Day 2: Aligning Noyce Projects with Current K-12 Education Reform Efforts
SESSION 2 OUTLINE

• Revisit our intended outcome and links to policy and practice

• Introduce some key K-12 Education Reform Efforts

• Discuss ideas about alignment
Achievement around the world

- International achievement test scores: Literacy Study (PIRLS)
- Trends in Math and Science Study (TIMSS)
  - **NOTE:** different countries' scores are not always comparable because of differences in sample selection, test administration, and content validity

**SOURCE:** https://nces.ed.gov/timss/figure11_4.asp
NATIONAL STANDARDS IN THE U.S.

• No Child Left Behind (NCLB) Act (states required to be “accountable“ to get federal education funding by administering standardized achievement tests)

• National Assessment of Educational Progress (NAEP) AKA “the Nation’s Report Card” tells us about students’ achievement in reading, math... etc over time

• Common Core of High Standards—response to doubts about state assessments—these specify expectations in each subject for every grade
OBAMA ADMINISTRATION KEY K-12 REFORMS

1) **Race to the Top** (better tracking of student outcomes, upgrading standards and assessments, turning around low-performing schools, and improving high-poverty schools’ access to effective educators)

2) **School Improvement Grants** (based on NCLB to help fix schools that don’t make annual yearly progress [AYP]—required choosing from 4 improvement models)

3) **Investing in Innovation Grant Program** (scaling up of innovative practice)

4) **Teacher Incentive Fund** (creating pay-for-performance programs for teachers and principals)

Source: https://www.ed.gov/k-12reforms
NRC (2010): “Assessments of K-12 student learning are the most readily available quantitative measures of educational outcomes. These types of measures serve important purposes, but they do not address the full range of outcomes of concern to policy makers. Indeed, much of the K-12 curriculum is not addressed by such tests.”
Other considerations regarding learning in school

Great variation across the world in hidden curriculum.

- Course selection
- Teacher characteristics
- Schedules and tracking
- Extracurricular activities, sports
- Competition
- Physical setting
KEY POLICY CONSIDERATION: “CHOICE”

Linking cultural value of “choice” with policy and what the practical implications might be

– School choice
  • Important to consider questions of knowledge and access
  • Impact on public school system, cost

– Course selection choice
  • Important to consider how policy can impact students’ trajectories in and out of STEM
KEY POLICY CONSIDERATION: TEACHER EVALUATION

• Every Student Succeeds Act (ESSA), which goes into effect 2017-18 brings with it **greater state flexibility** and **decreasing federal oversight** of teacher evaluations

• Removes financial incentives for states to set up teacher evaluation systems based on student test scores

• Consider how to make current projects sustainable if there is a move away from support for teacher PD
Program Development Policy Consideration: Using a targeted, stakeholder-generated approach

Concept Mapping (Concept Systems *Kane & McMahon, 2002*)

**Step 1: Preparation**
- develop focus for project

**Step 2: Identification**
- identify & select group participants

**Step 3: Generation**
- group brainstorm and generates statements

**Step 4: Structuring**
- combine, sort and rate statements

**Step 5: Representation**
- compute maps using multidimensional scaling & cluster analysis

**Step 6: Interpretation**
- group views, discusses and interprets the maps

**Step 7: Utilization**
- use maps to establish testable hypotheses
Each point represents one brainstormed idea.
Emerging structure that specifies possible points of intervention

- **Pedagogical approach**
- **Staffing**
- **Students’ psychosocial needs**
- **Parental Involvement**
- **Community Linkages**
REFERENCES


• https://www.ed.gov/k-12reforms