Disrupting Class:
How Disruptive Innovation Will Change the Way the World Learns

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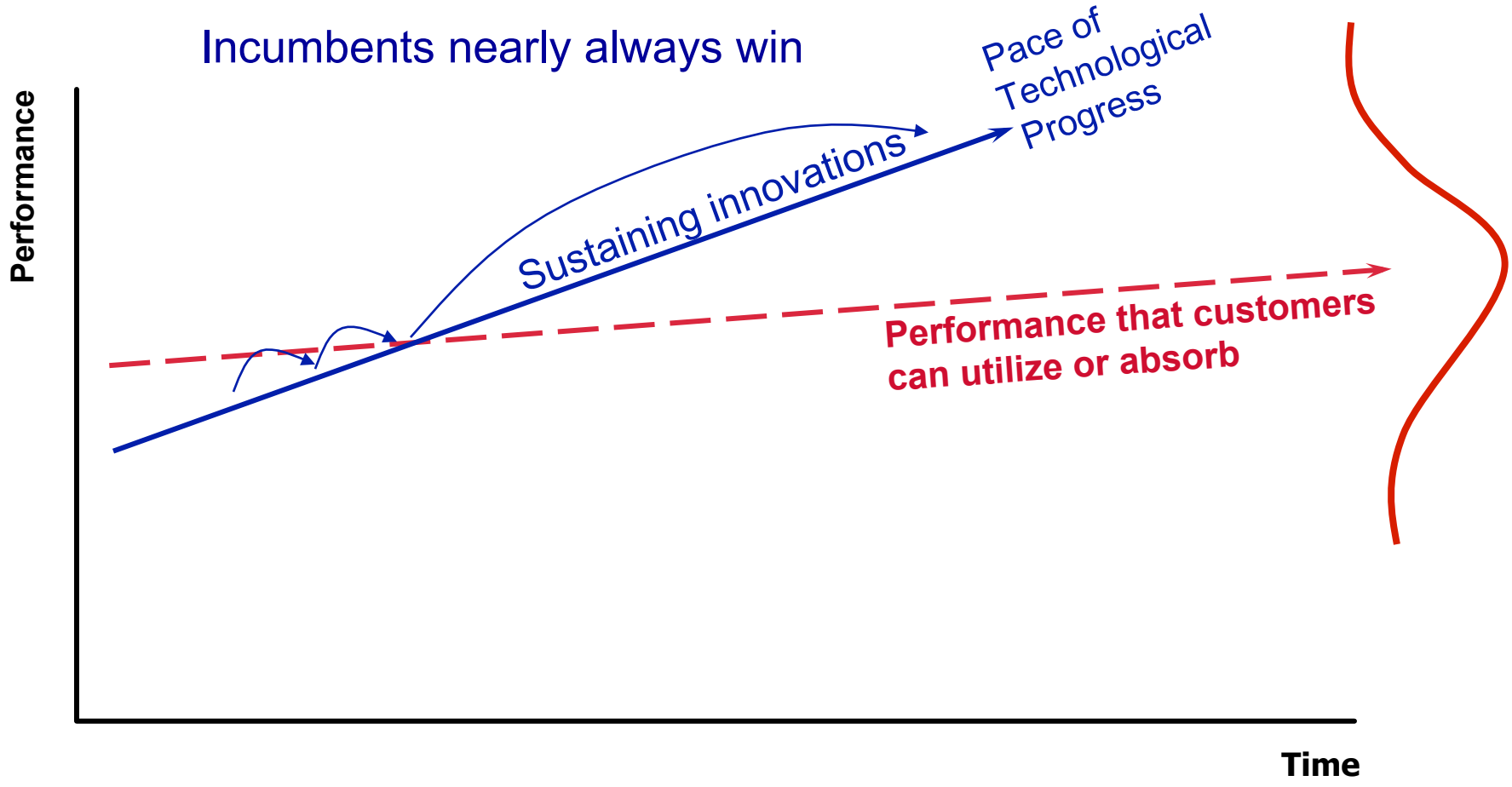
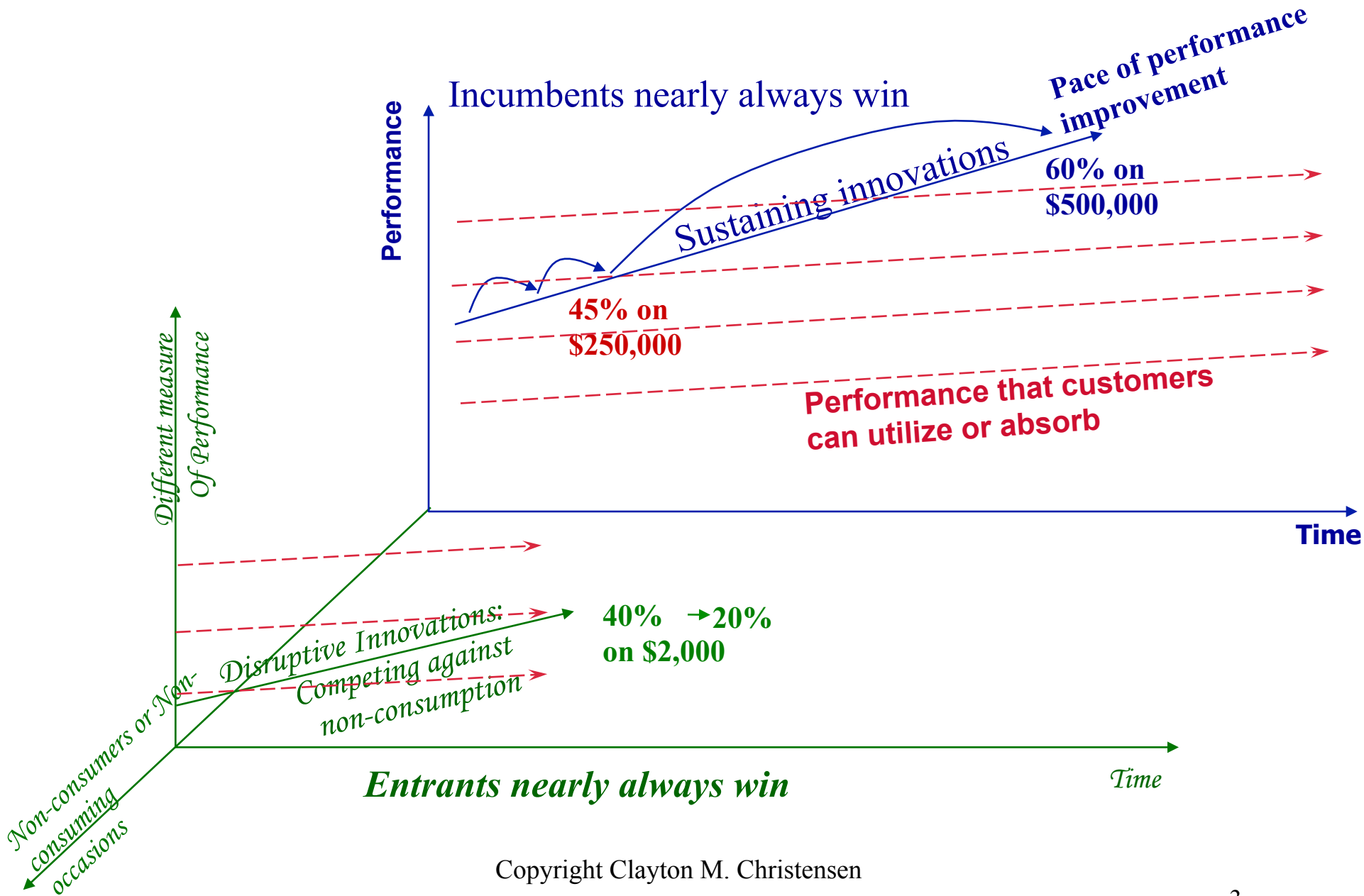
May 26, 2010

Sustaining and Disruptive Innovations



Disruptive Innovations create asymmetric competition



Disruption in business models has been the dominant historical mechanism for making things more affordable and accessible

Yesterday	*Today*
• Ford	• Toyota
• Dept. Stores	• Wal-Mart
• Digital Eqpt.	• Dell
• Delta	• Southwest Airlines
• JP Morgan	• Fidelity
• Xerox	• Canon
• IBM	• Microsoft
• Cullinet	• Oracle
• AT&T	• Cingular
• State universities	• Community colleges
• Sony DiskMan	• Apple iPod

Disruption of Toyota

Think About It

ISN'T IT TIME SOMEONE DID TO LEXUS WHAT LEXUS DID TO MERCEDES?

