

Constant Change: The Challenging Context of The 21st Century

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McAllen, Texas



**In fifty years, if not much sooner,
half of the roughly 4,500 colleges
and universities now operating in the
United States will have ceased to
exist.**

**“The End of the University as We Know It.” Nathan Harden.
The American Interest. January/February 2013.
<http://www.the-american-interest.com/article.cfm?piece=1352>**





Technology Changes Everything



Think about the impact of technology:

On journalism...

Rocky Mountain News

On photography



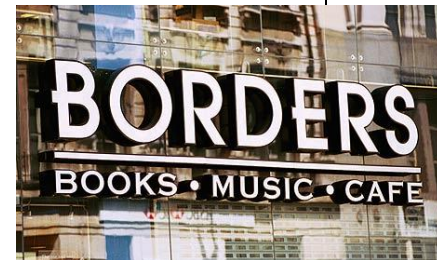
On the music business...



On the book publishing/selling business...

The Long Tail.

Chris Anderson (Hyperion, 2006)



One of technology's impact on business: store closings

Abercrombie and Fitch	180	By 2015
Barnes and Noble	223	Over 9 years
Aeropostale	175	Next few years
JC Penney	33	By mid-2014
Radio Shack	1,100	Just announced
Staples	225	By 2015
Sears	500	Going Forward
Family Dollar	370	2014

<http://247wallst.com/special-report/2014/03/12/retailers-closing-the-most-stores/>



Robert Darnton

Four Great Information Ages

- **Invention of Writing, Mesopotamia, 4,000 BC**
- **Moveable type**
- **Mass steam-powered presses, Industrial Age**
- **Internet, after 1993**

Now You See It: Attention and the Future of Learning. Cathy N. Davidson,
http://chancellor.ucdavis.edu/local_resources/pdfs/colloquium-11-12/ccvol2_cathy_davidson.pdf



Are we vulnerable to disruption?

Christensen and Eyring argue that disruption comes from cheaper and simpler technologies that are initially of lower quality. Over time, the simpler and cheaper technology improves to a point that it displaces the incumbent.

The Innovative University.
Clayton Christensen and
Henry J. Eyring. 2011



The challenge is enormous.

**We have a confusion of purposes,
distorted reward structures, limited
success, high costs, massive
inefficiencies, and profound resistance
to change.**



Clay Shirky ---

“The biggest threat those of us working in colleges and universities face isn’t video lectures or online tests. It’s the fact that we live in institutions perfectly adapted to an environment that no longer exists.”

<http://www.shirky.com/weblog/2014/01/>



**The greatest challenge to our survival
and success is our inability and/or
unwillingness to change.**

**Dungeons and Dragons:
Prisoners of Our Own Beliefs;
Tyrannized by Mythical Beasts**



Churchill House of Commons



“The Chamber should be oblong and not semi-circular; there should not be room for all its Members; it should be designed to preserve that intimacy of debate and discussion, freedom and sense of urgency and excitement...”

<http://hansard.millbanksystems.com/commons/1945/jan/25/house-of-commons-rebuilding>

"We shape our buildings, and afterwards our buildings shape us."

House of Commons (meeting in the House of Lords), 28 October 1943.



The Key Issue

How do we educate more
students, with greater
learning outcomes, at lower
costs?



What should the 21st century university for the Rio Grande Valley look like?

(we're only slightly more than 1/8 of the way into this new century, so let me describe some emerging characteristics of 21st century universities, not the final product)



Core Commitments



Commitment to be Stewards of Place



For this new university, a focus on citizenship preparation, P-12 education, health care, economic and community development, and internationalization.

AASCU will publish a second and third volume in the Stewards of Place series in May 2014.



Commitment to Access

Mission Statement: Arizona State University

“measured not by who we exclude, but rather by who we include and how they succeed”

“I don’t think the taxpayers of Florida voted to tax themselves to build a university that their children could not attend.”

**John Hitt, President
The University of Central Florida (UCF)**



A commitment to ACCESS: Multiple entry points

Make every effort to get students into the university:

- **early college programs in high school**
- **summer preparatory academies**
- **testing in 11th grade and using 12th grade for remediation, etc.**
- **community college pathways**

And then make sure they succeed!



And challenge old assumptions: who's college ready?

A simple example: college mathematics

Are students not prepared?

Or are we the ones who are not ready?

**Carnegie Foundation for the Advancement of Teaching:
Statways and Quantways**



Commitment to the Right Incentives

What counts in the new university?

