century, is exactly why we need a high quality mass higher education system in the 21st century.

I know there are many debates—which I'm sure we're going to get into today—about how much education, what kind of education, who gets it, who pays for it, how fast should students go through it—those are all important. There's a lot of disagreement in the field. Again, I would argue that disagreement tends to stay inside the sector, inside the crowd.

There are people that think the most important fight is about completion and completion rates—as Tamar said. There are others that think it's about the cost structure and the business model of higher education. There are others about the threat to liberal education. All of those things are right, they are all true and I think they are also—importantly—also all wrong. In that they get the fundamental problem wrong and they keep us pointing at each other.

To me, I think the big problem that we have is a problem really of systems change and how the system of higher education works and

what it thinks its job—what it thinks its job is. You can't really change a system, unless you can see that system.

Because we tend to stay so focused on the sub parts of our system—community colleges versus private elite colleges versus four year public research universities and how high in the status are they—we don't do a very good job of understanding that this is in all these institutions in fact, function together as an eco system. The great design challenge is to figure out how to change that eco system.

I don't know how many of you love reading [*inaudible 14:38*]—I do— he has said that making systems work is what he would call the great task of my generation—his generation—of physicians and scientists. He would go further to say that making systems work, whether in health care, education, climate change, making a pathway out of poverty—is the great task of our generation.

I think we have to think about the system. That means that we have to be able to scroll back and understand how incredibly different the students who are in the system are. How different they look than our mental model of students long ago, and how they will continue changing. Our population will continue aging, our population will continue diversifying, the growth in our population will continue coming from families and people who have had the hardest time getting access to higher education—so getting better at serving them is incredibly important.

Then obviously we have a diverse higher education system. To me, the real challenge is how do we—as a system—get better at getting better? How do we learn how to improve and how do we accelerate our ability to improve and to improve at scale?

That's really different than a lot of the kinds of technical solutions that are out there—as important as those technical solutions are. I would encourage us today, to keep that problem, keep that question front and center. I would confess my own evolution on this subject.

As Tamar said, one of the places I worked in my recent past was the Gates Foundation and that foundation should be commended and is legendary for its' focus on systemic—on critical kinds of interventions and what Bill Gates would probably say—technical kinds of solutions. At Gates—and Josh, my great colleague from

those days is here—focused a lot on some very particular kinds of interventions or points, including "the completion agenda".

We got to that agenda—the Gates Foundation got to that agenda out of an analysis of what was happening to socioeconomic mobility in this country. The big problem we thought the foundation should work on trying to solve was actually helping break the inter-generational cycle of poverty. We got to higher education and the goal of helping low income young students get a credential by the time they were 26, from that problem. Then we took a very particular approach to that work.

Ford Foundation is a very different kind of institution through its history. It's "theory of change" has been to focus on funding ideas and institutions and individuals. It has had a different kind of relationship to higher education over its years. When the Ford family first made its stock public, the very first thing that the foundation did with that money—in the 1950s—was to give 260 million dollars to 630 institutions of higher education, to help support faculty salaries after the end of World War 2 and the beginning of the GI bill. There wasn't the capacity in the institution to meet the needs of the country.

We have continued to invest in institutions of higher education through our history and to help create other kinds of institutions along the way. Many of them with the words community in front of them—community foundations, community colleges, community development corporations.

We have also had a strong interest in individuals and we have funded a number—for example—of higher education fellowship programs—as I know you know. Including one now through the national Academy of Sciences—which has been in existence for 50 years and has paid for the graduate education of five thousand scholars of color, including Cornell West, Henry Lewis Gates, Condoleezza Rice.

Those are examples of other ways foundations can help advance things that matter. Then finally the issue of ideas. We helped to create the fields of area studies, field studies in an earlier era. We're very interested now in the idea of how you can help move forward large scale systems change.

For me, in my own journey, I think this question of how we get better at getting better is central. I want to just close with some

thoughts about that. they come from work we are starting to do as a foundation.

We're a "social justice" foundation, we are global, we have 10 offices around the world, plus the offices in the United States. We—our board—has set us towards the path of thinking about how would the Ford Foundation contribute to reducing inequality in this period of time.

Actually yesterday across all of our offices around the world, we started a conversation from each local place, trying to understand more deeply, the drivers and the manifestations of inequality. As we think about what it means to be a social justice foundation, how do you do that thing well, which is only one thing in the ecosystem of philanthropy?

We have taken a page from some work that Danella Meadows has done about systems thinking. In our world, we have four things we think about and I'm going to suggest them because I think they have relevance to you all and to this work.

The first is if you're trying to change a system, you try to change the rules of the game. The rules of the game that that system responds to. It's why we don't fund financial literacy, we work on predatory lending. There are many strands of innovation in this room about changing the rules of the game from performance funding to other—even to the rules of status. I think that's a powerful tool and I'm very interested to hear how you all are thinking about that.

The second is that you work on the system itself and on the goals that it sets for itself—what it thinks it is important to achieve. If it thinks it is important to achieve the kinds of things that have talked about today, then it will behave in different ways. It will prioritize different kinds of things.

One of my favorite thinkers on this is Tony Brike—who is at the Carnegie Institute for the Advancement of Teaching and Learning and who is great grantee at the Gates Foundation. You rarely—as a funder— get a chance to see the second act of what's happened to early grants when you leave an early role, but I had the opportunity to see him recently and he's working with a network of institutions to try to improve outcomes in developmental math.

The best performers are getting three times better results in half the time, half the cost. What interests him is the outliers. What interests him is how do you figure out why some groups in a network of colleges that are trying to improve, do way better than others? Why do some not do as well? How can you create a structured network that allows you to accelerate learning for the purpose of improving?

They are doing incredibly important work, but one of the things he says is we have to learn our way into improvement. In order to learn your way into improvement, you have to change it, in order to understand it. I think that, to me, is a missing piece in all the debates about is it completion or is it liberal learning? Which status of institution is going to really be the one that breaks the code? It's the reason why I am so excited about and proud of my involvement with the University Alliance—Innovation Alliance. It is—it has taken that task front and center. That's the second system goal.

Third is power dynamics. A lot of the movements to give students more information and more power and more transparency—about what they know as they make their choices—would be a good example of that. Here, there is a fabulous article that was recently in the Harvard Business Review on new power and old power which you may or may not have seen by Jeffrey Hymons and Henry Timms and they talk about how old power – which I think is the way that alot of higher education actually works – works like a currency, meaning few people have it, they hoard it, they getter by spending it in small ways, and it's a closed kind of system, think admission into college and rankings. And that new power works not like a currency but like a current. It grows by the, it's created by the many. It's open. It's channeled, not horded, and it is driven by participation and peer kinds of support. He cautions business institutions to try to audit themselves in terms of whether they're new power or old power and to try to bring in new power disruptors into their institutions to help them change. I think that also is a part of the innovation opportunity and power dynamics that need to change in higher education.

Then last but not least, and this is my close, that the sort of highest level, most powerful form of systems change is to change beliefs, what people actually believe to be true. Here, I find some of Tony's work so devastating in some ways because when they really began to analyze what would you change about developmental math that could make the biggest impact, they went to the students

and they asked them a simple question which was, "Do you think you belong here? Do you think you belong here in this college?" What they found was an unbelievably non-random set of answers to that question. If the students were white, they thought they belonged there. If the students were middle income, they thought they belonged there. If the students were of color and if the students were lower income, they did not believe they belonged, that they deserved to be there even though they had been admitted by the institution.

That is a devastating critique of our society and our K12 system, but the amazing thing about that work, the work that Tony is doing, the work that I know parts of the Alliance are doing where the University of Texas at Austin and ASU and others have been doing, is that it then allows the institutions to begin to work on things like mindsets and beliefs and to structure interventions as Walton and Jaeger and others have begun to pioneer that really show you can change things rapidly if you can get to working at those belief systems.

I think the additional awful thing about those findings is not only do those students believe that, but way too often so do our administrators and faculty and systems believe the same thing. It is powerful to have the opportunity to think about how to try to change that. I will, for the interests of time, which I think I'm up, skip over how Ford is gonna work on that. I know we'll have chance over the course of the day to talk a little bit more perhaps about that, and leave you with a great quote, which actually I don't have here. I'll paraphrase a great quote from St. Augustine, which is that the cousins of hope, the two great cousins of hope, are anger and courage. Anger to be angry at the way things are, and courage to take responsibility for tryin' to change them. Find this a hopeful day and a hopeful conversation and I'm so glad to be with you. Thank you.

Tamar Jacoby: Thank you so much, Hilary. Thank you, thank you, thank you. What a wonderful kickoff. Just the right tone, just the right hope. What a great phrase, the critical challenge for our democracy. I think that really gets us going.

Tamar Jacoby: Welcome, first panel. Thank you so much. I'm going to introduce you, I'm going to say a word or two, and then introduce you as I ask you each your first question. The topic of the day is the changing role of college. Higher ed has been charged with this

new role in our democracy, or relatively new role. We hope it's the engine of social mobility. That was really dramatic. It's not. We want it to be the engine of social mobility. The role is for it to be the engine of social mobility. We used to educate this little thin layer on the top. Now it serves a much broader trosh and meant to be these peoples' ticket into the middle class. This first panel's gonna look at how did this new mission evolve, where did it come from, why is it necessary. Why is it so important today? Why does college need to do that? How does it work and why is it hard? I think maybe that's the most important question. Why is it hard?

Ron, we're gonna start with you. You're a senior fellow and chair in economic studies at the Brooking Institution and you run co-director of two important centers there. Help us get at the facts. We do know the conventional wisdom and Hilary kinda set up your question perfectly. We do know the conventional wisdom, that college is the escalator, but there's a lotta people who question and dispute that and they point to the kids living in the parent's basement and working as a barista. Even people who get through college or—the ones who drop out are one thing and the ones even who get through who haven't gone up on the escalator. What does the data tell us about that? Which of those perceptions is more accurate?

Ron Haskins: I think there's several pieces of data, big analyses, that are consistent with the idea that education's really important to economic mobility. One of the most persuasive, and it's a logical thing to do, look at the returns to education for people over the last, say, half century and look at groups of people in their prime earning years and how much they earned. If we do this for people who are high school dropouts, high school graduates, some college, four years professional degree, if we look at them since the early 1960s, the lines never touch. In every single year, people with more eduction made more money. Now, that's only correlation but over that half century when there's no deviation from the pattern, it's amazing. Moreover, the lines are getting further and further apart and have been doing so at least since the early '60s, which means the return to education is even greater now than it was in the past. Not only that but for at least the last 40 years, the lines for people with a high school dropout, people with a high school degree, even people with some college have been generally dropping. The only groups in our society that are earning more money during their prime earning years during their adult life are people with a four year degree.

Tamar Jacoby: The conventional wisdom—

Ron Haskins: I said this is correlational, but I think it's quite persuasive. It's a good introduction to the issue.

Tamar Jacoby: The conventional wisdom at some level's true. Hilary's right to be discontent it's not doing a good enough job, but you're telling us it's still true. College is still the ticket to better earnings in a more dramatic way than every before.

Ron Haskins: Right. Right. Right.

Tamar Jacoby: What about for kids who start at the bottom?

Ron Haskins: Right.

Tamar Jacoby: This is even more true for them, correct?

Ron Haskins: Right. Hilary said if you wanna understand the system, you need to change it. Let's think of this. What would happen if kids from the very bottom got a college degree compared to kids from the very bottom who did not get a college degree? The answer is that for kids who got a four year degree from the very bottom, bottom 20 percent, whose parents were in the bottom 20 percent, they cut their odds of bein' in the bottom by 80 percent, 80 percent. They increase their odds of makin' it all the way to the top, roughly over 110,000 or so, almost by 300 percent. That's still correlational, but boy, I find that very persuasive, that you can take kids from the bottom and if you can get 'em through and get 'em a four year degree, which is a challenge in itself—I hope we'll talk about that—but if they do get through, the payoff to them is very similar to the payoff to kids who are from higher income families. That would be one way to break our problems with economic mobility.

Tamar Jacoby: Okay, so I'm gonna peg you. I know this isn't fair, but I'm gonna peg you as the optimist for the moment. You're sayin' the conventional wisdom is true. If you can make it work—when the system works, it really works still. Okay. Now Andrew, you're gonna be a little bit the—I think you're gonna play a little bit the contrarian role. *[Laughter]* You're the director of the Center on Higher Education at the American Enterprise Institute. You've done a lotta work looking at what happens when disadvantaged kids get to college. College is supposed to be their ticket to upward mobility. If it works, it's the ticket, but I think a lotta your

research shows that often it doesn't work. Talk to us about that. What's the problem and how does it play out?

Andrew Kelly: Yeah. Ron is exactly right. The way I like to describe this is that there's a big payoff, but there's a low probability. Another way to rephrase Ron's point about social mobility is students that are born in the bottom who earn a bachelor's degree, they have a 10 percent change of remaining in the bottom income quintile. If you don't earn a bachelor's degree down there, you have a 47 percent chance. That's from Pews Economic Mobility Project data. There's not really a bigger gap in social science that I'm aware of. That's a pretty astounding difference. The problem though, of course, is that when you look at the most recent data, longitudinal data from the Department of Education from NCS, 14.5 percent of students in the lowest income quartile actually wind up getting a bachelor's degree.

Tamar Jacoby: Say that number again. That's scary.

Andrew Kelly: 14.5 percent.

Tamar Jacoby: Ow.

Andrew Kelly: That's from the educational longitudinal study. That starts with high school sophomores. If you go back to eighth graders, which is the National Longitudinal Study of Youth, it's about 9 percent cuz there are more students who haven't dropped out yet before by then. We have a low probability and so we tend to focus overmuch, I think, on the reward, on the payoff, and assume that cramming more people into the system and encouraging them to just consume more of it is gonna actually lead to more people getting that payoff. I think we've seen that that's not really how it's worked out.

Tamar Jacoby: That's really a great way to frame it. Big payoff, low probability. I mean, that's the reconciliation of the optimist's view and the pessimist's view. *[Laughter]* What you're really saying, now let's get beyond the numbers and point some fingers, what you're saying is the schools are failing these kids, right? That the schools haven't—there's a new social role and schools haven't adjusted to it. Is that right?