Narrower gaps between body panels,[1] better mileage[2] and roomier than the Lexus LS 460.[1]

The new Hyundai Genesis is our first luxury car, and believe it or not, it's about to give the market its biggest shake-up since 1989.

The Genesis will take you from zero to 60 in a head-spinning 5.7 seconds[3]—and has more horsepower per liter than a Lexus GS 460.[4] Imagine producing that much power while still getting better mileage than any car in its class.[2]

Impeccable details abound. Example: gaps between body panels are tighter than those found on the standard-bearer for tight tolerances, the Lexus LS 460.[1]

And the Genesis cabin is among the quietest and most spacious available. It's equipped with a Lexicon® 7.1 discrete surround sound system[5] (shared only with the Rolls-Royce Phantom). And puts you in a driver's seat that is cooled for summertime, heated for winter.

In a luxury car, there's no such thing as

Disruption in business models has been the dominant historical mechanism for making things more affordable and accessible

Yesterday	*Today*	*Tomorrow*
• Ford	• Toyota	• Chery
• Dept. Stores	• Wal-Mart	• Internet retail
• Digital Eqpt.	• Dell	• RIM Blackberry
• Delta	• Southwest Airlines	• Air taxis
• JP Morgan	• Fidelity	• ETFs
• Xerox	• Canon	• Zink
• IBM	• Microsoft	• Linux
• Cullinet	• Oracle	• Salesforce.com
• AT&T	• Cingular	• Skype
• Sony DiskMan	• Apple iPod	• Cell Phones

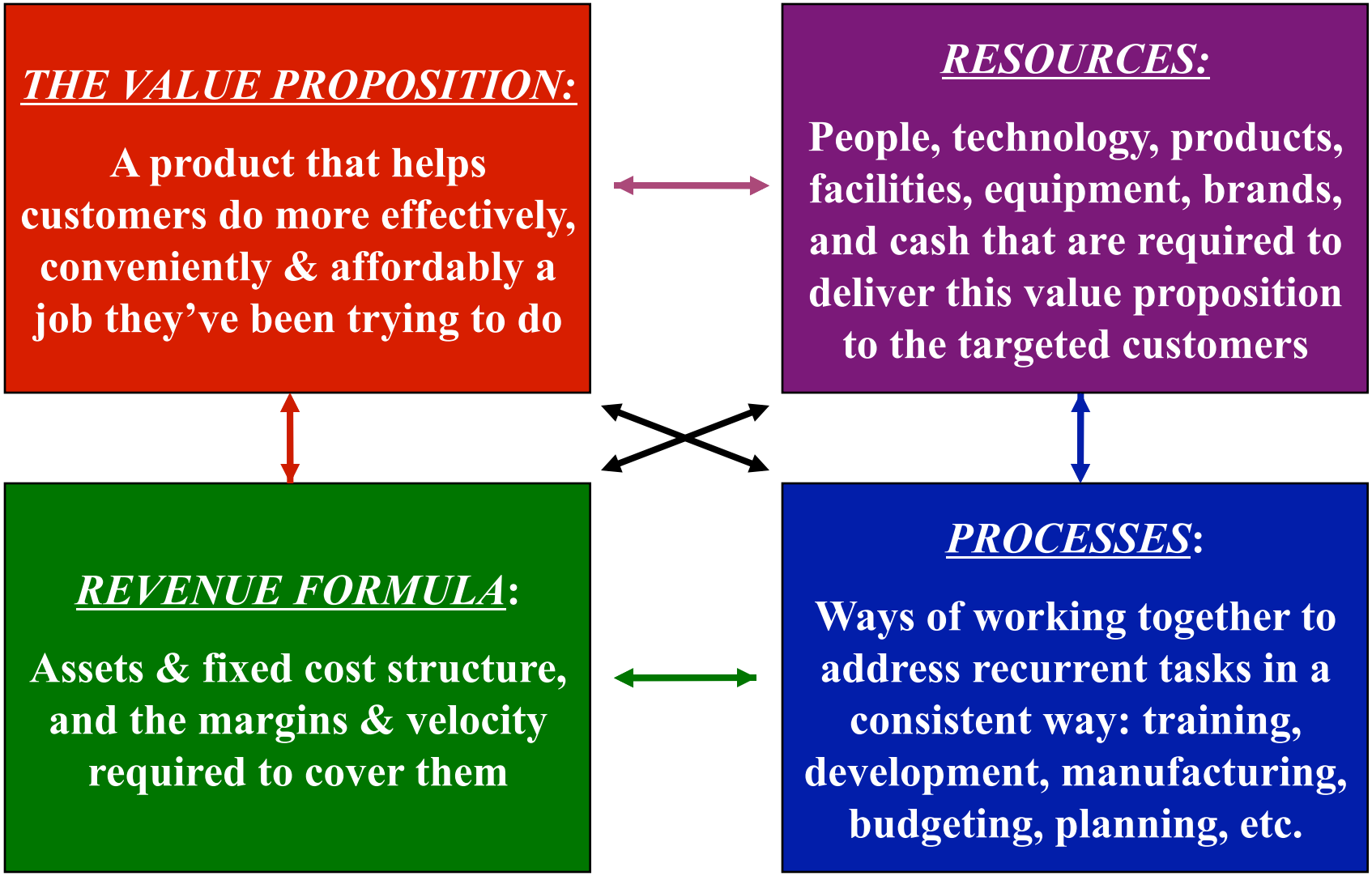
Prime examples of non-consumption

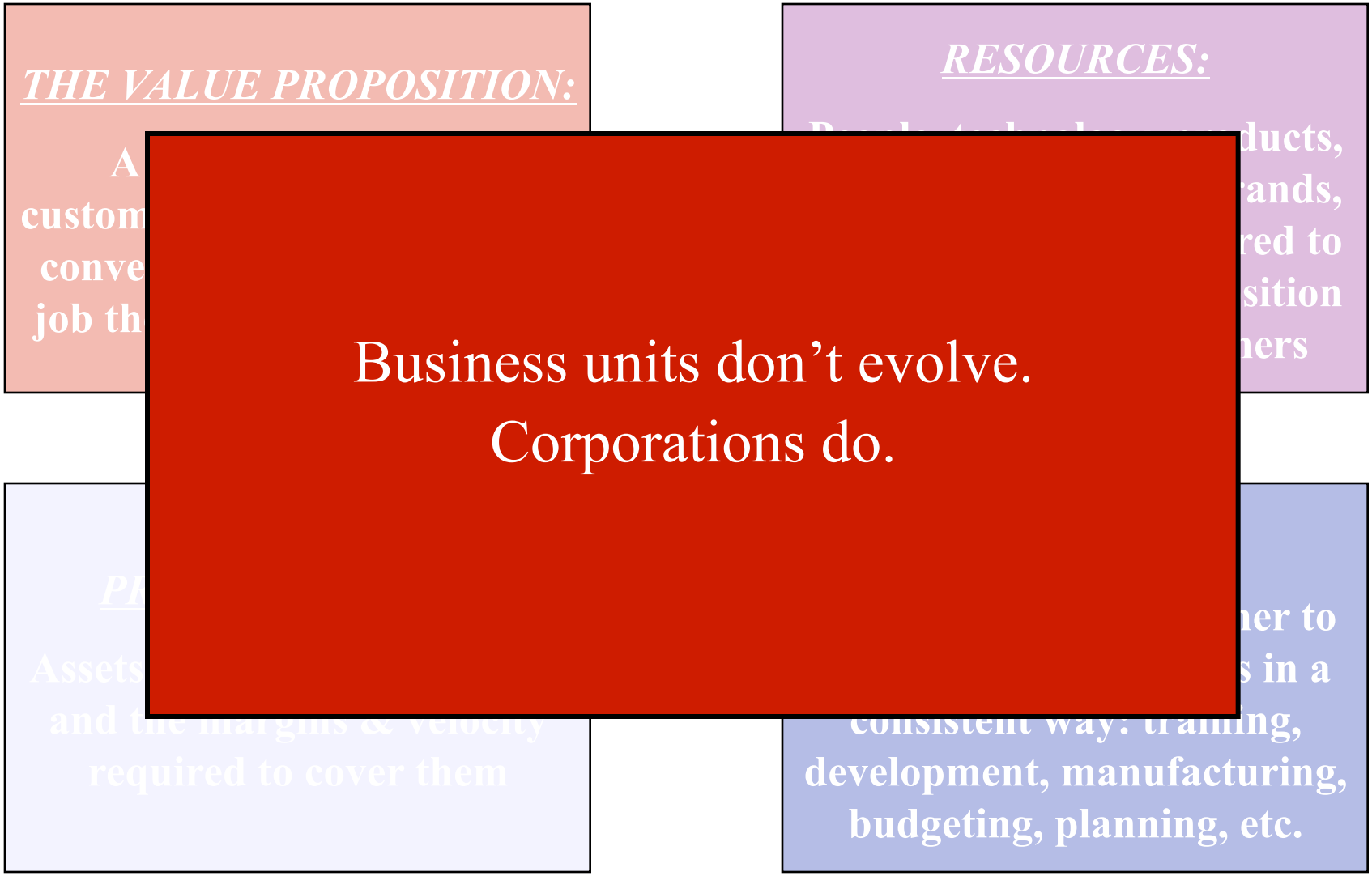
- Developing countries
- Adult/lifelong learning
- Credit recovery
- Drop outs
- AP/advanced courses
- Scheduling conflicts
- Home-schooled and homebound students
- Small, rural, urban schools
- Unit recovery
- Disaster preparedness
- Tutoring
- Professional development
- Pre-K
- After school
- In the home
- Incarcerated youth
- In-school suspension
- School bus commute
- Summer school
- Teacher absenteeism