What really matters?

What are the metrics of success?

Who gets rewarded / recognized?



Success for Low Income Students

In 2011, the graduation rate:

With fewer than 20% Pell students:	79%
21 - 40% Pell students:	56%
41 – 60% Pell students:	42%
above 60% Pell students:	31%

<http://www.insidehighered.com/views/2013/09/30/essay-suggests-scoring-diving-suggests-path-rating-colleges>

Percentage of 24 Year Olds with College Degrees

	1970	2011
Top-income quartile:	40%	70%
Bottom-income quartile	6%	10%

http://www.nytimes.com/2013/09/29/magazine/freebies-for-the-rich.html?_r=0



Teaching As Valued As Research

Perverse Incentives

Cardiac surgeons turned away the sickest and most severely ill patients after adopting performance-based health report cards.

Health disparities widened among White, Black, and Hispanic patients after introducing physician report cards.

<http://www.learningoutcomesassessment.org/documents/HillmanViewpoint.pdf>



Comparing Teaching Effectiveness: Tenure and Non-Tenure Faculty

Academic performance, 8 cohorts of freshmen: 15,662 students, from fall 2001 to fall 2008.

Taking a course from non-tenure track faculty members:

- Increases the likelihood that a student will take another class in the subject**
- Increases the grade earned in that subsequent class**
- Produces the greatest gains for weakest students**

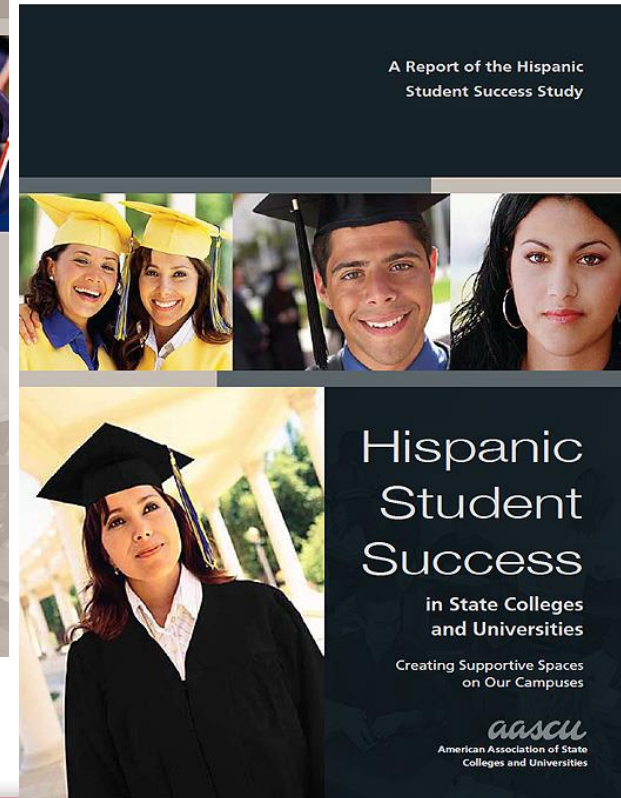
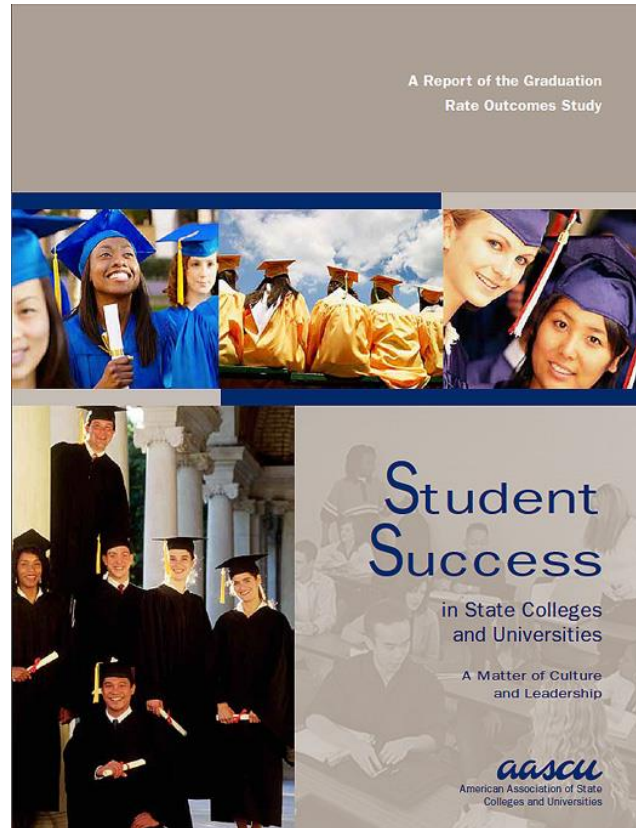
Northwestern University Study

