

## **Accelerating Success and Shining Brighter: Lessons from Innovators**

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*Prepared text for remarks*

Good morning. I am delighted to join you this morning as we prepare for the start of the spring semester. I would like to thank Steven Stepanek, the Faculty Senate, and the organizers of the Faculty Retreat for putting together this outstanding event and giving me an opportunity to speak today. In reviewing the program and speaking with some of you this morning, it is clear to me that this retreat plays a crucial role in professionally developing and advancing CSUN's faculty, as well as creating a sense of collegiality and community. I appreciate the contributions and leadership of everyone involved in making this event possible.

I am pleased that the theme of this year's retreat adapts our new communications platform, CSUN SHINE. Those of you who visit CSUN's Facebook page know that the response from students and others has been overwhelmingly positive and resulted in one point, in less than 48 hours, hundreds of spontaneous expressions of campus pride. The platform is a positive message that capitalizes on the "sun" both in "CSUN" and in our institutional insignia. It is a memorable and flexible message that can be applied in a variety of ways and contexts.

As president, part of my job is to help CSUN shine more brightly and is the subject of my address to you today: What we might do to make CSUN shine brighter. I will describe some possible strategies for accelerating the success of our students and faculty, how we might encourage innovations, and what lessons can be learned from current innovations and

innovators. I will also challenge those who are interested to participate in a pilot initiative on campus involving students and faculty that I believe will help us prepare students for the 21<sup>st</sup> century and better prepare us for the growing numbers of incoming freshmen and transfers who are already well-versed in the technology that I will describe and which a couple of your faculty colleagues will demonstrate for you as well.

Let me first provide a background or context that prompts my sense of urgency around our need to accelerate student success. Like most of you I spend a great deal of time reading and browsing the internet trying to stay current on a variety of topics but certainly higher education and student success issues. So, when I see an article entitled, “Creating Innovations: Why America’s Education System is Obsolete” (*Forbes*, 12/29/12), I have to read it.

The article describes the research of Harvard Innovation Education Fellow Tony Wagner. Fortunately, I suppose, he was referring to American’s K-12 system and high schools in particular. But before you rest too easy, see if any of these five ways in which our education system is stunting innovation sound familiar:

1. First, individual achievement is the focus, which emphasizes competition among peers and improving one’s GPA. This at a time when we know real innovation is a team sport and “most problems are too complex to innovate or solve by oneself.” Check out IDEO or Stanford’s Design Institute, or the whole area of design thinking.
2. Specialization is celebrated and rewarded, even though learning to be an innovator is about “learning to cross disciplinary boundaries and explain problems and their solutions from multiple perspectives.”
3. The third stunting effect is that risk aversion is the norm. Wagner says we penalize mistakes and students spend most of their time trying to figure out what the teacher wants in a compliance-driven, risk-averse culture. But innovation is grounded in taking risks and learning, via trial and error. Without failure, there is no innovation.
4. Learning is overly passive. For 12-16 years, most of us learn to consume information while in school. This turns us into “good little consumers.” Innovative learning cultures teach about creating, not consuming.

5. Finally, extrinsic incentives primarily drive current learning – A’s and F’s/carrots and sticks. Yet, young innovators are intrinsically motivated. We need to nurture the curiosity and inquisitiveness of young people; from play to passion to purpose. Wagner concludes by suggesting we need to be an innovation-driven culture and society. Thus we need to work in different ways to solve more different kinds of problems in even more ways. A different vision of education, of teaching and learning, for the 21<sup>st</sup> century. A sense of urgency about a problem to be solved; a need to reinvent, not just reform education. And please don’t conclude that I have placed too much weight on one article and one author, because Wagner’s comments are reflected in countless other venues and by numerous others; see Roberta Ness’s book, *Innovation Generation* or watch the TED talk by Sir Ken Robinson on changing education paradigms (on RSA Animate; Royal Society for the Encouragement of Arts, Manufactures and Commerce<sup>\*</sup>).

During the first week in January, 2013, the 20 Million Minds Foundation organized a symposium at UCLA on the topic of innovation in higher education and it was attended by an impressive array of innovators and key stakeholders from Lt. Governor Gavin Newsom, to Sebastian Thrun (Udacity’s founder), to Lilian Taiz (of our own CFA), to Academic senates, college presidents, and students. As Jeff Selingo noted in the January 9, 2013, *Chronicle of Higher Education*, “every college is looking for the silver bullet solution to fix all of its problems” with budgets, access, tuition costs, and accountability. There is no one solution for these issues in California nor for balancing access and affordability. Some people believe the answer is in online learning, MOOCs, e-texts, \$10,000 degrees, among others. We know that both Governor Jerry Brown and Lt. Governor Newsom do think that online learning is a solution as evidenced by the designation of \$10 million in the Governor’s recent budget to the CSU that must be dedicated to providing online course options for bottleneck courses on campuses. Even Udacity’s Thrun suggested that MOOC’s are not the solution for everything. But while there is no one solution, there shouldn’t be hundreds of solutions either. It is confusing to us and to students. We also need to take into account the learning needs and characteristics of today’s students and definitely tomorrow’s students who require increased

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<sup>\*</sup> See <http://www.thersa.org/events/rsaanimate/animate/rsa-animate-changing-paradigms>

access, convenience and flexibility to learning content, and whose expectations of us will be greater than in the past.

