



What do we mean by Ed Tech?

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Movimiento Educativo
Abierto para América Latina



Tecnológico
de Monterrey



What do the following images have in common?

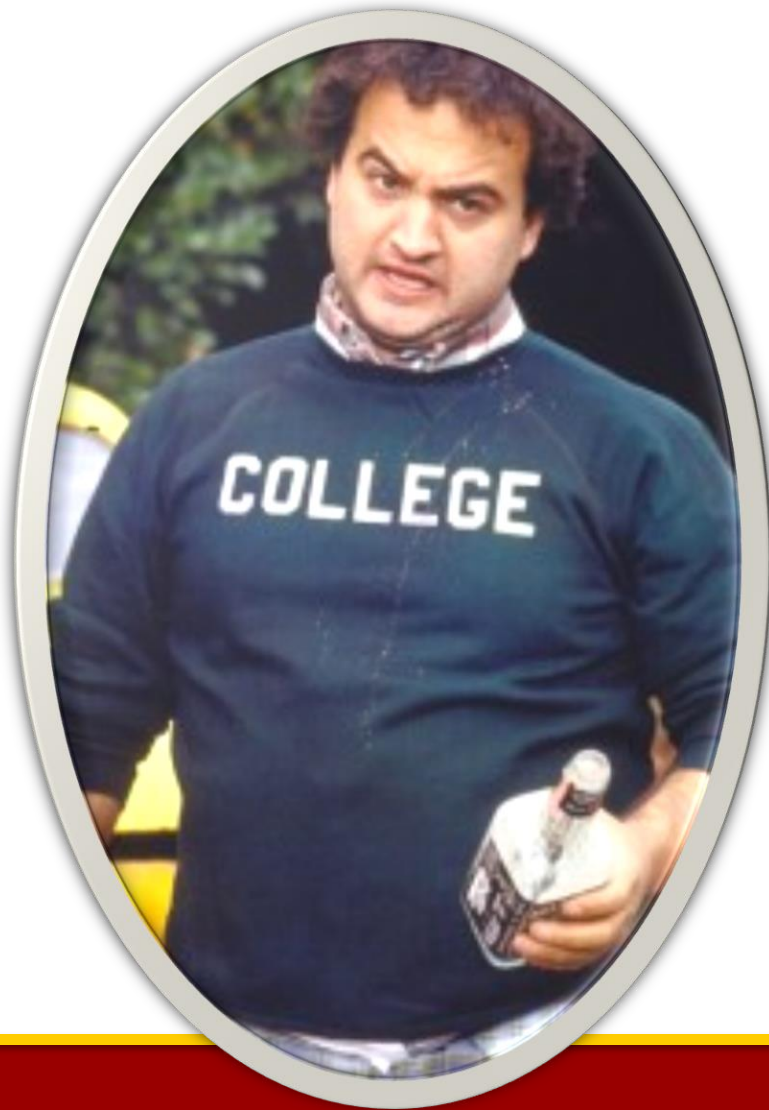
Undercover spy?



Inner City Kid?



College Student?



Wall Street Trader?



Child Migrant Worker?



Child Learning to Walk?

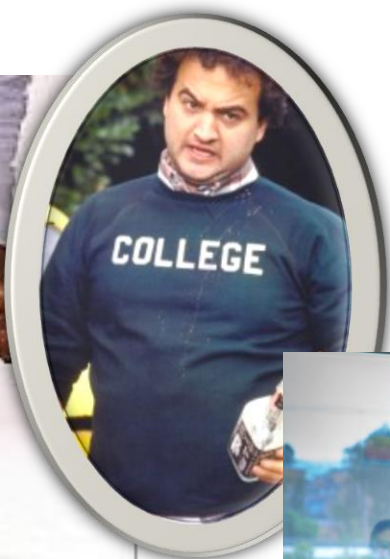


African Miner?



Doctor curing patient





USC Rossier



Point # 1 – Learning is EVERYWHERE!

And it's huge!!



Every problem is a learning
problem!