Understanding how users experience life

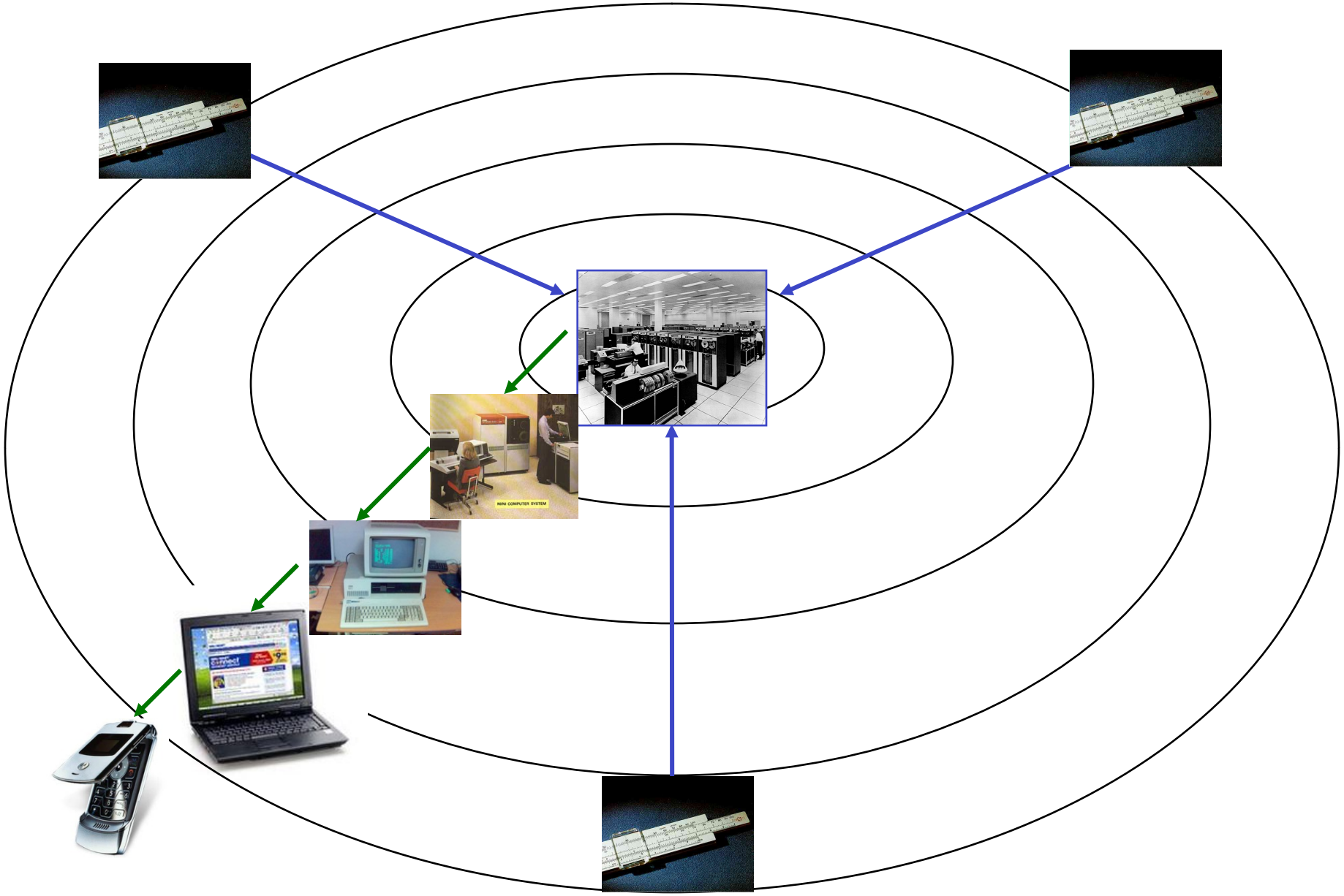
"The customer rarely buys what the company thinks it is selling him" - *Peter Drucker*

Why does an organizational model lock us in?