Andrew Kelly: That's part of it. High schools are failing kids. 60 percent of low-income kids have to take a remedial class. They take, on average, three remedial classes. Colleges aren't miracle workers, right? I

mean, the notion that they can suddenly make up for 12 years of slipshod education, I think we've assumed that that's possible and it's not, often. That's a huge part of it. I do think that there's clearly financial issues. They're not always just purely an inability to pay. It's also an inability, a lack of knowledge of my financial aid opportunities and what the net price is at the college down the street. Of course, institutions bear a lot of this responsibility. I think they were built in an era, as you said, that was educating a much thinner strata of the population. Frankly, there were different goals then. Colleges often today say, "Well, we're not job trainer. We don't do job training. We don't train people for the workforce." Frankly, that's why most people go to college.

Tamar Jacoby: *[Laughter]* Go to college, right.

Andrew Kelly: The last point I would just make is I did a PhD and I know that I was never once taught how to teach. My alternative career path would be to sit at a university and teach undergrads. That's a big, colossal problem. What's fascinating is in K12, we've spent the last 20 years talking about teacher effectiveness and teacher evaluation and all these things. We have never talked about it until maybe about the last couple years in higher ed.

Tamar Jacoby: You're saying the same think Hilary said, picking up on if you have a certain goal you make different decisions and you prioritize different things. A lotta colleges just haven't made this their goal and so they don't prioritize this in what they do.

Tony, let me come to you and bring you into the conversation. You're the revered director of the Georgetown University Center on Education and the Workforce. *[Laughter]*

Anthony Carnevale: Sounds like I'm dead. *[Laughter]*

Tamar Jacoby: You've done a lotta research on one response, one that I would call a maladaptive response to the new role, and that is—that higher education has made—and that's by stratifying. Talk to us about that. How does that stratifying—

Anthony Carnevale: Well, just to add another log on the fire, we know that since 1983, which is when the American economy began to restructure in very dramatic ways and inequality began to increase, when we try and figure out what drives the inequality we know that about 70 percent of the increase in the inequality has to do with access and success in higher education. Higher education's on the firing line,

like it or not. That is there's a basic bargain between capitalism and democracy and that is that there's upward mobility. At least that's the American bargain. If we can't get upward mobility, capitalism fails. In that case and what's happened is that higher education has become the critical institution in that bargain. However difficult it is, however acrimonious it is, it is a must-do agenda. I think either that or we rely entirely on the welfare state, which Americans are not prone to do. We'd rather rely on education because it presumes individual responsibility. You gotta do your own homework.

I think two problems. One is higher ed has made people better off. There has been substantial movement of lower income and minority kids into higher education but as in every case in recent American history since the New Deal, whenever we've expanded access to housing and then education, even healthcare and so, what always occurs is that there's an expansion in access and then the differentiation sets in reflecting the underlying social and economic reality of the nation. This is not a new problem. We've been through this cycle many times before and never quite beaten it, I must say. We wait to hear in healthcare.

The numbers on this are that since 1994, more that 80 percent of the increasing enrollment in the top 500—talking system here, not the top 20—the top 500 four-year schools has been, 80 percent of the increase in white kids has gone to the top 500 schools and they're white and more affluent and they have higher test scores. In the alternative case, 75 percent of the lower income working class and below African-Americans and Hispanics who've gone since '94 have gone to two-year colleges or open admission four-year schools and there are material consequences to that differentiation.

Tamar Jacoby: I'm gonna ask you about those consequences in a second, but I love the concept that you put out there, that education's on the firing line, like it or not. Cuz once upon a time in the '60s, right, or even in the '50s and in '60s, there were educators, towering educators who said, "We wanna take on this role," but most have been, it's willy-nilly and they're there and that's part of the problem. They haven't taken it on. The "like it or not", I think, is a really important phrase. Talk to us a little bit about the consequences of the segmentation. What does it mean? I mean, I think we can guess, but—

Anthony Carnevale: It means that as you look at the top 500, you have a graduation rate that's over 80 percent. Incidentally, that graduation rate also applies for students who are in the middle range of SAT and ACT scores. Part of the problem with higher education is it's way too risk averse. We build higher education institutions as if you're building hospitals for healthy people. *[Laughter]* At 1000 SAT—

Tamar Jacoby: A hospital for healthy—

Anthony Carnevale: - there is an 85 percent chance that you can graduate from one of the top 500. At 1000 SAT, you're never gonna go to one of those schools and every year, we have 440,000 kids who graduate in the top of their class in high school and eight years later, which is what the data allows us to look at, they haven't got either a four-year or a two-year degree. It's not just preparation in K12. Higher ed is implicated here. In the end, the graduation rates are different. It's double the graduation rate in the top 500 versus the rest. The access to graduate school is double. Incidentally, this is true for students with the same test score as well.

Then the material consequences follow. You get this cycle in which parents who have jobs in the right neighborhoods send their kids to the right K12 institutions. They go to the right colleges. They get jobs in the right neighborhood. Over time, this spiral continues and increases the earnings differences. There is a dynamic here that is somewhat overwhelming. It is not a dynamic, I would argue, that has much to do with human motivation. It's not racism. It's not class bias. It's that disadvantage is the product of a multiple set of mutually reinforcing factors, as is privilege, incidentally. They mirror each other in that way. In the end, we've built a repetitive self-motivated system. It's reflexive. It just keeps spinning and the differences grow apart, which then requires systematic intervention. The question is do we have the politics for that? At the moment, I'd say definitely not.

Tamar Jacoby: Before we get to the remedies, let's stick with the diagnosis for a minute. I'm sorry I set this up as optimist versus pessimist cuz the pessimists are definitely winning. *[Laughter]*

Ron Haskins: Hey, wait a minute.

Andrew Kelly: As we always do.

Tamar Jacoby: *[Laughter]* Before we move on to thinkin' a little bit about what the better world would look like, we've talked about the new

demands on higher ed. We've talked about the failures to meet the challenge and the bad responses. Is there anything we've left out of the diagnosis? Is there anything any of you wanna come in with here?

Andrew Kelly: I would just, I think one of the things that Tony is, I think, alluding to but I hadn't quite thought about it until I was sitting here listening to you is that the interesting thing about this market, for lack of a better term, is that we know almost nothing about how to educate students by looking at the top colleges because they let in the best, right?

Tamar Jacoby: Hm. That's really smart.

Andrew Kelly: And yet they set the tone for how to organize everything in the entire sector, right? Everybody below them wants to be like them and so they organize exactly like those people. Yet they're, and no ill will toward great four-year colleges. I think they're wonderful institutions, but they have really good admissions processes as well.

Anthony Carnevale: They only let in the best, in other words, right?

Andrew Kelly: That's right.

Tamar Jacoby: Yeah. That's easy. That's hospitals for healthy people.

Ron Haskins: You know what, though? I know we're talkin' about post-secondary education, but it doesn't make sense to leave out the origins of the problem. The origin of the problems start in the family and the neighborhood. These kids face huge disadvantages. They go to the worst schools in the country. They have horrible teachers. They live in violent areas and they live in single parent families that are often poor. Other than that, they start out equally. *[Laughter]*

Tamar Jacoby: I know, but that's—right. *[Laughter]* Fair enough. Fair enough, and that's what Tony's saying, too. The point is education is the place where the people in this room can try to make a difference.

Ron Haskins: Yes. Yeah, but there's no need to focus exclusively—we're a rich nation. We have programs for everything you could possible think of. You can't focus just on education, and it has to be broader than that. Education, I totally agree, has a clear role and they're not fulfilling it.

Anthony Carnevale: One other point, and that is that this has a lot to do—in some ways, it's unfair to blame higher education because every industry has a dynamic, an industrial organization. The industrial organization of higher education, and we've put them in this space to some extent, is that it's a competition for prestige. More increasingly as we go at higher ed and demand outcome accountability, graduation rates which I think miss the point—it's completion for what, is the issue. For me, it's for earnings but for others, it's other things. We go at them so we force them more and more, not that they needed a lot of encouragement frankly, but we force them more and more to chase students whose parents have big bank accounts and students who have good test scores. Those students are white and privileged, period. Everybody's chasin' the same kid.

Tamar Jacoby: Yeah.

Anthony Carnevale: There is, and the kids are chasin' the schools. When you have that kind of attraction, marriages occur and they've been occurring very fast in the American system. Either you raise your test scores, raise the earnings of your student body, or you go outta business. The current view in higher ed, I must say from listening to a lotta college presidents, the current view is that the top 500 will survive. The community colleges will grow from the bottom up with things like applied BAs. The colleges in the middle are gonna go away because they can neither offer low cost occupational kinds of preparation and access to four-year schools and nor do they have selectivity prestige that they can sell. I can tell as somebody who's very familiar with Jesuit colleges, this is a view that's out there.

Tamar Jacoby: Prestige, I mean, that is sort of the enemy, isn't it? That's our fault. That's not the college's fault. That's society's fault. We've made prestige the standard so we've gotta change what we reward and what we say we want from colleges.

Anthony Carnevale: Yeah, but I must say I myself am ambivalent about this. That is we've seen 140 college move from non-selective to selective since the middle '90s so that the more highly—the colleges are moving up, as are the students in being sorted nationally. Well, arguably that's an improvement in the quality of the higher education system. Though do you throw that away? There is a dilemma here, and would the American public wanna throw that away? Do they wanna throw away the University of Virginia in Virginia? No, but they want their kids to go there? That's the issue.

Tamar Jacoby: Yeah, but prestige and quality might be different things. Let's, we're gonna have to open a question—I can speak English. We're gonna open to questions from the audience in a moment. Let's go. We've talked about the disconnect between what colleges should do and what we want them to do and what they're actually doing. What would a connect look like? *[Laughter]* It's not necessarily a policy change. If you wanna give us one policy change, that's great, but what would a better world look like? Stay with me at 30,000 feet, what would a better world look like?

Andrew Kelly: At 30,000 feet. I guess you're gonna start with me cuz I'm closest to you.

Tamar Jacoby: Sure. *[Laughter]*

Andrew Kelly: Okay. I would say—

Ron Haskins: No, cuz you're the smartest.

Andrew Kelly: Yeah. *[Laughter]* It's always best to go first. I would say, I mean, a system that rewards colleges for the value that they add to students' lives rather than the product, the inputs that they take in.

Tamar Jacoby: What does that mean?

Andrew Kelly: That means you take students that their trajectory in life is like this and over time, whether it's two years or four years or 18 weeks or however long, you change their trajectory. A system that rewards that, and what I mean by rewarding that is not government measuring that and then giving out money on the basis of that, but empowering the people who are makin' choices, both the lenders and the funders of students. Not just the government, but private funders and students themselves, empower them to know that and go to those places. Take their business elsewhere.

Tamar Jacoby: Okay. Okay. I like that. Take their business elsewhere.

Andrew Kelly: Yeah. Yeah.

Tamar Jacoby: Ron?

Ron Haskins: Our two-year colleges would devolve downward. They would focus on job training, apprenticeships and the outcome measures that they would be judged on and reimbursed on would be percentage of their students employed and wages.

Tamar Jacoby: Okay. Tony?

Anthony Carnevale: My bias about these things, and both Ron and I have long legislative career histories, is that the way policy works is it's not about what's ideal. It's about what's next. I think what's next in higher education and what's necessarily next is we need an operating system for higher education. By that, I mean we need a transport information system. Wage records, transcript data, real time data, internal institutional information, because until we get a fix on how this system works and what its outcomes really are, policy is walkin' in the dark.

Tamar Jacoby: Yeah. With you there. That's great. Okay. Okay. Well, this is great. Start now, questions. Yes. Please tell us who you are. Please make it a question. Wait for the microphone, all those good things.

Audience question: Hi. I think an idea behind a lotta the discussion here is if we increase access to higher education, it will increase economic success and other kinds of positive outcomes for students. Maybe not, and that's a view that I espouse, too. I'd like you to respond to what might be a doubter's question who might ask what if it's just a set sized economic pie and what we have now is an education system that sorts people out, who gets which piece of the pie? What's the argument that shows the pie's gonna increase so there actually will be more economic opportunity if we can increase the amount of students getting access to good, high quality education?

Tamar Jacoby: That seems like it might be beyond our scope, but if somebody wants to take it—

Anthony Carnevale: The first response is that when I first went to work as an economist in this city, the GDP was 3 trillion. It's now 17 trillion. The labor force has gone from 90 million to 160 million jobs. Economics, as long as people want things from each other, economies grow. The trajectory of this growth is very clear. It's a postindustrial service economy that's very high wage, high skill. The reasons for that are complicated and I won't go through that here, but there is a—we also know, incidentally, one of the things that people are saying now is we overproduced education in the '70s, post-secondary. Baby Boom came through, a lot of 'em around. It was an industrial economy. We didn't need 'em. We were scared to death about what they were gonna do cuz they were already troublemakers but—for those of you who remember the 70s. *[Laughter]* In the

end, yeah we called, talked about a revolution of rising expectations, both for minorities and for white middle class college kids. In the end, what you get is an expansion in demand.

If we assumed right away that we meet the Obama goal, which would cost about $200 billion incidentally—which just makes this all the more difficult and urgent and creates a huge need for efficiency in higher education—if we met the Obama goal, in that event we'd increase education graduation by about 18 million students overall. What that would do, if you run it in the models, it would drive down college wage premium over high school from about 74 percent, which is about what it is now depending how you measure it, and it would drive it down to about 55 percent.

On the other hand, we know that that's never happened because when we overproduced in the 70s, we created the growth in the '80s and the '90s and GDP accounting economists are now saying that the overproduction of education was what provided the leverage or part of the leverage for the growth in the '80s and the '90s. In a lotta ways you can disappoint students. You can overeducate them and they can't jobs, but ten years later their value comes through. That's the history of this. Now, there's always a moment when that stops happening and nobody knows—it doesn't make much sense that it would stop happening, but it could.

Tamar Jacoby: Whew. Somebody finally optimistic the economy's gonna keep growing. No, I'm sorry. *[Laughter]* Andrew, you wanna jump in on this.

Andrew Kelly: I just wanna say two things on this. Number one is I often get asked this question when I go out and speak and so in one of my slides, I have a cover from *Newsweek* of two people in cap and gown with jackhammers from 1976, right? This was when the *Overeducated American* book came out and it was all about this, right? That this was doom and gloom. Clearly, as Tony points out, that hasn't transpired. I would say the second thing is that I think Tony's storyline leads us to think that the only way to do it is the way we've been doing it as far as organizing for a college and organizing skill-building enterprise. We tend to assume that because the path has been robust and has—we've never cheapened the quality of the bachelor's degree that the bachelor's degree as we traditionally provide it is the only way we do—to provide a path to economic mobility. I just think that's not true, and I would just say one more thing, and that is that as the cost of education

and the absolute return to it—so the wage premium's robust, but the absolute return has been flat. As that—

Tamar Jacoby: What does that mean? What's the difference?