So what are some of the current best practices? I will briefly describe only a few:

1. Flipping the classroom – The flipped classroom has been around since at least 2000 (Wesley Baker, Communication Arts professor at Cedarville University) and has gained enormous popularity among students and faculty. The use of pre-recorded lectures by our own faculty or the use of freely available MOOCs for lectures and core content permits the use of actual class time to augment the lecture content through discussions, applications, working through problems, developing team projects, other collaborative activities and quizzes. The introduction of new technology tools such as tablets, including iPads, have helped make the flipped classroom more viable. Students can access content, anywhere, anytime.
2. Learner Analytics – While there are several models available, there is still lots more work and research to do on the best use of learner analytics. It is possible, currently however, to use class time and space to determine and assess what students are learning and how (through visual or auditory or demonstration). The analytics provide data on who (exactly which students) are learning and what they are learning. For example, software known as “Knewton” uses data mining techniques to create highly customized lesson plans and test prep courses for students – a simple acknowledgement that everyone learns in his or her own way. With the data, the instructor can know what each and every student knows and how well they know it. Everyone gets a unique experience every moment optimized to how they learn. Some of Knewton’s clients are Arizona State University, Pearson, and John Wiley and Sons.
3. Use of virtual laboratories, which our own biology faculty have used to instruct students on how to use expensive equipment without ever touching it since the instruction is online. WICHE has a group of institutions from five states (four-year and community colleges) working on a model virtual lab for science areas that is scalable. If effective, think about the potential space and resource savings.

4. Digital texts – Taking staid, expensive, “dead-tree’ products and converting them into interesting and dynamic tablet experiences, replete with video, sound, quizzes and sophisticated search functions. Some of our faculty are already making use of these resources. You will see some demos today from iBooks Author and others. In addition to our own state mandate for some 50 textbooks in popular lower division courses that are to be made available as free ebooks, consider creating one of your own or using from among the best that already exist. Some are free, some are incredibly low cost (\$14.95).
5. On-demand tutoring – These are often designed around core competencies in a course or discipline with self-paced exams. It is not just about knowledge or what you have read, or the time you have spent; it is about what you can do with the knowledge, how to apply it to solve problems and demonstrate critical thinking and analysis. We know that some of our students could benefit from the extra help that on-demand tutoring could provide and I want to acknowledge those of you who have already ventured into this arena and are using this strategy.
6. And finally, one last example, free courses and lectures: Coursera, EdX, Khan Academy and Udacity (Thrun, by the way, believes that there should be a constitutional amendment that says access to the content of higher education should be free).

These are just a few examples of what is happening and we know more are coming.

The point is that the design of a typical classroom course is now ripe for innovation. I encourage you to find and discover the most effective formats for our students. Rethink how to better use classroom time and space. Many of your colleagues (some of them here today who will demonstrate) have already taken the plunge. Some like Pat Swenson and Nancy Taylor in English have already written books about it.

Many of the regional accreditors, including WASC, will be asking about what we are doing to be accessible to all students, to individualize learning, and for learning to be anytime, anywhere. If you consider moving in this direction, once a course is developed and depending on the lecture materials used, it can potentially free up prep time for faculty and space for classes. One room could be used by at least two classes at the same time but on

different days by employing such a hybrid model. While those consequences are great, the real winner, I believe may be our students.

Some of the deans, the provost, your Faculty Senate president, and myself, were able to spend a day at Apple headquarters learning about their ventures into the K-12 world, as well as into the higher education community. Virtually all of us left very impressed with the potential prospects for both our students and our faculty. They want to work with us to help train faculty in the Apple educational tools (classroom apps, iPads, iBooks Author and others), enable us to have access to their infrastructure, including their global capacity and their team of 24/7 innovators and staff who are passionate about improving education and reducing the achievement gap.

I know that there have already been discussions in some departments and colleges about participating in this initiative (in engineering with the STEM grant, in education with the credential program, and in journalism and geography). But I would like to offer any faculty or departments/disciplines who want to participate in a pilot initiative the opportunity to do so either now or next summer to prepare a class or an iBook and receive both Apple training and CSUN training in the process.

I want myself and others to consult with various committees such as the EPC, GEC, ERC, and ATC to consider the possibilities and opportunities that are being presented to us. I believe that taking advantage of this would help us accelerate success and be seen as educational leaders in the process (*aka* Shine brighter).