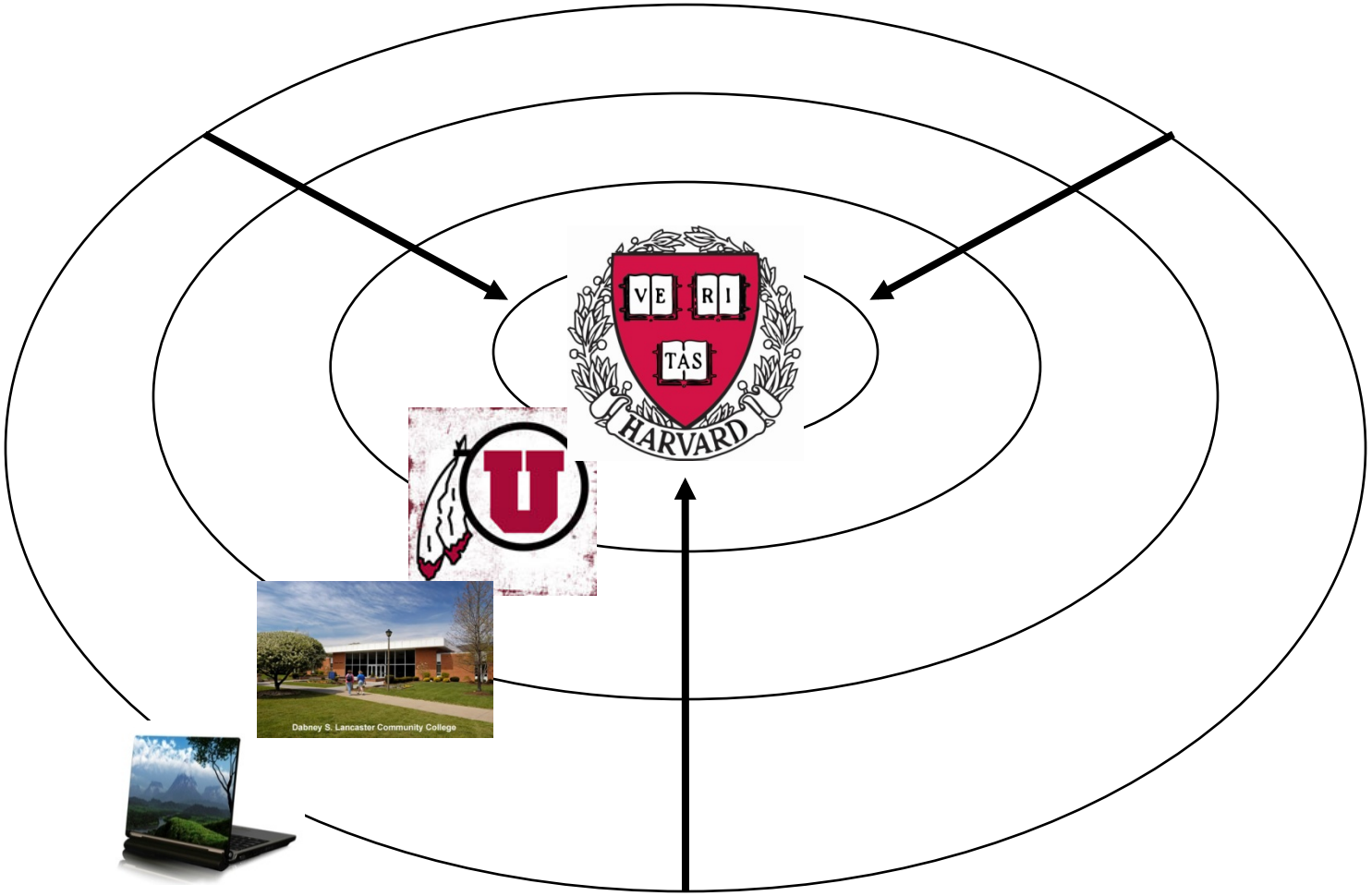




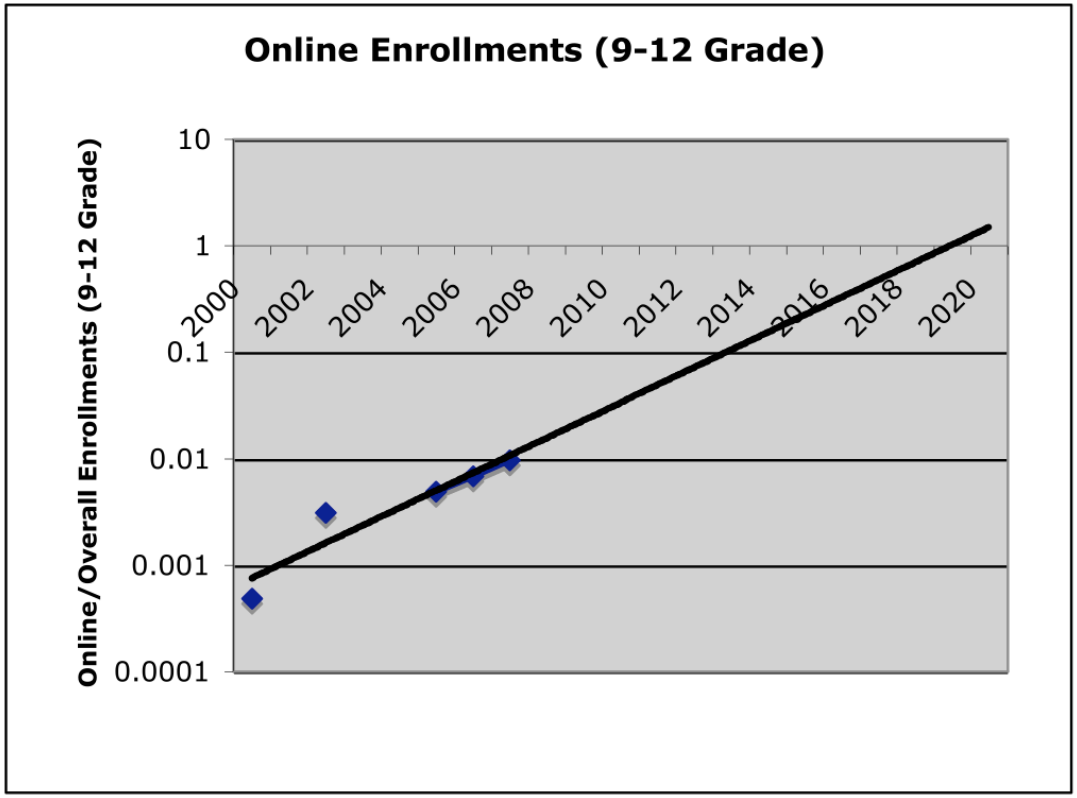
Centralization followed by decentralization: Computing



The decentralization that follows centralization is only beginning in education



Online learning gaining adoption



Enrollments up from 45,000 in 2000 to 1,000,000 in 2007

Predictably improving

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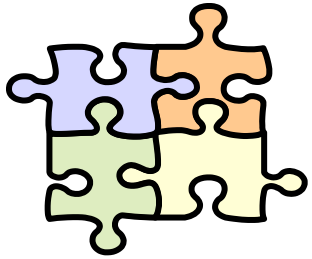
Different Systems Architectures

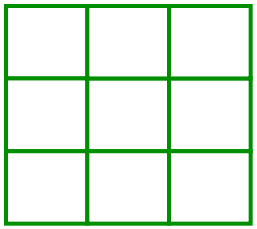
Proprietary, interdependent architectures:



Microsoft Windows;
Apple products

Customization is very expensive

Modular, open architectures



Linux; Dell PCs

Customization is straightforward

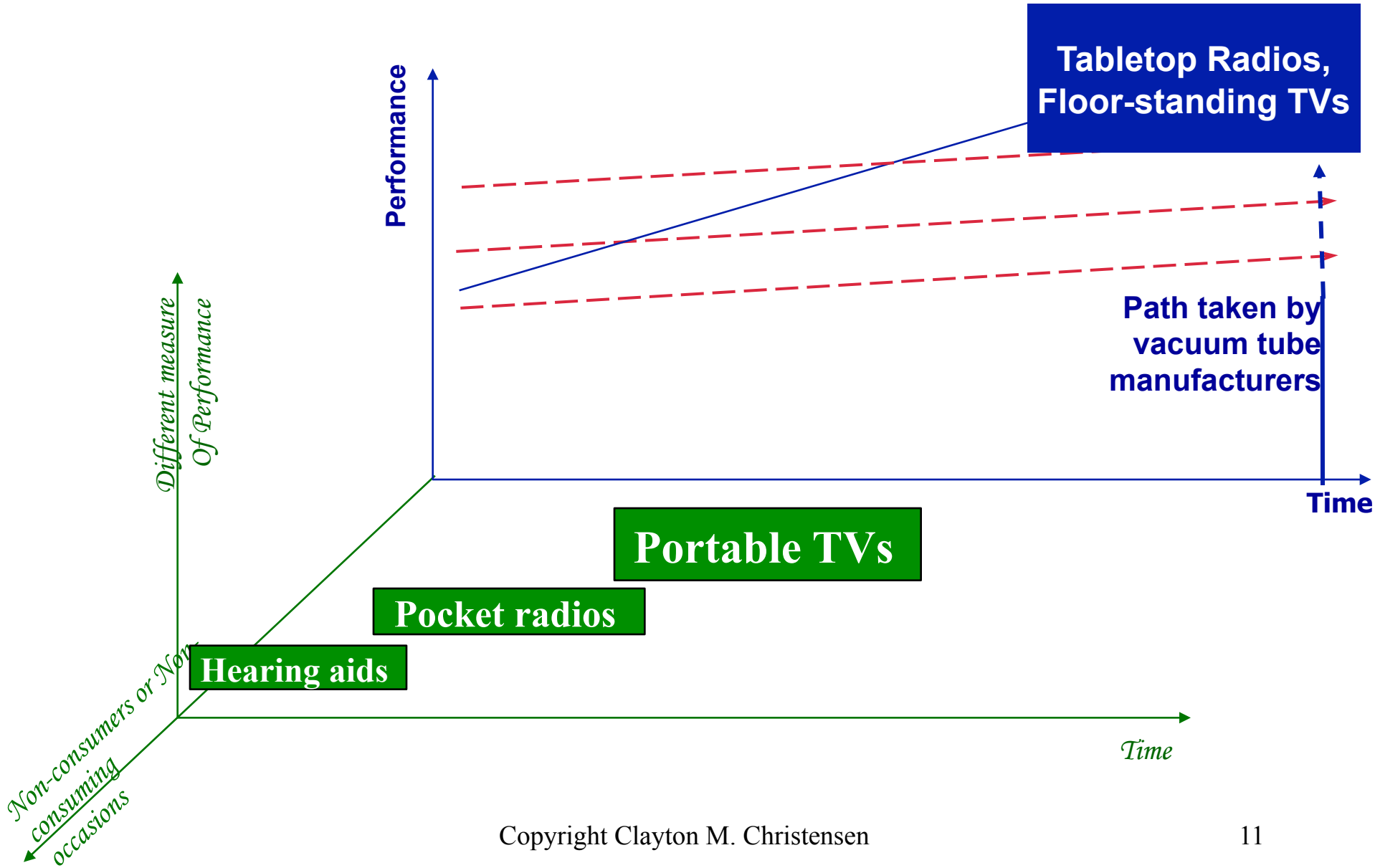
We all learn differently

- Multiple intelligences
  - Linguistic, Mathematical, Kinesthetic
- Motivations/interests
- Learning Styles
  - Visual, aural, playful, deliberate
- Depends on subject/domain
- Research in practice
  - Scientific Learning
  - CAST/Universal Design for Learning
  - K12, Inc.
  - All Kinds of Minds
  - Renzulli Learning
- Talents
  - "Giftedness" is fluid
- Aptitudes
- Different paces
  - Fast, medium, slow
- Ongoing neuroscience research
  - fMRI scans

