

# The Supply Side of School Reform and the Future of Educational Entrepreneurship

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American Enterprise Institute  
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The collected papers from this conference are available online  
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# **Ruminations on Re-Inventing an R and D Capacity for Educational Improvement**

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# I. Introductory Context

## We live in extraordinary times

- A combination of economic, social and technological changes now challenge the historic foundation of the “One Best System” of public education
  - A new goal, “Ambitious academic attainment for all.”
  - A call for not more new programs, but rather fundamental institutional change

## **We live in extraordinary times**

- It is inconceivable that we could have much better schools without also a serious renewal of the ways in which we support the development of school professionals and the tools, materials, ideas and evidence with which they work.

## II. Current State of Educational R & D

- However, the basic institutional arrangements of public education, the work of universities, the commercial sector and the connections among these enterprises are extraordinarily weak for carry out this work.

# Current State of Educational R & D

- In medicine and engineering, R & D represents 5% to 15% of overall expenditures (Burkhardt & Schoenfeld, 2003). In contrast, less than 0.25% of overall education budgets were allocated to R&D in 2003.
- Most education research is conducted in universities that place priority on “individual contributions to new knowledge.” Participation in collaborative, larger scale efforts are less valued. The culture and incentives are not conducive to “engineering work” that will produce practical, relevant innovations useful to schools.

# Current State of Educational R & D

- The institutional mechanisms and incentives for collaboration between researchers and practitioners are weak. What is learned in practice is not codified in ways that can be shared with others, or rigorously tested for more general use.
- The commercial sector, which plays a powerful role in education, is as disconnected from research as practitioners are. Marketing decisions have been shaped more by political realities of coping with state and district approval mechanisms, than norms of sustained evidence-based improvement.

# III. A New Vision of Research and its connection to Practice Improvement

- An agenda organized around core problems of practice improvement
- Innovations co-developed by researchers and practitioners, tried out in schools, refined and retried.
- An engineering orientation--adaptability to local contexts as a direct object of study, and demonstrable improvements as its accountability standard.
- The commercial sector as a technical resource during early stages of R&D and as a key resource to take effective practices to scale.

# A New Vision:

Strengthening the capacity for educational R and D

School practitioners



University researchers

Social entrepreneurs

**IV. The Central Problem Foci  
For DED on School  
Improvement**

## Some Organizing Propositions

- Education is a human resource intensive enterprise. Schools are only as good as their people and their capacity to work together.
- K – 12 schooling in the U.S. does not get its fair share of our nation's human resources.
  - SAT scores for education majors rank among the lowest of any occupation; Moreover, the most academically able who do enter teaching are also the most likely to leave in the first 5 years.

## Some Organizing Propositions (continued)

- The implications seem clear—Teaching must become a more attractive profession. This means focusing on 2 problems:
  - new career/salary opportunities for educational professionals, and
  - changing the conditions under which they work.
- But...

# Leads Us to Two General Concerns

- Can we make schooling **more efficient** while simultaneously pressing forward toward **more ambitious** academic learning for all children and acknowledging **each child as a person of value**.



So in addition to developing people, tools, materials we must also **enhance the systems in which they work**— social betterment at scale through managed organization.

# Three Emergent R and D Priorities

1. Can we break out of the “Egg Crate” structure
  - Creating new roles for senior teachers leading instructional teams with junior colleagues (+TFAers/teaching interns) responsible for a larger group of students over 2 or 3 years.
  - Redesigning the work so that senior teachers spend most of their time on the work that only they can do.  
(solving this problem is key to remunerating expertise, making the professional work more attractive, and keeping genuine expertise where it is needed--in schools)

## Emergent R and D Priorities (continued)

2. Can we make the systems that supports teacher learning more efficient and effective?

- Most of what we do here is guided by “expert professional judgment.” Can we complement this with an evidence base on performance capable of supporting continuous improvement in this domain?
- The micro level “Causal Cascade” problem.

### 3. Utilizing Technology Well

- The core resource for a more efficient and ambitious educational system?
  - facilitating learning in the “other 85 percent of the time”
  - enabling the progressive dream--democratization access to knowledge, expanding the base of those who educate and individualizing each child’s program of instruction
  - using students day-to-day work products to inform more effective *and more* ambitious instruction.
- But, this will not be easy as we have a deep history of unrealistic promises followed by disillusionment. **In short,** a need for a sustained design-engineering-development.

