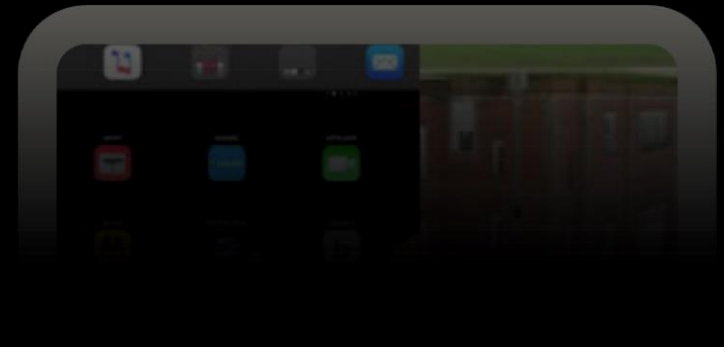# INNOVATION, INFRASTRUCTURE & eLEARNING

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THE CAMPUS COMPUTING PROJECT ®
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eLearning: Yesterday's Dream, Today's Reality
Louisiana Board of Regents

5 April 2016

About Campus Computing

- Launched in 1990

- Largest continuing study of IT and eLearning in American higher education

- IT benchmarking data for colleges and universities

- Market data for technology firms and other providers

The Key Campus Technology Challenges are No Longer about IT

- IT is the "easy part" of technology on campus

- **THE REAL CHALLENGES:** People, planning, policy, programs, priorities, silos, egos, expectations, and evidence of impact

Innovation and Change

In California, how many psychologists does it take to change a light bulb?

NONE: the light bulb must WANT to change.

Campus Culture

Dwight D. Eisenhower
eneral, war hero, president . . .

and academic leader
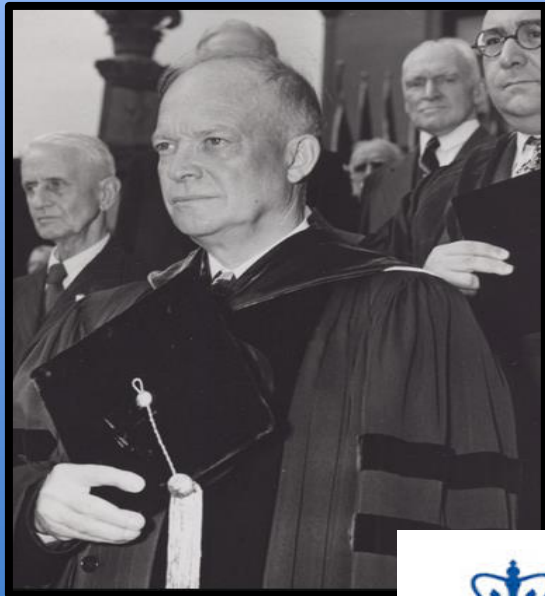
COLUMBIA UNIVERSITY

"In the conversation about change in higher education, culture eats change for breakfast."

**Elson Floyd
President
Washington State University**

The Innovator's Dilemma

God could create the world in seven days . . .

because there were no legacy systems

and there were no legacy users.

What Are the Legacy Systems in Education?

professors

Dr. Faust

classrooms

college campuses

Technology and Education

Key Issues

- The consumer experience now defines (rising) expectations about IT resources & services.

- Rising pressure for education to provide the much promised productivity bang for all the IT bucks.

Key Questions

- Why don't K-12 teachers and college faculty make better or use of IT in instruction?

- Why don't schools and colleges make more effective use of IT in operations and management?

Great Expectations for New Technology in Education

Books will soon be obsolete in public schools. Scholars will be instructed through the eye. It is possible to teach every branch of human knowledge with the motion picture. Our school system will be completely changed in ten years.
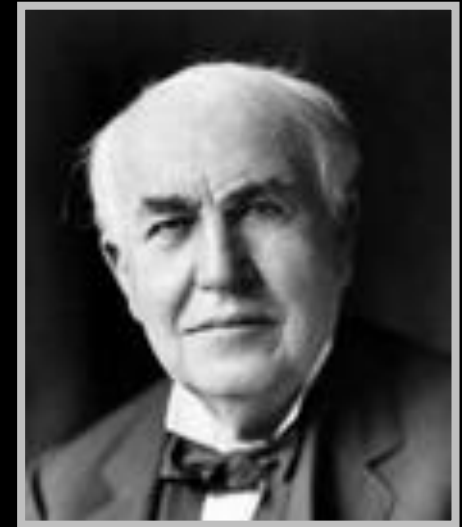
Thomas Edison
July 1913

Great Aspirations

Both the processing and the uses of information are undergoing an unprecedented technological revolution. Not only are machines now able to deal with many kinds of information at high speed and in large quantities, but it is also possible to manipulate these quantities so as to benefit from them in new ways. This is perhaps nowhere truer than in the field of education. One can predict that in a few years, millions of schoolchildren will have access to what Philip of Macedon's son Alexander enjoyed as a royal prerogative: the services of a tutor as well-informed and as responsive as Aristotle.