<http://chronicle.com/article/Ad-juncts-Are-Bet-ter/141523/>



Commitment to Student Success

A set of studies by AASCU, Ed Trust, and the National Association of System Heads (NASH)



Commitment to Reducing Costs

- **Time to Completion**
- **120 hours for all majors**
- **Reducing bottlenecks in completion**
- **Charging out-of-state for 30+ credits beyond graduation requirements**
- **Intrusive advising and early remediation**
- **Flat rate for summer courses**



Commitment to Learning Outcomes

- **New Tools** (*CLA, CAAP, and MAPP*)
- **New Organizations** (*NILOA, New Leadership Alliance, etc.*)
- **New Initiatives** (*Degree Qualifications Profile DQP*)
- **New Pressures** (*Academically Adrift*)
- **New Expectations** (*business, parents and students, government, accreditors*)



What Learning Outcomes?

What are the key work attributes of the 21st century?

- Solving unstructured problems**
- Working with new information**
- Carrying out non-routine tasks**
- Complex communication**
- Expert thinking**

The New Division of Labor: How Computers Are Creating the Next Job Market. Frank Levy & Richard J. Murnane. 2005



Commitment to Rethinking Status and Prestige

Our institutions were created as teaching institutions, instead of learning institutions.

**From Teaching to Learning - A New Paradigm for Undergraduate Education.
Robert B. Barr and John Tagg. Change Magazine. Nov./Dec., 1995.**



Key Changes



Changes in Academic Structures

- **Multiple-institutional Courses**
- **Course (set of competencies)**
- **Credit Hour (based on seat time)**
- **Semester (unlike Facebook)**
- **Curriculum (interdisciplinary, community- linked)**
- **Degree (competency, certificates, etc.)**
- **Capstone Courses/Experiences**



Changing Administrative Practices

- **Outsourcing**
- **Campus Consolidation and Expansion**
- **Strategic and Corporate Partnerships**
- **Contingent and Flexible Workforce**
- **Alterations in Benefits**



Changing Administrative Structures

- Organization design for optimal student outcomes
- Multidisciplinary units
- Units organized around problems, not disciplines



Changes in Physical Space

- **Classrooms**
- **Library**
- **Bookstore**
- **Office Space**
- **Campus**



Changes in Student Services

One example: Coaching



Percent First-Year Student Retention (2006 - 2011)

	2006	2007	2008	2009	2010	2011	Increase 2006 - 2011	
							Points	Percent
Latino	65%	70%	72%	78%	84%	81%	16	25%
First Generation	52%	69%	72%	75%	79%	81%	29	56%
Low Income	69%	70%	74%	75%	79%	83%	14	20%
Overall	65%	67%	71%	76%	78%	79%	14	22%

Source: CSUMB University Factbook, CSUMB Office of Institutional Assessment and Research



Changing Faculty Work and Culture

Faculty will work in a networked world --- in a collaboration of faculty, other experts, and students across time and space.

“As individuals we will have to abandon that sense of ourselves as independent actors and agents.”

Checklist for Change. Robert Zemsky.
<http://chronicle.com/article/How-to-Build-a-Faculty-Culture/141887>



As you build a new medical school, the comparison of the work of physicians and university faculty members is striking:

“Big Med.” Atul Gawande. The New Yorker.

http://www.newyorker.com/reporting/2012/08/13/120813fa_fact_gawande?currentPage=all



In medical education, Darrell Kirch describes “An Emerging Culture for Health Care”

- 1. Hierarchical to Collaborative**
- 2. Autonomous to Team-Based**
- 3. Competitive to Service-Based**
- 4. Individualistic to Mutually Accountable**
- 5. Expert-centered to Patient-centered**

“Higher Education and the Future of American Health Care” by Darrell G. Kirch, M.D., President and CEO, Association of American Medical Colleges (Washington, D.C., November 2, 2010).



Focus on Innovative Teaching



Flipped Courses

The “flipped” course. You do homework by watching lectures. You go to class to work on problems together.