Point # 2 - Learning matters

Citizenship



Income



Health



Real Estate Prices



Company performance



Happiness



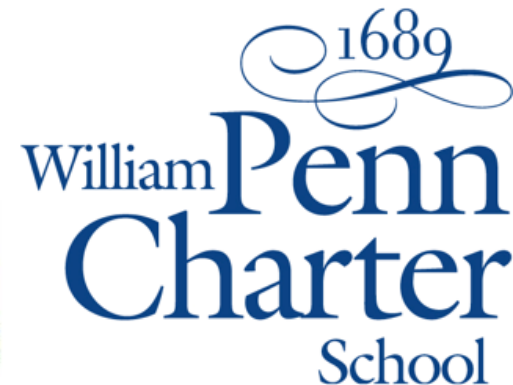
Global Competitiveness



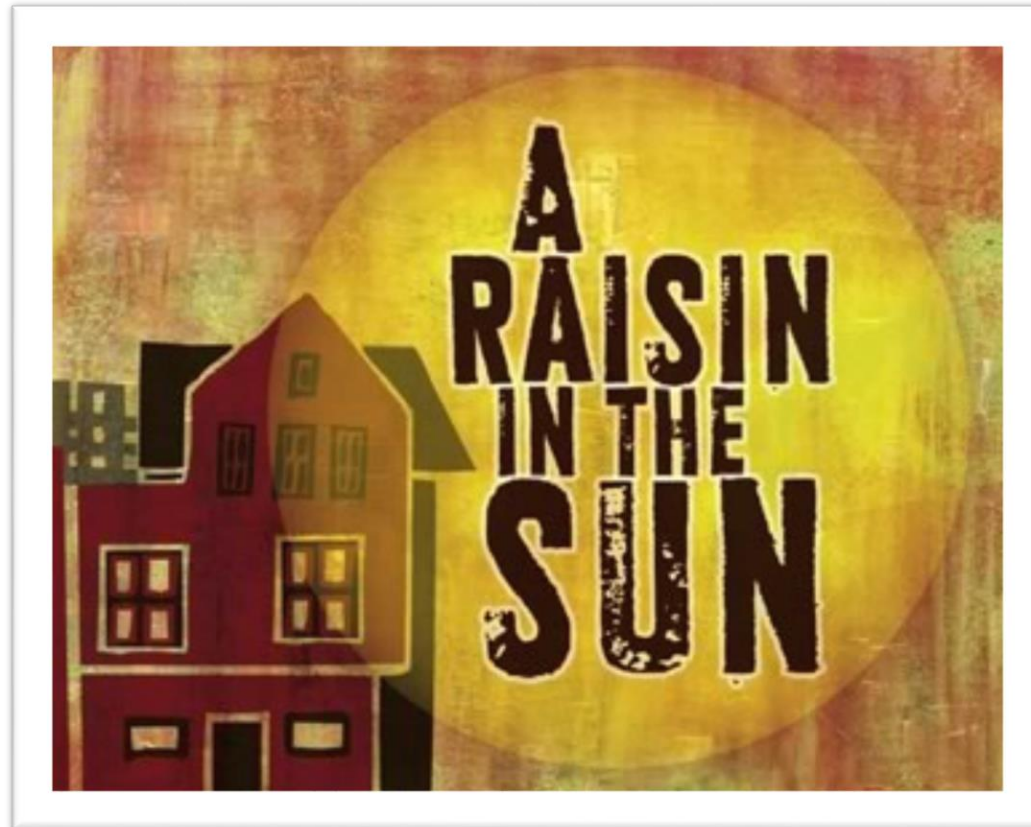


Education is a perfect “good”

And there are many good places to learn...



But for most...



And our world is less like this...



A photograph of a surfer in a black wetsuit paddling on a blue surfboard towards a large, dark wave. The surfer is seen from behind, and the wave is a massive, dark wall of water. The sky is overcast and grey. The text "Than like this" is overlaid in yellow on the left side of the image.

Than like this

© KURT JONES 2003

Your grandparent's world



- 1950s-' 60s average Fortune 500 exec had been with their company 24 years
- The typical career path...
 - 12-18mo training
 - 18-21 month job rotation
 - “Hi potential” program – accelerated promotions
 - 75% execs had > 5yrs on corporate staff
 - 40% execs began in marketing/sales

But it's different now...



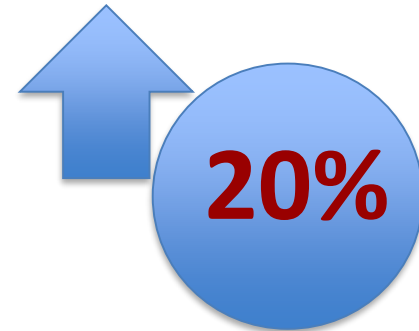
- Restructuring is non-stop
- AMA survey –49% have downsizings even during the “boom” years
- *Fortune 500 now employ • as many as 20 years ago*
- 63 percent cutting in one division and expanding in another
- Cuts happened faster in this downturn than any time before
- Employee Tenure: Down with employer/ Up with occupation
- Leaders now last less than 3 years

And work itself is changing...



How People Work & How They Learn Has Changed, Making it Harder Than Ever to Engage Employees, Enable Development and Drive Business Outcomes

- ✓ **Frequent Organization Change**
The average employee experiences a major organization change every 7 months
- ✓ **Greater Collaboration**
Employees work with an average of 10 people to get a job done
- ✓ **More Knowledge Work**
82% of employees are required to use analysis, judgment, and influence on the job
- ✓ **More Global and Geo-Dispersed**
57% of employees experienced an increase of work to be completed with remote staff in the last 3 years



On average, organization executives are setting aggressive 20% productivity improvement targets, and turning to L&D to drive breakthrough performance

So, the times they are a changing... 



Every country wants to move up the chain...