Andrew Kelly: The wage premium's just how well you're doing compared to high school graduate. High school graduates have it much worse than bachelor's degrees, and it's getting worse for them, but the absolute return is how much you actually earn. If you look since about 2000, it's been slightly downward-trending, maybe just stagnant. The space between the cost of higher education and the absolute return I think is space where there's opportunity for new ventures to introduce a newer model, lower-cost model that delivers the same basic payoff.

Tamar Jacoby: Next question, sir? Please. Microphone's coming. Tell us who you are.

Audience question: This conversation hasn't addressed a future issue that's coming up that's addressed in two recent books, one I'd say from the right, one from the left. One is Andrew's colleague Charles Murray, and the other is Belle Sawhill of the Urban Institute indicating that—

Ron: Brookings. Brookings, not Urban Institute.

Audience: Brookings, so I got both of you in there. Good.

Tamar Jacoby: Good catch.

Audience: That's the issue of—

Ron: I'd be fired if I didn't point it out.

Audience: If you look at census data over the last 30 or 40 years, you find the number of children who're born to one parent has dramatically dropped. It's, I think, overall in the 40 percent then among some groups, among African-Americans 72 percent. The question really is, what're the implications of single parents raising children? With all the data we've heard about what's going on now, what're the implications of this as we go down the road in the next 10, 15, 20 years?

Tamar Jacoby: You guys keep wanting to have college solve so many things. Ron, you wanna come to that?

Ron: I can give a very quick answer to it, and the quick answer is—and I put a fair amount of blame for this on political correctness. We are very reluctant to say that kids in single-parent families are disadvantaged compared to kids from two-parent families, despite the fact that the scholarly world, which is inclined not to criticize low-income and minority families, has piled up a mountain of evidence that kids from single-parent families do worse in every respect than kids from married-couple families when you control everything you can possibly control.

This is a huge part of the problem, and foundations, politicians, in many cases, are extremely reluctant to say anything about it and to say it is partly the fault of the parents. They made a decision for themselves that they were gonna be single. They can still have kids. Here's what really happened. Marriage went outta style for low-income families but sex didn't, and there're very poor contraceptors, so they have babies. I think there's probably some desire to have babies, too, but once that happens, the kids are on a completely different trajectory than if they had a father present and if they had a married-couple family.

Tamar Jacoby: Okay, we're outta time. We could go on and on with this, clearly. Thank you so much, first panel. You really set us up perfectly, exceeding my expectations. I'm gonna hand the floor over, introduce the moderator to the next session is Jeff Selingo, special adviser and professor of practice—that sounds really cool—at ASU and former editor of the *Chronicle of Higher Education*. Jeff, it's *[distorted audio 00:56:51]*.

Jeffrey Selingo: Thank you. Nice job. Thank you. Good morning, everybody. I'll be joined by Michael Crow, president of Arizona State, and Mitch Daniels, president of Purdue University.

There we go. Good. All right. On my far left is Michael Crow, who is president of Arizona State University and chairman of the University Innovation Alliance, which has been named a couple of times this morning, and at some point I guess we'll be talking about that during our conversation, and Mitch Daniels, president of Purdue University, who's also had a long career in politics, both here in Washington and in the state of Indiana as governor and is also a member of the University Innovation Alliance. We're talking about what's the role of institutions in access and excellence, and I wanna start.

Yesterday, Tom Hanks, as in the Hollywood actor, wrote a very elegant op-ed in *The New York Times* about how community colleges or how a community college changed his life. There were hundreds and hundreds of comments to the piece. It was actually the most-read piece in *The New York Times* yesterday, and one of 'em came from this guy, David Shepherd 00:58:18, who wrote in response about how he was a classic underachiever in high school, went to a community college, went to the U.S. Air Force, and then, as he tells it, "They put me in college at Arizona State University, where I received an MS in aeronautical engineering. Once I got outta the Air Force, I went to work in aerospace. My first job was as a trajectory analysis on the *Viking* mission to Mars. We landed two spacecraft safely on the planet. I worked on many space-shuttle missions during my career."

This is the American dream, right, and it was reality for David Shepherd's generation. Is that dream still possible and possible at scale for this generation? Michael, we'll start with you and then Mitch.

Michael Crow: I would say it's not really a question, is it possible? It must be possible, because it's always been possible. Therefore, it must be done. What we haven't done is we—and I think the first panel tomorrow set things up. I think they really did. I mean, it's at the end of the day all about the culture and the dynamics and the willingness for academics in higher education, whether they're in a community college or a public university or a private university, whatever they happen to be in. Are they willing to get off their high horses, which are very high, and step down a little bit and say, "We've got to innovate. We've got to change. We've got to adapt," because it turns out now that the country that was designed to be open and accessible was only theoretically open and accessible. It was not accessible at scale, and it was not accessible through class and ethnicity differences.

We've grown up. We've matured. The system didn't continue to expand. The system didn't continue to evolve, and so is it possible? It's essential. It's essential. I mean, education, by the way, for the economics who I both—I respect both of them that were—all of them that were on the earlier panel. They're looking at things only from the perspective of economic calculations rather than human betterment and human aspiration and human achievement. Education is the means by which much of that, not all of it, is actually attained. It is essential that we figure this out.

Jeffrey Selingo: But, Mitch, is it possible at scale, right? We heard the statistics earlier, right, between the highest-income students and the lowest-income students. I mean, the magnitude of this problem is pretty big, and we were able to seem to be able to do it in the '60s and in the '70s, but are we gonna be able to do it in the next generation?

Mitch Daniels: I'm with Michael. We have to do it or else, and yet no one should think this is a one-dimensional or a simple problem. The last question the last session was an absolute bull's-eye, and there're more than—we're swimming upstream against more than one very difficult phenomenon that we didn't face a generation or two ago. One is the sadly deficient social capital that students bring these days, which really goes, I think, to social mobility, the ethic that makes first for a good student but later for a successful worker. Then there's structural changes in the economy that we can all see that're makin' this job much harder, a huge shift away from large numbers. You talk about scale. We used to have huge scale in the economy that absorbed people who maybe had not had higher levels of education. Those jobs—

Jeffrey Selingo: Which you *[cross talk 01:01:45]* anymore. Those jobs—

Mitch Daniels: —aren't there. We can't lay all this at the feet of our higher-education institutions, but clearly that's where the answer has to come from and has to come. Michael's our thought leader on this, and I agree with and have learned a lot from the prescriptions that he's been—he and likeminded people have been suggesting. Yeah, we have to do it. It's true that our system has not evolved as the economy has evolved and as have these social trends that are so heartbreaking have evolved, and so we've got to catch up, in a way, and—

Jeffrey Selingo: Let's talk about that system. I came across this stat recently. There are 450 counties in the U.S. with more younger people than older people, and all but 100 of them, meaning about 350 of those counties, have median incomes below the national median. These are your future students that're coming into higher education. We have trouble today serving low-income students in higher education, so how—I always wonder how we're gonna serve them better in the future, when there's gonna be more of them. What needs to change at the institutional level, at the state government level and at the federal level to change the stats we heard earlier about the highest-income students and the lowest-income students? Mitch and then Michael, what needs to change?

Mitch Daniels: Well, you can't skip over the fact that the K-12 system is not performing as we need it to, and in many cases our schools and certainly our community colleges are asked to do the breach of warranty repairs for failures at the previous stage of production, let's call it. But I think we all know that we will need a much more varied set of training and education than we may have—that may have sufficed in the past to deal with these sort of mezzanine levels of workers who—future works and future citizens for whom traditional four-year education as we've provided it may not be a best answer, may not be an attainable answer. All those things that might lead alternative training and all the new models that're in the marketplace now need to be encouraged, 'cuz we're gonna need 'em all.

Jeffrey Selingo: Michael, what needs to change institutional level, state level, federal level?

Michael Crow: At the institutional level, I think that it's all about the acceptance of innovation and moving particularly at public universities to student-centric institutions versus faculty-centric institutions. Faculty are fantastic. They are the heart of the beating drum of the energy of the institution, but the institutions are too faculty-centric. They need to be student-centric, focused on student success, student engagement and all of those things, and there are numerous innovations that can be put in place. Also at the innovation level at the institution, what we're doing with our alliance is actually deciding to talk to each other about how to innovate to graduate more students, to graduate more diverse students, to lower our cost and to innovate together. That's an innovation in and of itself.

Jeffrey Selingo: Can I interrupt you for one second? Many people in this room may not know about the University Innovation Alliance. Just give—

Michael Crow: There's 11 large public research universities with about 400,000 students that have come together and have agreed to 4 things, that we will work to innovate together, learn from each other, launch new innovative projects with and between each other, that we will focus on producing more graduates and in particular more graduates that are of lower socioeconomic status. That way we'll work to lower our cost through innovations and that we will innovate together and that after we have done this innovation process, we will then reach out and stimulate the spreading of these innovations throughout the public university enterprise and others.

At the institutional level, I think there's this innovate, innovate, innovate change culture, innovate together.

What's interesting about the state level, and this—I come from an unusual state, Arizona, and what I mean by unusual is that they don't believe in government but they have one. When I meet with conservative leaders in Arizona, including the day before yesterday, I keep saying to them, "Really, you guys are"—we got this camera here, but, "I want some real conservatives here. I want people who are going to get the government out of the way of the public universities so that we can advance an academic enterprise because you tell me I have to have defined benefit retirement plans. I don't want any. You tell me at the university I have to buy this. I have to do this. I have to follow this rule, this rule, this rule. None of these rules are meaningful to the success of a public university.

What we need is the public universities at the state level to go from government entities, agency-like creatures, to enterprise-like creatures. Some have done that. Purdue's an example. ASU's an example. There are some others, but most, however, are trapped inside a government model, which is not the most successful way to move forward.

Then at the federal government level you asked for the third level of innovation. There it's really complicated because our democracy wants to help the individual to achieve. They give the resources to the individual, student loans, for instance, not to the institution, to the individual. Well, the individual says, "I need a car," so I take the government loan I get for a student for going to college and I buy a car to go to college, or, "I don't wanna live in the residence hall that's all set up. I want to rent an apartment and then get involved in this and this and this," and then, yes, you see things happen. The emphasis in the federal government, in my view, needs to move to the institutions and holding the institutions accountable for their success and as opposed to focusing on the individual. It's a completely different mindset relative to the investments.

Jeffrey Selingo: Michael, I wanna stay with you for one minute. Andrew Kelly in the last panel said that top colleges set the tone. Everyone wants to be like them. How do we change that culture?

Michael Crow: I both smile and squirm when Andrew's talking because he's accurate but not normative. That's true. That's the case that we

have this isomorphic replication disease, and we have what we call Harvard envy on the private-university side and Michigan envy or Berkeley envy, depending on what team you follow, on the public-university side. It is one of the most destructive forces in our society. What we need is universities to be various types, various clusters, a very broad ecosystem, and we need to move away from—and he said this. We need to move away from basically status as the proxy for profit. I think Hillary was saying this also.

I mean, it is destructive, and we don't have time in this panel to articulate the level of destructiveness, but this notion—so we ask our incoming freshmen—and we compared this with incoming freshmen at Berkeley. At Berkeley, 95 percent of the freshmen roughly believe they will graduate upon entry because they feel selected. At a less-selective college and as selectivity goes down, the probability perceived by the individual of success upon entry also goes down. What we have is a distortion of reality. In 1960, 1970 and almost into 1980 you see Berkeley still admitted B students from high school. They now only admit A-plus students from high school. It's—

Mitch Daniels: Nobody gets a B in high school.

Michael Crow: Actually, A students are only the upper ten percent, so I'm talking about A average, but you were a governor. You have to worry about these things. But the point is that somehow—I don't even know how they get a—this is a distorting cultural factor of falseness that we have allowed to occur that you have to be this highly selective individual to go to a great college or university. You do not.

Jeffrey Selingo: Well, Mitch, let's stay with the elite issue here because I think the elites get a lotta press, as we know.

Mitch Daniels: Even from the *Chronicle*.

Jeffrey Selingo: Even from the *Chronicle*. I think *The New York Times* gives 'em a little bit more press, but as we know, in some ways they're getting—they're not growing. They're not getting any bigger, and they're accepting more international students, so for U.S. students they're becoming in some ways smaller and smaller, and their acceptance rates are becoming smaller and smaller, and *PBS NewsHour* recently had a piece about the trend to recruit to deny, right, where they're out recruiting students only to deny them to make their numbers look even better. Higher ed. gets a very

generous subsidy in this country, both from the state and the federal government. Shouldn't institutions have to act in the best interest of the nation's needs, and what role can government play there to force these institutions to do that? Then a follow-up on that is does the fact that the elites in some ways are getting smaller, they're accepting fewer and fewer students, does that make your job harder? Does that make you feel like you have to make up for that deficit?

Mitch Daniels: The job's hard enough as it is. Why talk about the so-called leaks? They're not the answer to this problem. We need 'em. Any society, any economy is, to a large extent, driven disproportionately by the top stratum of its people, so God bless 'em, but they're just not relevant to the conversation. You use the word, I think, that is so central when you remind us about scale, and clearly whatever they are, they're—

Jeffrey Selingo: They're not big enough.

Mitch Daniels: They have to matter in the area that matters most to us. We talk so much about access, and it's on our minds all the time at Purdue. We've frozen tuition for three years. I hope to go further. Our total cost of attendance has gone down the last two years, first time on record. We've lowered other costs, too. We're workin' all the time on that, but I think that it's not access as much as success that we have to concentrate on. The huge scale opportunity is raising these pathetic success rates, graduation rates and so forth, across the non-elite spectrum, community colleges and so forth. Boy, the upside of that, the upside in adult education – my friend Allison's here from WGU, WGU Indiana. In a modest state size of 6.6 million people, we have three-quarters of a million adults who did some college and never finished. Tony, correct me, but my understanding of the data is that they did themselves little or no good for the time and money they spent there if they didn't see it through.