Patrick Suppes
Scientific American
October, 1966

déjà vu
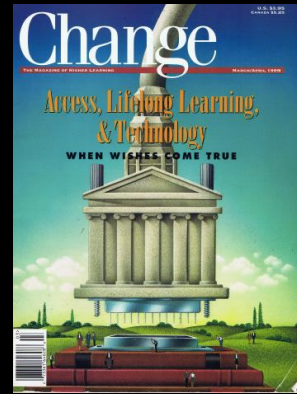
For better or worse, television dominates much of American life and manners….Part of [the] lackluster record of the educational uses of television is of course due to the heretofore merciless economies of the medium. But profound pedagogic mistrust of the medium also remains a fact of life. The proof of the pudding lies in the fact that on many campuses, fancy television equipment…now lies idle and often unused…. Academic indifference to this enormously powerful medium becomes doubly incomprehensible when one remembers that the present college generation is also the first television generation.

George Bonham
Television: The Unfulfilled Promise
Change, 1972

plus ça change
How Do We Get Faculty to…

- 1986: Use computers

- 1996: Use the Internet

- 2016: Leverage Digital Resources

Underlying Faculty Question

WHY SHOULD I DO THIS?

Changing (evolving!) questions but common underlying issues:

- Training

- User support

- Infrastructure

- Evidence of Benefit

- Recognition & Reward

The Campus Computing Project

Technology is Disruptive

Issues & Impacts

- Organizational practice & process

- Individual behaviors and preferences

- *Visualization:* can I see me/us doing that?

Response

- Denial

- Anger

- Bargaining

- Depression

- Acceptance

On Death and Dying
Elizabeth Kübler-Ross

Technology is a Metaphor for Change

Technology is also a metaphor for risk.

Technology is a means of uncertainty reduction that is made possible by the cause-effect relationships upon which the technology is based . . . .

A technological innovation creates a kind of uncertainty (about its expected consequences) in the minds of potential adopters, as well as representing an opportunity for reduced uncertainty in another sense (reduced by the information base of the technology). . . .

Thus, the innovation-decision process is essentially an information-seeking and information-processing activity in which the individual is motivated to reduce uncertainty about the advantages and disadvantages of the innovation.
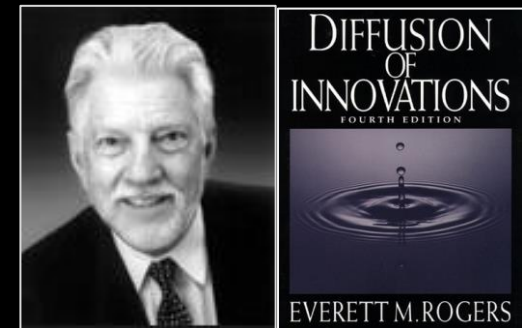
Everett M. Rogers
The Diffusion of Innovations

