

# Course Redesign:

## An Opportunity for Re- Imagining Higher Education



**Southeast Missouri State University**  
**February 2, 2011**



# February 2, 2011 Groundhog Day



**The trouble with weather forecasting is that it's right too often for us to ignore it and wrong too often for us to rely on it. Patrick Young**

The logo for the Red Balloon Project, featuring a red balloon with the number '16' on it, tied to a string that loops around a globe.

**We are confronting a period of  
massive change and great  
uncertainty**

**Our institutions are  
challenged as never before**

**We must act, or be acted upon**

**Only together can we  
respond effectively**

**“New occasions teach new duties,  
time makes ancient good uncouth,  
They must upward still and onward,  
who would keep abreast of truth”**

**James Russell Lowe**

# The Problem





# Our University Mode


*aascu* RED BALLOON PROJECT

Was created in the  
11<sup>th</sup> cent

To prepare our students




Operates on a 19<sup>th</sup> century  
for life in the 21<sup>st</sup> century  
agrarian calendar



**Our university model was designed for the elite. Now higher education must serve a very diverse mass market.**

- 1. Our current model for funding public higher education is not sustainable**
- 2. Our current model for delivering public higher education is not sustainable**
- 3. Our current public higher education business models are not sustainable**

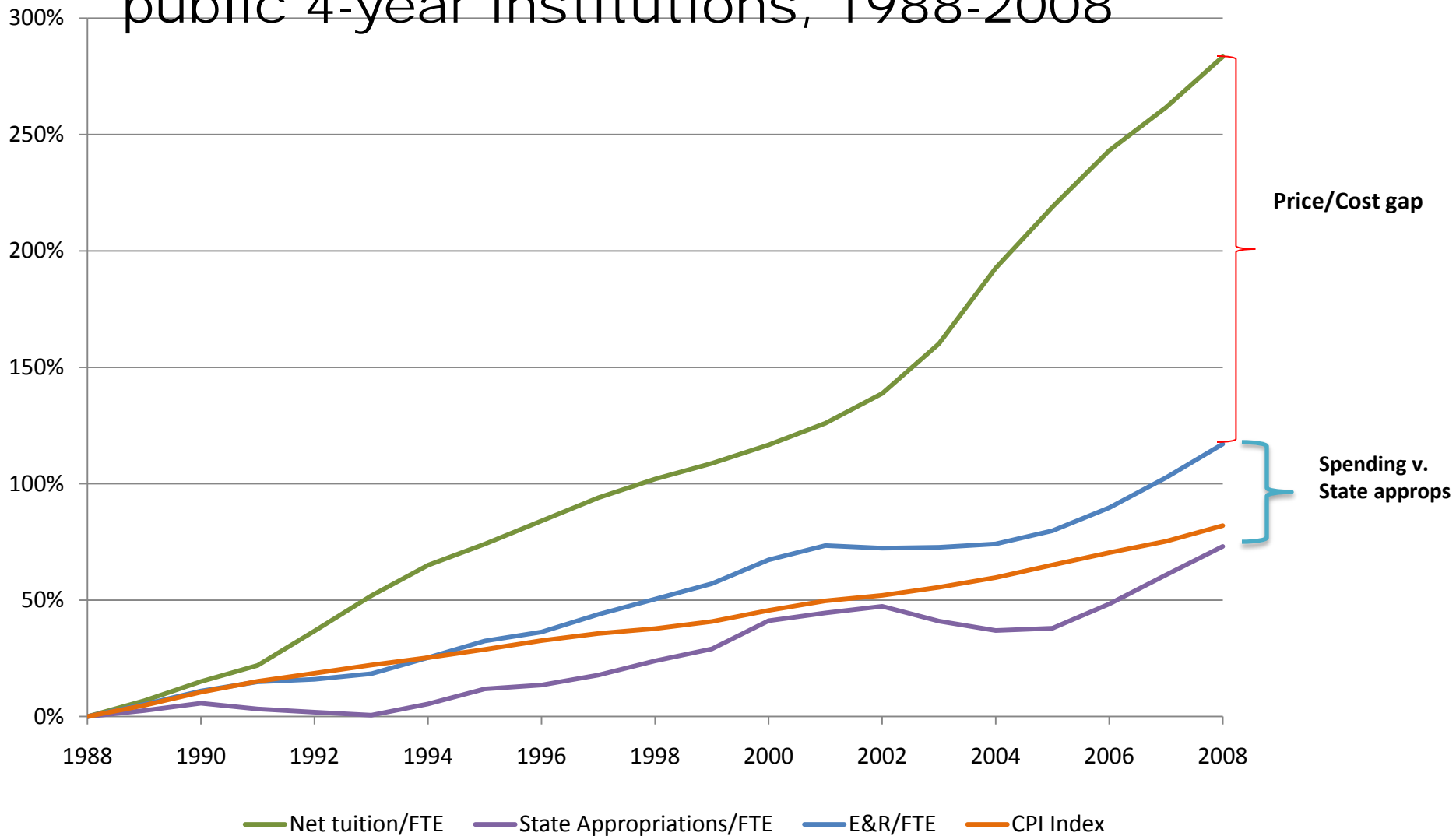


**1. Our current model for funding  
and delivering public higher  
education is not sustainable**

**The way in which America finances public  
colleges and universities...is severely and  
irreparably broken.**

**Darryl G. Greer and Michael W. Klein, “Fixing the Broken Financing Model.”  
*Inside Higher Ed*, October 4, 2010.**

# The unsustainable funding trends at public 4-year institutions, 1988-2008



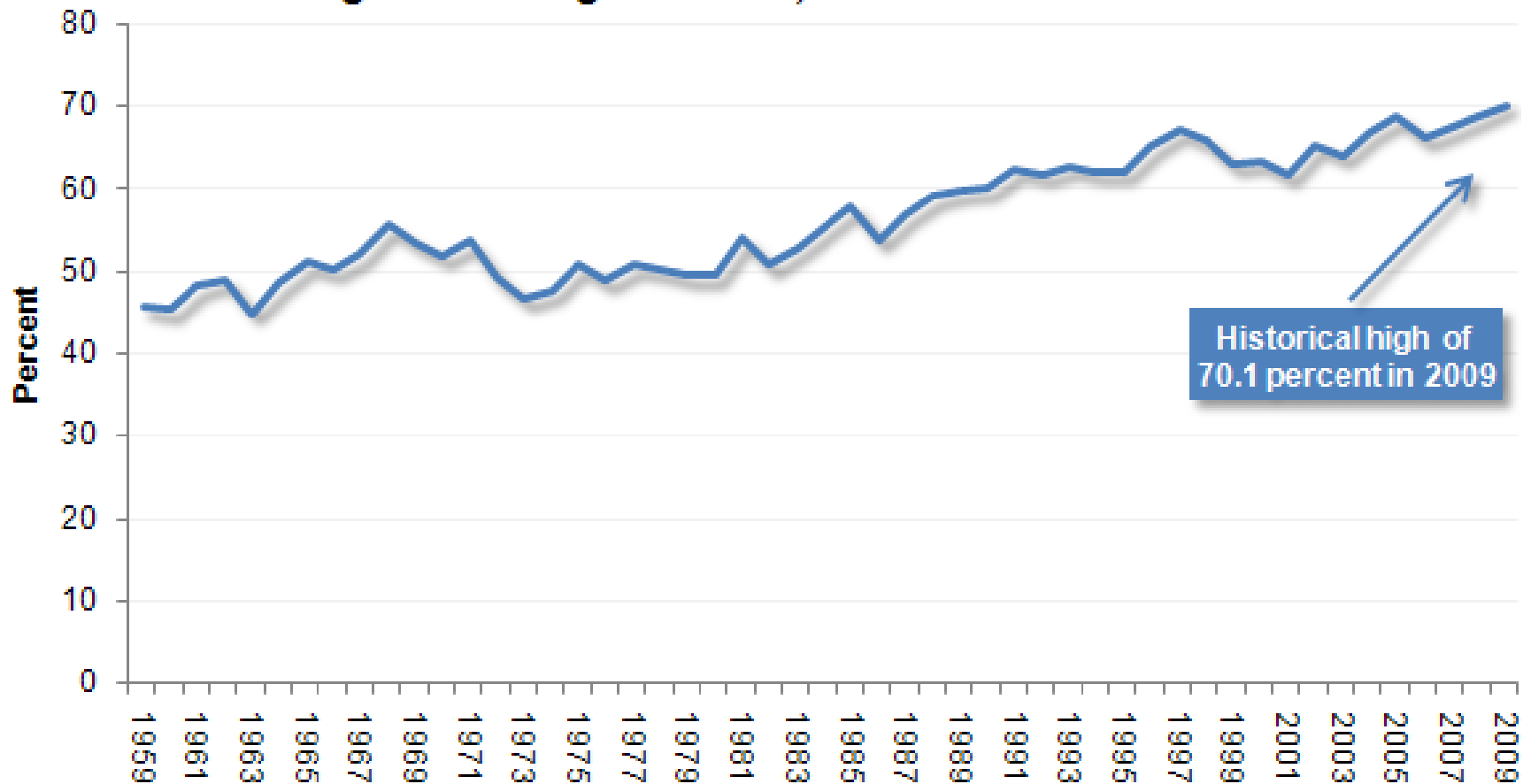
Source: Delta Cost Project IPEDS database, 1987-2008, 22-year matched set. Notes: Percent change since 1988 based on unadjusted dollar amounts. From the Delta project.