It's here where the scale opportunities are, and just to fin it 01:13:05 back on selectivity, I mean, there's pernicious and, I think, understandable selectivity. The selectivity that's based on Harvard envy, that oughta go. I do understand that at schools, and ours was one, that moved to more and more selective policies, at least for a while, we saw that as the only answer to the poor-completion question. They were right, higher selectivity, higher graduation rates. But I had a researcher friend years ago who used to talk about experiments that're doomed to succeed, and so we've

changed our mind about that. We think we have to have it both ways, and if it means that the profile of our entering students, which has been climbing smartly, if it flattens, okay, we'll accept the challenge to continue the rapidly increasing rate of our persistence in graduation.

Jeffrey Selingo: Let's talk about success metrics for a minute.

Michael Crow: Let me follow up for a second just on that point because I think we share this value system. We decided that a public university would have a hard time calling itself that if, in fact, its student body wasn't representative of the public. It turns out that there's talent at every socioeconomic level, and it turns out that that talent is not all A students. There's also B students. The great public research universities used to admit B students. Most of them do not anymore; they only admit A students because they are attempting to emulate private universities that also only emulate—that only admit A students.

This is kind of the initial thing you have to go back in time to think about what the ideal of the public university—which was still egalitarian, very committed to the public objective and so forth. You have to go back in time and now scale and diversify the old model. It's not that hard in the sense to conceptualize what the problem is, and you do that by committing to that as an objective and then innovating and adapting and changing and working with others to be able to do that. What's really happened in my view—Purdue is not an example of this. They're one of the land grants that've maintained their tradition. We've not done this. We're not a land grant, but we maintain that tradition. If you stay committed to it, then you have to figure it out. In our case, we have set our performance objectives for retention and graduation to those public universities that only admit A students. When we achieve that level of performance, which we will, and we are closing in on it right now, then someone's gonna have to explain, "Why did you only admit the A students?"

Jeffrey Selingo: Michael, do you think that's the period when those institutions—not only those public institutions not only accept those A students will go back to their old days, or do you think it's—

Michael Crow: It's doubtful because in faculty-centric cultures, what they'll do is like what's going on in California right now, where President Napolitano stands up and says as the system president—she says,

"I need to get class size to 19 or less. I need to get wages at the University of California at Berkeley equal to Stanford or Harvard."

Jeffrey Selingo: We're not going back to the old days at those big publics?

Michael Crow: Some might not. I don't know what to call those schools. I guess the University of Virginia itself calls itself a public Ivy. I'm not really sure what that is, but—what I'm saying is there's nothing wrong with that if the people of Virginia wanna have that.

Jeffrey Selingo: But if we have this issue of scale, we need these public universities to act in the best interest—

Michael Crow: Well, what we need are universities to be viewed in different roles. The people's university of Indiana, that's the land-grant university is Purdue, and it has through its history admitted B and A students and is continuing to do that based on what Mitch is doing. That's a certain kind of university with a certain kind of mission, and it should be defined and judged according to what contribution it makes to society, not, "Is Purdue as good as the University of Michigan or Harvard or Princeton?" They're different institutions with fantastic faculties pursuing different missions, but we're too silly in how we look at these things.

Jeffrey Selingo: I wanna talk a little bit about the success metrics 'cuz at the end of the last panel there was this discussion about the overeducated American. We have this proud tradition of access to higher ed., but now much is made of how few of those students graduate, and—

Michael Crow: It's funny, and I just have a comment about this notion about the overeducated American. Davy Crockett used to give jokes about people learning how to read. There used to be jokes about people that went to school at all or learned how to read, and now the modern version of that is the overeducated Americans. It's just—

Jeffrey Selingo: But what should our metrics be? Should we want all high school graduates to go to college? Should all of them graduate college, and how long should it take them to graduate? Should we expect the economy to absorb them, even though according to the Federal Reserve 50 percent of today's most recent college graduates are underemployed? What should our expectation be when we say we want students to complete; we want access to higher education? Should our goal be 100 percent for everything?

Mitch Daniels: It should be 100 percent graduation from high school and something postsecondary, but that's some—there're gonna be—

Jeffrey Selingo: Twenty different things.

Mitch Daniels: —29 flavors of something, and—

Jeffrey Selingo: Okay. But do we have enough flavors of something because right now—this even came up last week with Obama's proposal on free community college, which, by the way, even the higher-education sector couldn't agree on. You saw a lot of the private colleges and some publics say, "Wait, that's not a good idea," 'cuz it's gonna take students away from them. How do you create enough flavors so that students who are graduating from high school in this country have more options than just a four-year college down the street, which they may not be a great fit for?

Mitch Daniels: Well, the state I come from has invested massively in its community college. We don't have the results to show for it yet, but it's the right thing to do. There's a Rubik's-cube characteristic to a lot of this, at least as I've come to look at it. It's not enough simply to shovel everybody into some postsecondary institution, even if you find the right one for them. You're only batting 20 percent or something and getting them out the other end. You've wasted their time and the public's money. Even at the four-year level we all know that there're some serious questions about what is being learned. Okay, they got the piece of paper, but at many, many schools the evidence is not apparent that there was a lotta growth, a lotta learning there, and—

Jeffrey Selingo: Right. Andrew Kelly mentioned in the earlier panel the value added. How do we measure that value add?

Michael Crow: That means, one, we have to measure it, and so we have these super-silly ranking systems now, where you're ranked on how much money you spend per student. You're ranked on how many students you deny.

Those are how you go up in the rankings. If you wanna play that game, that's how it works. How about a ranking system where the game that you're playing now is, what is the measured value that we contributed to the students that came to the university and graduated or came to the community college and got the associate's degree? It is subjectively measurable. There are some analytical tools now that're fantastic compared to what even

existed a few years ago, so you can measure these things. People are not interested in that measurement. They're more interested in this notion of intellectual class separation at age 17 or 18.

Mitch Daniels: I think it's changing, though, as ultimately markets will, and as you know, Jeff, a record percentage the last couple years of entering freshmen chose a school other than their first choice. Cost was almost always the reason. There's finally beginning to be a little elasticity in this otherwise strange privileged marketplace that's existed. As Michael just said, people, certainly the kinda people in this room and increasingly, I think, parents, students and others are for the first time demanding some sort of proof of efficacy here. We teamed up. Michael's part of it. Gallup researchers did this massive study of college graduates. We all learned a lot from it about what works and what we oughta do more of, but it clearly demonstrated that where you go to college matters very little.

Michael Crow: What, you do, though—

Mitch Daniels: How you went to college matters overwhelmingly.

Jeffrey Selingo: Do you think one day, though, these new rating systems and ranking systems could push out the ranking systems that have led us to the point we are today, which are mostly based on inputs?

Mitch Daniels: Well, different families will look for different things, and so I'm not saying one in lieu of the other. How about just multiple? How about viewing universities across—and colleges across a range of identities measured for a range of things? Then you give in complete transparency as much information as possible to the student and to the family so that they can make choices about what they want to do with their limited resources that they have to go to the next level of education.

Jeffrey Selingo: Wanna go back to scale. If we wanna scale this up, we go back through the history of the U.S. and higher-education policy. We have the G.I. Bill. We have the Higher Education Act, not much really big since then, right, and in some ways government policy has struggled to keep up with more and more students going to college. If we continue to try to scale this up, we have more students going to some sort of postsecondary education. Who should pay? How should they pay?

Michael Crow: Well, I mean, in terms of payment for things, I mean—

Jeffrey Selingo: And when I say who, is it the government? Is it states? Is it parents? Is it students? Is it future earnings? What is it? What—

Michael Crow: It's combinations of all those things. I mean, the literature on and the dynamics on the rate of return over a person's lifetime, regardless to the earlier comments of Andrew that compared to others it is what it is, whether it's compared to others or not, meaning that wages are higher whether they're compared to other people's wages that are lower. The notion on the return to the individual, the return to the state, the return to whoever the investor is for investment in postsecondary education is extremely high. It's higher than almost any other return that you can gain, and there's social returns, economic returns, a range of things. Who should pay? Everyone that can get some type of return from the payment.

Jeffrey Selingo: That includes the federal and state governments, then?

Michael Crow: Well, I mean, they're getting a substantial return. They may wanna invest in other things, and so they may wanna invest less or more. That's up to them. They have to make their calculations and their decisions. There are substantial returns for state investment, federal investment and personal individual investment. Those calculations can be known. They can be realized. They can be implemented. Then people can make decisions, but there are substantial returns at all levels.

Jeffrey Selingo: Mitch, if we scale this up, who should pay? How should we pay?

Mitch Daniels: Well, you'll need everybody. It's a fantasy 'cuz there's not enough money to do it. If you could socialize all this—

Jeffrey Selingo: If it's a fantasy, how do we do it, then?

Mitch Daniels: No. I'm saying the notion of making it free to everybody or socializing all the cost can't be done, but even if it could, you'd wanna think twice. We've learned in health care and other ways what the hazards of—now what is free, you'll have an infinite return, but you probably won't put a lotta effort into something 'cuz you got not skin to lose.

Michael Crow: That's the French system in spades, I mean, so it's a no-tuition cost, very low graduation rates, low achievement rates. It's a system without individual investment. You have to look at the investor, the person, the family, the state, the national government.

They will all gain returns. They should make investments based on those returns.

Jeffrey Selingo: Does that mean you think Obama's proposal for free community college is a bad idea?

Michael Crow: I don't think it's a bad idea because it's a conceptual idea about eliminating barriers, and so it's an enhancement of a mechanism to eliminate barriers. If there's a barrier to go to a community college and it's in the interest of the national government to see to it that we have a better-trained workforce, then that's an investment for which there's a substantial return. What I did say about that particular strategy was that financial access to community colleges is not their principal issue. Graduation success is their principal issue, and so what's needed are investments related to innovation in community colleges to enhance output.

Mitch Daniels: I've an odd viewpoint on that. I do because I proposed exactly this in my last job, and—

Jeffrey Selingo: Now you think it's a bad idea? Okay.

Mitch Daniels: No. There were differences. It was not an open-ended entitlement as we proposed. It would've been self-financing, and it was means-tested and capped in a way that Tennessee's is not, so there were some differences. That notion, I think, is highly useful. I don't happen to think that another federal entitlement, which is a bad idea per se and especially in education, where the system happily swallows the money, raises its costs and students aren't much better off—we don't need to be led down that path again. I do support the notion of—certainly for low- and moderate-income citizens, young citizens, giving them incentive and at least that first step toward, as we proposed in Indiana, would've been the amount that it takes to go to two years of community college, or you could transport that to IU or Purdue or any other public school.

Jeffrey Selingo: Wanna go back to the scale issue again. Andrew Kelly, I don't mean to keep quoting him, but he had such great quotes in the last panel. He said we shouldn't expect—

Mitch Daniels: He was gonna leave, and now he's glad he didn't.

Jeffrey Selingo: He said we shouldn't expect colleges to be miracle-workers to take in the K-through-12 students who may've had a bad education. What do we do if we scale this up—and, Michael, you've had a

lotta success with this in Arizona as you've taken in more students who were not necessarily college-ready and got them college-ready. How do we do this?

Michael Crow: You're using the word not college-ready, so what we did is we took in students, and we've realized—we're using a lotta really old concepts and old terminology here. The kid's not college-ready. Well, no, doesn't mean they're not college-ready. It turns out that there are a broader range of intelligence types, not levels, types across a broader spectrum of college students coming to the university than the middle-class and upper-middle-class white kids that used to go to college. It turns out that there's this broader spectrum. Here's what we've done. We are shocked every single day, even this week in meetings I had in San Francisco and in Phoenix and in other places, where we're talkin' about the fact that we have changed the way that we start teaching certain things.

We've changed the pedagogy, changed the structure, changed the analytical approach, the analytical tool. We built adaptive-learning systems, active-learnings systems. We've integrated 150 companies, technologies into our learning platforms, and I'll pick one class, Physics 121. Adrian, isn't that the number? Physics 121, we had a class. It's a pathway, gateway class. We have 17,000 engineering students, 10,000 science students, huge STEM education enterprise at our university. We let kids into the university. They've gotta get through these gateway classes to get into these majors. These gateway classes used to eliminate, annihilate half of the students. Not true anymore, 10 percent, 11 percent, 12 percent now. What we found was that we were a part of the problem, so this notion that somehow the kid is unprepared, they may be differently prepared. They may be less prepared, but they're not unprepared. They're unprepared for one methodological approach.

It turns out, then, when you change this, it has altered every conceptualization about what we think of as preparation, lack of preparation and how to advance. Our 4-year graduation rate has gone from roughly 24 percent, give or take, to 50 percent, give or take, in a very short time frame. We admit B students, so our A students, of which we have more A students at our particular place 'cuz it's so large than most people have students over the last many years, and so what we have found is that our model of assumption is wrong. It's not our lack of preparation; it's our lack of individualization. It's our lack of personalization. If you're admitting the B student, even admitting the A student who's

coming from a lower-income high school or a lower-income neighborhood, that student's going to struggle also.

I was an A student from a working-class family. I went to four high schools. I went to 13 elementary and middle schools. We moved all the time. My dad was in the military. I have no idea what I knew or didn't know. I didn't know what a comma was. I barely knew what the number eight was, but the brain, the motor, was there. I'd learned and adapted in different ways, and luckily I went to a school that found a way to help me to move forward. Imagine that across thousands of kids, and we think that we found some tools that didn't exist five years ago that have altered that, and all of our numbers, every indicator we have, we are closing in on 90 percent freshman retention. That's where we're headed.

Jeffrey Selingo: Mitch, do you think you could absorb the deficiencies of K through 12, if there are deficiencies in K through 12?

Mitch Daniels: Only up to a point. We, and I think correctly, banned remediation, just to take the most extreme case, simple English and math remediation at any of our four-year schools and said, "That's the job of the community college." If anybody, by the way, has cracked that code, please let us know. As far as I know, nobody has found a way to successfully remediate at a high rate, and that's a big starting point here. But beyond that, just to associate with what Michael was saying, that's what the alliance is about. We're gonna plagiarize every good idea he's got, and we hope to invent a couple that we can—we all—

Michael Crow: We're gonna plagiarize yours. We're stealing everything already while you're gone.