Khan Academy: 2,400 videos covering everything from arithmetic to physics, finance, and history. Khan lessons viewed by more than 4 million people a month.

<http://www.khanacademy.org/>



Open Learning Initiative (OLI)

Carnegie Mellon University

<http://oli.web.cmu.edu/openlearning/index.php>

**Team: content specialist
cognitive scientist
instructional designer
graphic designer**

OLI-Statistics students learned a full semester's worth of material in half as much time and performed as well or better than students learning from traditional instruction over a full semester.

<http://oli.web.cmu.edu/openlearning/publications/71-effectiveness-statistics0>



Science Classes

The Carl Wieman Science Education Initiative

Three strategies:

1. Reducing cognitive load
2. Addressing beliefs
3. Stimulating and guiding thinking

<http://www.cwsei.ubc.ca/>

Experiment produced two times the learning outcomes

Deslauriers, Schelew, and Wieman. Science. 13 May 2011, pp. 862 – 864.



Math Emporiums

“Higher Education’s Silver Bullet” Carol Twigg

<http://www.changemag.org/Archives/Back%20Issues/2011/May-June%202011/math-emporium-full.html>

3 Keys To Success:

1. Interactive computer software
2. Personalized on-demand assistance
3. Mandatory Student Participation



Blended Courses

Blended (hybrid) courses combine fact-to-face classroom instruction with online learning and reduced classroom contact hours (reduced seat time)

Charles Dziuban, Joel Hartman, Patsy Moskal. Blended Learning. EDUCAUSE. 2004 <http://net.educause.edu/ir/library/pdf/ERB0407.pdf>

SRI Study

<http://www2.ed.gov/rschstat/eval/tech/evidence-based-practices/finalreport.pdf>

Ithaka Study

<http://www.sr.ithaka.org/research-publications/interactive-learning-online-public-universities-evidence-randomized-trials>



Broad Course Re-Design

George Kuh *High Impact Practices*

- First-year seminars and experiences
- Common intellectual experiences
- Learning communities
- Writing-intensive courses
- Collaborative assignments and projects
- Undergraduate research
- Diversity/global learning
- Service learning, community-based learning
- Internships
- Capstone courses and projects



George Kuh. High-Impact Educational Practices: What They Are, Who Has Access to Them, and Why They Matter. AAC&U, 2008.

Ensuring Quality & Taking High Impact Practices to Scale. AAC&U, 2013.



Prior Learning and Competencies

Prior Learning Assessments:

Council on Adult and Experiential Learning (CAEL)

New Competency-based Degrees:

Southern New Hampshire University

Northern Arizona University

Western Governor's University

Competency-based Hybrid Degrees

Badges: Khan Academy

Mozilla

Pearson

Certifications: Cisco

CLA



Personalization

The capacity of software and systems to tailor course materials, learning processes, and approaches to the unique circumstances of individual learners.

- **Individual characteristics**
 - Learning style**
 - Memory decay**
 - Pacing**
- **Obstacles or misunderstandings**



70 New Personalization Providers

- **Adapt Courseware**
- **A New Spring**
- **Cerego Global**
- **Cogbooks**
- **Jones and Bartlett Learning**
- **Knewton**
- **Loudcloud Systems**
- **McGraw-Hill Learnsmart Advantage Suite**
- **Open Learning Initiative**
- **Quantum Simulations**
- **Smart Sparrow**

Learning to Adapt. 2013
<http://edgrowthadvisors.com/research/>



In a world of constant change, it seems to me that you must:

- **Embrace change**
- **Challenge every practice**
- **Provide a safe environment for experimentation and failure**



This is not simply a difficult moment for higher education: it is the dawn of a very different era. The institutions that will succeed—indeed, thrive—in this era will be those that constantly innovate.



So what will the future bring for UT – Rio Grande Valley?



**Many of the people in this room
will help shape that answer.**





Further Readings:

“Dungeons and Dragons: Prisoners of Our Own Beliefs; Tyrannized by Mythical Beasts.” Gardner Institute: Academic Affairs/Student Affairs Conference. Orlando, Florida. January 17, 2014.

“Challenge and Change.” EDUCAUSE Review.

(vol. 47, no. 5. September/ October 2012).

<http://www.educause.edu/ero/article/challenge-and-change>.

Medieval Models, Agrarian Calendars, and 21st Century Imperatives. Teacher Scholar. Volume 2: Number 1 (Fall 2010).