Practical implications

- Autonomous
- Self-sustaining funding
- Not beholden by the old metrics
  - Seat time ➔Mastery/Performance-based
  - Student: teacher ratio
  - Teacher certification
- Human resources pipeline and professional development
- Broadband/wireless infrastructure
- Portal/Based on usage and what works
- Treatment and use of data

Expensive failure results when disruption is framed in technological rather than business model terms



Conflicting mandates in the way we must teach vs. The way students must learn

Interdependencies in the teaching infrastructure

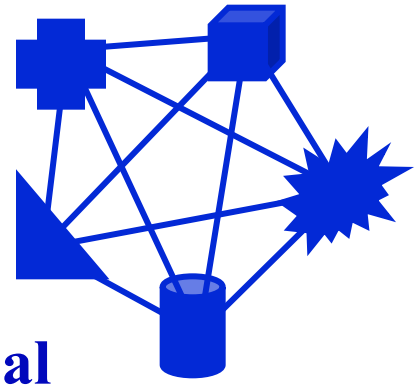
Need for customization for differences in how we learn

Temporal

Lateral

Physical

Hierarchical



Standardization !!

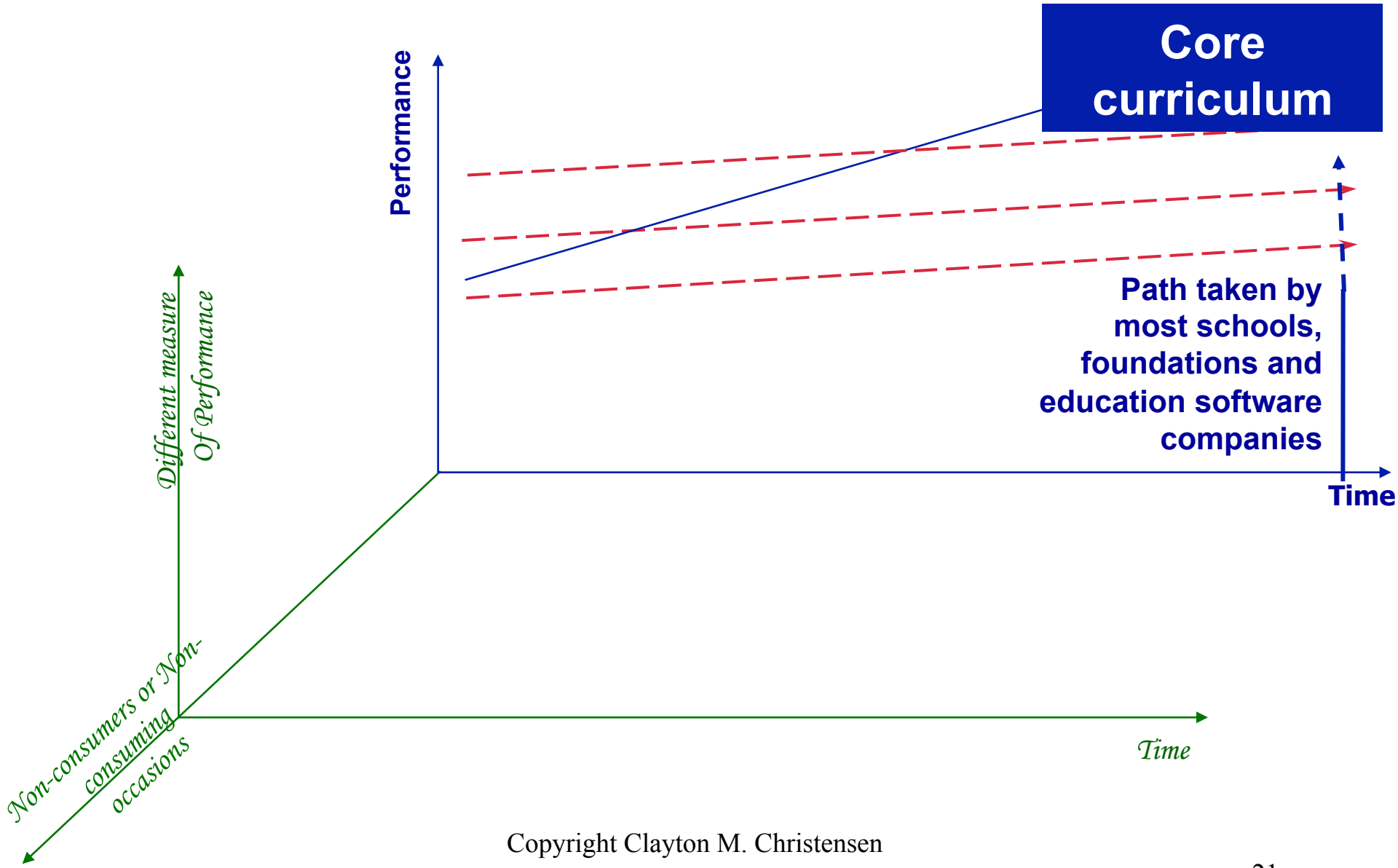
Customization !!

Multiple Intelligences

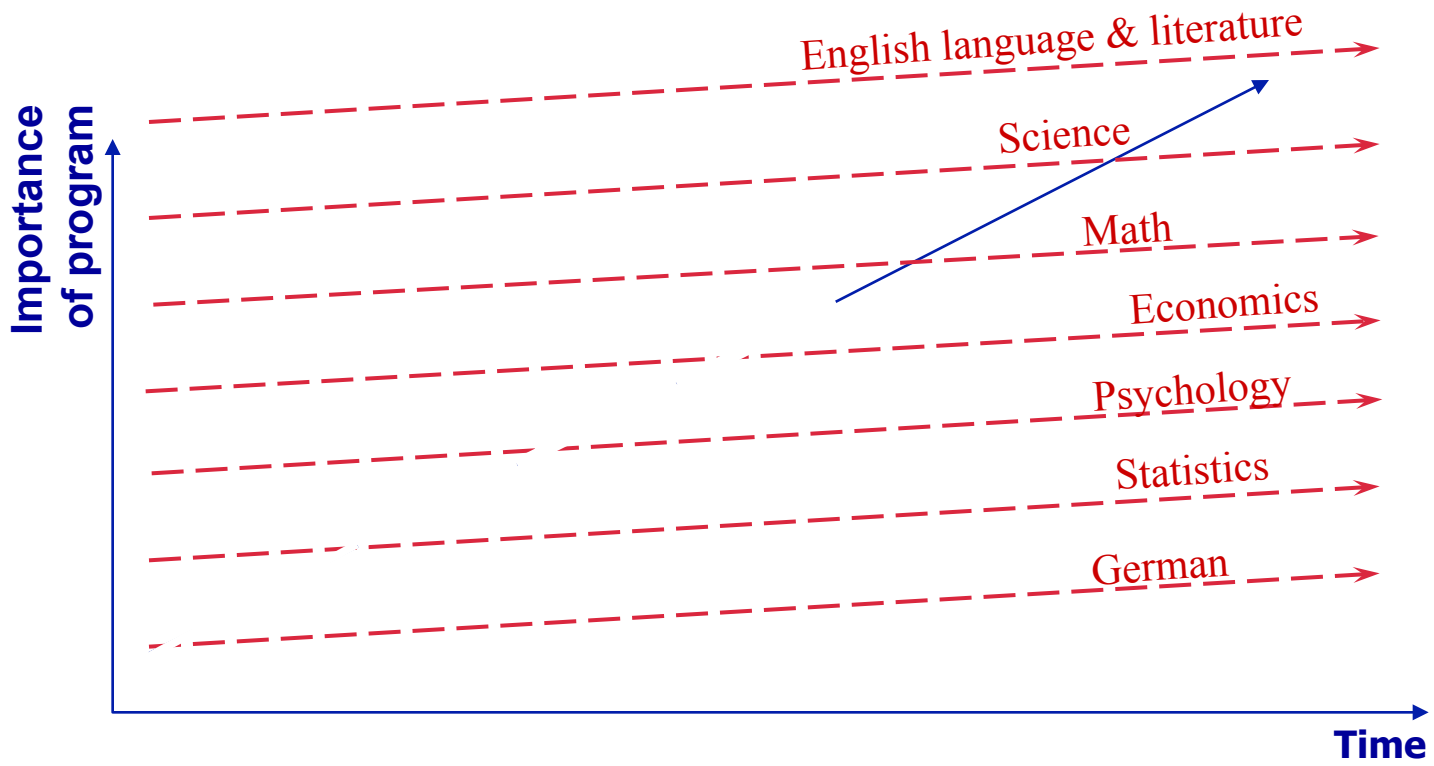
Learning Styles

Paces of Learning

Historically, most schools have "crammed" computer-based learning into the blue space