Times" 2007, National center on education and the economy

Creative Work

- Research
- Development
- Design
- Marketing and Sales
- Global Supply Chain Management

Race up the Value Chain

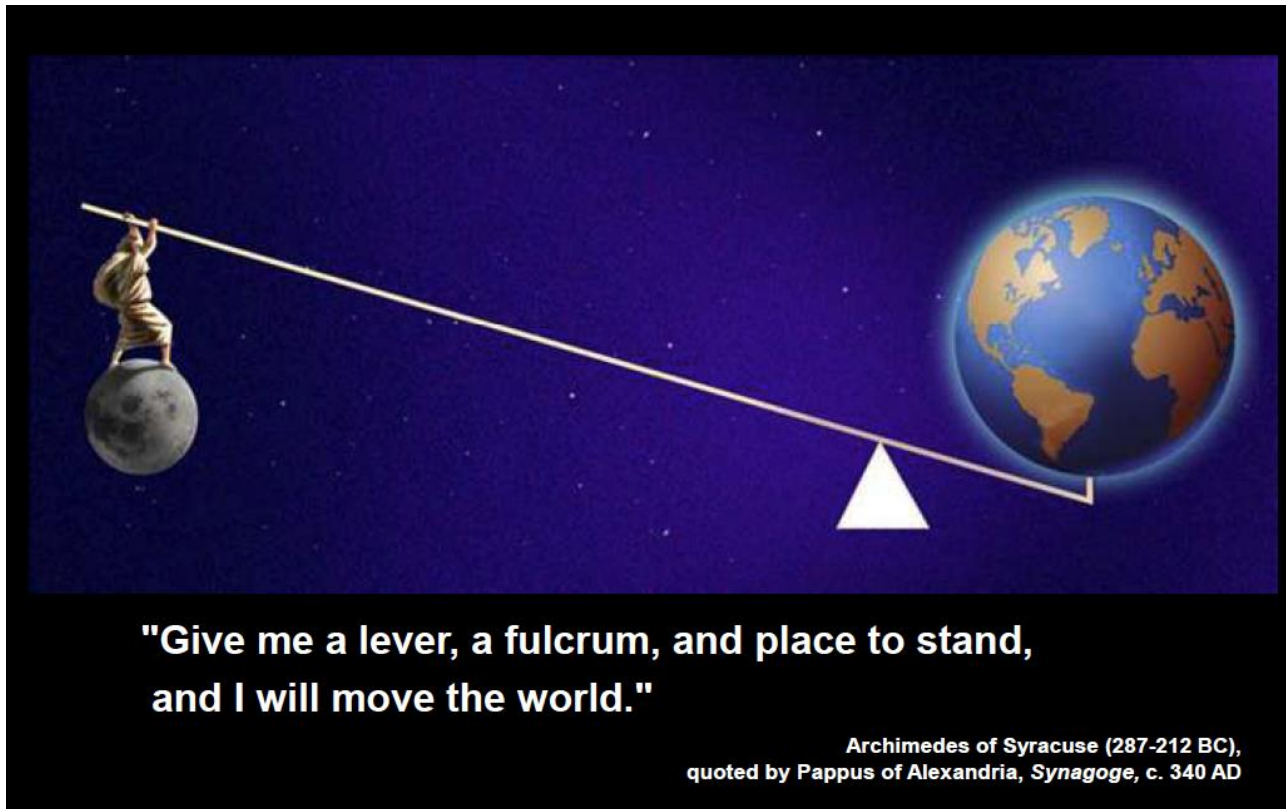
Routine Work

DONE BY PEOPLE

Routine Work

DONE BY MACHINES

We look to technology to solve our problems...



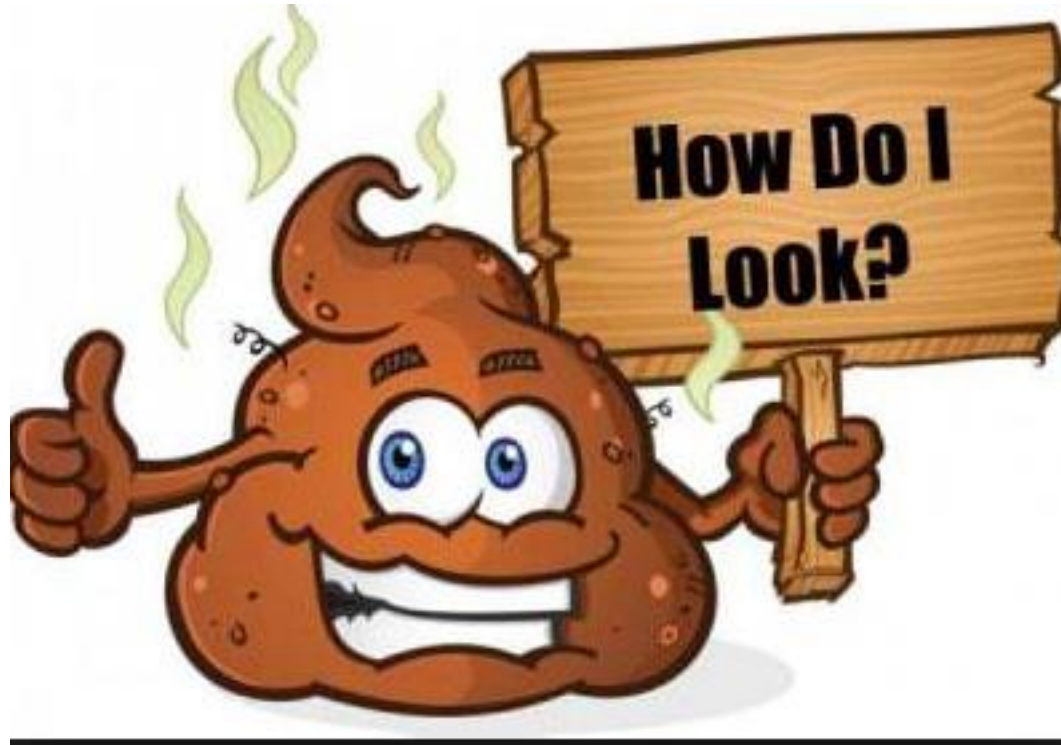
"Give me a lever, a fulcrum, and place to stand,
and I will move the world."

