

# Aula 9

( Exemplos interessantes - parte III )

<http://disciplinas.stoa.usp.br/course/view.php?id=2996>

*A Revolution Begins...*

# MOOCs



Salman Khan  
Khan Academy



Sebastian Thrun  
Stanford/Udacity



Anant Agarwal  
MIT/edX

A central white rounded rectangle containing a collage of logos for various MOOC providers and institutions. The logos include: Udacity (orange text), Coursera (blue text), Khan Academy (green tree icon and black text), University of Southern Queensland (USQ Australia logo), Udemy (green and black text), edX (pink and blue text), Educa (black and orange text), and Google Course Builder (multi-colored text and blue icon).

# Seria a EaD (nas várias formas) a solução??

Discussão sobre os MOOCs

Link Folha de SP: Tec/2012

Link Folha de SP: Educação/2014

<https://www.edx.org/blog/harvard-mit-release-working-papers...>

<http://harvardx.harvard.edu/harvardx-insights>

<https://www.edx.org/research-pedagogy>

# Discussão sobre os MOOCs

## Title: Who Does What in a Massive Open Online Course?

\*\*Preprint – Accepted by Communications of the ACM\*\*

### Authors:

Daniel T. Seaton<sup>1,2\*</sup>, Yoav Bergner<sup>2</sup>, Isaac Chuang<sup>1-3</sup>, Piotr Mitros<sup>4</sup>, and David E. Pritchard<sup>2</sup>

**One Sentence Summary:** We analyze learner behavior in the inaugural edX course (6.002x: Circuits and Electronics), including participation level, instructional resource usage, and time allocation.



David Pritchard  
MIT/edX

What course elements correlate with improvement on tests in introductory Newtonian mechanics?

Elsa-Sofia Morote and David E. Pritchard\*

## Modernização do Ensino na Graduação: o exemplo do MIT

Evento com o físico, Prof. Dr. David Pritchard - MIT



### Programação

15:00: Palestra com Dr. David Pritchard - MIT  
16:00: coffee break  
16:30 - 17:30: mesa redonda e discussões com o palestrante e com professores da área de ensino da USP, UFSCar e UNICEP.

Público Alvo: professores e alunos da área de ensino  
Local: Auditório Prof. Sergio Mascarenhas  
Instituto de Física de São Carlos  
Universidade de São Paulo  
Data: 02 de junho de 2014  
Horário: das 15:00 às 18:00