The Innovation Curve

Most Important Advocates

2.5% Innovators

Early Adopters 13.5%

Early Majority 34%

Most Difficult to Convert

80% Solution

Late Majority 34%

Laggards 16%

DIFFUSION OF INNOVATIONS
FOURTH EDITION
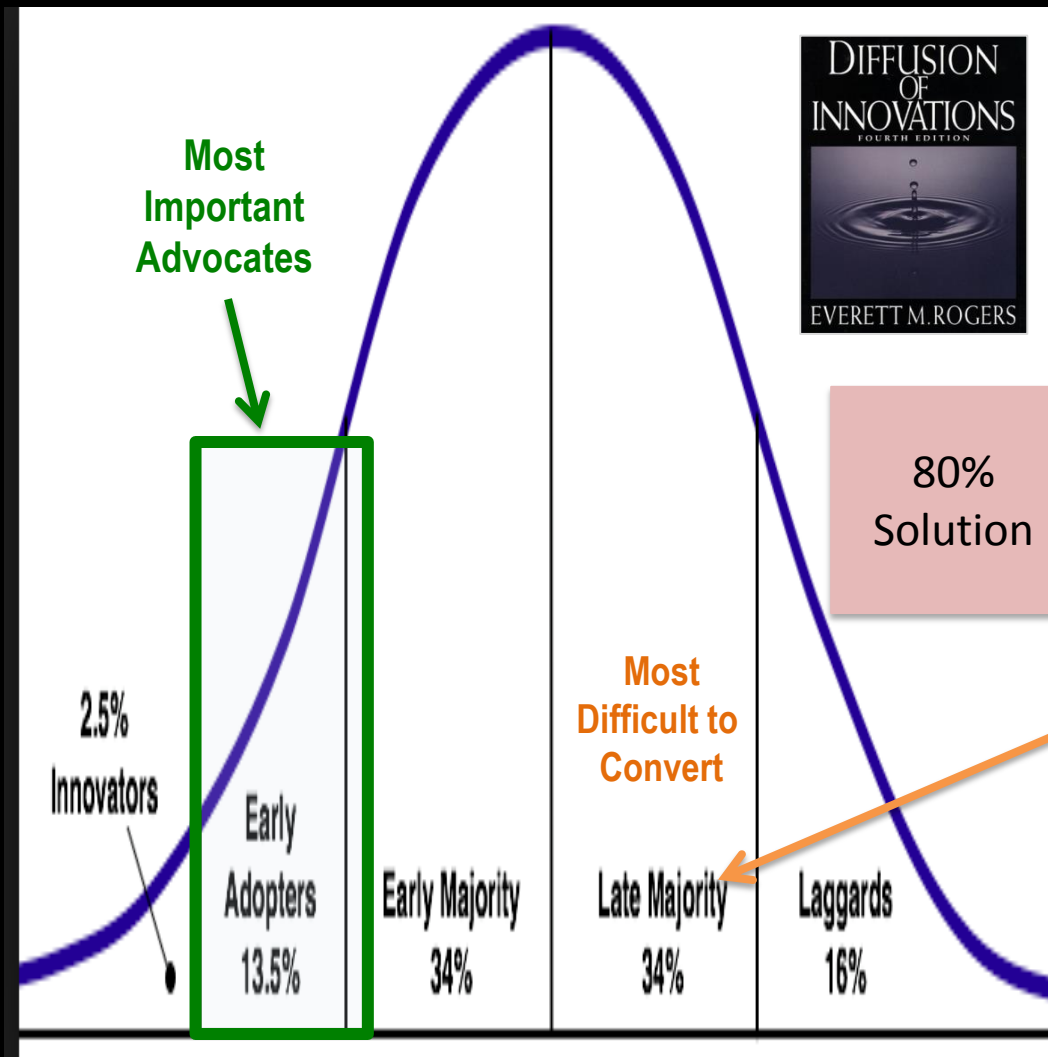
EVERETT M. ROGERS

Source: Everett M. Rogers, *The Diffusion of Innovations*

- **INNOVATORS**: Venturesome; cosmopolitan; they can cope with uncertainty; not always influential.

- **EARLY ADOPTERS**: Greatest degree of opinion leadership; respected; serve as role models for others; help off-set uncertainty among others.

- **EARLY MAJORITY**: Deliberate choices; longer decision cycle; links to late majority. *Innovation must document benefit.*

- **LATE MAJORITY**: Traditional, cautious and skeptical; may adopt out of necessity. *Innovation must be safe.*

- **LAGGARDS:** No roles as opinion leaders; they reference the past not the future. Must be certain that innovation will not fail.

