



Education Technology Policy for a 21st Century Learning System

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Overpromised and Underdelivered

- Historically, no more efficient system than 30+ students in a classroom.
- Buying technology makes schools look *modern*, BUT
- New technology almost always crammed into old production system.

Therefore...

Education innovation

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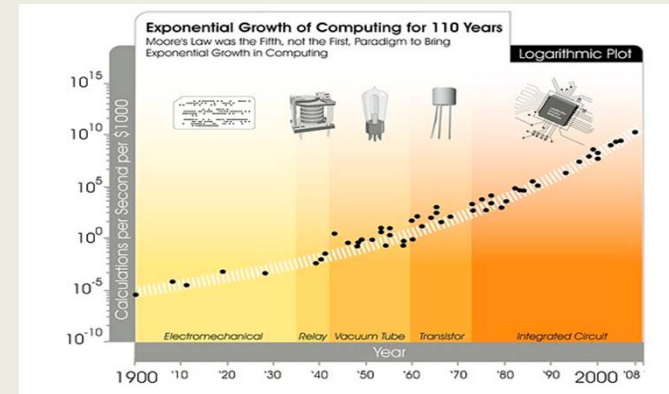
Tech innovation



Until Now!

- Internet technology has the capacity to change the learning production system:
 - from batch processing to individualization,
 - software and data can make the system smarter,
 - from hierarchy to networks of collaborating schools, teachers, and students.

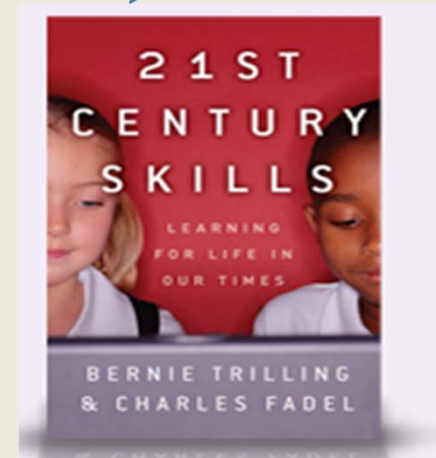
Moore's Law



A Difficult Policy Problem

- Why do anything? Technology will grow regardless.
- It's hard to link technology investments with educational progress. Can't we just reduce class size?

Cool but
Controversial



The State Has an Interest in *How* Technology is Developed

- To lead rather than lag other states: Image and economic development.
- To create an efficient education system.
- To create access and equity.
- To keep the system open and prevent *capture* by vendors.

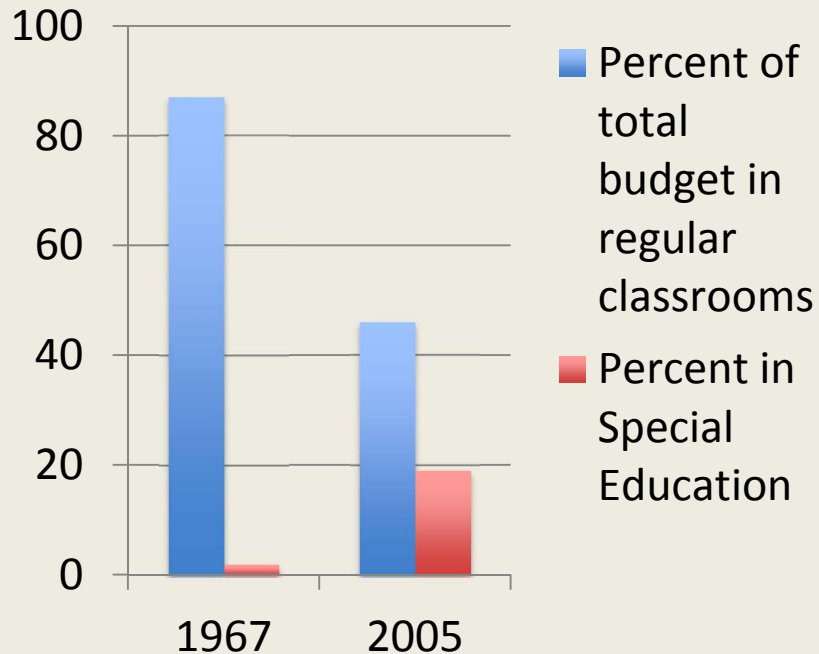
Why, one might ask, should California, the headwater of the digital revolution, be stuck in the eddies of early 20th Century school design?