# V. Other Topics Addressed in the Paper

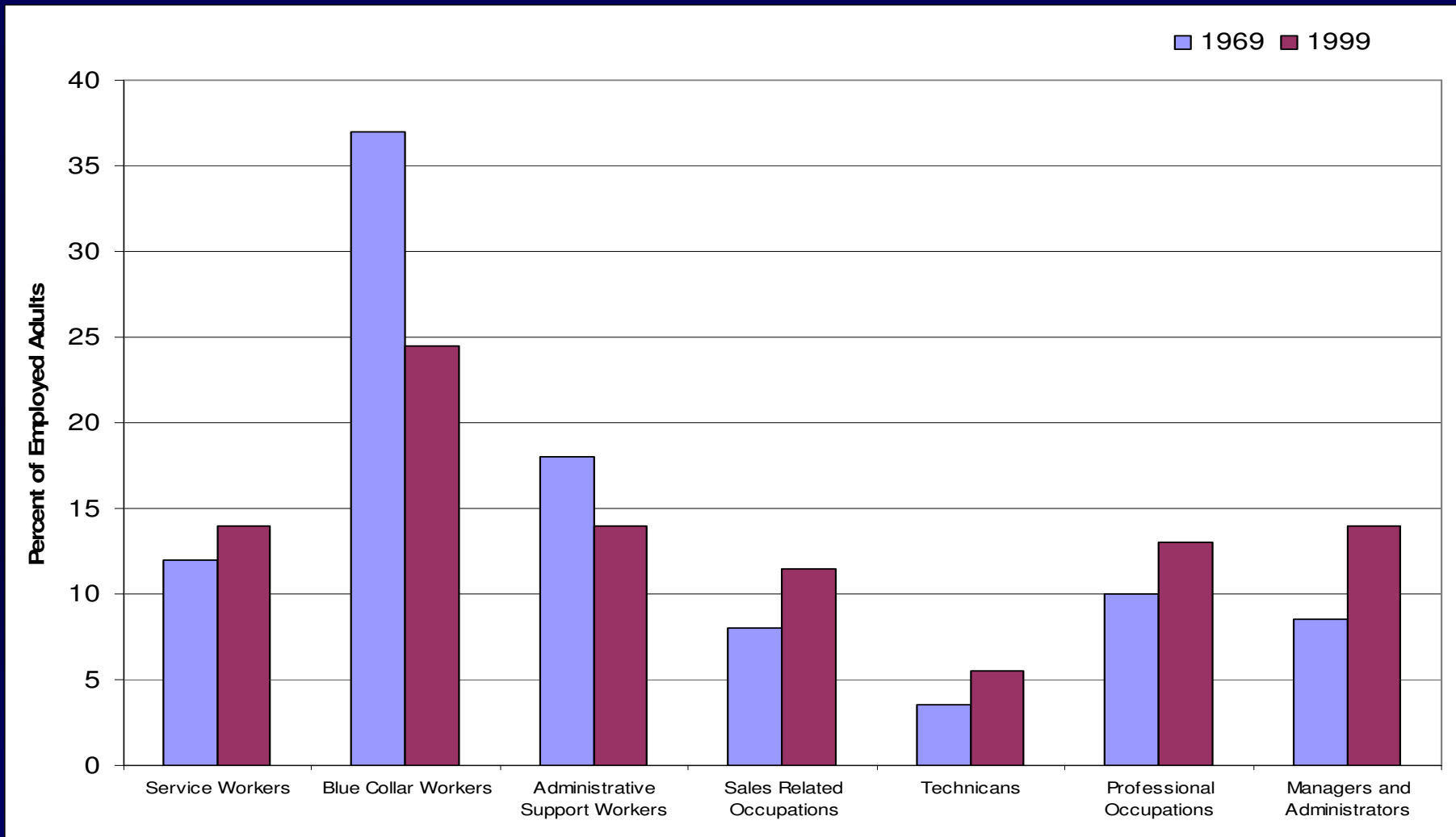
- Educational innovation is not just a technical act but also intrinsically a social and political activity
- Securing Essential Resources to Carry Out DED
  - Sustained, stable funding
  - Legal infrastructure to conduct school-based R and D
  - Building capacity for innovation travel
  - More supportive policies to stabilize and incent demand
- Social organization of DED
  - Working theory of practice improvement
  - Processes of iterative design and improvement
- Finally, who might support all of this:  
Catalyst, Shepard and Sugar Daddy?