The (Educational) Innovator's Ecosystem
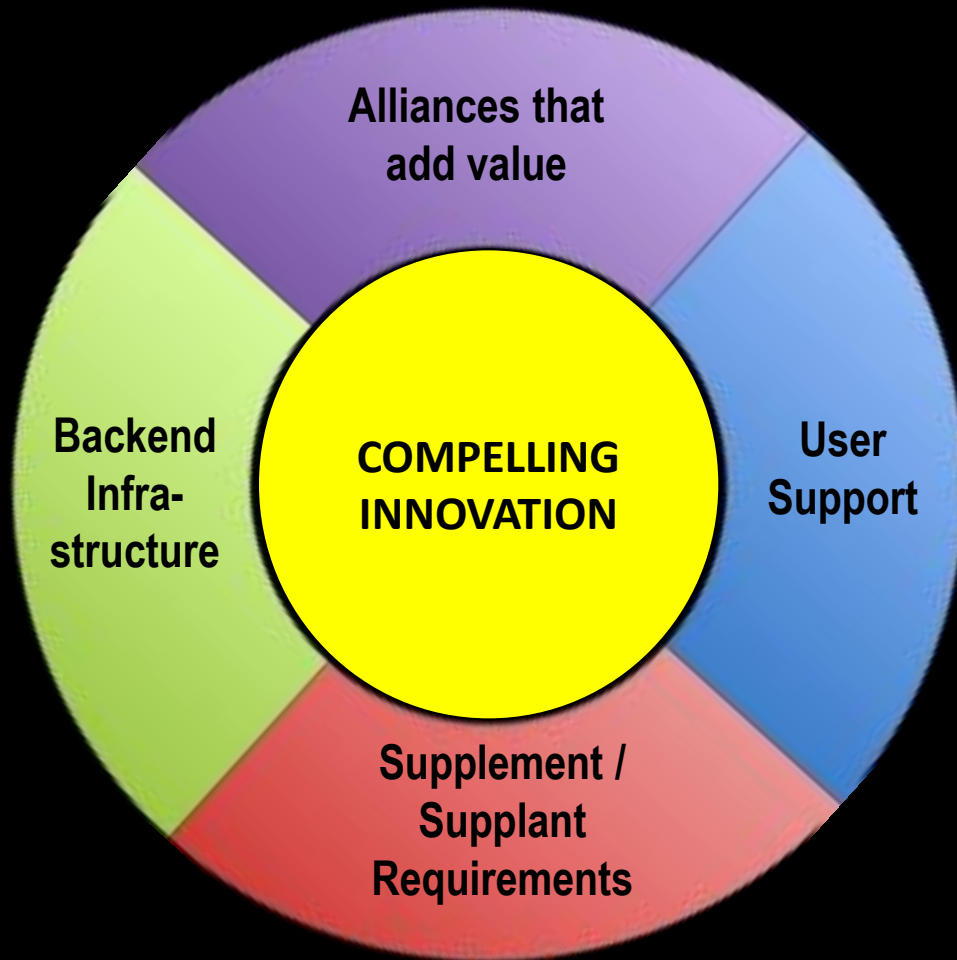
Successful (effective) innovation depends on an ecosystem

- Backend infrastructure

- Front-end user support

- Alliances

- Supplanting current practice

Visualization

Underlying Issues

Can I do this?   Why should I do this?

Evidence of benefit?

Key eLearning Challenges

- Realistic Definitions and Expectations

- Faculty Recognition and Reward

- Training and User Support

- Evidence of Impact

- Sustained Financial Support for IT, Innovation, and Infrastructure

Realistic Expectations

What do we EXPECT – WANT – NEED from our investment in IT for teaching and learning?

- Richer learning RESOURCES for students and faculty?

- Better learning EXPERIENCES for students?

- Enhanced learning OUTCOMES for students?

- Reduced instructional COSTS for institutions?

- New REVENUE from online education programs?

For almost four decades we have discussed the NEED for technology and have INVESTED in technology without clear agreement about our GOALS for technology.

Metrics for Success?

Faculty Recognition and Reward

Top CIO Priorities, Fall 2015

- Instructional integration of Information technology (80%)

- Leveraging IT to advance student success (75%)

These issues all involve faculty, yet:

- Just 17% of campuses recognize instructional IT activities for faculty review and promotion

TOP PRIORITIES

- **Invest in Faculty**

- **Provide Recognition and Reward**

Training and User Support

eLearning innovation requires that we make the world safe and reliable for faculty.

- 78% of CIOs report user support is a top IT priority

- Just 27% report faculty IT training is excellent

Infrastructure fosters innovation

The essential IT infrastructure includes:

- hardware

- software

- support services

- training

- user support

Evidence of Impact

- Too much of our conversation about IT and eLearning is driven by opinion and epiphany, instead of evidence.

  ➢ Just a fifth of campuses have a formal program to assess the impact of IT on instruction and learning outcomes

  ➢ A majority of presidents, provosts, and CIOs agree their institutions do not do a good job of using data for decisions.

The Deming Dicta

"In God we trust; all others bring data."