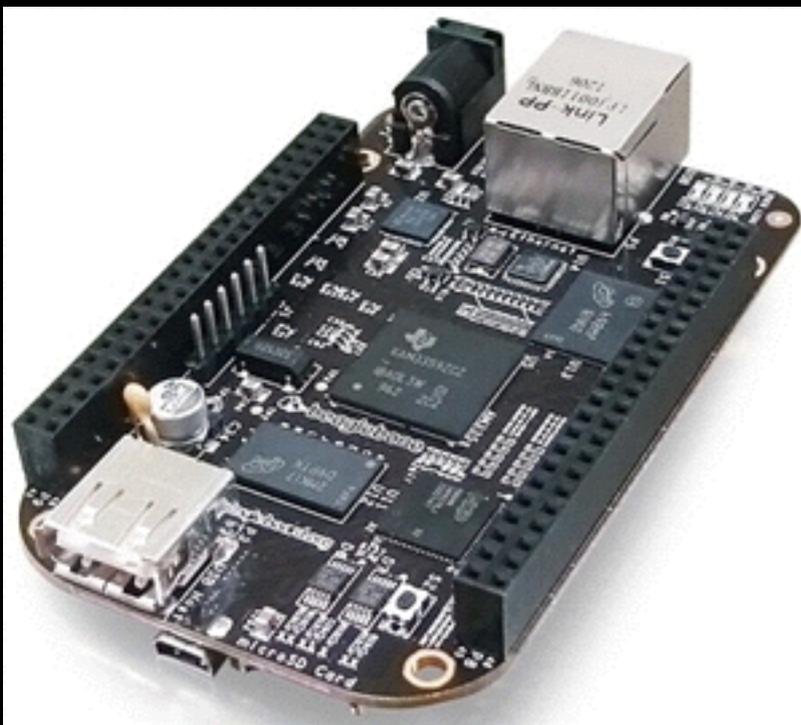
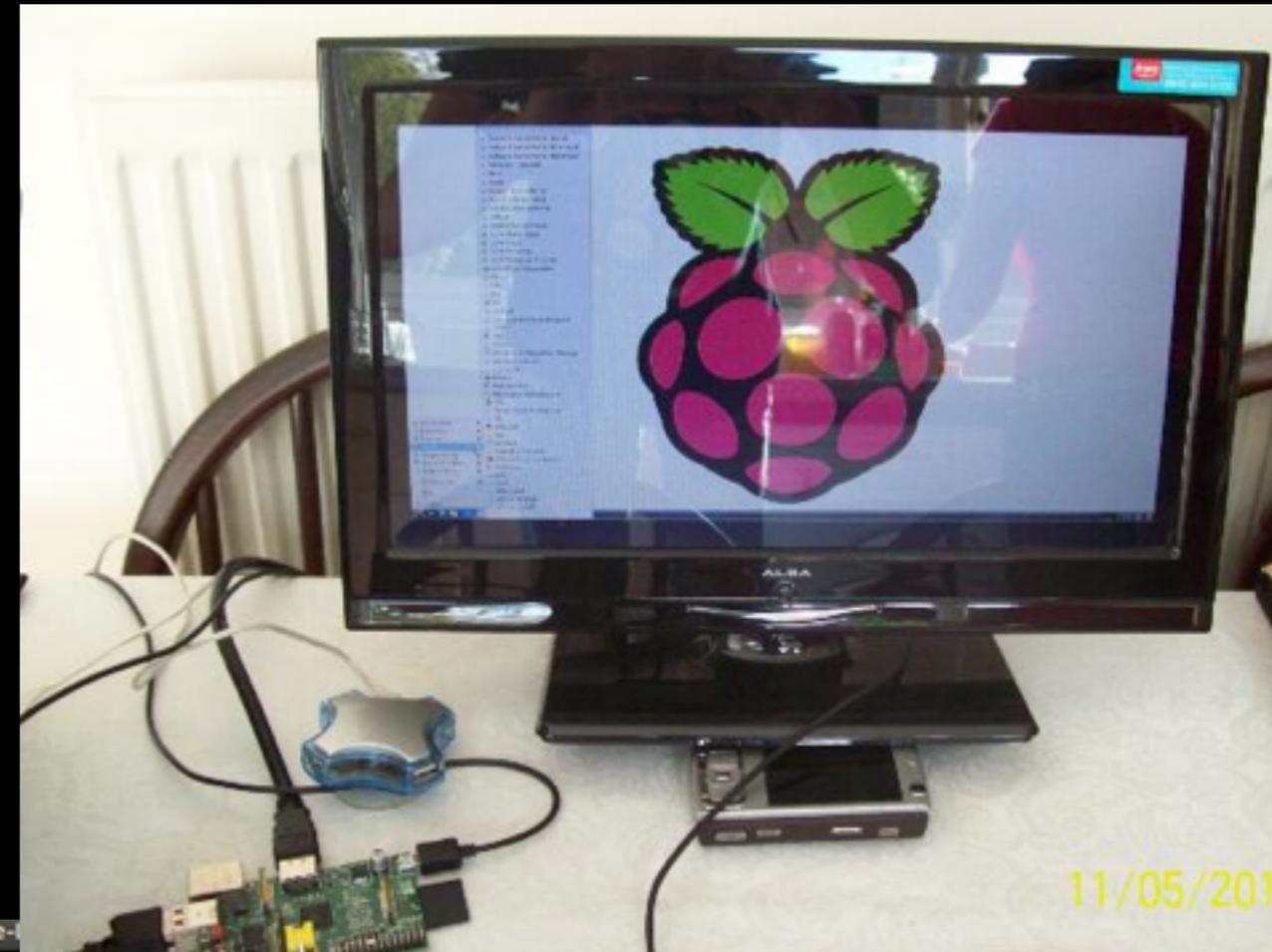
*Entrada franca*

Inscrição: com Benê 16 3373-9810, ramal 201 e-mail: [eventosoptica@ifsc.usp.br](mailto:eventosoptica@ifsc.usp.br)