**2. Our university model, designed for the elite, has now been called upon to provide higher education to a mass market**

177 million

## College enrollment rate of recent high school graduates age 16 to 24, October 1959–2009

310 million



Source: U.S. Bureau of Labor Statistics

[http://www.bls.gov/opub/ted/2010/ted\\_20100428.htm](http://www.bls.gov/opub/ted/2010/ted_20100428.htm)

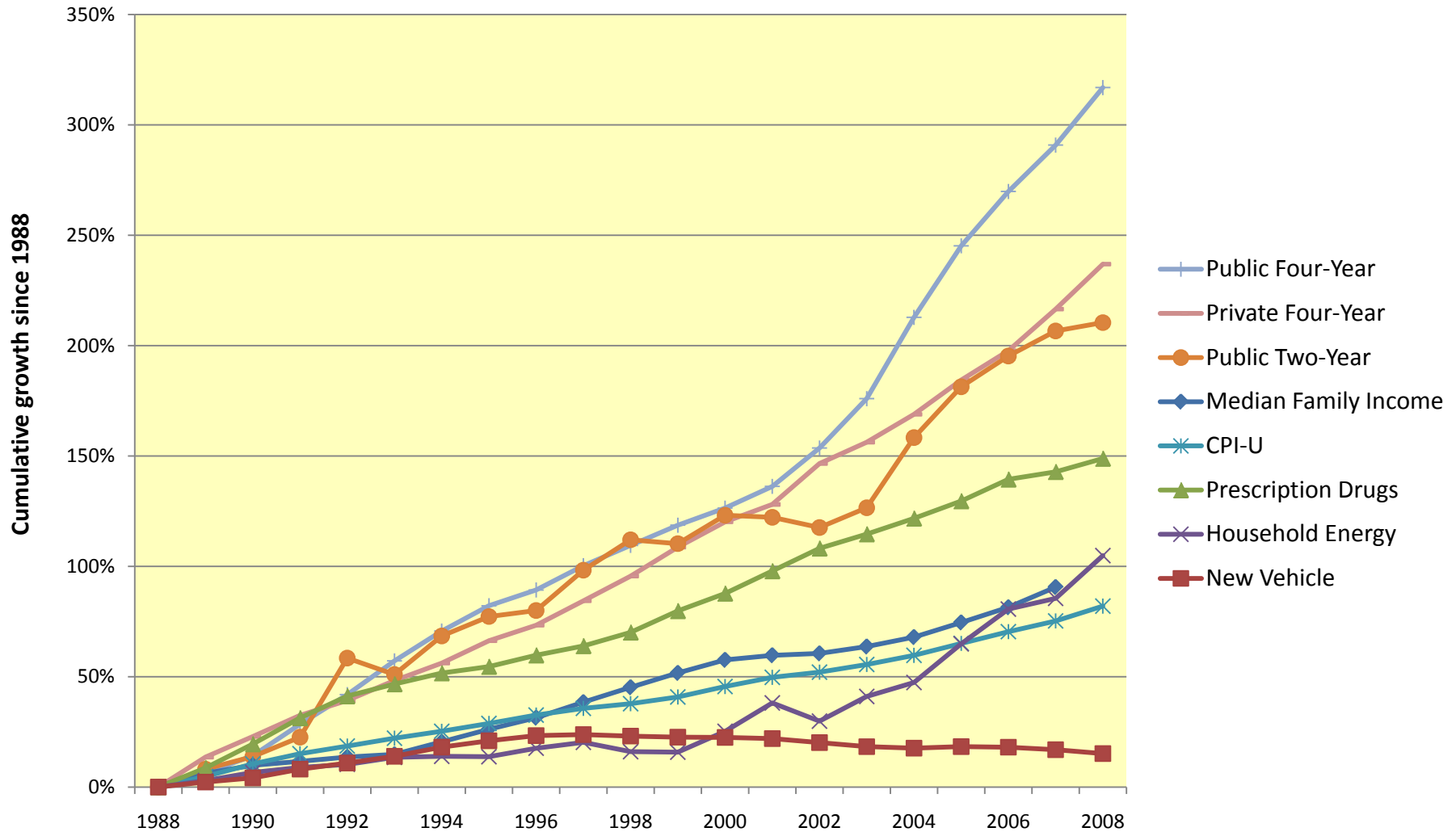


**3. Our current business models will  
not sustain our work**

**Higher education is a set of cross-subsidies:  
graduate education subsidized by undergraduate;  
upper division subsidized by lower division**

**Jane Wellman, Delta Project  
<http://www.deltacostproject.org/>**

# The Rising Cost of College, 1988-2008 (based on increases in current dollar amounts)



Sources: College Board, "Trends in College Pricing, 2008"; Bureau of Labor Statistics, 2009, [www.bls.gov](http://www.bls.gov); U.S. Census, Current Population Study-ASEC, 2008. From the Delta Project. Used with permission.