# VI. A Personal Concluding Comment

## Why this all Really Matters

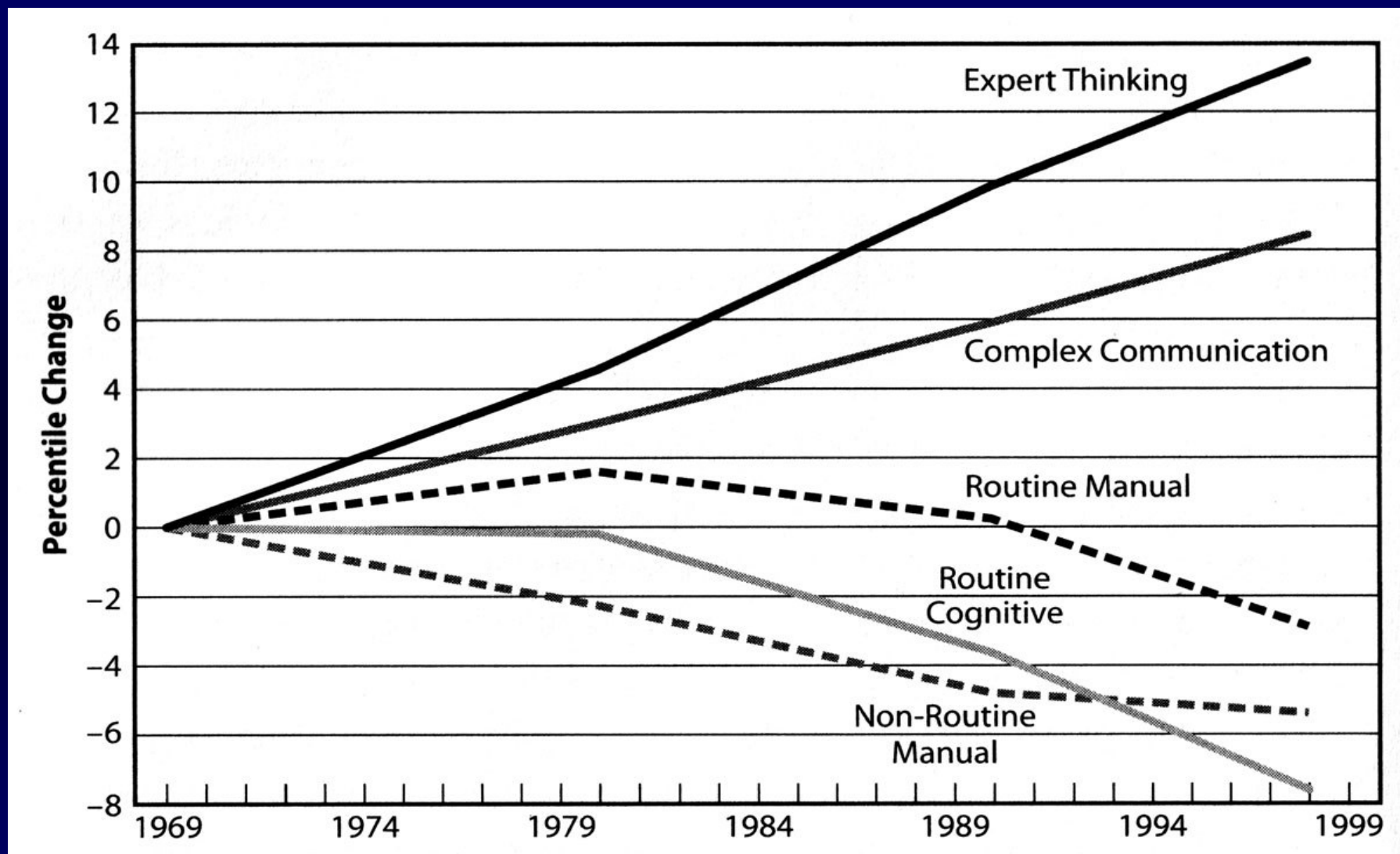
- **A Haunting Question:** What will our children do in a “flat earth economy” where increasing numbers of “good” blue and white collar jobs will likely move off shore?

# The Changing Nature of the Adult Occupational Distribution: 1969 and 1999



Source: F. Levy and R. Murnane (2004) Data tabulations from the March 1970 and March 2000 Current Population Surveys.

# The Changing Nature of Workplace Tasks



Source: D. Autor, F. Levy and R. Murnane. "The Skill Content of Recent Technological Change: An Empirical Exploration," *Quarterly Journal of Economics* 118 (November 2003): 4.

# Important work where the price of failure is dear...

- How do we develop the “special, the specialized and the adaptable” so that real opportunity remains in reach for all?
- The problem of being “first in the world”—there is no clear game plan to follow.
- For better or worse we must invent, we must lead.

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