# Tecnologia nas Escolas

## ★ Oportunidade de Pesquisa

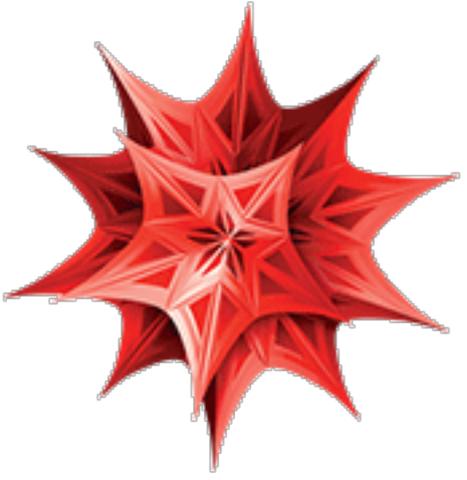
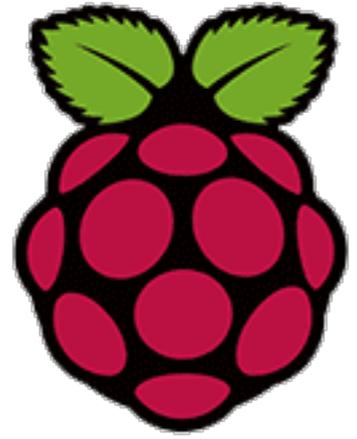
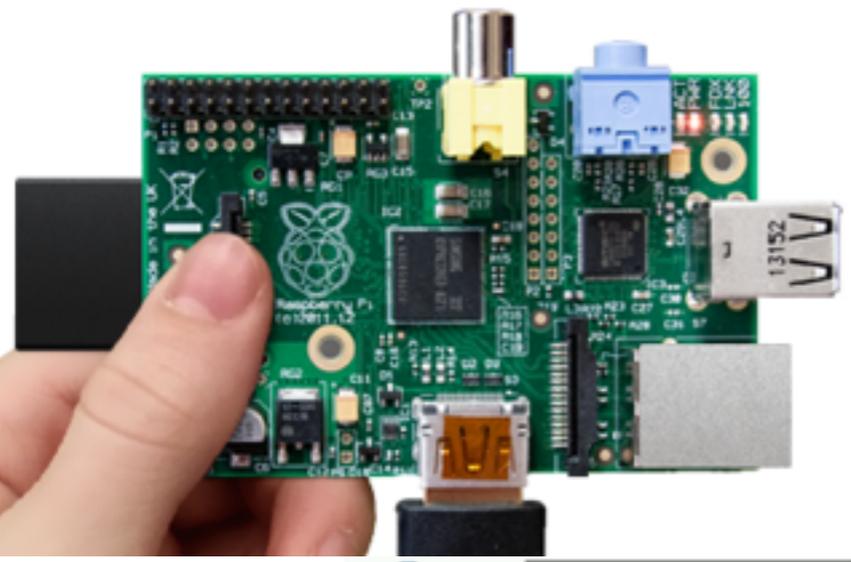
- Uso de computadores de baixo custo nas Escolas Públicas de São Carlos
- Bolsas p/ estagiários disponíveis (bolsa PRCE-USP)



```
lagent@lagent-ThinkStation: ~/workspace/replicape-  
root@beaglebone:~# cat /sys/kernel/debug/gpio  
GPIOs 0-31, gpio:  
gpio-22 (Replc:pru-dir_y ) out lo  
gpio-23 (Replc:pru-step_z ) out lo  
gpio-26 (Replc:pru-dir_z ) out lo  
gpio-27 (Replc:pru-step_x ) out lo  
GPIOs 32-63, gpio:  
gpio-44 (Replc:pru-step_y ) out lo  
gpio-45 (Replc:pru-step_ext_) out lo  
gpio-46 (Replc:pru-dir_ext_2) out lo  
gpio-47 (Replc:pru-dir_ext_1) out lo  
gpio-52 (eMMC_RSTn ) out lo  
gpio-53 (beaglebone:green:usr) out hi  
gpio-54 (beaglebone:green:usr) out lo  
gpio-55 (beaglebone:green:usr) out hi  
gpio-56 (beaglebone:green:usr) out lo  
gpio-59 (McASP Clock Enable P) out hi  
gpio-60 (Replc:pru-step_ext_) out lo  
gpio-61 (Replc:pru-dir_x ) out lo  
GPIOs 64-95, gpio:  
GPIOs 96-127, gpio:  
root@beaglebone:~#
```