Before I turn this over to your colleagues for a demonstration, let me address some potential questions which you might have that is based on the Apple iPad<sup>†</sup>:

*What about the various CSUN campus initiatives to support multi-platforms?*

CSUN continues and will continue to support multi-platforms. The Apple platform does offer an innovative option because it provides an intuitive hardware platform for students and faculty to use, their infrastructure, plus a relatively mature suite of software app options (700k+ apps including 20k+ educational apps).

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<sup>†</sup> Note that an "iPad Initiative FAQ" has been posted online at <http://www.csun.edu/it/ipad-initiative>. This FAQ is a revised and updated version of the Q&A included in these prepared remarks.

*Why Apple? Why not Android?*

I should probably defer to those who are far more technologically savvy than I but Apple apps are generally considered better quality and more numerous in selection with more mature education apps (see *Wired* magazine and *New York Times* reviews). I also understand the biggest problem with Android is that many are run on “guttled code” and are not upgradeable which doesn’t fare well for future compatibility issues. And, no, I do not own Apple stock!

*What about the CSU CO’s prohibition from using iTunes U because of accessibility issues? Are iBooks accessible?*

iTunes accessibility has been resolved through direct work with the Chancellor’s Office and Apple has indicated that the iBooks platform is accessible and has provided a book on the topic (*Creating Accessible iBooks Textbooks with iBooks Author*). This would be part of the training for faculty.

*What measures will be taken to ensure that every student in classes where faculty want to use these tools will have access to an iPad?*

Apple has offered to assist with an affordable business plan and our financial aid staff have indicated that the cost to purchase or lease to own an iPad could easily be subsumed into the financial aid package especially if it substituted for expensive hardbook texts. My goal would be to have a financial plan that makes it possible for students to participate (assuming sufficient faculty are interested) for as little as \$75/semester for two years and then they own it or their financial aid covers it AND we also have scholarships and outright gifts from our alumni and Foundation Board members to make this happen. Instead of selling Girl Scout cookies, I will be offering our board boxes of iPads that they can give our students.

*What about the new state mandate about having 50 e-textbooks available free for popular lower division courses?* The textbooks to be produced for SB 1052 have not been determined and they will in all likelihood be compatible with iPads and other devices. The e-text reader market is very fragmented and immature. Different publishers provide different e-text reader with different features that confuse some students. Adoption of e-texts is lagging behind e-

books in general. Textbooks themselves are finally morphing from static PDF to interactive, media rich, digital formats, both of which can be read using iPads. Apple has partnered with Houghton Mifflin Harcourt, McGraw-Hill, and Pearson to produce K-12 textbooks in iBook format. They are now moving into the higher ed world. Think about the record industry and iTunes.

*The use of iBooks Author requires the use of a Mac OS based computer; does this mean faculty will be switching to Macs and who will pay for the new computers?* Faculty would only need a Mac if they wished to produce an iBook. Even without a Mac, as long as you have an iPad, you can take advantage of all other functionality provided through the iPad. All faculty who participate in the initiative would need an iPad so that you would all share the same platform.

*Finally, what is the evidence that iPads improve student learning outcomes?*

This is a tough one because tablets are still so new that little empirical data exists even though early findings in K-12 schools have been incredibly positive. There is also evidence that the use of apps and collaboration improves learning. It is important to keep in mind that the iPad is a multi-functional tool that serves as a textbook replacement, a portal to the internet and rich reference material, a container of engaging apps and a means of collaboration. Each of these could have a separate effect on student learning outcomes.

So, now let's get to the exciting part, the demos. I am pleased and appreciative of the efforts of two faculty from biology, Cheryl Van Buskirk, and Paul Wilson, and Deone Zell from Academic Technologies who will show you some apps and a quick example iBook (constructed from iBooks Author). Seeing is a much better way to learn about this than hearing me talk about it!

Deone, will you start?

*Demonstrations*

## **Conclusion**

In a white paper from *Campus Technology* in December, 2012, entitled “Technology Transforming Education,” researchers estimate that by 2014 there will be 5.1 million higher education students solely in brick and mortar classrooms, 3.5 million in solely online classes, and 18.6 million students in blended or hybrid courses (combining f2f teaching and learning with technology based activities). Many educators not only expect to increase their use of this approach but a growing number believe that blended learning is more effective than classroom based teaching alone.

The National Training Labs in Bethel Maine estimated that from among the various types of teaching strategies that influence student retention those that involve challenge based learning (especially students having to teach others, or practicing applications and problem-solving, followed by discussion) were far more effective than either lectures or readings.

I hope you are excited to try this and I hope you are open to thinking about trying. If you are one of the generally one-third of educators who are consistently suspicious of anything online or associated with one company, or you just want to wait and see how others fare, that will be fine. For those who are ready and interested, please let me, your dean, your department chair, or whoever is the most appropriate know. We are planning to invite a group from Apple back to campus for additional demonstrations and training for various groups.

Thank you and have a great retreat!