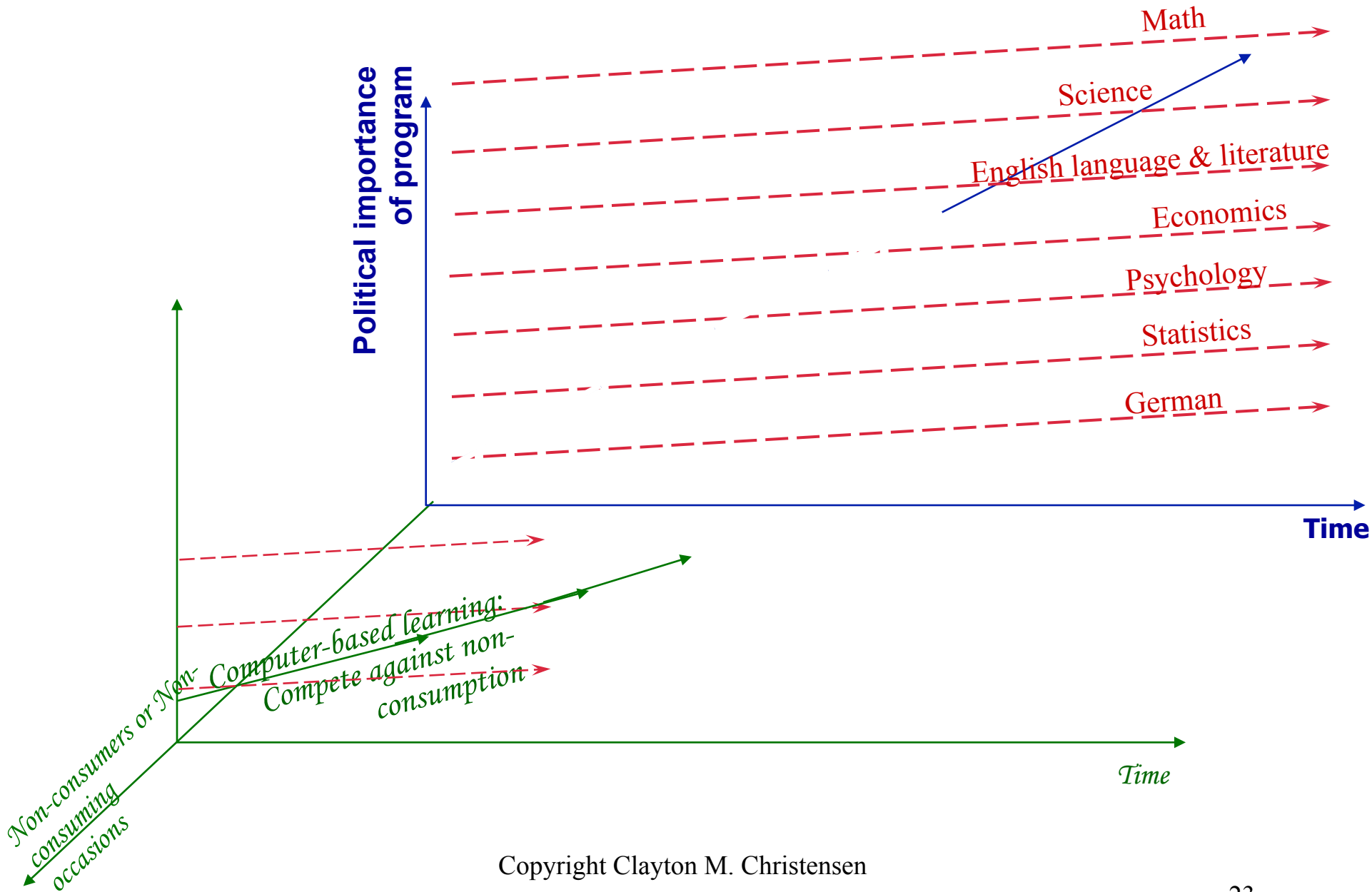


School boards have been moving "up-market" to focus limited resources in the "new" trajectory of improvement

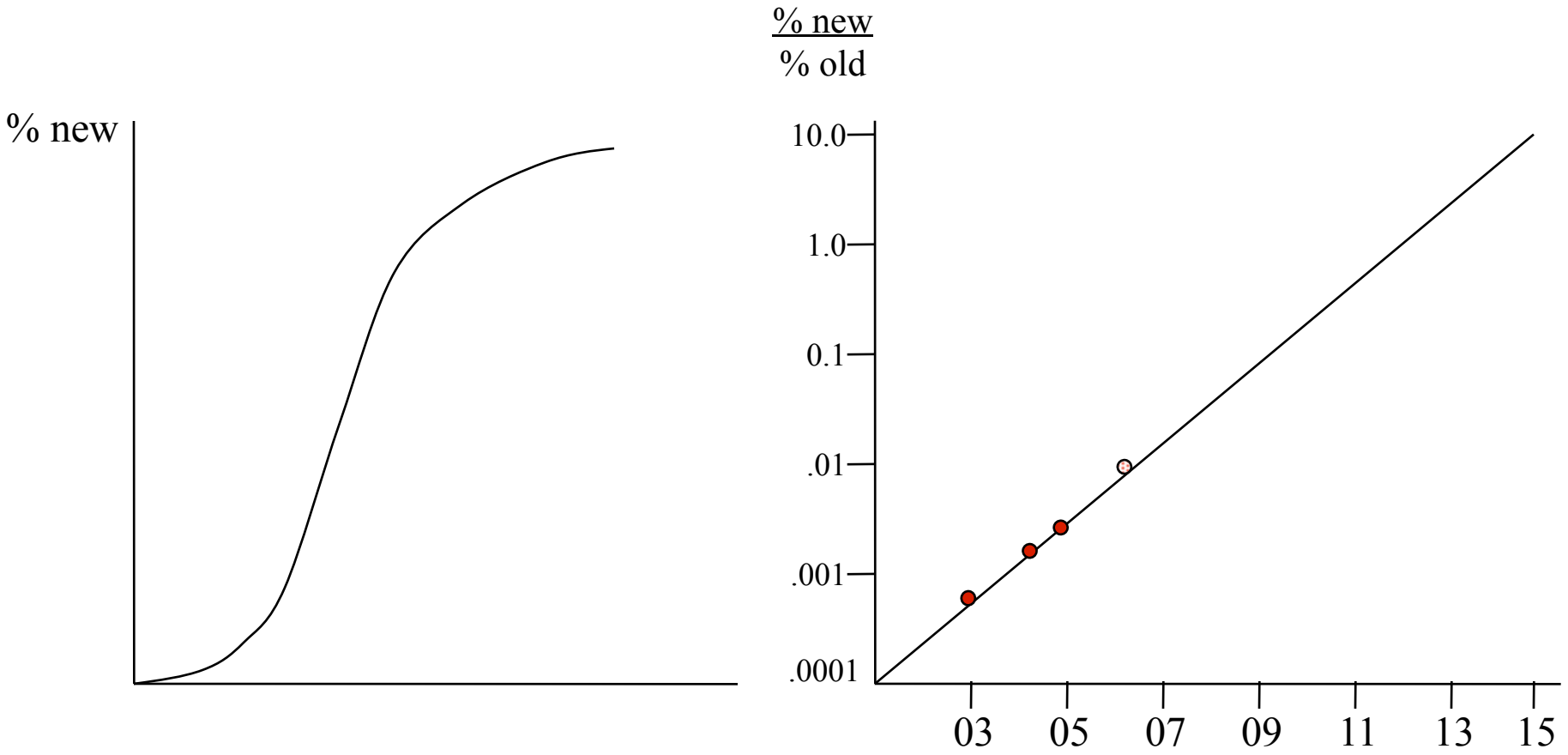


Time

Perfect opportunity to implement online learning disruptively



The substitution of one thing for another always follows an S-curve pattern



What are public schools doing?