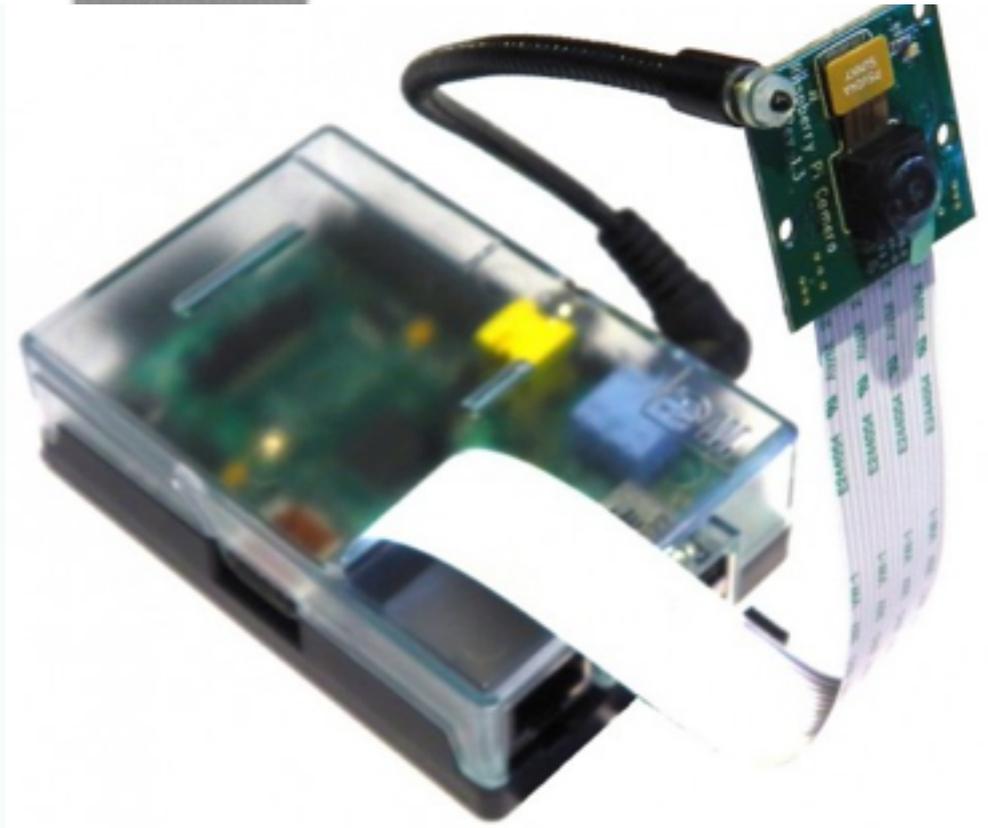
Wolfram Language & Mathematica  
free on every Raspberry Pi!

A screenshot of the Wolfram Mathematica interface. The top bar shows "Untitled-5 - Wolfram Mathematica". The menu bar includes "File", "Edit", "Insert", "Format", "Cell", "Evaluation", "Palettes", "Window", and "Help". The input field contains the code:

```
In[1]: ContourPlot3D[x^3 + y^2 - z^2 = 0, {x, -2, 2}, {y, -2, 2}, {z, -2, 2}]
```

The output is a 3D plot of a hyperboloid of two sheets. Below it, the input field contains:

```
In[2]: RegionPlot3D[1 <= Norm[{x, y, z}], 1 && Norm[{x, y, z}] <= 1, {x, -1, 1}, {y, -1, 1}, {z, -1, 1}, Mesh -> None, PlotStyle -> Directive[Opacity[0.5], Pink, Specularity[White, 20]], PlotPoints -> 60, NormalsFunction -> *Average*]
```

The output is a 3D plot of a pink, semi-transparent sphere with a white polyhedron inside.