W. Edwards Deming

CHANGE THE CULTURE OF DATA

- **Data as a resource, not a weapon**

- **Commitment to continuous quality improvement**

- *KEY QUESTION:* **How do we do better?**

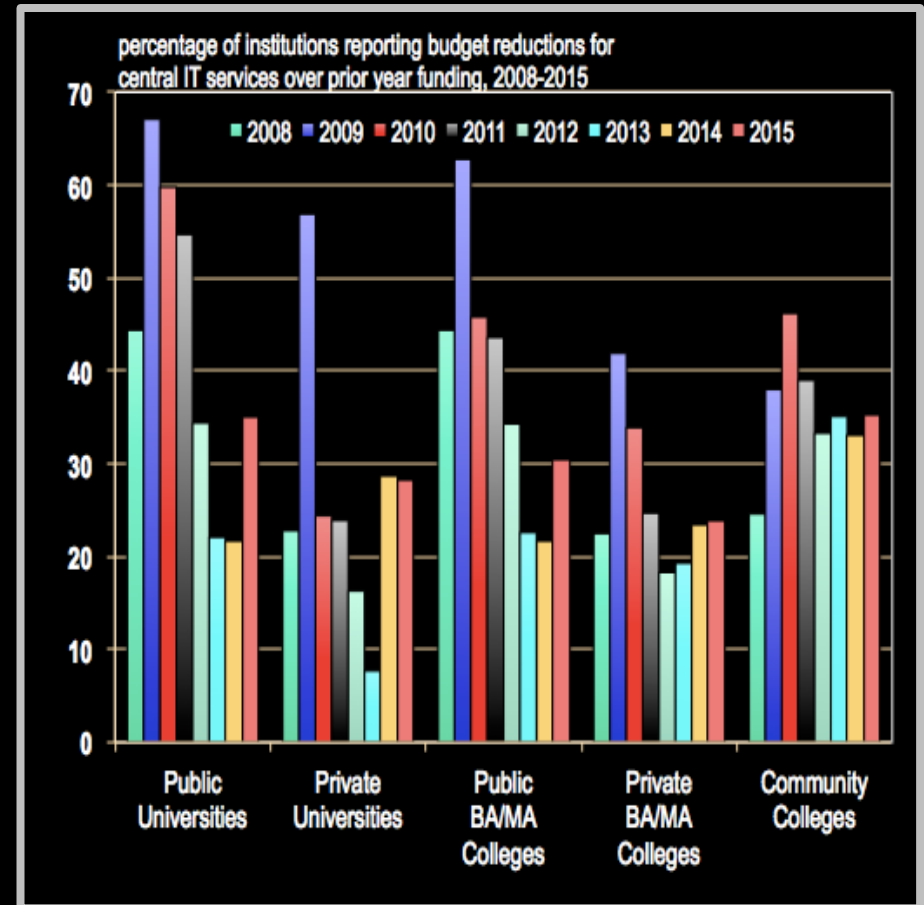- *ESSENTIAL:* **Trust, transparency, tools & training**

Sustained Financial Support for IT, Innovation, and Infrastructure

- Campuses experiencing the compounding consequences of IT budget cuts since 2008.

- Yet no reduction in need or demand for IT resources and services.

RISK:

Creating *"Potemkin Campuses"*

KEY ISSUE: A sustained and significant commitment to IT as an essential part of the campus infrastructure.

IT Budget Cuts, 2008- 2015

percentage of institutions reporting budget reductions for central IT services over prior year funding, 2008-2015

■ 2008 ■ 2009 ■ 2010 ■ 2011 ■ 2012 ■ 2013 ■ 2014 ■ 2015

Public Universities — Private Universities — Public BA/MA Colleges — Private BA/MA Colleges — Community Colleges

Guidelines for Machiavellian Change Agents

- Concentrate your efforts

- Pick issues carefully; know when to fight

- Know the history

- Build coalitions

- Set modest – and realistic – goals

- Leverage the value of data

- Anticipate personnel turnover

- Set deadlines for decisions

- Nothing is static – *anticipate change*
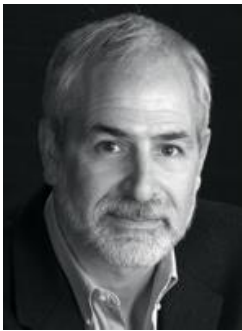
Niccolò Machiavelli

Source: J. Victor Baldridge, *Rules* for a *Machiavellian Change Agent, 1983*

Thank You!

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Kenneth C. Green is the founding director of The Campus Computing Project, the largest continuing study of the role of eLearning and information technology in American colleges and universities. Campus Computing is widely cited as a definitive source for data information, and insight about IT planning and policy issues affecting higher education.

An invited speaker at some two dozen academic and professional conferences each year, Green is the author or editor of some 20 books and published research reports and more than 100 articles and commentaries that have appeared in academic journals and professional publications. His *DigitalTweed* blog, recently cited by *EdTech* Magazine as one of the "50 must read higher ed IT blogs," is published by *Inside Higher Ed.*

In 2002 Green received the first EDUCAUSE Award for Leadership in Public Policy and Practice. The EDUCAUSE award cites his work in creating The Campus Computing Project and recognizes his "prominence in the arena of national and international technology agendas, and the linking of higher education to those agendas."

A graduate of New College (FL), Green earned his Ph.D. in higher education and public policy at the University of California, Los Angeles.