**"Between 2000-01 and 2009-10, four-year public institutions reported a 46% increase in average inflation-adjusted in-state tuition and required fees."**

Knapp, L.G., Kelly-Reid, J.E., and Ginder, S.A. (2010). *Postsecondary Institutions and Price of Attendance in the United States: Fall 2009, Degrees and Other Awards Conferred: 2008-09, and 12-Month Enrollment: 2008-09* (NCES 2010-161). U.S. Department of Education. Washington, DC: National Center for Education Statistics.

**“...the choice for higher education during this critical juncture is “reinvention or extinction.”**

**E. Gordon Gee  
Ohio State University  
Robert H. Atwell Lecture  
American Council on Education Annual Meeting, February 2009.**

**[http://www.acenet.edu/media/mp3s/AM09\\_Gee.mp3](http://www.acenet.edu/media/mp3s/AM09_Gee.mp3)**





## **3 Key Propositions**

- 1. Funding for public higher education will not return to previous levels.**
- 2. Increasing calls for greater numbers of graduates**
- 3. Technology changes everything**



## **FUNDING**

**National Governors Association (NGA):**

**“...state budgets will not be balanced until the latter part of the decade.”**

**“Health, criminal justice, and the K-12 schools will consume an increasingly larger share of the state’s resources.”**

**“Many states have structural deficits...”**



# Greater Numbers of Graduates

## President Obama

**By 2020, America will once again have the highest proportion of college graduates in the world.**

[http://www.whitehouse.gov/the\\_press\\_office/remarks-of-president-barack-obama-address-to-joint-session-of-congress/](http://www.whitehouse.gov/the_press_office/remarks-of-president-barack-obama-address-to-joint-session-of-congress/)

## Lumina Foundation “Big Goal”

**By 2025, 60% of adult Americans will have high quality degrees and certificates.**

[http://www.luminafoundation.org/goal\\_2025/](http://www.luminafoundation.org/goal_2025/)



# Technology Changes Everything

Recent changes in technology:

- Make it possible to communicate with more people than ever before
- Enable learning any time, any place, any how
- Facilitate personalization
- Promote openness, which promotes sharing
- Promote participation in content, knowledge, and news production
- Enable collaboration across the world

Brenda Gourley, EDUCAUSE Review, Vol. 45, no. 1 (January/February 2010): 30-41.

**Think about the impact of technology:**

**On journalism...**

**On the music business...**

**On the book publishing/selling business...**

The Long Tail. Chris Anderson (Hyperion, 2006)



## **Content Is Now Everywhere**

**Academic Earth [academicearth.org](http://academicearth.org)**

**Connexions [cnx.org](http://cnx.org)**

**OpenCourseWare Consortium  
[ocwconsortium.org](http://ocwconsortium.org)**

**iTunes U**

**<http://www.apple.com/education/itunes-u/>**

**YouTube <http://www.youtube.com/education>**

**The new era of TECHNOLOGY will challenge our historic models of:**

- 1. Teaching and Learning**
- 2. Institutional Organization and Structure**
- 3. Our concept of expertise**



# 1. Teaching and Learning

## Technology Changes Instructional Design

- From instruction to discovery
- From individual to collaborative learning
- From broadcast to interactive learning
- From teacher-centric to student-centric

Don Tapscott. Grown Up Digital. McGraw-Hill, 2009.

## 2. Institutional Organization and Structure

Technology is creating opportunities for the unbundling or disaggregation of educational activities and processes, within a course, within a program, within an institution, and beyond.

### 3. The Concept of Expertise

Study in the journal *Nature* comparing the accuracy of entries in two well-known on-line references:

*Encyclopedia Britannica*

Wikipedia

*Found that error rates were about 3 per entry for Encyclopedia, 4 per entry for Wikipedia*

<http://www.nature.com/nature/journal/v438/n7070/full/438900a.html>



# ***Encyclopedia Britannica***

**Founded in 1768, on-line version started in 1994, the first internet encyclopedia.**

**English print edition is a 32 volume set, 64,000 articles, 4,300 contributors, latest print edition 2005.**

## **The problem with a print edition**

- **Article on Afghanistan is 12 pages long and has been updated in several places to reflect changes in 2002, but no mention of Hamid Karzai's election.**
- **Article on George W. Bush ends with the November 2002 elections.**
- **Article on Iraq ends in 2000 but users are referred to the *Britannica Book of the Year* for later developments.**





# Wikipedia

**Edited by anyone, 7<sup>th</sup> most visited website in the world.**

**78 million readers in U.S., 365 million worldwide, each month.**

**250+ languages**

**3,514,326 articles in English, 14 million articles total. 22,711,389 pages**

**Staff of 30, started 2001, not-for-profit organization**

Wikipedia's Evolving Impact. Stuart West. TED2010

**Information is now everywhere, on hand-held devices, available at our fingertips, 24 hours a day.**

**Access to information has changed our relationship to one another, to entertainment, to health care, to every other part of our lives.**

**Why won't it change our relationship to education?**

A red balloon with the number '16' on it, tied to a string that loops around a small figure.