A splash screen for Wolfram Mathematica on a Raspberry Pi. The text reads "Wolfram Mathematica" in a large font, with "PILOT RELEASE FOR RASPBERRY PI" in a smaller font below it. There are three icons: the Wolfram logo, the Mathematica logo, and the Raspberry Pi logo. Below the icons are three links: "Wolfram Language Documentation Center", "Wolfram + Raspberry Pi Website", and "Visit Wolfram Community for questions, sample projects and more".



# "*Flipped Classrooms*"

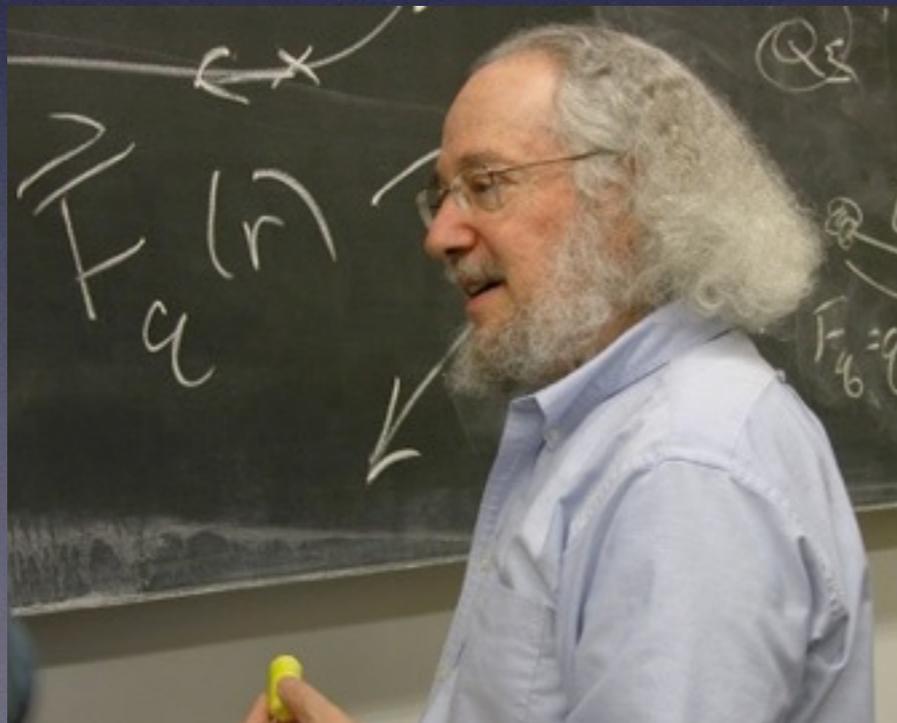
Classes mais interativas e participativas