- 46 states have some form of online learning initiative
- 27 states have supplemental state-led programs
  - FLVS, Idaho Digital Learning Academy, MVU
  - At least 7 have 10K+ enrollments
- Districts increasingly getting into the game
  - Serving nonconsumers: drop-out recovery, credit recovery, advanced courses, home-schoolers

When launching disruptions, autonomy is key

Level of change

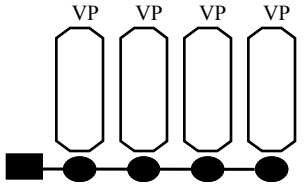
Organizational model in which product is used

Product *architecture*: What are the components, and which ones interface with others?

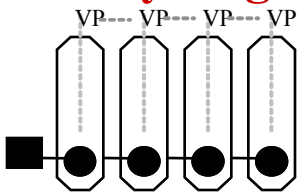
Change the specifications for *how components must fit* together

Improve performance of each *component*

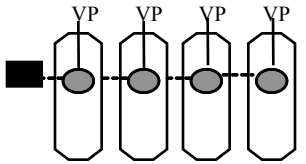
Autonomous



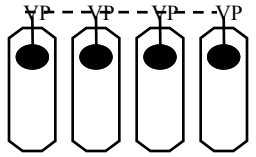
Heavyweight



Lightweight



Functional

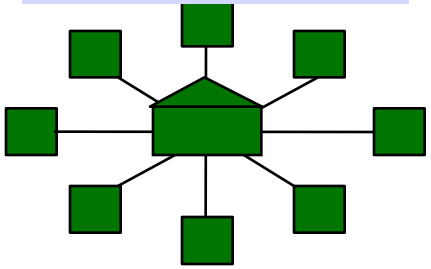


Transforming the content model

Value-adding process businesses

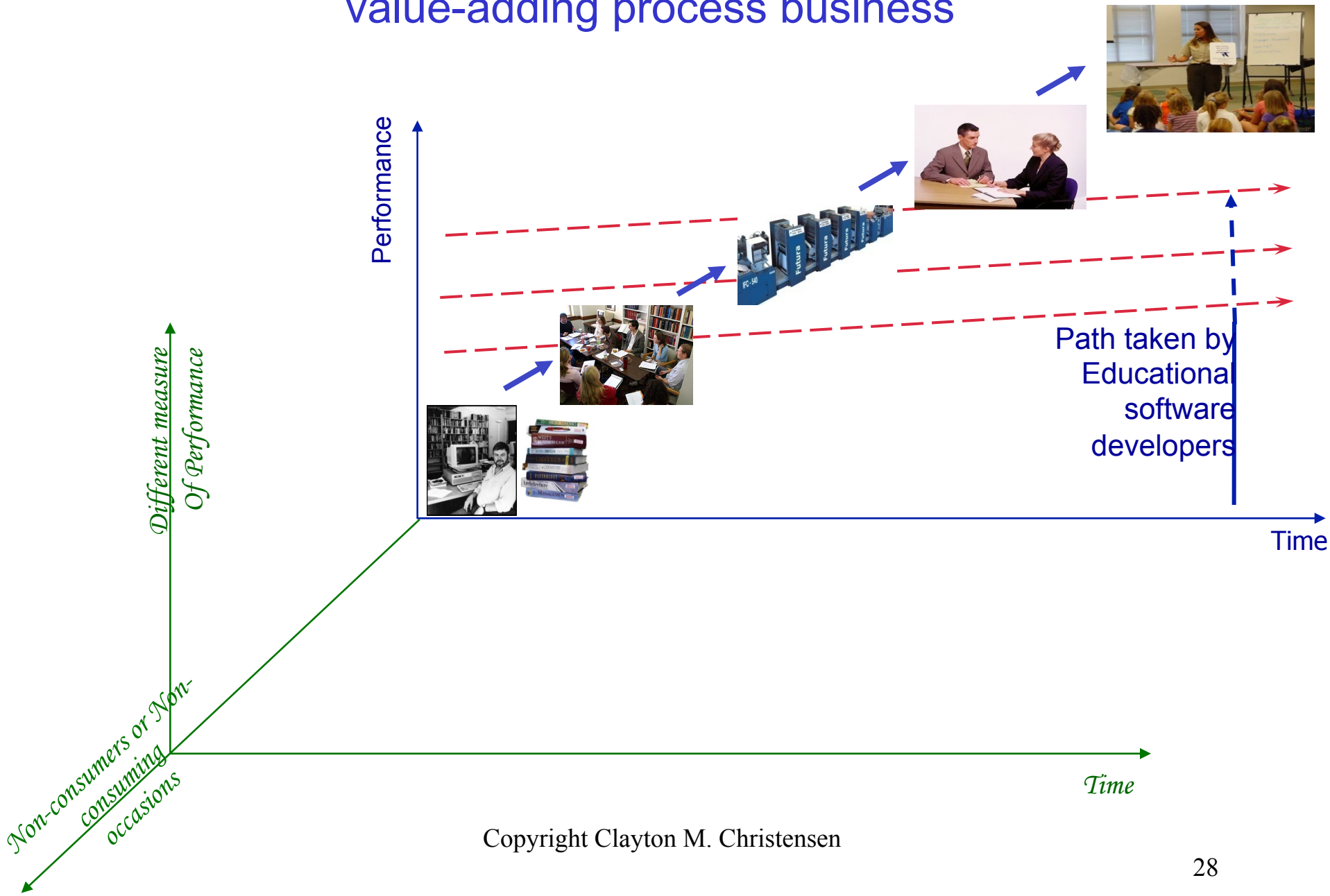
- Manufacturing
- Food services
- Medical procedures
- Instruction
- Textbooks; education software today