Archimedes of Syracuse (287-212 BC),
quoted by Pappus of Alexandria, *Synagoge*, c. 340 AD

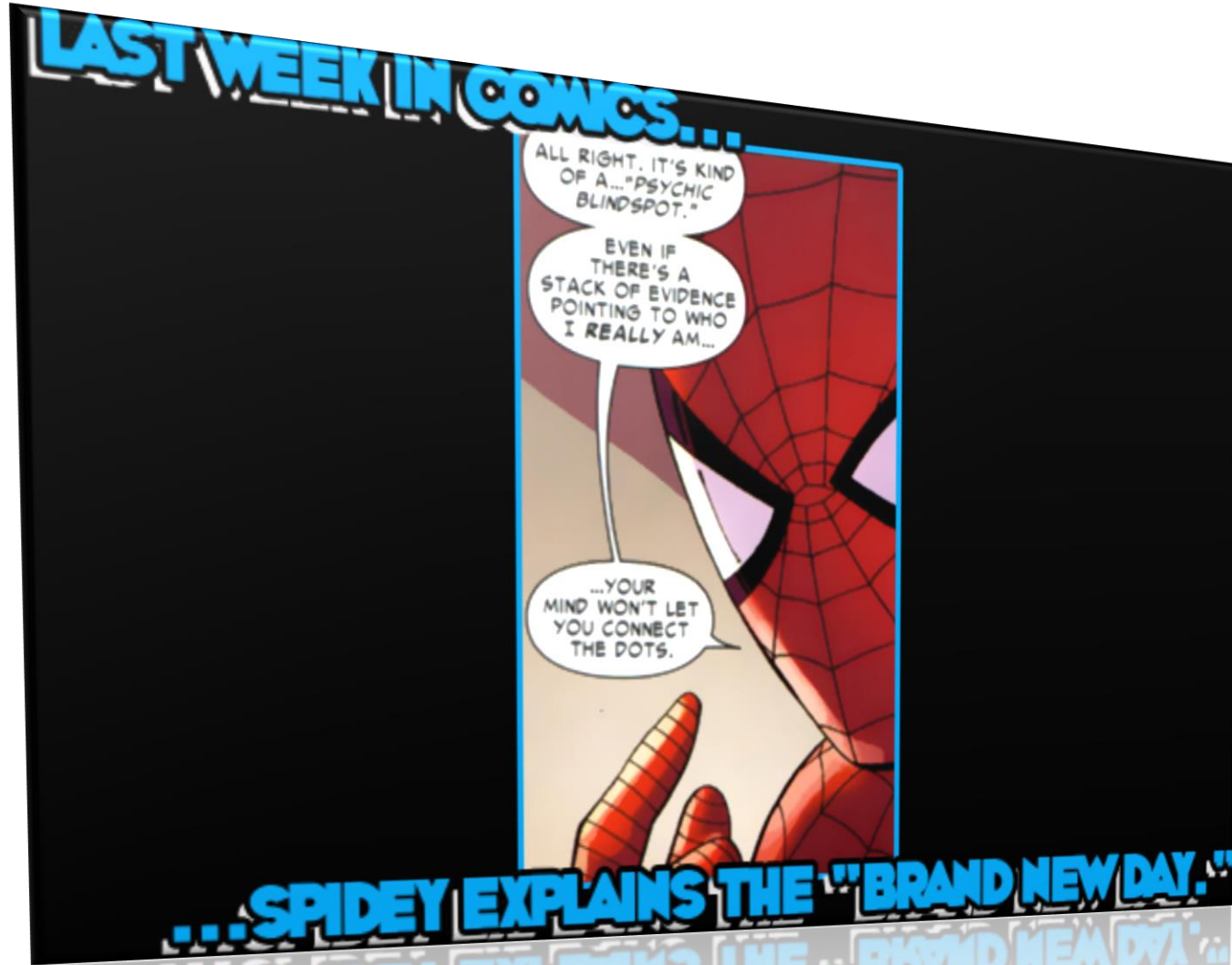
We “innovate”...



And we end up with...