**Eric Mazur**  
Harvard University



**Carl Wieman**  
Univ. Colorado, Boulder



**Joe Redish**  
University of Maryland

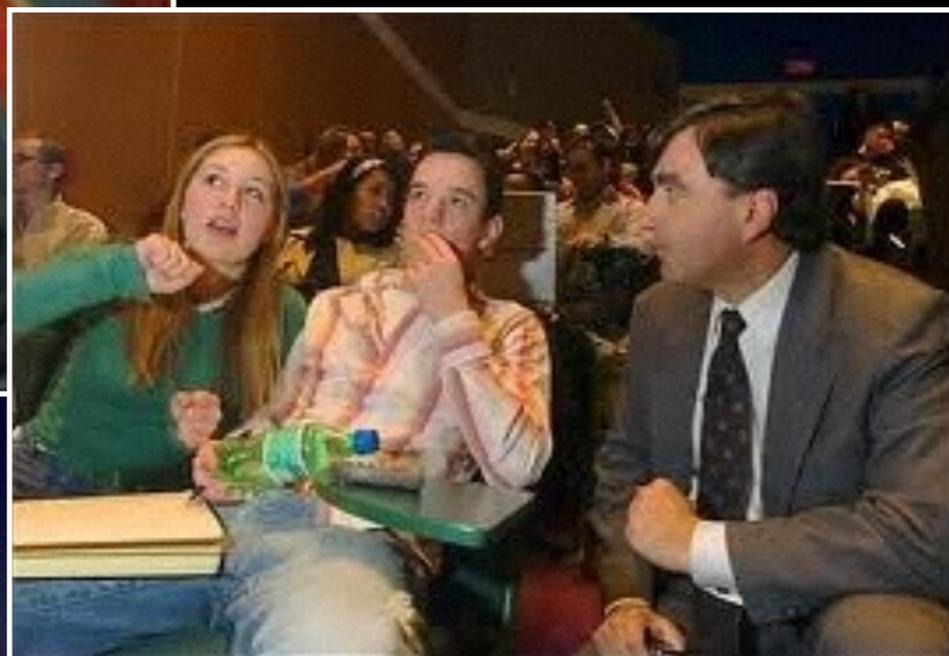


**Robert Beichner**  
North Carolina State Univ.

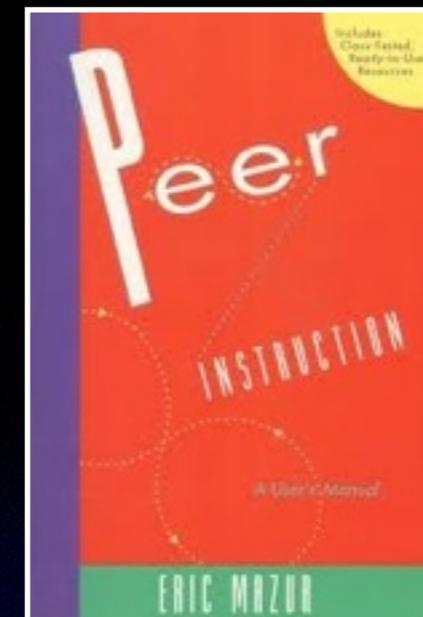




Eric Mazur  
(Harvard)



"JiTT"

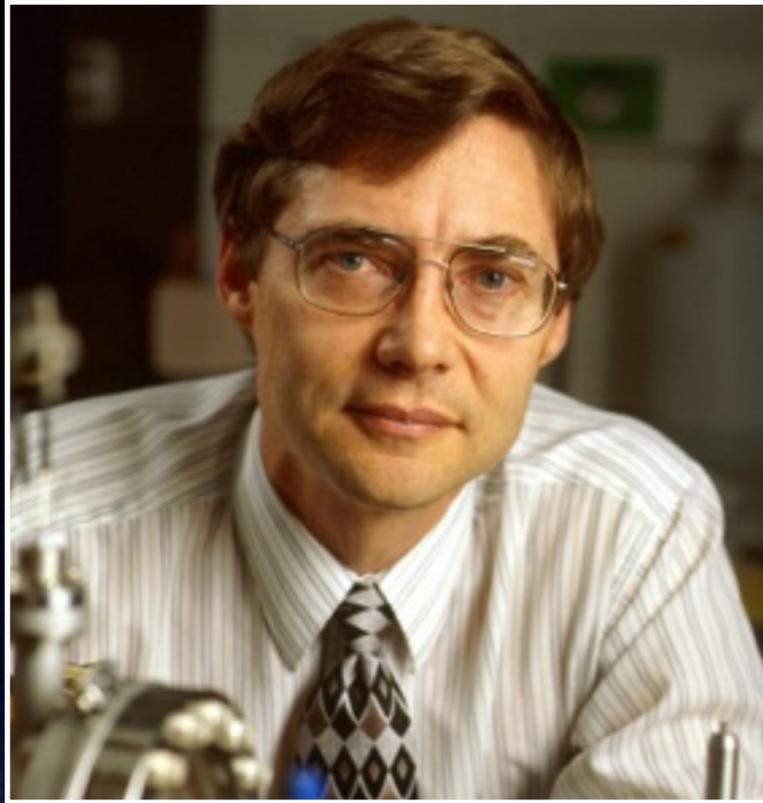


"Peer Instruction"



"Studio (workshop)  
Classrooms"





Carl Wieman  
(Univ. Colorado)