Mitch Daniels: We're gonna have a larger student body at Purdue next year and the year after that and the year after that, and we're gonna do it. Michael's proven and ASU has proven that you can do that without backing up on success. That has to be our ethic for all this. We're gonna accept more transfer students. We're gonna accept this year more than 90 percent of the Hoosier kids who apply to Purdue University. Now, 20-odd percent—

Michael Crow: For which you will be ridiculed in every ranking known to man.

Jeffrey Selingo: Ninety percent of in-state students who apply, you'll accept?

Mitch Daniels: Yes. Now, 20-odd percent of 'em we're gonna say, "We'd like you to start at one of our regional campuses." That's still a Purdue degree you're pursuing, and we insist on quality there, but 72 percent are accepted to our flagship campus.

Jeffrey Selingo: Michael's right. You will be ridiculed for that.

Michael Crow: As we are. We are poundingly ridiculed over and over because we have a high acceptance rate.

Mitch Daniels: Okay. I'm happy to have that conversation with someone. They need to understand. They need to be reminded why schools like ours were—why Abe and his allies put us there. We're proud of that, but—

Michael Crow: You mean that old phrase about the sons and daughters of farmers and mechanics. You mean that one phrase about those land-grant schools?

Mitch Daniels: Yes, I do, really. The word "elite" came up a lotta times. Higher ed. was an exclusively elite business in 1870, and so that's our assignment. It's never been, we think, more important. That's what this conference is about. We get all that. You can ask any Purdue alum from even a few years ago, certainly the old ones, what they remember about their first days on campus, and you'll get the exact same story almost verbatim, that, "Look to your left. Look to your right," thing. And so we are saying as openly and frontally as we can, if there's any vestige of that left in our faculty or elsewhere, you gotta lose it. The idea is, I mean, sure, it's the student responsibility first of all but it's ours important now more than it's ever been to find ways to see that every possible student makes it and that's …

Michael Crow: So so Mitch, what you're talking about there is exactly the personification of what I mean when I say faculty-centric versus student-centric. A student-centric culture would not allow weed-out logic to exist and so we've worked very heavily on that ourselves even making significant administrative changes with individuals who couldn't get past the fact that they're just a professor. They're supposed to be a teacher, they're not God.

Mitch Daniels: With this—sorry.

Michael Crow: It's all right.

Mitch Daniels: With this large and important asterisk, though. Again, I said something about a Rubix cube. I mean there's another dial you can turn that you must not touch, and that's the rigor dial. One thing I love to brag about Purdue is you look at the data on grade inflation, we sat that whole phenomena out. The average grade point average of Perdue University has hardly moved in 35 years that we've been measuring, while everybody else—I mean you look at some of these places, you go what do you do to get a B?

[Laughing]

Mitch Daniels: You have to maintain that, too. I know Michael does this, but there will always be a temptation to start waving people through. A lot of schools have been doing that. That's how you get half of last year's graduates under employed.

Jeffrey Selingo: We have like two minutes left. In that time, what would better—if we were sitting here ten years from now, what would better look like? Not saying your institution copied 12,000 time around the country, but what would better look like in ten years, in your opinion?

Mitch Daniels: A dramatically higher percentage of that year's—I'll pick a—you know 22-year-old who had achieved a significant and meaningful credential and learning experience after high school with a much wider variety of said experiences. We can create some. We're transforming, for instance, our College of Technology into a totally hands-on, learn by doing, project-based—a different mode, just as Michael has invented some. We can do some things to broaden the range of such education.

The other strata of the system, really, where I think the most improvement—or the strata from us down, the big public down is where the most improvement has to happen.

Jeffrey Selingo: Michael, what would that look like?

Michael Crow: I think I would say, to the words that are over there on the podium that there's a set of universities and colleges, large, small, research-intensive, not research-intensive, committed to this notion of egalitarian access for talent from throughout the society who are able to find those students, move those students forward, and graduate them where not their access is egalitarian, their success is egalitarian. There is no differentiation in the outcome of the

students that can be related to the family income or family circumstance.

Now, if we could build some public colleges and universities that could achieve that, then we can go to the next level of this continuation of the innovation of higher education in the United States and be of greater service to the people, which is why our institutions exist.

Jeffrey Selingo: Perfect end to a great panel. Please join me in thanking Mitch and Michael.

[Applause]

Tamar Jacoby: I'm happy to introduce Amy Laitinen from New American Foundation for the next panel. Thank you.

Amy Laitinen is the deputy director for higher education at the New America Foundation. She came here out of *[fading voice]* Department of Education. She has in her resume that she advised the Obama Whitehouse on community colleges, I don't know whether to hold you accountable on that, but thanks a lot.

Amy Laitinen: Great, thanks. Well, I think the arc of the day and appreciating that we starting with the seemingly intractable, pessimistic sort of despair and diagnosis of the problem. Then I think we just moved to the imperative from leaders to say we—it's hard, but we've got to fix it. I think this panel is really set up to find out how to do that. I think we have a few examples from a variety of institution and non-institution types, public, private and then a non-college that I hope will be interesting, and that other folks with plagiarize. Cuz I think plagiarizing, copying, imitation, flattery, all of that, because the imperative is real, and we have to figure out how to address these needs.

I wanna pick up on the miracle work, although now Andrew has left. Oh no, he hasn't. He's there. I mean I think the fact is, of course, higher education is not—cannot be miracle workers, but I think all of us agree that if we're in this space, it's because we think institutions can make a difference. They do make a difference, otherwise we might as well just sort students by zip code, right? Like forget the whole higher education mess.

Acknowledging poverty, all of that, we're here to talk with these four folks who have different solutions to the problem. I'd like to

start with you Allison Barber, who Mitch Daniels just called out in terms of you're the chancellor of Western Governor's University. You're trying to address the needs of working adults in your state, maybe beyond, but probably just in. Can you tell us what you're doing, why it's working, and what folks can learn from it?

Allison Barber: Sure. I think Western Governor's University is working nationally with 50,000 students enrolled is because we're, as Michael said, student-centric. We had a dream opportunity 16, 17 years ago to have a whiteboard and put in the middle of that whiteboard the working adult with some college and no degree. How do you build a university for that niche? That's what we did. We made it. It's a non-profit, it's affordable at $6,000.00 a year.

We motivate adults to succeed to a degree. Two other pieces, we looked at all the barriers that we talk about so often that prevent success in higher ed, and we said let's put all the barriers on one side, and then let's just blow through them at Western Governor's University.

We made it affordable. We measured learning, not time. We're competency-based. Adults love that. They just can't stand going to class and somebody teach them something they been doing 20 years on the job. We created a different model, and then we made it—it's not time-based. It's all online. You go to school when it meets your schedule.

One of our recent graduates, she and her husband have seven children. She works full time. She needed a bachelor's degree or she could not succeed and go further in her career. WGU is the perfect way for adults like that to learn. We address the barriers, we exploded them and said our students deserve better and more. Then we share our model with everyone who likes it, because we're excited about what it does for adults.

Amy Laitinen: How do you struggle—I mean how do you address the fact that this doesn't sound like college? I mean for many folks, it's meeting the needs of these individuals, but to a lot of folks, frankly, policy makers, folks on the hill, their staffers who went to traditional schools, it doesn't sound—

Allison Barber: Gosh, I wish it—I hope it does sound a lot like college and every other education option. I used to teach first grade. When I came to WGU four years ago and they were like it's competency-based, we

measure learning, I'm like I did that as a first grade teacher. Isn't that what education is about?

Amy Laitinen: Right, right.

Allison Barber: We better be measuring learning. It is the—sure, I understand that we've taken a bit of a business model and put it toward a higher ed model. We've taken a lot of the rules and regulations around higher ed and we've said those aren't working for the 37 million adults who have some college and no degree. We better be exploring new models. That's what WGU is, but it doesn't compromise on its quality of education and the learning outcomes and success. That's what every university should be about, no matter what your model is.

Amy Laitinen: You're meeting where those students are, a particular niche of attracting the adult students. I wanna go now to Tim Renick who's at—I do have your title here. He's the vice president for enrollment management and student success at Georgia State University, which, big public university. You guys are doing some interesting stuff with data that you think in productive analytics and all sorts of stuff that is making a difference. Tell us about what you're doing.

Tim Renick: Yeah, Georgia State represents an interesting test case here, because it is a large public university, but it's very atypical. Downtown Atlanta, it has one of the highest Pell student populations in the country. Hilary talked this morning about the lower 25 percent in the economic spectrum. Over 60 percent of the students who go to Georgia State fall in that category, the category that are completing college degrees, bachelor's degrees at about a nine percent rate nationally.

We also are largely underrepresented students. Sixty-three percent of our population is underrepresented. Our admissions criteria are not going up. In fact, they've been flat for quite a while now, and they're considerably below some of the other institutions that you've heard about so far today. It would seem like it's not the kind of circumstance in which you can make radical gains in graduation rates in the success of the students. That's not been the case.

Ten years ago our graduation rates across the university were 32 percent. They've gone up by over 20 points. What's most encouraging is the biggest gains have been made by the students

most at risk. African American males ten years ago were graduating from Georgia State at about a 16 percent clip. It's 57 percent today.

These kind of changes can happen. The concept is really a simple one. We know what succeeds in higher education. It is personalized, directed attention. We haven't had the ability for under resourced universities like Georgia State in the past to give that personalized attention. We don't have low faculty to student ratios and so forth.

What we've been doing over the last decade is innovating with technology and trying to find ways in which we can approximate the personalized attention that other institutions can give because they have constant attention from faculty and advisors by using more efficient means. A clear example is using predictive analytics. We are tracking every student, and looking at their records to see if they're well-equipped to take on the courses they're enrolling in.

Why let a student who has poor math skills try the upper-level chemistry class when 95 percent of the students are gonna get Ds and Fs. That's not doing a low-income student any good, to pay for a course that you know they have a 95 percent chance of failing. Instead, look at the data in advance, get them help in math before they try that chemistry class.

Now you do that once or twice, that's good. Last year we did it 34,000 times. We had 34,000 interventions from our central offices with students on just those sorts of issues, and that makes the big gains.

Amy Laitinen: It sounds great, the way you're saying it, but is there a danger of replicating the inequalities that Hilary was talking about earlier? Looking at students and saying well, you're not really cut out for this. Maybe you shouldn't take this class. Maybe you shouldn't go down this field. At what point does the analytics become a self-fulfilling prophesy and doesn't actually allow folks to move forward, but really just keeps them where they are?

Tim Renick: Yeah, it's a constant criticism I hear, and it's one I've heard from my own faculty at least when we started on these projects. You look at some of the data. We're admitting, for instance, African American male students who want to be doctors, and over the past X numbers of years you see that only five, six percent are actually

succeeding in graduating in degrees in biology and chemistry and some of the pre-med areas that they're seeking.

We're also seeing that a vast number of those students are dropping out with debt and no degree because they've racked up Ds and Fs and so forth. It's nice to talk about the liberating ability to make your own mistakes, but if those mistakes mean that you're racking up expenses and debt, and you're falling out of college, dropping out of college, that's not responsible. We're not preventing any student from taking the courses they wanna take, but what we're doing is very simple.

What we're doing is what has happened in higher ed elite institutions for decades. Give students the information they need upfront. When you're a first generation low-income student, you don't know that you're not equipped to succeed in that upper-level chemistry class. The elite sons and daughters of lawyers and doctors and so forth get that information at the front end. We're trying to provide that information so they'll succeed the first time.

Amy Laitinen: That sounds expensive. I get that technology is—right, technology, people like to talk about it as cutting costs et cetera, et cetera, but you're not just talking about an automated system that says you can't take this class, you can't take this class, but actually then providing intervention. How does that change the costs to the institution, and the amount of services that students receive?

Tim Renick: I think this is a basic part of the transformation that Hilary started out talking about this morning. We have to get a different mindset. The state of Georgia had one of the largest disinvestments in higher education, public higher education over the recession. Georgia State lost $40 million in state appropriations. We increased our graduation rate significantly each year during the recession, and we did it by recognizing that these investments are not only the moral thing to do, they're actually the practical thing to do.

Even as we were losing $40 million in state appropriations, our university budget went up every year. Because students in the past who were enrolling for one or two semesters, hitting those gateway courses that Michael Crow was talking about a moment ago, and hitting a brick wall, and dropping out now are staying enrolled for three, four, five years, are getting their degree. This means immense increases in university revenues.

For every one point we increase our progression rate, every one point we increase the percent of our students who stay enrolled from one year to the next, that's $3 million in additional tuition and fee revenues at Georgia State. We plowed that money back in. We actually, during the recession, hired 42 new academic advisors in one six month period because we knew that that would—although a painful hit at the time, would soon pay dividends, and it pays dividends in a two-fold way. Both for the university and its revenues, and probably most importantly, for the students in helping them succeed in the way they need to.

Amy Laitinen: The note for plagiarists is if you're not gonna do it for the right reasons, do it for the bottom line, right?

Tim Renick: Exactly right.

Amy Laitinen: Okay, good. That seems like something a lot of people can get behind. Great, so Adrian, you are also—Adrian Sannier is the chief academic technology officer at ASU online, also a professor of practice. Lots of professors of practice here today. You are also a believer in big data. I think Inside Higher Ed called ASU online the ground zero for big data, and the promise of that. Tell us what you're doing and why it's working.

Adrian Sannier: To pick up on what Tim said, I think when we think about the challenges that we discussed this morning, they're daunting. If somebody came to you and said okay, look, it's your job now, do whatever you want. Why would you even expect that we would take a thing that hasn't seen those kinds of improvements? Suddenly, in a decade span, we're gonna be able to make those sorts of improvements.

If there were no technology solutions here, there wouldn't be any answers either. It would be time to go for the canned food. I think that when we think about what's the golden goose that actually has potential—has the potential to give the eggs here, it is the ability to measure what's happening in people's learning to a degree that's never been possible before.

Rather than point you to the things that are going on at ASU, I'll talk to you about something that's going on in the world at large. There's an internet scale school now, and it's been running for the last four years, and it's the Con Academy. People, by themselves, are choosing—they're closing in on three billion math problems solves. Those are McDonald's numbers, right?

They have to get 365 times bigger to then be at the scale that Google is answering questions, but you can see that somebody's out there teaching math at the scale of come one, come all. Now we can argue about how effective it is, and to what degree does it work by itself. At ASU what we're trying to do is think about how do we harness that engine, which is currently operating at the scale of the world, and couple it with pedagogical solutions that make it possible for people to use those kinds of tools to succeed differentially.