## In this new Internet age, what is our job?

- **Designers - learning environments?**
- **Facilitators of learning?**
- **Aggregators of learning credits  
(super swirling)?**
- **Assessors of learning outcomes?**
- **Certifiers of degree completion?**



# **AASCU's Red Balloon Project**



**Defense  
Advanced Research Projects  
Agency**



**RED BALLOON CONTEST**

- ✿ **\$ 40,000**
- ✿ **Winning Team: MIT**
- ✿ **Post Doc, plus 4, plus 4,000**
- ✿ **Learned about the contest on  
Tuesday, announced the team strategy  
on Thursday, contest began on Saturday**



# WHERE DARPA PUT THEIR BALLOONS



**How long did it take to find 10 randomly placed 8 foot high bright red weather balloons, suspended 30-50 feet above the ground, somewhere in the United States?**





**8 hours**  
**52 minutes**



**The Red Balloon Contest Is Both:**


**A Metaphor**

**And**

**An Analogy**

**The Red Balloon Contest is a Metaphor for the new ways that knowledge is now being:**

- **Created**
- **Aggregated**
- **Disseminated**


The logo features a red balloon with the number '16' on it, floating against a blue sky with a white cloud.

**The Red Balloon Contest Is an  
Analogy for the way that we might  
work together collaboratively to re-  
design undergraduate education**

**Someone has to do something,  
and it's just incredibly pathetic  
that it has to be us.**



**Jerry Garcia**



# Can We Create 21<sup>st</sup> Century Learning Environments On Our Campuses?

## Design Principles and Models

7 Principles

Chickering and Gamson

High Impact Practices

Kuh



# **Chickering and Gamson, 7 Principles**

- 1. Encourages contact between students and faculty**
- 2. Develops reciprocity and cooperation among students**
- 3. Encourages active learning**
- 4. Gives prompt feedback**
- 5. Emphasizes time on task**
- 6. Communicates high expectations**
- 7. Respects diverse talents and ways of learning**

**Seven Principles for Good Practice in Undergraduate Education.**

**Arthur W. Chickering and Zelda F. Gamson, American Association for Higher Education Bulletin, March 1987**

# ***IMPLEMENTING THE SEVEN PRINCIPLES: Technology as Lever.***

**Arthur W. Chickering and Stephen C. Ehrmann**

***This article originally appeared in print as:  
Chickering, Arthur and Stephen C. Ehrmann (1996),  
"Implementing the Seven Principles: Technology as  
Lever," AAHE Bulletin, October, pp. 3-6.***



# 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.



**“We hold time constant and learning variable?  
Shouldn’t it be just the opposite?”**

**Stephen Portch, Chancellor  
University System of Georgia**

**“We individualize faculty practice (allow individual faculty members great latitude in course development and delivery) and standardize the student learning experience (treat all students in a course as if their learning needs, interests, and abilities were the same).”**

**Carol Twigg  
NCAT**

# The Project

**AASCU Will Serve As Coordinator**

**We'll use:**

**Academic Affairs Summer and  
Winter Meeting**

**Webcasts, Web Page, Blog,  
Wiki, Conference Calls, etc.**





**AASCU will work with member institutions willing to engage in**

**“Re-imagining Undergraduate Education.”**

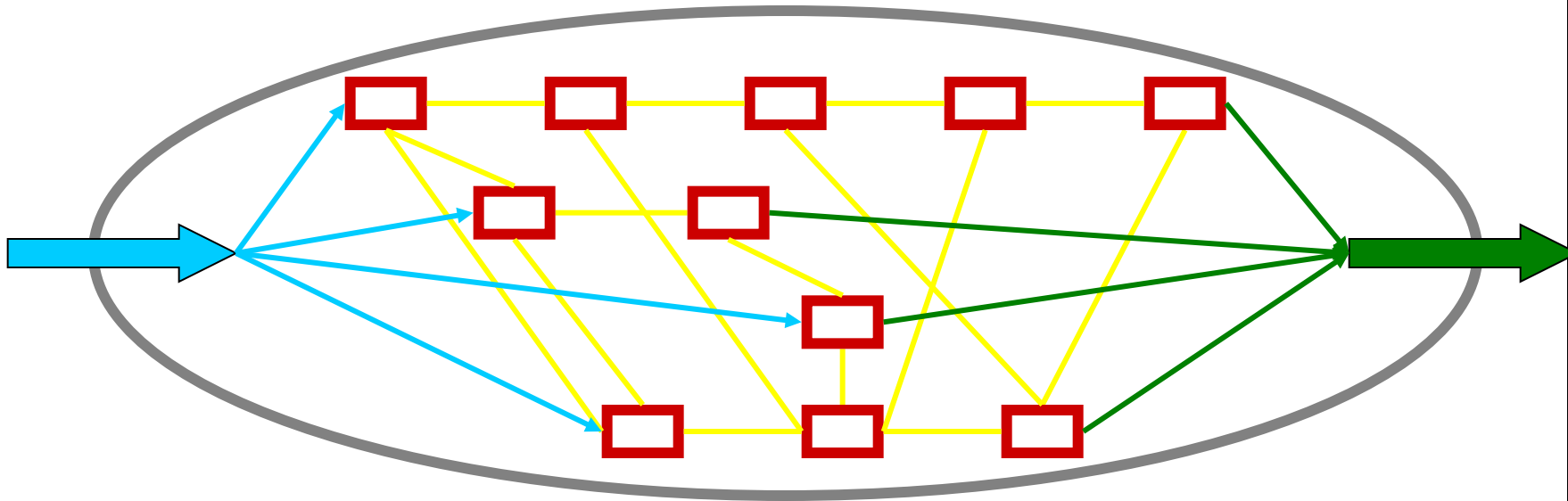
**Campuses will form discussion groups, action teams, or some other structure or set of structures.**