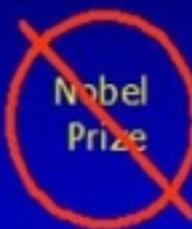


## Science Education for the 21st Century

Using the tools of science to teach  
science

and many other  
subjects

Carl Wieman UBC & CU



Nobel  
Prize

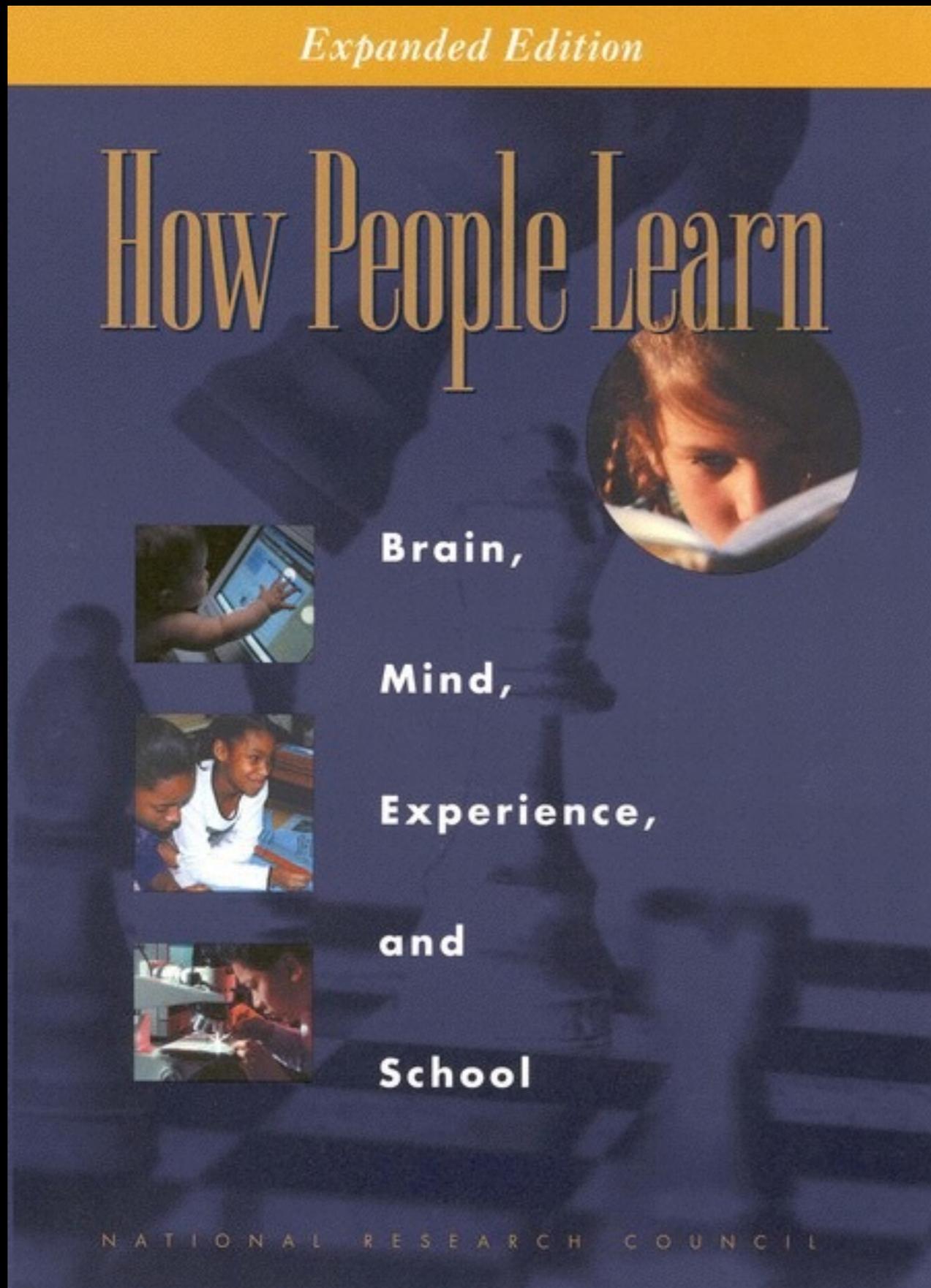


★ Data!! ★

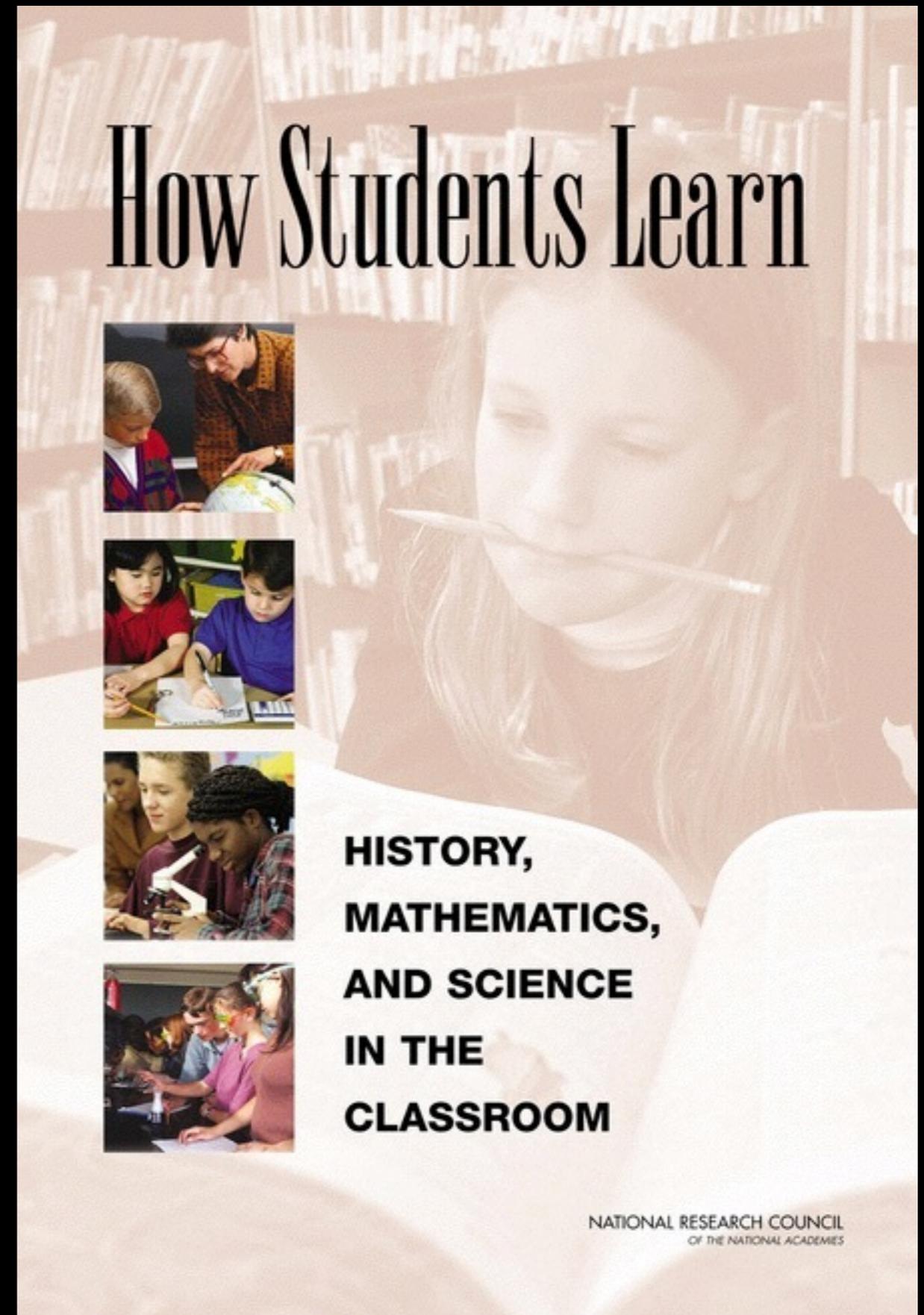


Colorado physics & chem education research group:  
W. Adams, K. Perkins, K. Gray, L. Koch, J. Barbera, S. McKagan, N. Finkelstein, S.  
Pollock, R. Lemaster, S. Reid, C. Malley, M. Dubson... \$\$NSF, Kavli, Hewlett)

(2000)



(2005)



# Escapando do Death Valley da educação...

Veja outros vídeos em:

[http://www.ted.com/playlists/125/tv\\_special\\_ted\\_talks\\_educatio](http://www.ted.com/playlists/125/tv_special_ted_talks_educatio)