Now, if you haven't seen what one of these is like, you have to look at it. I mean we've been talking today about the system and the mechanism. At the end of the day you actually have to change what we do. When you have a look at what's going on, try the Con Academy. Go and try it. Especially if you find yourself thinking I'm not really a math person. There's a good two-thirds of you in here that—differential equation, that's not in your lexicon, right?

Even if I whipped out a fraction problem, folks are saying I don't wanna go first. What I'm suggesting is I think a lot of us have holes in our education. What you'll find is that this Con Academy's probing very gently, this machine will find and show you your holes and then be prepared to suggest to you some things you might practice to improve them. I'm not suggesting that that replaces higher education.

Amy Laitinen: Why not?

Adrian Sannier: Because it doesn't work. That, by itself, works for Abraham Lincoln. Right? Abraham Lincoln, the guy who would travel back and forth and get the books from the library, and charcoal stick on the back of the shelf. That guy would learn any—he would go to Harvard today. For the rest of us, we need humans to help us learn.

Not exclusively. These tools are unbelievable, and they're so at their very beginning. The opportunity to develop these new pedagogies and actually change what the outcomes are. That is something we're deeply engaged in, and that others are deeply engaged in. That's one of the reasons I think we should be optimistic. This is not just happening here. This is happening at the—people are now coming to understand hey, if we're gonna educate the folks in India, this is a global scale problem. We're

gonna have to have some of these public utility kinds of approaches that the internet is able to bring.

Manning that with human pedagogy so that we understand how we can nurture people to be able to learn actively. That's, I think, a reason to believe we may have some solutions here.

Amy Laitinen: How do we ensure—I'm putting on my federal policy hat and just the policy hat, and it all within the context of a budgetary environment, right? Like it all sounds great, but more humans is probably more money. Even if the diagnostic part is something we couldn't have done before. How do we make sure that this—that the technology becomes the foundation, and you have humans, as opposed to just having the technology?

Like students could learn okay with just the technology. It'd be better if we had humans, but if we just do the technology we can figure out how to plug holes for Medicaid in our state budgets or in the federal budgets. How do we make sure that that happens?

Adrian Sannier: I'm not sure that every dichotomy that gets posed is the way the issue ultimately cleaves. I don't think this ends up being a tradeoff between humans and technology, because no one's suggesting that we abandon schools because no one's that irrational about it.

I think that it's amazing to look at the scale that some of these technologies have reached in such short periods of time. Then, like the end of it, they're free. They're offered at scale. When I say at scale, I'm talking at the scale of the internet. If you have a connection, come one, come all. Yet, can be offered at no marginal cost.

Those kinds of things didn't exist ten years ago. The ones that will exist ten years from now are going to be extraordinary. In the same way you wouldn't say oh, look, there's a robot that can do this particular job in the manufacturing operation, let's take all the people and send them home. No cars will come out the other side of the line, so we can't do that.

Developing these pedagogies, it means a lot of innovation. It means a lot of change. For faculty members to say I am no longer—the principal piece of my job is not explaining to you what the binomial theorem is. That used to be the thing that was in short supply. In your town there were a few people that knew how to do

that, they were down that the school and you had to go down there and get it from them.

Now the internet is full of descriptions of the binomial theorem. Together with robots that can help you determine for yourself whether you understand, and also provide tremendously valuable feedback to people who can guide you. When a faculty member changes their perspective and begins in this much more active way, pairing up students who are finding the same kinds of challenges, and being able to help them see that they can learn anything, this kind of mindset change promises to actually change the outcome.

Cuz all the stuff we've talked about today, who's gonna pay and what's the rules gonna be, and who are we gonna let in, and who are we gonna—all of that comes to nothing unless more people than today understand math when we try to teach it to them. Right? Think about our success—I'm picking math because it is the big data—it is the big data poster child. If it'll work in math, it'll probably work in science. If it works in science, it's likely to—

Math we know is hard. Math we know lots of people in their own hearts know I didn't quite—I could've known more. These opportunities, not only to teach people more, but also to show them much more clearly what they know and how quickly they're advancing. They promise to make very great differences in what really happens.

Amy Laitinen: I'm sold. Josh Jarrett is the co-founder and chief learning officer at Koru, which—so not part of an institution, but working with college graduates to help them find meaningful jobs. It's still start-up-y, a year in?

Josh Jarrett: Yeah, about 18 months.

Amy Laitinen: Eighteen months in. Tell us what you're doing and why you're doing it.

Josh Jarrett: Sure, I guess I love all three of these strategies and innovations and things. I had a privilege to be part of a little bit when I was at the Gates Foundation. I think those are all about getting us around what are we learning, how are we learning, and how are we getting to the destination of higher ed, which is getting across the stage to graduation to that degree.

One of the things that we really work with is what is the connection then to employment on the back end? Eighty percent of our graduates will get this thing—we call it a job. Sometimes we don't like to speak about it, but the more we broaden access, the more that is the goal, and that is the thing that we have to be really conscious of. We really work the last mile, we partner with colleges and universities and provide immersive boot camps, experiential learning programs and partnership with innovative high growth employers who don't trust hiring a three five history major.

They are choosing not to hire them because they don't believe they're prepared, they don't believe they're gonna add value in the 18 months that they're gonna be on the job before they go on to the next job. They were gonna stay 30 years, they'd invest in their training. They'd invest in their potential.

As Tony was saying, in 1983 we started change—the economy started to change, the expectations of the economy started to change. At the same time millennials earn jobs less. That's a compounding effect that employers have higher expectations and less wiling to invest in the people they hire.

That's the problem that we're trying to address. All I do is spend my time with innovative high growth employers and recent college graduates. One woman told us, she said I've never felt more abandoned than the day I walked across the stage and got my diploma. I'd mastered this system over 22 years, and then the conveyor belt, I just fell right off the end, and I felt abandoned.

In many ways I feel like Tony and Ron and Andrew's introduction was the ghost of Christmas Past. You're looking at what the data has told us historically, and Clay Christenson at the Harvard Business School, I say God's played a trick on us. He only gives us data about the past, not about the future.

I feel like I'm a little bit of the Ghost of Christmas Future. Which is to say looking at the skills and the expectations that employers have going forward in the innovation economy, and the thing that's gonna grow the pie to the question from the Department of Ed person around what's gonna grow the pie in the economy going forward? It's a set of skills and competencies around innovation and actually embracing failure, the thing you're taught to avoid for 22 years. That's actually the only place that innovation comes from.

I think that's really the opportunity, and one that we're quite fixated on.

Amy Laitinen: Can you just give us a really quick—what does it look like? I think probably most folks in the audience are more familiar with the folks to your right and to their left. I'm a student, I cross the finish line, I feel abandoned, I go to Kobu.com, and then what? What happens to me? What am I getting?

Adrian Sannier: Yeah, so they come spend—

Amy Laitinen: They pay for it. I'm paying for something.

Adrian Sannier: Yeah, they pay for it. They come and spend a month with us. It's either in Seattle, San Francisco or Boston. They work on a handful of things. They work on their professional effectiveness skills. How are they gonna get things done? They work on real projects with employers. We have sponsoring employers. We work with about 40 different employers. I should say on the college side we work with everyone from Williams to Washington State University. We have about 20 colleges that we work with, help their grads in this program.

They work on real projects. What they're doing is they're getting the application of skills, so they've learned a bunch of things that—they've written 400 pages of term papers. Can you write a one page memo that someone will read and know what to do with? You're 80 percent there, but can you get the last 20 percent?

They get to have real-world experiences. In many cases we talk about many of the young people we're talking about today, they've never been in an office environment. They don't have parents who have different jobs they might aspire to. Their parents are bus drivers and any other number of things. They get access to professional networks. You start to get to meet people who are doing the lifestyle and the world that you wanna be part of, and learn that, and try and—what's my fit? What am I gonna do with my calling?

As we think about what's necessary and what's sufficient, we think about the mass education question that we have on the table today. Is it sufficient to master Twain or to mater Freud, or to master Adam Smith? Is that sufficient preparation for someone who might've come from a single-parent family, who didn't have social

capital, who didn't have the development of interpersonal skills and emotional intelligence?

I'm a big believer in liberal education, but I'm much more of a subscriber to the ACU both/and. We need to give people a broad education and a set of competencies that will allow them to be prepared for the jobs 10, 20 year that don't exist. We also need to give them the applied experiences and skills to be able to be productive and useful quickly, and find out what their calling is.

We try to do both. In liberal arts versus STEM, no college—complete alternative blow-up college. Those extremes we find really, really unhelpful.

Amy Laitinen: No offense to your baby that you've been working for 18 months on, but why should Kobu exist? Shouldn't colleges be doing this themselves? Should colleges be doing this themselves, or should they only be teaching Twain and Proust and Freud and all of those other things?

Adrian Sannier: Well, I think it's—I'm a pragmatist, not an idealist. I guess I'm responding to the needs of students. I think that in ten years every top institution, and maybe every instituting will incorporate some of the aspects of what we're doing, I believe.

Amy Laitinen: Because they're seeing that it's—

Adrian Sannier: I believe what we'll see is what—

Amy Laitinen: - *[cross talk]* wages or completion for meaningful life as Tony said.

Adrian Sannier: Parents are like tell me—I know I'm gonna spend $250,000.00, but tell me why Janie's not coming home in four years and living in the basement. Forty-four percent of recent college graduates live at home. President Daniels said half of recent college graduates are either unemployed or underemployed.

We all meet new BAs all the time. They're called BAristas and BAr tenders.

[Laughing]

Adrian Sannier: That's the feeling. The feeling is look, I stayed in school, I got good grades, and I got to the finish line. I did what I was told. The

bill of goods has come due. They're feeling that some of the occupied, those movements, they're harbingers of that disillusion.

We all have to be responsive to it. The colleges that we work with, they say I get it. We have to do something here. The pressure from trustees, policy makers, parents, students, it's hard for us to make this change. It's hard for us to think about it. What we're really seeing is a re-centering of the institution around two things. One, in the academic side, we're using technology and thinking hard about how we do some of the more commodity things of the education, and moving those resources to more high-impact practices, or smaller group settings and capstone projects.

We're also seeing re-centering to the integration of the experiential co-curriculum. The set of things that go get an internship. The set of things you do off-campus. I really think what we're doing is reimagining the university, not as the cloistered provider of the sum total of what you need to come of age, but the curator of the experiences. Many of them happen on campus through our faculty, many of them happen off campus. The integration and the reflection that makes somebody whole and make that transition to adulthood needs to come from the sum total of those experiences.

In some cases the university would be able to provide what we do, and that's great. We'll either help them, we'll partner with them, they'll put us out of business, I'm happy with any of those outcomes. Or, in other cases, they'll partner and they'll say we can't do it. Our faculty aren't gonna get there. We don't do job training. Maybe they shouldn't be teaching sequel. Maybe they shouldn't be teaching how to do marketing analytics.

The reality is, I mean marketing's a good example of a field that's changed in the way that Tony's talked about. It's not like *Mad Men*, it really isn't. When I graduated college 20 years ago, if you were a smart, personable, great, you would get into marketing where you sit around, we smoke cigarettes, drink gin and tonics and dream up billboards. That's *Mad Men*. The reality today, there's only two types of marketers. They're either statisticians, they're looking at AB testing. They are doing tiny little changes on things.

You have to know market to and all sorts of software to do that, Google Ad words. Or it's the ethnographers, right? The anthropologists are really trying to understand human behavior and what's going on, the emotional connection. Those are the only—

Mad Men's dead. I don't know the right answer there, but all I'm saying is I'm just responding to the reality of where the innovation economy's going and what students are telling us they need.

Tim Renick: I'll just add that I agree with what Josh is saying, and I also agree with your premise that this needs to occur at the college level as well. Because the population of students we're most concerned about this morning, first generation, low-income students, the students who are not succeeding are the ones who are least equipped to handle the sorts of issues that Josh is talking about. One of the things that we're doing now, and again technology is the key, because we couldn't do this even three or four years ago, is as students look at majors, they can see live data for each of those majors of what jobs—the 40 jobs that person who have completed those undergraduate majors are most likely to attain.

They can also then tap into live data about what those specific job requirements are, and what, in actual live job listings are the traits and qualities that employers are looking for. Because it's not good enough for them to begin this training after they cross the stage at graduation. They're seeing, for instance, that I want to be a marketer. I wanna be a lab chemist, but it's not enough to get my degree in chemistry. I also need to get courses in computer science, because that's what the job—employers are looking for.

We need to do that from the beginning, and we need to give these first generation low-income students a better understanding of what the possibilities are, and what the demands are as well.

Amy Laitinen: There was a lot of talk in the last session about outcomes. This is all ultimately about outcomes. Outcomes completion for everyone, but for particular sub-populations who aren't completing, and then completion for what, right? For meaningful job, for an autonomous life, for meaningful work, et cetera, et cetera. How do you all—it sounds good, but how do you measure your outcomes? I mean with the data stuff we've heard a little bit but how are you folks looking at your impact?

Allison Barber: I would say, going off of what Josh said, that's the beautiful of competency-based education, is that from day one at WGU, we're already thinking with the end in mind. What we don't—we measure everything, as you would imagine, as you do too. One of our things that we're so excited about is 98 percent of the employers who hire our graduates want more of our graduates.

That's a great outcome for our graduates. What you're looking at—and the reason—you have to ask yourself why. Well, it's because graduate students who go through competency-based education are ready for their job the day they start. There's not anything—there's no surprise. Employers love that.

Amy Laitinen: You're not going to be a feeder into Kobu?

Allison Barber: I'm going to talk to them afterwards, because we want—we're evolving, WGU, we're babies in this market. We're always evolving and looking for ways to make the experience even better. I think about when Josh was talking about when you go to a hospital and you get a surgery, and you can go home after that surgery, or you can go to rehab and really work with a trainer who helps you get better.

The surgery was still successful either way, but how could you be better? I think that's a little bit of what I'm hearing you saying. I think about that for our students, too. That's great that they're graduating at WGU, they're employed, they're successful. They would choose us again. Seventy-nine percent of our students would say—our seniors say I would choose this again. That's 20 some percent higher than the average in America. How do we make it better? That's what we're excited about.