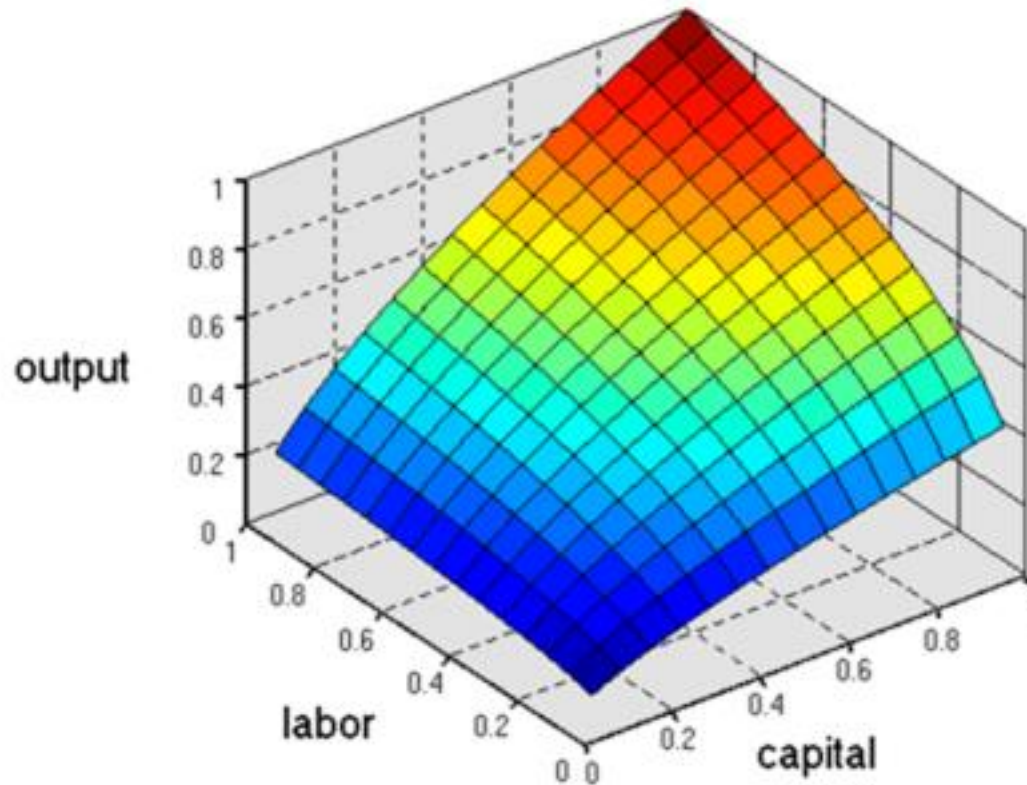
Are we solving the right problem?



What exactly IS technology?



$$y = k^\alpha n^{1-\alpha}, \alpha = 0.35$$



We know that it is “growing”



Certainly Amazon is an example!



Department

Any Department

- Health & Personal Care (6,595)
- Beauty (522)
- Books (33,906)
- Home & Garden (810)
- Office Products & Supplies (209)
- Clothing & Accessories (145)
- Grocery (115)
- + See All 21 Departments

Shipping Option

(What's this?)

Any Shipping Option

- ✓ Prime Eligible
- Free Super Saver Shipping

Brushes

Brand


Any Brand


- Bio Ionic (13)
- Denman (26)
- Frederic Fekkai (13)
- Lotus (3)
- Mason Pearson (94)
- Sephora (14)
- Spornette (17)
- The Body Shop (1)


"hair brushes"


Select Results from All Departments

Choose a Department

- 

Vidal Sassoon VS7963 Ionic Thermal All Purpose Brush by Vidal Sassoon
Buy new: \$5.13
Eligible for **FREE** Super Saver Shipping.
★★★★★ (13)
Health & Personal Care: See all 6,595 items
- 

Conair Titanium Tourmaline Cork Paddle Brush by Conair
Buy new: \$7.20
Get it by **Friday, Oct 2** if you order in the next **7 hours** and choose one-day shipping.
Eligible for **FREE** Super Saver Shipping.
★★★★★ (7)
Health & Personal Care: See all 6,595 items
- 

Revlon RV2641 Soft Touch Porcupine Cushion Brush (Colors May Vary) by Revlon
Buy new: \$5.19
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★★★★★ (5)
Health & Personal Care: See all 6,595 items
- 

Mason Pearson Boar Bristle & Nylon Hairbrush by Mason Pearson
Buy new: \$80.00 - \$108.00
★★★★★ (9)
Beautv: See all 522 items

Sears 1905, Amazon 2017



Wood Back Hair Brushes, the cheapest and best, are made of one solid piece of wood. (Solid Back Hair Brushes.) Most hair brushes are made of two pieces of wood joined together, which, when wet, warp and come apart. A Solid Back Hair Brush will outwear three ordinary hair brushes. We have solid back hair brushes at less than the usually asked for ordinary grade. (Remember a solid back hair brush will last two or three as long as an ordinary brush.) Hair brushes from \$1.00 to \$10.00.

180 Is a Green Hair Brush, of oval back with thick handle, for 50c. 2 for 1.00. 3 for 1.50. 4 for 2.00. 5 for 2.50.

182 A Medium Sized, Square Back Hair Brush. Black Russian bristles, would be considered value of 50c. Each 2 for 1.00. 3 for 1.50. 4 for 2.00. 5 for 2.50.