**AASCU will link the local campus efforts with one another, and with a national group of project coordinators.**

**AASCU will also create a repository of ideas, resources, program designs, etc. for campuses to use.**

# Analogy: Supercomputer... It's not a giant computer



It's actually a number of small  
computers  
all working together



**Can we, together, become a  
supercomputer for re-designing  
undergraduate education?**

A red balloon with the number '16' on it, tied to a string that loops around a globe.

# Red Balloon Project Goals

## Lower Costs

1. Maximize cost-effectiveness (either hold costs constant while increasing the number of students involved, or reduce costs)
2. Make programs scalable (increase the number of students served while reducing per-student costs)



## Increase Learning Outcomes

- 1. Create more effective student engagement. Engagement is the key to greater learning outcomes**
- 2. Produce greater learning outcomes documented by a rich array of instruments and assessment strategies**



## Respond to the Challenge of a New Century

- 1. Focus on the development of 21<sup>st</sup> century skills to create 21st century learning and leadership outcomes**
- 2. Rethink teaching, learning, and faculty roles**

# **A Focus on Course Redesign**



# Typical Current Course Models

- 1. Cottage Industry Model**
- 2. Open University (UK) – University of Phoenix Model**
- 3. Partnership Model (USC)**
- 4. Individual Course Model**
- 5. 21<sup>st</sup> Century Model**



# **1. Cottage Industry Model**

**Everyone designs his or her own course, from scratch, each semester.**

**And no one learns anything about the most effective course content or most effective teaching practices...**

**except that individual teacher, who learns only from his or her own experiences.**



## **2. Open University of the UK - University of Phoenix Model**

- **Huge resources (money and people) put into course design**
- **Taught by a large number of adjunct in a fairly similar way**
- **Evaluation of learning outcomes conducted by another unit**
- **Huge scale involved (U of Phoenix 450,000 students; Kaplan 1,000,000 worldwide)**



### **3. Partnership Model (USC)**

**Venture capitalist partners with a public or not-for-profit university to deliver a specific course or program.**

- **USC and John Katzman: MAT**
- **Lamar University and Randy Best: MA in Education – reduced cost and time to completion**

**The last frontier, when outsourcing finally penetrates the academic center.**



## 4. Individual Course Offerings

### **StraighterLine:**

- **offers courses for \$ 99**
- **entire freshman year for \$ 999**

### **Blackboard and K-12, Inc**

- **Selling online courses to community colleges**



# Here's One Problem

Carol Twigg

**25 general introductory courses  
generate 25% of undergraduate  
enrollment at the baccalaureate level**

## Jane Wellman

**Higher education has massive cross-subsidies**

- **Graduate education subsidized by undergraduate education**
- **Upper division undergraduate education subsidized by lower division**

**So what happens if new course models, delivered by others, hollow out the undergraduate course-taking?**

**What happens if students start “super-swirling”?**

**What happens to our institutions?**



# The models I've described are either:

- 1. Too costly  
(cottage industry approach)**
- 2. Too mechanistic  
(Open University)**
- 3. Too Darwinian  
(venture capital models)**
- 4. Too fragmented  
(course by course model)**

A red balloon with the number '16' on it, tied to a string that loops around a small figure.