Adrian Sannier: I think it's a unique climate in higher ed. I think that continuous improvement has not been in the ethos of education. I don't think people really thought about it in terms of a thing that an institution could do. As we've begun to—I don't know any other way to say it, but to instrument the enterprise, and to begin to measure in the same way that we measure many other complex enterprises, that we now can start to understand the various levers that can be pressed. It's very clear when students come to us the aspirations that they have, the places that they want to go.

I think we have, as an enterprise, as a human activity, have pretty much left that to individual people. Now the ability to provide much better advice, much better council, and then to use the experiences that people have as guidance for others. This is the heart of why Amazon is successful. They use the previous experience of other shoppers to tell me what my mom wants for Christmas.

[Laughing]

Adrian Sannier: I think that Georgia State, ASU, other places around the country are beginning to prove that that works. That when we reflect this kind of thing back to students, they can make better choices. We also reflect it back to the enterprise. The enterprise, too, can make better choices and begin to change the success rates that people have. As President Crow described, we look at the courses that aren't working and begin—instead of thinking of them as, "Oh, yes, that was our filter, that was how we figured out who was—," no, let's try to find out how we can make more of these.

That's a major change in mindset, enabled by an emerging technology that I think is a great reason for optimism.

Amy Laitinen: To play the pessimist, though, agreed. Lots of potential. The innovation alliance is only necessary because not everybody is doing it. The whole first panel is talking about this seemingly intractable problem, and their replication of inequalities, and higher education not doing what it could be doing and what needs to be doing. How do we make sure that five, ten years from now there aren't just four additional members on this panel?

What is it gonna take for higher education to adopt this writ large? Is it federal policy? I would say that because I'm a federal policy person, so hammer, nail. Is it policy? How do we replicate leadership? How do we make this happen soon?

Adrian Sannier: I'm gonna go first. Winners and losers. Winners and losers are important and education is about to experience that in a way that it hasn't before. We talked earlier about the idea that all right, look, there's a set of schools, they're golden. The Harvards and they're also irrelevant to this conversation. Then there are a set of schools at the top who are capable of this kind of innovation, who are capable of the kind of resources necessary, who are moving in these kinds of direction. Those people are gonna share their innovations. Then there's a set of schools that are gonna hope to try to stand pat in the face of these societal pressures, and they will not win. Their students will go elsewhere.

I believe that we're beginning to see a basis upon which parents and students and societies can compare the virtues of these institutions. The pressures are mounting in a way that, two decades ago, didn't exist. I think that that, combined with innovations by the kinds of folks that we've been talking about today, I think there's reason to believe that this changes like every enterprise involved in the market changes.

Tim Renick: On the issue of winners and losers, we've been talking at various times, not just this morning, but over recent years about the future in which there would be this consolidation. Some schools wouldn't survive and others would. One thing happening in the state of Georgia is that there is little consolidation going on. That we have taken 12 institutions over the last 4 or 5 years and turned them into 6. the most recent was announced last week, and it's Georgia state taking—being consolidated with the largest two-year institution in the state of Georgia, over 20,000 students, and it is a reflection of exactly what Adrian is talking about.

If you heard what the chancellor said in announcing this plan, it was Georgia State has found a way to succeed with these students using these technologies and so forth. This other campus needs that help. We're gonna bring them together and try to do that. That's evidence of it.

As far as your question, Amy, I do also want to add, because it ties back to some of Hilary's opening comments, that there are larger policy and structural issues that have to be resolved here. One of the challenges I face on the ground, as a campus person, is that in the state of Georgia and nationally, we don't have any longitudinal system that would allow me to actually track the true outcomes of our students after they graduate with regard to such things as employment records and income and a range of other things as well.

We conduct polls. We talk to students, we track them and so forth. That is always not desirable way, from a data perspective, to really get a snapshot, because inevitably you get biases there. The students who respond to the graduation surveys and the post-graduation surveys are inevitably those who have more to brag about and talk about, or in some cases, to complain about, but it's not the true cross-section.

There is nothing in my state, and there's nothing nationally that really allows me to answer that outcome question in a databased fashion.

Amy Laitinen: I'm just gonna—

Josh Jarrett: Can I just add one quick thing?

Amy Laitinen: Oh yes.

Josh Jarrett: Sorry. I was just saying I think it's already started, and I think that the inevitability has begun. If you think when Gutenberg invited the printing press, we look back at this moment in time an inflection point, but it took like 100 years before he figured that out. A hundred years later there's still only like a couple thousand books in print. I actually think that the change has begun, and now it's inevitable, and I'm an optimist.

I think we're water running downhill at this point. I think we got to look back to say 2009 was the year that the world changed. Cuz I think three things that are inevitable trends, or at least forward moving trends. One, we had the economic downturn, we had state budgets getting cut. Now financial pressure is driving a force of change. Two, we had Obama announce the 60 percent goal, and really beginning this outcome measurement, start saber rattling around data outcome, now we're scared about that ready force nationally.

Too, it was really the first—the late 2008, first 2009 was the first MOOCs, and we can argue about all of those. Really, that's indicative of the embrace of technology. Harvard and Stanford said oh we woke up and discovered the internet. That point, you've kind of jumped the shark. You've gotten over the hill. I think we'll look back on the beginning of—I'd love to say it's a ten year change. Realistic, it's probably a 20 year change. I think we'll look back and we'll say 2009 was the moment that the world changed. We'll know it with such clarity now.

As a friend of mine likes to say, half the newspapers went out of business in 1999. It just took them ten years to figure it out.

Amy Laitinen: All right.

[Laughing]

Amy Laitinen: There are people quivering in their seats here and at home. I wanna take moderators privilege. We didn't talk about this, I swear, Tim and I didn't talk about this, but you touched on an issue that is near and dear to my heart and a hobby horse of mine, which is—Tony's laughing. Data. I mean the first panel there was a lot about better data and transparency, right? Like students are gonna be empowered, and families are gonna be empowered to make decisions about where their students—where they're going to college and where their students are going to college. It would be

nice if they knew something more than what was just in the glossy brochure.

Like here's our dorms, and here's our climbing wall, and here's our this. In fact, here's our debt to earnings ratio. Here's how students like you are likely to fare afterwards. We don't have this national data, and that's a federal policy problem. There's actually a federal law that prohibits using that information. There's Social Security data right now that could be used to—longitudinal data on every student who's gone to college, right?

How those students have—how they fared in the labor market. That exists. I mean there are schools that have national, technical institutes for the deaf has looked at 40 years worth of data on students who are admitted, students who are admitted and didn't go, students who went somewhere else, students who graduated, students who graduated from a different university. They can see how they fared in the labor market, and the school wants to know that.

A lot of schools do want to know that, but they don't have access to those data. For those of you who do care about data, note that that's a federal policy problem that could be overcome if it were to change.

[Laughing]

Amy Laitinen: Thank you for teeing that up. Yay, I got to talk about student unit record on this panel. It's very exciting.

I wanna talk a little bit about the liberal arts because I think a few folks have said there's this—it's a false dichotomy. I think, especially in the competency-based space, I think you hear a lot of folks who think there's that track for those students and it's really the instrumentalist, very technical, sort of specific. There's no role for the liberal arts there. Is that true?

If we're going to be looking for employment, we're looking at employment as a really important outcome. Do the liberal arts matter?

Allison Barber: Well, at WGU our space is so different from that, because our students—80 percent of our students are transferring in credits. Remember 37 million Americans started college and didn't finish. They're transferring in their liberal arts credits to WGU. Our focus

is really degree attainment. If you're 50 years old—one of my recent graduates, 64 years old, Connie Bickle. She needed that degree to stay in her job otherwise she was gonna get fired.

Amy Laitinen: Do you teach writing, critical thinking, or—

Allison Barber: We embrace all of that within the competency. You can't divorce—you cannot have a competency-based education and be divorced from those competencies. You have to master that. It's not a stand alone course. It's integrated in every competency. Absolutely.

Amy Laitinen: I think that's an interesting—the integrated way, I think, is really what a good liberal arts education does, right? It provides the ability to connect between disciplines, to take new information and process it, and solve complex problems. It sounds like employers probably want those skills.

Allison Barber: I think that's what we hear. Josh was funny when he mentioned that example about what students do. We had a student complain to me, and he said I wrote a paper and I gave so much more than what you asked for. I wasn't given credit for that. I said, "Have you had a boss?"

[Laughing]

Allison Barber: I've never had a boss that said I asked for a memo and you gave me 15 pages. Thank you, Alex.

Josh Jarrett: Thanks a lot.

Allison Barber: That's so great. I have more to read tonight. It is that how do you learn from corporate America and really train your students so you'll be successful. I think that's exactly right.

Josh Jarrett: A true story from one of our former students just recently came back and was on the first day of a business job in a large firm in Atlanta. Supervisor with four newbies all in the first day of work. Asked if anybody had had a course in accounting previously. Nobody raised their hands. My former student was very nervous about this, that he didn't have that skill. The response was good. Because we want to build the skills and the competencies in that area. We don't want you to have preconceptions.

I mean I think there is a real important role for the liberal arts in an economy in which the jobs of tomorrow we can barely imagine today. What we are doing is building this skill set. While I certainly appreciate the move towards workforce needs and so forth, and those are something that have to be looked at from a policy perspective, on the ground it's a risky proposition to prepare people narrowly for a workforce that may be shifted by the time they graduate. Or if not that, five years into their working career. I think it is still as important as ever.

You could even make the argument that it's more important that we train students who are nimble, who have the ability to learn new things, learn them well, and can be critical about them and so forth. That's the bread and butter of a liberal arts education.

Adrian Sannier: I was just gonna say I think we have a tendency to think of the liberal arts as the same education that was offered at Oxford in 1550. I think at Arizona State and in other places around the country we're seeing a lot of innovation in liberal arts. We're recombining disciplines, rethinking how they're coming together. That liberal arts tradition of being able to integrate information, inquiry in interdisciplinary ways. That's a very important part of what it is to prepare somebody for the 21st century.

I think that there's also a lot of fear of data among the liberal arts community that oh, this is gonna—that will be the end of us, and it'll only be engineers. Look, whatever is, is. If it's known, people can use what's known to either make decisions for themselves, or to improve their institution and improve the outcomes based on what things look positive, and what things look negative.

This idea that we should close our eyes to how this really is for fear of the implications, what is, is. Sharing it as quickly as possible, and then allowing institutions and individuals to react to those things, the truth sets everybody free.

Amy Laitinen: All right, Josh, you have the final word—you have the final word before we go to questions.

Josh Jarrett: I have a cheat sheet. I guess that's the aspiration, I have a cheat sheet. I have seven competencies that drive success after college. These are seven things that we develop working with employers. What are you hiring for? You need us to teach Google Analytics and all these technical skills. They said no, no, no, if you give me

the right type of person, I will teach them—I think to Tim's point, I'll teach them—that's the easy stuff.

Here are the seven things that they're consistent from the employer research, the industrial organizational psychologist, and all the interviews that we did with employers. First thing they look for is grit. Work ethic, hustle. Are you showing up and gonna work hard? Or first sign of trouble, are you the first one in the lifeboat?

Two, analytic rigor. Can you use data? Can you think critically? Can you look for patterns? Can you integrate the thinking and the information? Three is business impact, organizational impact. Do you understand how values created, how the system works so that I can't tell you what to go do next, but you'll be able to allocate your time and resources around the things that are gonna hit the big, long-term goals for whatever the system is you're working in.

Four is policy and communication. Can you effectively communicate your ideas in a variety of settings? Can you do it with confidence and authenticity? Five is your teamwork. Can you collaborate with diverse teams in different settings, recombine virtually?

Six is curiosity. Are you empathetic, curious, fast learner? Can you get up the learning curve quickly? Lastly, ownership. Are you the person, when things go wrong, you say how are we gonna get better? Or are you the person who says not my job.

If you have those seven competencies, that's what we're looking for. The problem is we have to look at where you went to school, what you majored in, and what your GPA was as a rough, rough approximation. Companies are increasingly doing the analysis that says those things don't predict success. We were looking for other metrics.

The optimistic view, again, I'm an optimist, is that those competencies come from a good, broad education. They come from the liberal arts, they come from applying those, though. Not just abstractly. It's the integration of a broad education with application, also the integrating of the cognitive pursuits of the mind with the non-cognitive. All the research that Angela Ductworth and others have done on the non-cognitive, and the preparation, and the things that you learn at home from before you're five-years-old, your family, your community. It's the

integration, I think, of a lot of where the panel kicked us off as well.

Amy Laitinen: Great, I think that's a great, wonderful, optimistic note to close on. Thank you very much. We're gonna open up for questions now.

Audience: I'm with the National Architectural Accrediting Board. I realize, as an accreditor, I may actually be in a hostile room.I'm perfectly willing to take my lumps. To the question that we were challenged with this morning about changing beliefs and changing the rules. I think there are—I see three areas where the rules could change. I just wanna open this up to the group. You all can say oh, forget about it, we'll talk to you after. I see three places where we can change the rules, and I'm wondering what you think about this. Accreditation, rankings and my personal favorite, tenure.

Amy Laitinen: Easy, softball question. Who wants to start?

Josh Jarrett: I have a really answer to your question, which is there's a reason why we set up the organization that I did outside of higher education. We're not accredited. We fund ourselves off of student tuition and employer fees. We're bringing new resources back into the system by—we charge employers, because we provide them the inputs that they're asking for.

We can turn the crank on innovations, we're 18 months old. We've run our program about 14 or 15 times. If we were trying to do this within the academic enterprise, we would just be getting through our last faculty senate meeting.

[Laughing]

Adrian Sannier: I think from the ASU perspective, we believe that a lot of innovation is possible inside the rules, inside the way it currently stands. You've seen President Crow. You can't imagine him saying there aren't some things he would see changed in anything. I think it's absolutely possible for us to do a lot of the kinds of—take Western Governor's. I believe when you guys started competency-based education, you had to solicit for a dispensation to play outside the rules. In the end, you operated inside the rules anyway.

I think that while it's certainly a place to have an active discussion about how can we change accreditation, we know what the time constant on those kinds of things is. Probably rightly so, because

as President Daniels said, rigor is everything. Making sure that the mission of accreditation is to determine that rigor stays in the system. That being said, clearly we can do a lot of things inside the way that this operates, but it requires a plasticity inside institutions, that some institutions have to a much greater degree than others.