Three Great Brush Bargains. It is a supply of these splendid hair brushes you can. Every one made to sell for 50c, the Russian bristles, with solid one piece back, highly polished. Each one absolutely perfect and warranted. We purchased the entire stock from leading manufacturer at 50c on the dollar divided it into three lots.

OFFER THESE 50c BRUSHES FOR 25c. In your orders early and make first and second choice as to style. We expect an immense sale on these brushes and may run out of some before the season is over. Order two or a while you can get them. Lots of it chosen are will be sold at these rates.

183 Highly Polished 11-row Hair Brush, black penetrating Russian bristles, handsome shaped back, medium size, solid one piece. A handsome, durable brush every one 50c. Our great special price, each. 25c.

184 A Fine, Choice Assortment of 9-row Bristle Hair Brushes, highly polished square, a medium shape, solid one piece back, early desirable for ladies' use. Fully made and warranted. Our great special price, each. 25c.

185 A splendid Assortment of Finely Finished Back Hair Brushes, Solid one piece back 12 rows of fine white Russian bristles. Our special price, each. 25c.

25590 Small Size Metallic Wire Hair Brush, nicely polished wood back. 3 for 25c per dozen. \$1.10

25591 16 Row Metallic Wire Hair Brush, straight or wavy handles, nicely polished and decorated backs. Each, 16c per dozen. \$2.50

Florence Hair Brushes. 25594 All Black Bristle Hair Brush (7 for 60c) rubber back; a regular 40c brush. Each. 85c

25595 Is a Nine Row White Bristle Hair Brush, Florence (7 for 60c) rubber back. Each. 85c

25596 A Very Fine Russia White Penetrating Bristle Hair Brush, (7 for 60c) rubber back; nicely figured, good value. Each. 85c

The Ideal Hair Brush. 25600 It is a Genuine Siberian Bristle Brush, with a single bristle solidified for the ordinary use. The bristle being set in an elastic aluminum base. This construction enables it to penetrate the most luxuriant growth of hair without effort. It also prevents the possibility of injuring the hair or scalp. It will effectively remove dandruff without irritating the scalp. It is clean, light and durable.

25601 Ideal Hair Brush, as described above. Medium size, cherry wood back. Each. \$0.50

25602 Ideal Hair Brush, as described above. Large size, cherry wood back. Each. \$0.75

The Cosmeon Hair Brush. 25603 A Pure Aluminum Hair Brush. This brush will not tarnish like sterling silver. It is both as heavy and hard as a steel, and is so plating to wear off. Should it become scratched with pure aluminum. It is as good as new. Good Russian bristles. In appearance this brush is equal to a \$2.50 silver brush. Our special price. \$0.90

Flesh and Bath Brushes. 25604 Is a Seven Row Bath Brush, curved hair.

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Select Results from All Departments

- Vidal Sassoon VS7963 Ionic Thermal All**
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 Eligible for **FREE** Super Saver Shipping.
 ★★★★★ (13)
Health & Personal Care: See all 6,595 items


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[Buy new: \\$7.20](#)
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[Buy new: \\$80.00 - \\$108.00](#)
 ★★★★★ (9)



This is a **COMPUTER**!



Computer, n.

1. One who computes; a calculator, reckoner; spec. a person

We know from an evolutionary perspective, technology make us human!



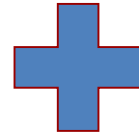
And we know it is cultural...



And that uses evolve...



I mean who would have predicted...



Would lead to...

