

The Social and Behavioral Sciences in K-12 Education

NASEM/DBASSE/RT

(@ArthurLupia)

Acronyms

- NASEM
 - National Academies of Science, Engineering and Medicine
- DBASSE
 - Division of Behavioral and Social Sciences and Education
- RT
 - NASEM Roundtable on the Communication and Use of Social and Behavioral Science

Logistics

- We are taping today's proceedings.
- We are preparing a brief.
 - Please suggest interested audiences to Holly, Melissa, or Skip

Acknowledgements

- Spencer Foundation
- American Educational Research Association
- American Psychological Association
- Univ. Michigan/Institute for Social Research
- National Academies Presidents Committee
- SAGE Publications
- Westat

Acknowledgements

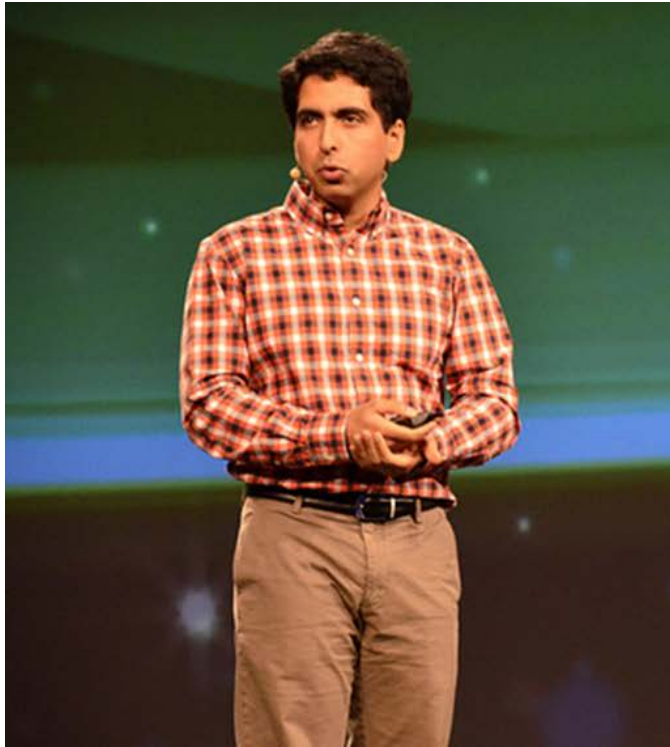
- DBASSE: Bob Hauser and Mary Ellen O'Connell
- RT: Felice Levine and Howard Kurtzman
- NASEM: Melissa Welch-Ross and Holly Rhodes
- The RT



Goals

- Why teach SBS in K-12?
- What does the public believe about SBS?
- What are the desired outcomes of SBS-focused K-12 activities?
- Which current standards and guidelines are influential?

BACKGROUND



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Anything?

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Subjects ▾



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Math by subject

- Early math
- Arithmetic
- Algebra
- Geometry
- Trigonometry
- Statistics & probability
- Calculus
- Differential equations
- Linear algebra
- Math for fun and glory

Math by grade

- K–2nd
- 3rd
- 4th
- 5th
- 6th
- 7th
- 8th
- High school

Science & engineering

- Physics
- Chemistry
- Organic chemistry
- Biology
- Health & medicine
- Electrical engineering
- Cosmology & astronomy

Computing

- Computer programming
- Computer science
- Hour of Code
- Computer animation

Arts & humanities

- Art history
- Grammar
- Music
- US history
- World history

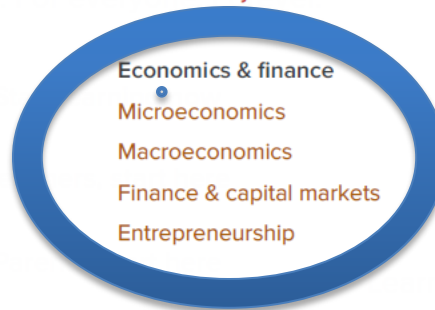
Economics & finance

- Microeconomics
- Macroeconomics
- Finance & capital markets
- Entrepreneurship

Test prep

- SAT
- MCAT
- GMAT
- IIT JEE
- NCLEX-RN

College Admissions



Levine et al - NSF Plan of Action

- “The social, behavioral, and economic (SBE) sciences are **largely absent** from the K-12 curriculum...
- Each year, some **53 million** students attend elementary and secondary schools in the United States... they **receive almost no exposure** to the [SBS] sciences...
- [SBS courses] are **few in number** in comparison to natural science offerings.”

OBSSR. Behavioral and Social Sciences in STEM

- Behavioral and social sciences are used not only to improve the teaching of science and math, but must also be **recognized as core STEM sciences.**”

Lessons from Previous Efforts

- 1993. AAAS. Project 2061 – expectations for “learning about human society” in K-12
- 2004. NSF. Training in SBE. A Plan for Action.
- 2010. APA. *Psychology as a Core STEM Discipline*.
- 2011. NIH. Behavioral and Social Sciences in STEM Education. NIH.
- 2011. NRC. Planning Meeting on Teaching SBE in K-12.
- 2013. Next Gen Science Standards
- 2013. The C3 Framework for Social Studies State Standards
- 2014. NSF. *Education and Training in the Social and Behavioral Sciences*

2011 NRC Planning Meeting Recommendations

- Define/articulate **goals** and rationales
- Identify approaches to curricular **inclusion**
- Develop and strengthen key **relationships**
- Build **capacity**

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HOW?

STAKEHOLDER PERSPECTIVES



$$= \int_0^{\infty} (a \cos yx + b \sin yx) dy$$

$$f(y) = 1/\pi \int_{-\infty}^{\infty} f(t) \cos ty dt$$

$$1/\pi \int_{-\infty}^{\infty} f(t) \sin ty dt$$

$$\int_{-\infty}^{\infty} f(t) \cos (y(-x) dt$$





Pressures Affecting K-12

- Uncertain state support
- Poverty
- Many groups influence curricula & standards
 - NCLB
 - ETS & AP



<http://static.guim.co.uk/sys-images/Guardian/Pix/pictures/2013/7/23/1374573546005/Pile-of-smart-phones-008.jpg>



Prospective Adopters

- What **are their objectives?**
- What **practical constraints** exist for those who would consider change?

NEXT STEPS

Desired Outcomes

- Educational **materials and strategies** that can help students make **better decisions** in civic, personal, community, work, and family contexts.
- Appreciation of how SBS **methods produce better understanding** of human and social phenomena.
- **Greater interest** in pursuing SBS careers.

Effective Action

- What can be done to more effectively serve students, teachers and school boards over the next
 - 2 years
 - 5 years
 - 10 years
- Can **we** develop new and more effective ways to serve these critical constituencies?

Outline

- 10:00 Public Perceptions of SBS
 - Sheri Roder, Horizon Media, presenter
- 10:30 Disciplinary Perspectives Panel
 - Anthropology, Economics, Political Science, Psychology, Sociology
 - Howard Kurtzman, APA/RT, moderator
- 11:30 Working Lunch: Proposals for Progress
- 12:15 Education Perspectives Panel
 - Matt Krehbiel, Achieve.org
 - Lawrence Paska, National Council for the Social Studies
- 1:00 Open Discussion of Next Steps

Thank you for working with us to
improve education.

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