I think that one of the things that's—the history of innovation is a few people set a standard, and they move forward, and they make differences, and they show that things are possible. They exert inordinate pressure on people who otherwise feel that the safe way is to stand pat. Once those pathways are established, once those new practices are exposed, it's very hard for people not to emulate them and to follow. I'm generally hopeful that inside the existing—I don't think we're stymied until that gets fixed.

Similar, I think there's a lot of focus on tenure. That's a complicated system. It's been built up over a long period of time. There are all sorts of tensions inside of institutions about the role that the tenured faculty play relative to the role that the untenured and growing size of that untenured faculty plays. Those pressures will work themselves out, and some institutions will do more and less. It doesn't seem to me that there are—oh, we need sweeping, draconian measures that apply to all institutions. That doesn't feel, to me, to be the problem. What we need is more plasticity in the institutions to innovate inside the existing world.

Tim Renick: Yeah, I agree with that. I'm frustrated by some of the categories that you're mentioning. The rankings. We've, over the last five years increased the number of Pell students that we actually confer bachelor's degrees to by over 90 percent in 5 years. We've gone down in the US News Report and World rankings. We've gone down because our SAT scores have been lower, and our admissions requirements have been more open.

I mean that's sad. It's frustrating, but really the issues I'm thinking about are much more practical than that. I agree with what you're saying.

Adrian Sannier: If you add more dimensions to this puzzle than the US News and World Report rankings, which are this very odd way to take a whole bunch of different metrics, squish them together and make a set of numbers. I think that increasingly, as more information is available, people make decisions less based on one magazine's opinion of how the schools stack up.

Tim Renick: This whole innovation university alliance that you heard a little bit about in both of our schools are involved in is based on the premise that we're not gonna wait around for these larger systems to change. If you sit back and say the real problem is accreditation, or the real problem is the tenure process, then you're saying that these students who we have currently enrolled are not gonna be any better off by the time they graduate than they are today. That's not acceptable.

What worries me are much more practical things. I was just asked, when I got up here, to turn off my phone because it would interfere with the microphone. This is the first week of classes. I'm the chief enrollment officer at a large university. I'm getting a stream of very practical concerns coming in all morning long about this student doesn't have enough aid to cover this and so forth. Those are the issues that we're dealing with, and those are the issues we need to be a lot more creative about solving.

Audience: Hi, I'm with the National Academy of Sciences. We were asked recently to do a study on skills for the 21st century. What we were able to identify and really define was pretty pathetic, to be honest. It occurs to me—also, I recently gave a talk at California State University, and the emphasis there was how do we get more people to finish in four years? I say why are you swimming upstream? All the talk is about how difficult it was to get everybody to finish in four years. I said why don't you get people interim rewards? Certifications, certificates, whatever it happens to be. Why don't you acknowledge that you don't know what skills these people are gonna need 10 years or 20 years from now.

Why aren't you switching to a system of lifetime education? Instead of making—cuz the barrier to finishing in four years, for low-income people is incredible. There's also the opportunity cost. It's not just the cost of going to school, these are people who need to be earning money right now. What I'm wondering about is how much flexibility can we build into our intuitions to put value on education that's acquired over a much longer period, and also acknowledges skills other than the traditional BA, MA degrees and so on that we've been offering and creating value for?

Adrian Sannier: I think the invention of the new modalities, the projection of ASU online, the projection of MOOCs, the dual credit programs, the invention of pathways programs, there's a lot of emphasis now on these can we invent some credentials that exist some place in

between the bachelor's degree and the high school diploma that are valuable in and of themselves, and that are valuable to employers in and of themselves as these intermediate steps I think is a step along the road.

It's an ecosystem challenge, to be honest. You have to get employers to be able to articulate that these credentials will be valuable to them. Then you have to back solve how they might be provided. There's a bit of chicken and egg to get those things started. There is, I think, a lot of activity among foundations, among some of the internet utilities that are capable of gathering information about the labor market, and distilling what some of the crucial skills are.

I think a lot of those actors are beginning to work with institutions to try to articulate those. I believe that you will see from ASU and from other institutions over the next five year period the introduction of some of these. Market forces will be at play then about which of these credentials actually stick, and which of them actually make progress.

I think you're absolutely right. It's odd to be at one, and the same time acknowledging that we're moving into a world where there are lifelong learners, and then focusing on a four-year graduation rate.

Now we always—we kinda know where it comes from. It's one of the ways to make it most cost-effective is to graduate in a finite amount of time. I totally understand, as a parent when my son—when your son comes home and says hey, I think I might shift to the six year plan. Oh, terrific.

[Laughing]

Adrian Sannier: That's great. I kinda get where that's coming from, but I think that the invention of these new modalities, right? We talked about how many people in the country who have some college, but haven't been able to turn that to a credential. Places like Western Governor's like ASU online, like Southern New Hampshire, like other places are serving those people that didn't exist before, and giving them an onramp back into life.

I think that the invention of these new modalities is the mechanism by which that will emerge.

Allison Barber: I will just say to Kevin that technology's really on our side. One of our recent graduates, a single mother, two kids, working three part-time jobs and on welfare. When you say they need to be earning money, they can't go to college, but if you're in an online university, she can go to college at 4:00 in the morning, 5:00 in the morning or 10:00 at night. She graduated and got a job making $20,000.00 more at IU School of Business and is no longer working part-time jobs or on welfare.

Technology's on our side. People who do need to make money can make money and still pursue a college degree.

Amy Laitinen: Got a question up here in the front.

Audience: American Council on Education. On this panel I think you have the two most innovative traditional universities in Arizona State and in Georgia State. How do we scale up, bringing information technology, data science and analytics, ways to help, not giving up the human role and the faculty role, but the intersection that will leverage improvement at a time when we have lots of institutions that are in a very vulnerable financial condition.

We're probably very unsettled. More unsettled financially than any time in my career have I seen. We used to think that there were three kinds of institutions, tuition-dependant, state-dependant and charitable contributions-dependant. That's all changed with the decline in support from the states, and everybody's now tuition-dependant.

It is hard to make—to get the investment capital when you are under such financial pressure. We did this with internet, too, when we all came together, and we all coughed up some of the money, because we thought it was really important to have an advanced networking. How do we take everything that both of your institutions are doing and helping other institutions scale up their use of those techniques?

Tim Renick: Well, this is the optimist panel, and I'm genuinely an optimist here. The reality is that if you looked ten years ago at the profile of ASU and Georgia State, you would not pick them out as the schools that would have the resources to innovate in these ways. In some ways it's a follow-up to the earlier question about accreditation and tenure and so forth. We haven't done this by breaking down these age-old structures that we all know will take generations to evolve.

What has happened is within the structures of the current educational system, and I do think that there is a model for transferring these lessons. I think the technology is a part of it, but also there's a know-how that is out there. It's encouraging over the last year, we've had 80 different campuses that have come to Georgia State.

I know Arizona State has a full-time office just to handle the campuses that are trying to learn. There is a craving out there. Performance funding may spur it even further, but there is a craving out there to see that we succeed. It's not a hard sell at most campuses. I visit as many campuses as come to Georgia State.

Because the people who are attracted to higher ed care about the students. If you can show them that things that are within their grasp, not financially out of reach as I was saying earlier. We have not had large state investments in our programs, just the opposite. We've had state disinvestment as we've been making these gains. You can do these things by models that are fiscally sound and responsible for the students.

I do think that there's a model for that spread. The University Innovation Alliance is going to try to do our best to model what works, and communicate that to others. It's happening, and it's happening at the grassroots. I'm going to community colleges, and I'm going to four-year research institutions. They're equally interested in figuring out how you succeed with low-income, Pell, first generation and underrepresented students.

Adrian Sannier: I think one of the great things—Tim, you're right, there is a hunger out there. I think you're also right that there are institutions who are operating at smaller levels of scale, who find this problem intractable to be solved at their institutional level, and that's cuz it is.

Because technological solutions thrive on scale. I talked before about the Con Academy serving up three billion math problems. Hey, once you've served up three billion math problems, you've got an amazing infrastructure that then puts you in a position to improve your product and extend your service at a scale that others find difficult to compete with.

Scale is usually the enemy. Here, it's the friend. The cultural factors in higher ed that are arrayed against cooperation, those

things are the major obstacle. They're changing very quickly. A lot of the university across the country is built on a cottage industry scale. I have my class. I put my materials together. I teach my students. There's a lovely diversity about that that's terrific. It's not purposeful, and it doesn't get captured term over term, and it doesn't drive toward continuous improvement.

Things like the Gates New Courseware Challenge, ASU involved in three of the seven projects there to find ways to take these innovations and make them shareable at pan institutional scale so that hundreds of thousands of students encounter a course, feed their data into it, and then that is used to then continuously improve that course term over term. You essentially are building a guild of educators that are operating at a variety of institutions, who now are joining together in a common research enterprise to utilize a particular set of tools, and compare pedagogical practices, and drive some continuous improvement.

Gates is trying to set that up. Various projects that we're involved in are trying to set that up. The University Innovation Alliance is fundamentally that sort of arrangement. I think that that, combined with the fact that once we do hit on things, the ability to distribute them and propagate them is unprecedented in human history.

The time that it takes from innovation to pervasiveness can be very, very fast because of the way that we can create these centralized infrastructures. I'm pretty optimistic about it, but the cultural change will be uneven. That unevenness will contribute to the winners and losers.

Josh Jarrett: If I can say one brief thing, too, I think a part of it is getting over the not admitted here syndrome. I think that both the institutions did that. I can adopt ideas and principles and practices. I also can bring in solutions. There haven't been institutions as vertically integrated as higher ed since US Steel. When I went to school we ran our own power plant. We had our own museum. I mean you do everything here.

Bringing in the best—I think blended learning isn't about deciding what do we do online versus what do we do face-to-face. Blended learning is actually about thinking about what do we do locally that only we can do with our people here. What do we do in the cloud at the scale of the entire institution? Every institution is sub-scale for the types of innovation challenges we're trying to do, even 72,000 people at ASU. Blend the learning that way, not that way.

Audience: It used to be that the best solo performers—I mean I used to say, as president of the university, my primary role was to create an environment where prim donnas could flourish. That strength is now not a strength, because the need to integrate and collaborate—

Adrian Sannier: That's absolutely true. It's true to a great degree even in the research enterprise now. Right, you see NSF and other funders, NIH, we want interdisciplinary research that crosses institutional boundaries. We want the data that's generated to be shared. Simon, I'm sorry, Simon, the professor at Carnegie-Mellon, in his last lecture said look there will be no progress in post-secondary education as long as it's a solo sport. Once we understand that we have to collaborate together as a research enterprise, to draw—and that's happening.

That did not happen in Simon's day. It wasn't true in the 60s, it wasn't true in the 70s. It wasn't even true ten years ago. It is true now. There are people who are actively trying to figure out, particularly in general education, how is it that we drive outcomes? What are the things that are actually working? What technology solutions can we deliver at scale that can change that destiny?

I wish it was three years—you're probably right that it's a period of 15. Over that period, we do change this. It changes K12, too. Because the things that we discover, they won't stop at the arbitrary boundary of freshman year. As we know, the things you learn in a college preparatory curriculum, they overlap a lot with the things that we want you to know as an incoming freshman. Those are the things that we tend to cultivate. The discoveries that we make about what it is to drive those competencies, they will push way down into the K12 schools, and they'll be able to push way down because we're able to provide those capabilities at very low marginal cost. The technology assistance to then drive different and more effective pedagogies. There are reasons to be hopeful here.

Amy Laitinen: I think ending on a hopeful note is a great one. I'm just struck by—it sort of seems like we're finishing where we started, which was this idea that Hilary brought up of two different types of power, right, and the sort of, there was the currency and then the current and the collaborative. It's sort of saying this collaboration and not being a solo sport is really a key here to driving some of this change and sort of scaling it, so, thank you all, I hope you are

plagiarized wildly and widely. And thank you for your insights and for everything you're doing.

Tamar Jacoby: Wow. Wow. Wow. Another terrific panel. I just want to thank a few people and also have a few, underline a few things I thought we heard today. I kept wanting to change the name of the conference as it went on and I heard these brilliant things. First I wished I'd called it 'the sons and daughters of farmers and mechanics'. President Crow is gone but that really amazing phrase I'd never heard. And then I think I wanted to call it the B.A.-ristas and B.A.-rtenders. We heard a lot of wonderful things.

Thank you to the panelists, thank you to the moderators, thank you to the two presidents. Thank you to ASU, for the generous funding, for the organization and logistical support, the help with outreach, special heart felt thank you's to the people behind the thrones who made it happen. Josey Windham in my own organization, Dawn Upshaw at ASU wherever you are and Roxanne Ladd, here in DC but also with ASU, among other people.

Bear with me for just a minute while I underline a couple of things that we heard. Because I thought one of the most amazing things I thought was the passion and the inspiration. I didn't realize we were gonna get that kind of passion and inspiration on all the panels but including on this one. And I think it's important to savor and appreciate that for a minute. I think we heard some amazing success stories. You heard them here, I don't have to go thru them again. We heard some pretty hard questions about the role of higher ed and I don't think anyone should go away thinking we solved it. I think we heard some pretty probing hard questions.

But two take-aways kind of stand out for me. The first one is something that really Hilary said as she started us off. Which is really that goals really matter. The common denominator of these success stories was that these are college and universities that faced up to this challenge of 'are we providing this upward mobility or not?' And once they faced up to it, you know, they all figured out a lot of solutions. The point is that they said that's our job, that's our challenge, that's our new mission and we've got to deal with it. And it really paid off. So I think goals matter, the difference between the success and failures seems to be facing up to the challenge and then once you do, I won't say it's not that hard, but it isn't that hard.

The other thing I really heard consistently all through the day, and maybe I just hear this wherever I go, words like career, work, employment, outcomes. And I think somebody used the term 'destination'. You know, what's the destination that matters, what's the definition of success. Is it walking across that stage at the end and getting the credential or is it beyond that? And I think that's something that also kind of grows out of this, what I think of as this new mission of college. Because you know back in the day when Harvard and Yale were just educating that tiny little strata of the 5%, they didn't really have to worry very much about the outcomes. You know, those people were preparing for their roles in society in a lot of other ways, and they were gonna get those roles in society no matter what they did in college, you know the gentleman's C's or whatever but our world is different, and I think it creates a different kind of responsibility for higher education.

So thank you very much, I hope this is the beginning of the conversation and not the end. Thank you to all of you for being here and thank you to our great participants.