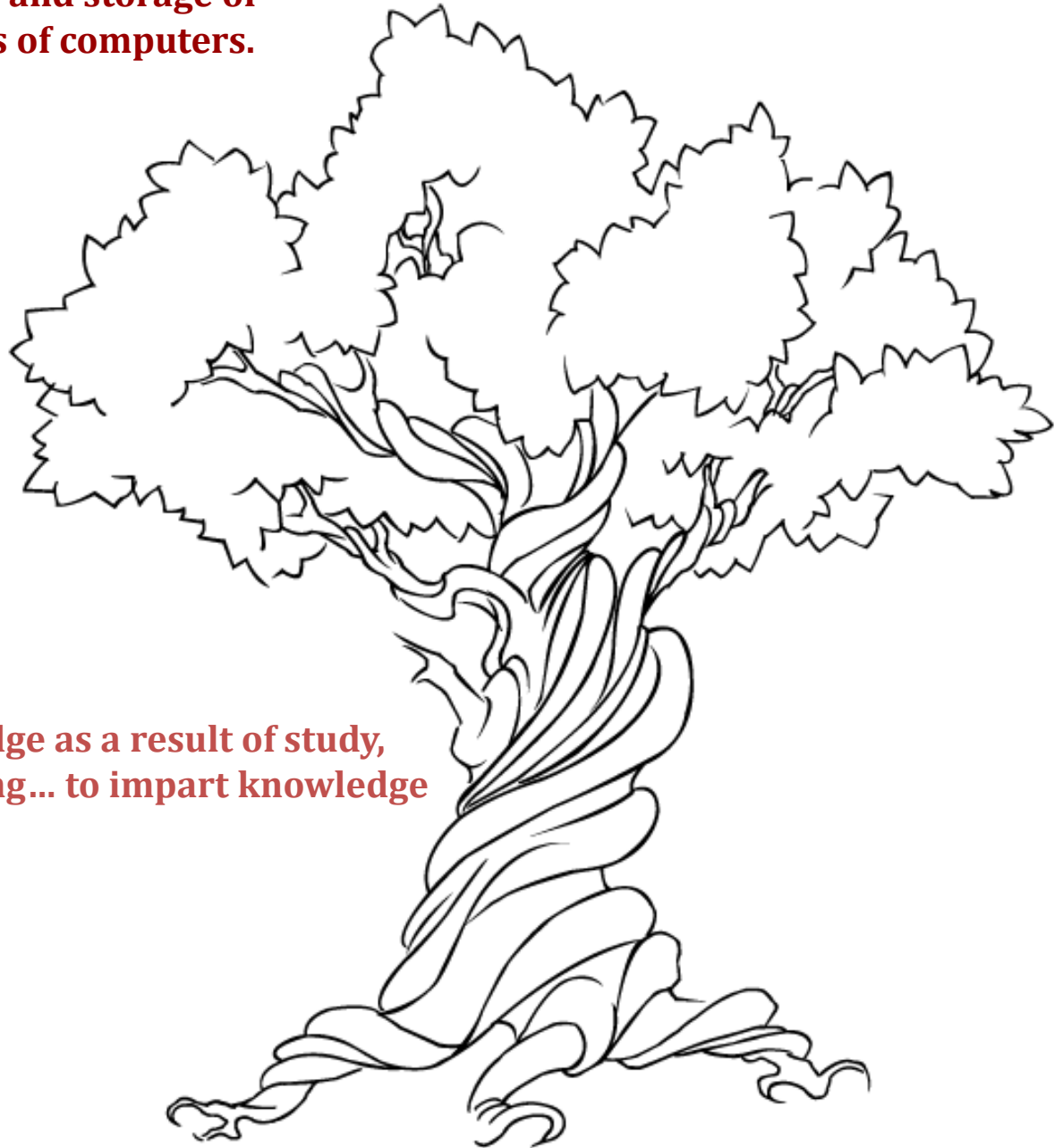
Rumbera



Back to “innovation”...



The branch of technology concerned with the dissemination, processing, and storage of information, esp. by means of computers.

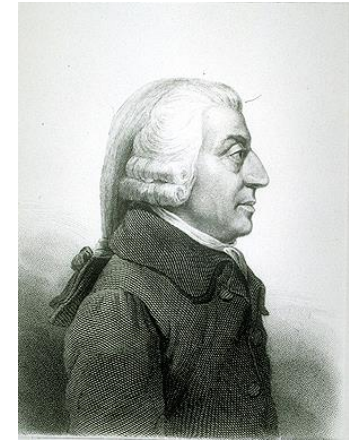
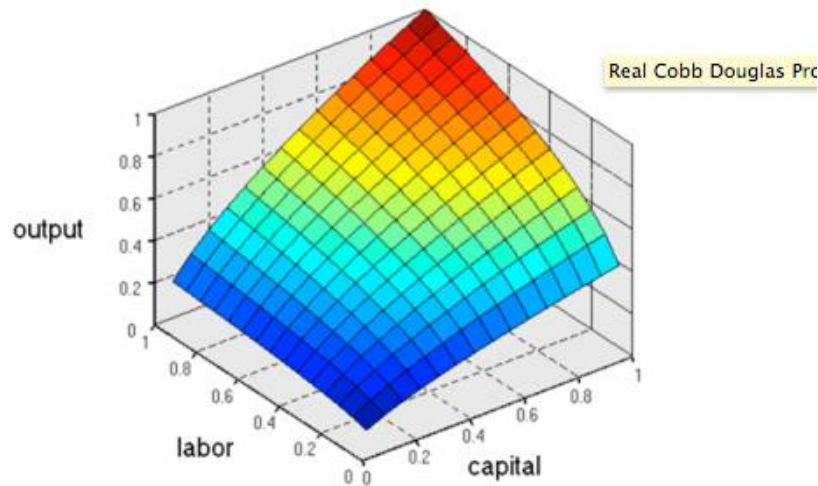


To acquire knowledge as a result of study, experience, or teaching... to impart knowledge

The Education Production Function



$$y = k^\alpha n^{1-\alpha}, \alpha = 0.35$$





Gardner's Multiple Intelligences

...the impact of environment on learning

Intelligence:

“the capacity to solve problems or to fashion products that are valued in one or more cultural settings.”