**Is there a new 21<sup>st</sup> model that works for American public higher education?**

**Could we, for example, create a new model of course development, using national/state/system/or collaborators and local elements?**

**Could we create courses with powerful non-local content developed collaboratively, yet a model where local institutional faculty are essential?**

***“The future is here. It's just not evenly distributed.”***

**William Gibson**  
**American-Canadian science fiction writer.**



# Carol Twigg - Course Redesign Project

## Six Models for Transformation

1. Supplemental Model
2. Replacement Model
3. Emporium Model
4. Fully On-line Model
5. Buffet Model
6. Linked Workshop Model

National Center for Academic Transformation.  
[www.thencat.org/PlanRes/R2R\\_ModCrsRed.htm](http://www.thencat.org/PlanRes/R2R_ModCrsRed.htm)



**In Twigg's first cohort of 30 redesigned large courses,**

- **20 of the 30 courses showed learning gains (the others showed no significant differences)**
- **Average savings of 40%**
- **Increased course completion and retention rates**
- **Improved students attitudes about the subject matter and course design**



## **U.S. Department of Education Study**

### **Evaluation of Evidence-Based Practices in Online Learning: Meta-Analysis and Review of Online Learning Studies**

**September 2010**

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



## Findings

- 1. Students in online classes performed modestly better than traditional instruction.**
- 2. Blended was the most powerful design. Combining face-to-face with online was better than either mode alone.**
- 3. Effect size was larger when faculty were directly involved.**
- 4. Effect size was larger when curriculum materials and instructional strategies varied.**



## **Blended Learning**

**Courses that combine fact-to-face classroom instruction with online learning and reduced classroom contact hours (reduced seat time)**

- **Shift from faculty-centered to student-centered**
- **Increased faculty-student, student-student, student-content, and student-resources interaction**
- **Integrated formative and summative assessment mechanisms**

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



# What's the right metaphor for the new faculty role?

**Gatekeeper of Knowledge**

**Sage on the stage?**

**Guide on the side?**

**Navigator in a dramatically more complex environment?**

**“The quality of the selected content and the quality of the learning experience and its outcome are consequences of the intervention, not the withdrawal, of the guiding hand of the teacher.” Brenda Gourley**

**Faculty historically have been designers and deliverers of individual courses (and content).**

**Could they be designers instead of learning environments?**

**Could some of those learning environments be environments without faculty?**

A red balloon with the number '16' on it, tied to a string that loops around a blue and white globe.

**Yet this cannot be about course design alone.**

**Course design has to be linked to system change across the institution.**

**If you only change a few courses, you will not change the university.**

**So for us in the Red Balloon Project, course design is at the center of a series of even larger institutional changes.**



# **Can We “Re-Imagine Undergraduate Education?”**

- 1. New Models for Institutional Organization**
- 2. New Models for Enrollment Management**
- 3. New Models for Faculty Engagement**
- 4. New Models for Curriculum Design**
- 5. New Models for Course Design**
- 6. New Models for Instructional Design**

A red balloon with a white number '16' on it, tied to a blue and white object, possibly a camera or a small boat, against a blue sky background.

# **Next Generation Learning Challenges (NGLC)**

## **Gates and the Hewlett Foundations**

**Increasing college readiness and completion through applied technology.**

- **Providing investment capital**
- **Collecting and sharing evidence of what works**
- **Fostering a community of innovators and adopters**

- 1. Open Core Courseware: free world-class, interactive learning materials available to students and faculty in high-demand, low-success courses**
- 2. Blended Learning: minimize time spent in the classroom – and to take advantage of rich online learning when not in class.**



**3. Deeper Learning: Using social media, games, blogging, video sharing and virtual worlds to increase student engagement and result in deeper learning?**

**4. Learner Analytics: What if we could predict which students were most likely to fail a course or drop out? What if we knew how each student learned best?**

The logo features a red balloon with the number '16' on it, tied to a string that loops around a globe.

# The Red Balloon NGLC Project

- Ten (10) individual AASCU institutions
- Three (3) state-wide efforts (Minnesota, Alabama, Missouri)
- AASCU
- University of Central Florida

**Blended courses for lower division gate-keeper courses, mostly English and mathematics.**

**Two things, I think, will be at the heart of any substantive change:**

- 1. The nature of faculty work**
- 2. A focus on learning outcomes**



# Faculty Work

**Rather than reduce faculty roles, I think this new era will expand faculty opportunities:**

- **Designing learning environments**
- **Working with students in new ways**
- **Assessing learning outcomes**
- **Collaborating with others**
- **Engaging in the scholarship of teaching and learning**




# The Increasing Focus on Learning Outcomes

**Are we approaching the Barr and Tagg moment?**

**When colleges and universities are designed as learning institutions, instead of teaching institutions?**

**From Teaching to Learning: A New Paradigm for Undergraduate Education," *Change*, Robert Barr and John Tagg, 1995.**



**We ought to be up to the task of  
figuring out what it is that our  
students know by the end of four  
years at college that they did not  
know at the beginning.**

Stanley N. Katz. *Academe Online*, September – October 2010



**“...if even a small portion of the ingenuity and persistence which are now being expended on research of the usual type in American colleges and universities could be deflected . . . toward research into the results of their own teaching, the improvement in the general standards of collegiate instruction might be considerable”**

American Association of University Professors. 1933. Report of the committee on college and university teaching. *AAUP Bulletin* 19 (5, section 2): 7–122.