Facilitated-network businesses

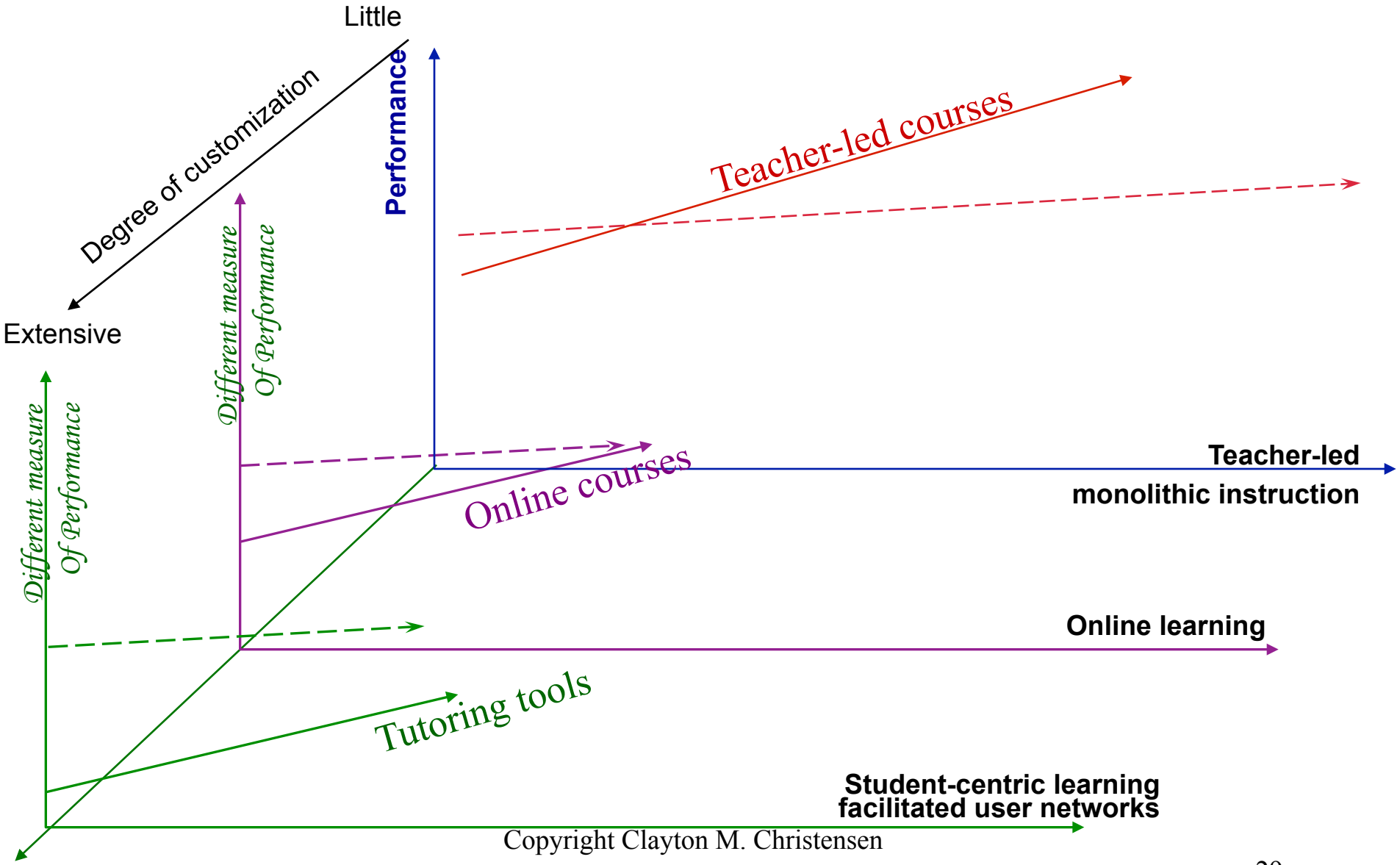


- Telecomm
- Insurance
- EBay
- D-Life
- Education software tomorrow

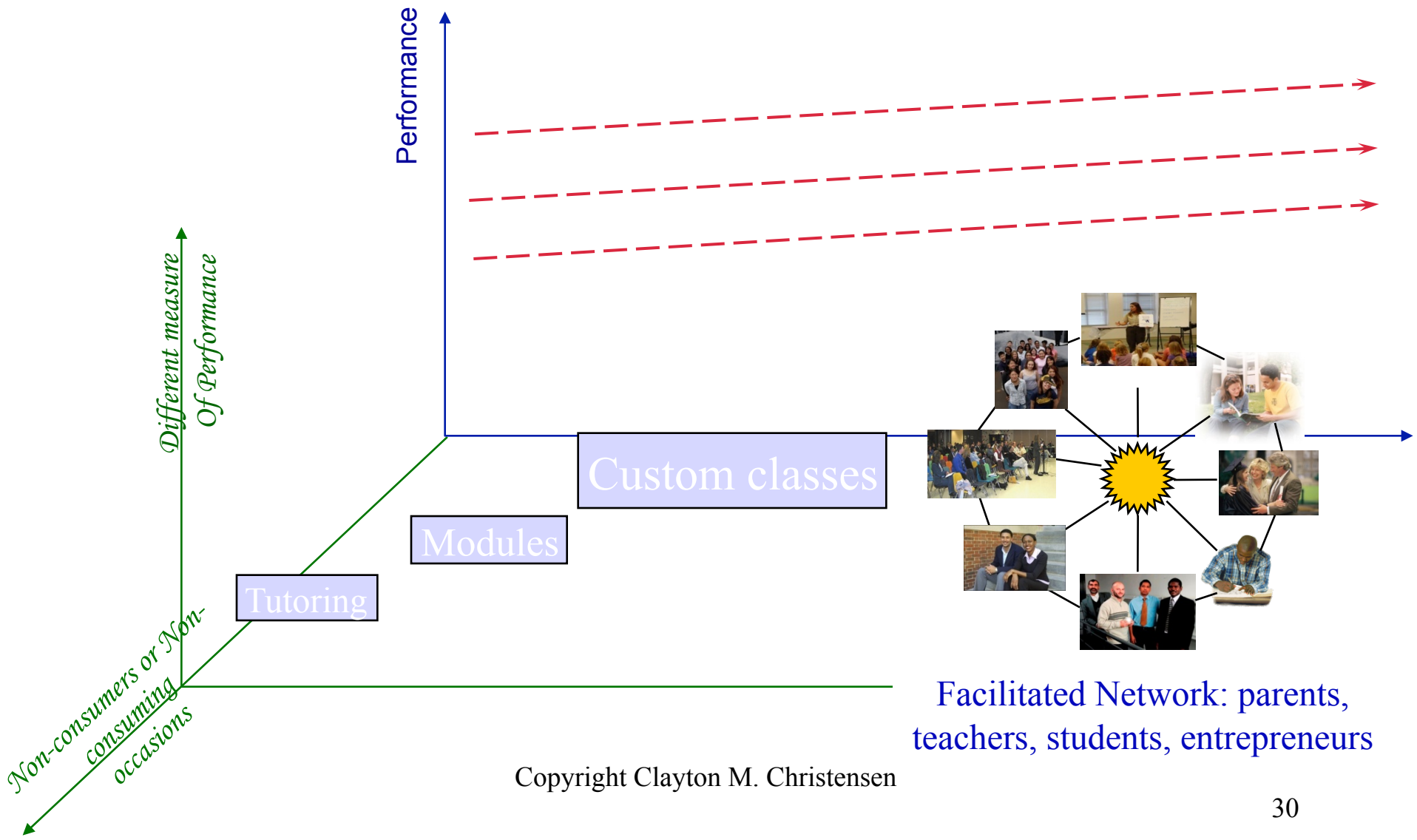
The instructional materials business historically has been a value-adding process business



Stages in instructional disruption



Student-centric software will be a facilitated-network business



Assessment in today's monolithic system

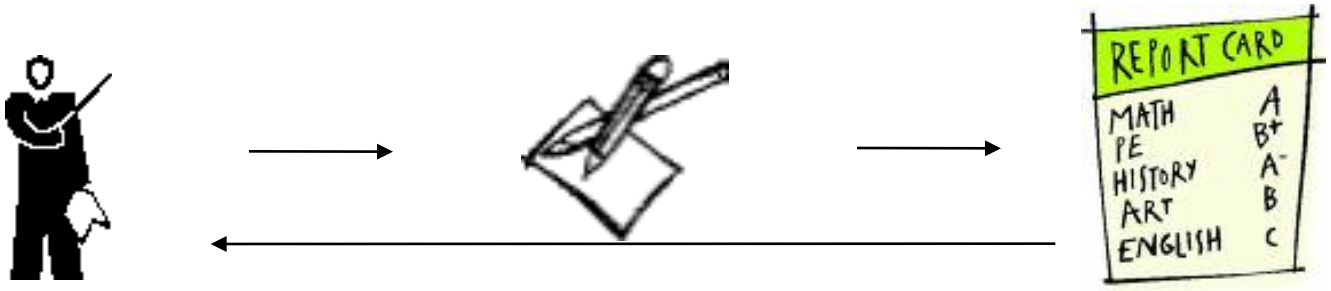
Deliver content to students

Testing & assessment

Progress to next grade, subject, or body of material

Receive results

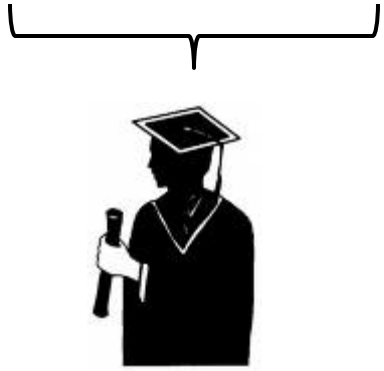
How should assessment work?



Deliver content to students

Testing & assessment

Receive real-time interactive feedback



Progress to next grade, subject, or body of material

Why do we need to innovate?

When education is not delivered in an intrinsically motivating way, prosperity is an enemy to education

A case study of successful innovation in education: The Florida Virtual School

- Start small
  - Break the mold grant for $200K
- What should it look like?
  - Unconstrained by old assumptions; what can we do with this new medium? What is true in this world?
  - Experiment and learn from failure
- Puzzle: who will want to use this?

Key policies emerge

- Autonomous organization
  - Established in 2000 as independent educational entity
  - New value proposition
  - Freedom to create its rules and procedures and enter into agreements with providers, hold patents, etc. as need be to fulfill its mission
- Funding
  - Initially a line-item allocation
  - In 2003, self-sustaining model established
    - FL funding formula
    - Seat time ➔Mastery

FLVS growth