- Multiple intelligences:
 - Logical/mathematical
 - Linguistic
 - Musical
 - Spatial
 - Bodily-kinesthetic
 - Interpersonal
 - Intrapersonal
 - Naturalist

Approaches to Learning



- Behaviorist
 - Objectives and reinforcement
 - Bad press, but alive and well
- Cognitivist
 - Mediation, representation, active
 - Several cognitivist positions exist
- Sociocultural
 - Tools, activities, systems

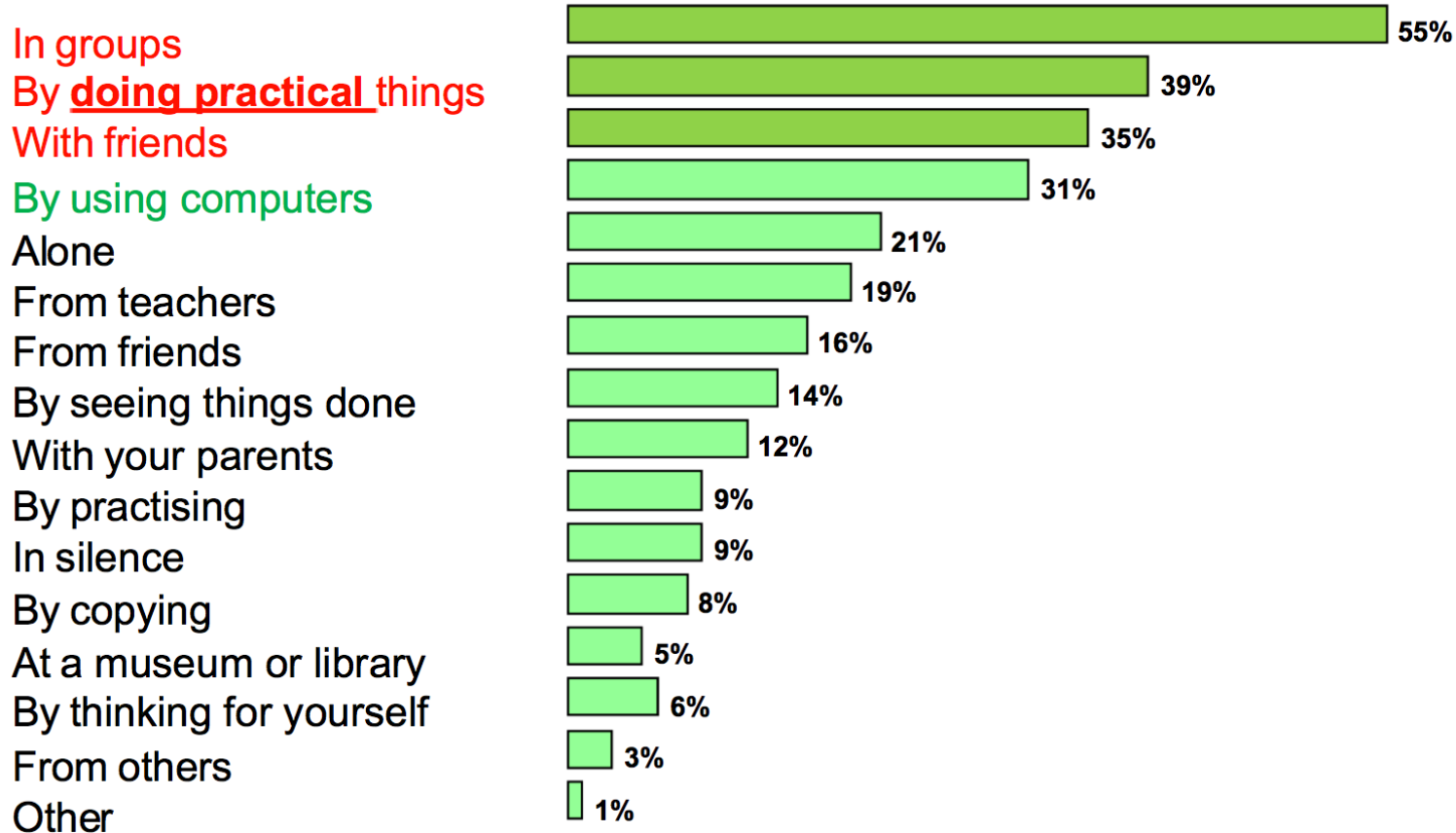
So is this ed tech?



Is this ed tech?



In which three of the following ways do you prefer to learn?



Pedagogy an Ed Tech?



Piaget

Swiss developmental psychologist
Theorized stages of cognitive development
Children eventually capable of logic & abstraction (developmentally)

Vygotsky

Russian developmental psychologist
Sociocultural theories of cognitive development
Cognition emerges *collectively*; scaffolding to support growth



Bandura

Canadian psychologist
Developed social learning theory – observing and imitating behaviors
Concept of self-efficacy – learner's belief in own ability to mimic behaviors

How about curriculum? It has evolved!



Greek, Latin

English

Reading, Writing

Literature

Oratory

Rhetoric

Grammar, Handwriting, Spelling

Music

Art

Philosophy & Ethics

History

Arithmetic

Geometry

Astronomy

Algebra, Trigonometry, Calculus

Biology, Chemistry, Physics

Ancient Greece & Rome

Early Christianity & Middle Ages

Renaissance & Enlightenment

Modern Industrial Era

Today

Best Ed Tech Ever!



We need new ideas and more ideas...



We need to create the sandbox



A silicon valley for education!