**I think it comes down to this simple proposition:**

**We fix ourselves or we will be fixed by others.**

**There are hundreds of examples of politicians, public policy, and the public losing patience with higher education: its cost, its lack of attention to outcomes; and its apparent unwillingness to try to change or improve.**



# **What could you be doing?**

**Create a Collaborative Vision of the Future**

**Promote Innovation**

**Incentivize Progress**

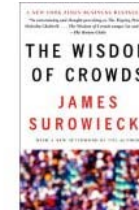
**Measure Success**

# Recommended Reading

*DIY\_U.*  
Anaya Kamenetz



*The Wisdom of Crowds*  
James Surowiecki




*The Long Tail*  
Chris Anderson



*Grown Up Digital*  
Don Tapscott





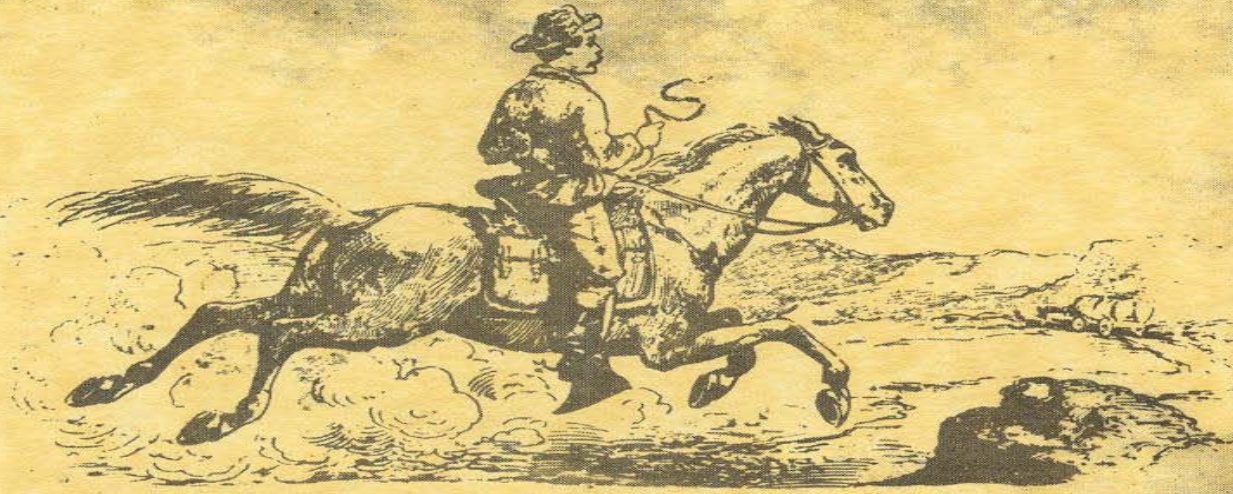
**America's economy is caught up  
in a "race between innovation  
and calcification--between the  
power of new ideas to lower  
costs and boost quality, and the  
power of entrenched interests to  
protect their habits and  
incomes."**

**Matt Miller, Washington Post, September 22, 2010**



# **The Pony Express**

## **A Cautionary Tale**



# PONY EXPRESS

St. JOSEPH, MISSOURI to CALIFORNIA  
in 10 days or less.

➔ **WANTED** ➔

**YOUNG, SKINNY, WIRY FELLOWS**  
not over eighteen. Must be expert  
riders, willing to risk death daily.

**Orphans preferred.**  
**Wages \$25 per week.**

APPLY, **PONY EXPRESS STABLES**  
St. JOSEPH, MISSOURI



# **The Pony Express A Cautionary Tale**

**St. Joseph, MO to Sacramento, CA 1,900  
miles**

**Stations set up every 10 miles (as far as a  
horse can gallop); Riders changed every  
60 to 100 miles.**

**Reduced letter delivery  
from 24 to 10 days**



**Started: April 3, 1860**

**Ended: October 26, 1861**

**19 months later**

**Why?**

**The completion of the  
transcontinental telegraph**



# Is our Pony Express moment coming?

**“It’s March 2011**

**California’s new governor calls a morning news conference to make a stunning announcement: The Apollo Group’s University of Phoenix will pay \$2.3 billion to buy the California State University system.”**

*William Tierney, Educational Policy Institute Guest Commentator  
January 29, 2010*

[http://www.educationalpolicy.org/publications/etw/us/commentary/etwuscom\\_100129.html](http://www.educationalpolicy.org/publications/etw/us/commentary/etwuscom_100129.html)

**“It is not the strongest of the species that survives, nor the most intelligent that survives. It is the one that is the most adaptable to change.”**

Attributed (apparently incorrectly) to Charles Darwin