3 Technology Policies

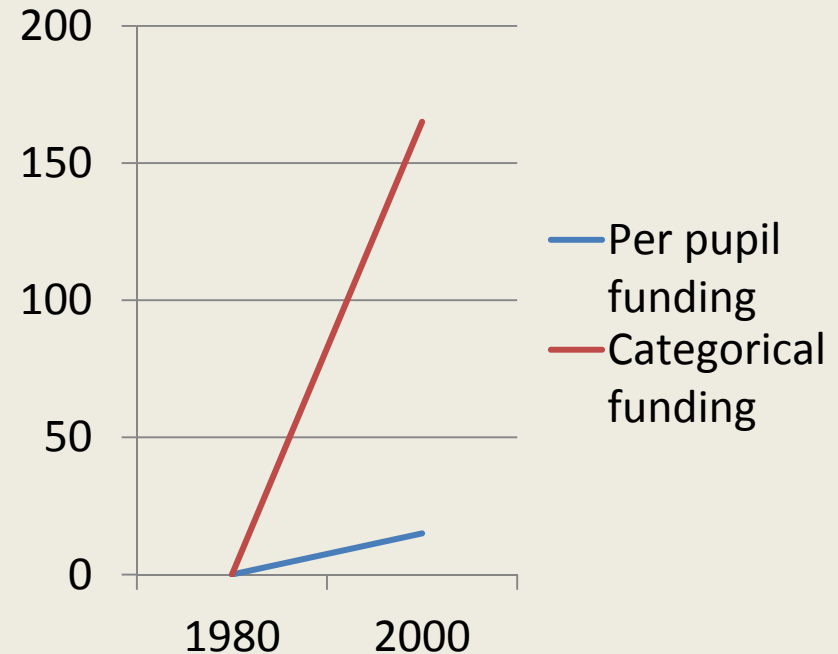
- Invest where schools have persistent and expensive problems:
 - English learners, special education, remediation, transition to higher education.
- Create an educational infrastructure for teachers, students, and schools to learn differently.
- Modify regulations to create positive incentives.

Policy 1: Tackle Persistent and Expensive Problems

Budget Allocation LAUSD



State % Increases



Do the Soft Numbers

1. ELL: \$1.4-billion	\$196,000,000
2. Remediation: \$274-million	\$100,000,000
3. Special Education: \$9.3-billion	\$290,000,000
4. Transition to college	\$ 50,000,000

Total:

\$636,000,000

Picking the 'Low Overhanging Fruit'

- Social media technology for special educators.

- Adaptive software.



- Course management and learning management



vide feedback.

Comprehensive Student Profile

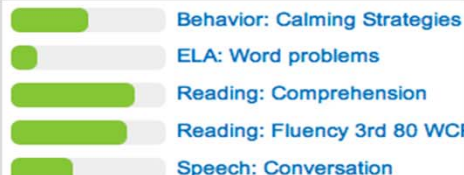
About

Contact

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Strengths

Responds well to positive reinforcement. Lov



Here are notes that I took during

Carolyn Molano shared a message about a month ago on Mon Aug 13,

[Parent-Teacher Confer...](#)

Full Team Collaboration

Team



n will be going on a field trip this Friday. Pl
him to get the permission slip signed

immediately by email ☒ Share with parent



student Amanda, how are things going wit
Carolyn Molano shared a message about 3 months ago on Fri Jun 01, 2012



Here's my progress, I'll attach it
Amanda Chang (Student)
3 months ago on Fri Jun 01, 2012



Share and Celebrate Progress



including all time

Options

- Edit Goal
- Print Goal
- Add to Students

Brandon aced his math test today.

Carolyn Molano celebrates Brandon Romsey
6 days ago on Fri Sep 07, 2012

Coordinate Tasks and Events



Overdue **10**

This Week **1**

IEP Held Annual IEP Jeremy Anderson

Next Week **4**

Affirm and Attest Annual IEP Jeremy Anderson

☐ Edit IEP Held 90 Day IEP George Chang

Hi **Carolyn** Molano,

You have 0 tasks due today, 0 tasks due tomorrow, and 10 overdue tasks in Goalbook.

[View and Manage Tasks](#)

Today Tue Sep 11

Start a New Adoption Channel

- **Teacher Technology Fund** small grants direct to teachers to try an approved list of new software uses.
- **Promising Practices** among schools and districts.
- Start now. Simple, Fast. If a state agency can't do it, contract it out to a university or partner with a foundation.

Policy 2: Create an Education Infrastructure

- Steps toward a new learning system.
- Not a virtual school, but statewide networks.
- Build systems, plural, “not one best system.”



Elements of the Infrastructure

1. Access and information:

- A Bring-Your-Own-Device Policy
- Increasing access to networks at school and home
- Build a fair and useful data system

2. Open systems learning.

3. Testing and gaining credit.

Some Design Principles



- Adopt *flexible specialization* design principle from manufacturing.
 - Break down complex processes into modules, lessons, projects that teachers and students can combine to create customized learning.
- Get learning tools into the hands of students.
- Experiment, avoid a rush to judgment. Learn from failure.

Create a Public-Private Partnership

- Create specific legislative agenda.
- Tech leaders, entrepreneurs, learning scholars, practicing teachers, school leaders.
- Create a clinical trials format.
- Broker the development of powerful analytical engines, such as those being created for adaptive software.
- Broker relationships with vendors.

Policy 3: Regulation and De...

- Seat time v. merit badges.
- The “Contiguous County” rule.
- The California Diploma.