Schulkongress plus: LERNdialoge

Schulinnovati onen aus aller Welt

Promises, Possibilities, and Priorities

10th June 2021

Christopher Petrie
HundrED.org

hundrED

hundrED

hundred.org

Overview

Section 1: What is innovation? Key problems, trends and insights in education today (20 minutes)

Section 2: Evaluate leading innovations (35 minutes)

Section 3: Practical strategies for cultivating innovation friendly systems (20 minutes)

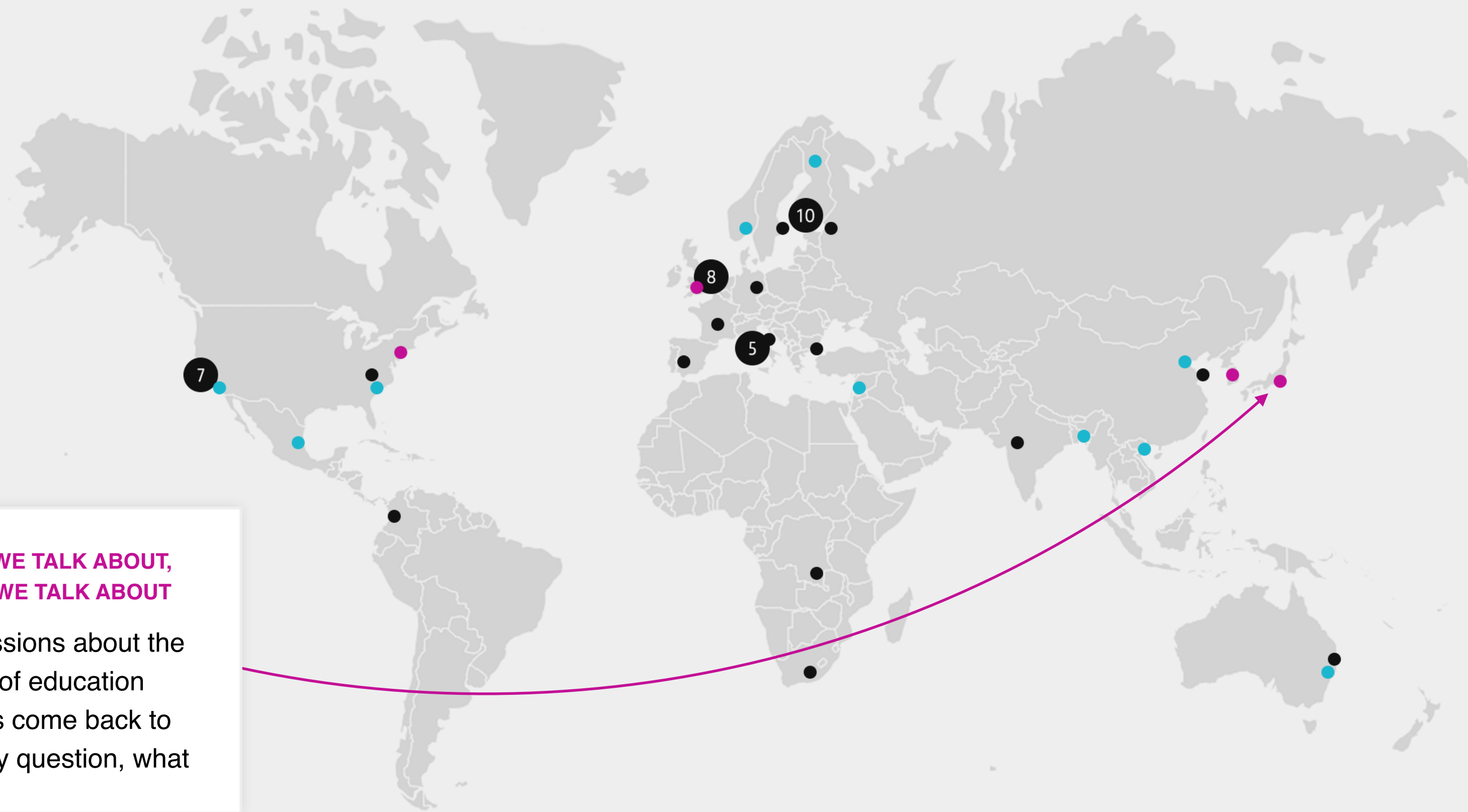**Section 4:** Recap of takeaways and recommendations going forward (5 minutes)

Section 5: Questions (approx. 5 minutes)

hundr*ED*

hundred.org

Section 1:
What is innovation?

hundrED

hundred.org

There is something beautiful behind every dot

We seek and share inspiring innovations in K12 education
We look for innovations from all continents.

**WHAT WE TALK ABOUT,
WHEN WE TALK ABOUT**

Discussions about the
future of education
always come back to
the key question, what

hundrED

hundred.org

INNOVATION

Seppo

Seppo is an easy-to-use tool for teachers that makes lessons inspiring and motivating for students. Students solve problems in teams using mobile devices and teachers give...

COLLABORATIVE LEARNING   GAMIFICATION   NATURE

View

INNOVATION

Fuji Kindergarten

To remove boundaries between the indoors and outdoors Fuji kindergarten has turned its school roof into a circular, endless playground and put nature at the forefront of its teaching...

LEARNING ENVIRONMENTS   NATURE   PLAY

View

INNOVATION

A Solution-Focused Mindset in A City

In the innovation, all elementary schools in the city are trained to use the solution-focused approach. The training makes it possible to use the approach in all communication and work...

LEADERSHIP EDUCATION   PROFESSIONAL DEVELOPMENT

View

INNOVATION

Empower Playgrounds

A unique off-the-grid power solution for schools: children play on a merry-go-round that charges lanterns, which the students can take home and use to study in small groups.

LEARNING ENVIRONMENTS   PLAY   REAL WORLD LEARNING   SCIENCE

View

INNOVATION

Hello Ruby

Hello Ruby teaches programming in fun, creative ways by providing tools for children, parents and educators. The concept originally began as a successful children's book that has...

ARTS INTEGRATION   COMPUTER PROGRAMMING

View

INNOVATION

INTO SCHOOL

INTO SCHOOL is a unique Finnish education concept & a complete teacher training program with the global goal of having creative and inclusive STEAM learning as an integral part o...

CREATIVE THINKING   MUSIC

View

INNOVATION

Big Picture Learning

Big Picture Learning makes personalized education more manageable by breaking students up into small groups, called an advisory. Each advisory is supported and lead...

PERSONALIZED LEARNING   REAL WORLD LEARNING
STUDENT VOICE AND AGENCY   WHOLE-SCHOOL MODELS

View

INNOVATION

Musical Futures

A non-profit organisation that seeks to transform young people's engagement in music through imitating the real-world practices of professional musicians.

MUSIC   OPEN RESOURCE PLATFORMS   PROFESSIONAL DEVELOPMENT   REAL WORLD LEARNING

View

INNOVATION

Project DEFY: Design Education for Yourself

At Project DEFY: Design Education for Yourself, the mission is to change the way people think and ignite individual passions so students can believe in their abilities to educate themselves...

COLLABORATIVE LEARNING   LEARNING ENVIRONMENTS
REAL WORLD LEARNING

View

INNOVATION

Scientix

A community for teaching and learning science, technology, engineering and mathematics (STEM). Scientix promotes and supports a Europe-wide collaboration among STEM...

GLOBAL CITIZENSHIP   OPEN RESOURCE PLATFORMS
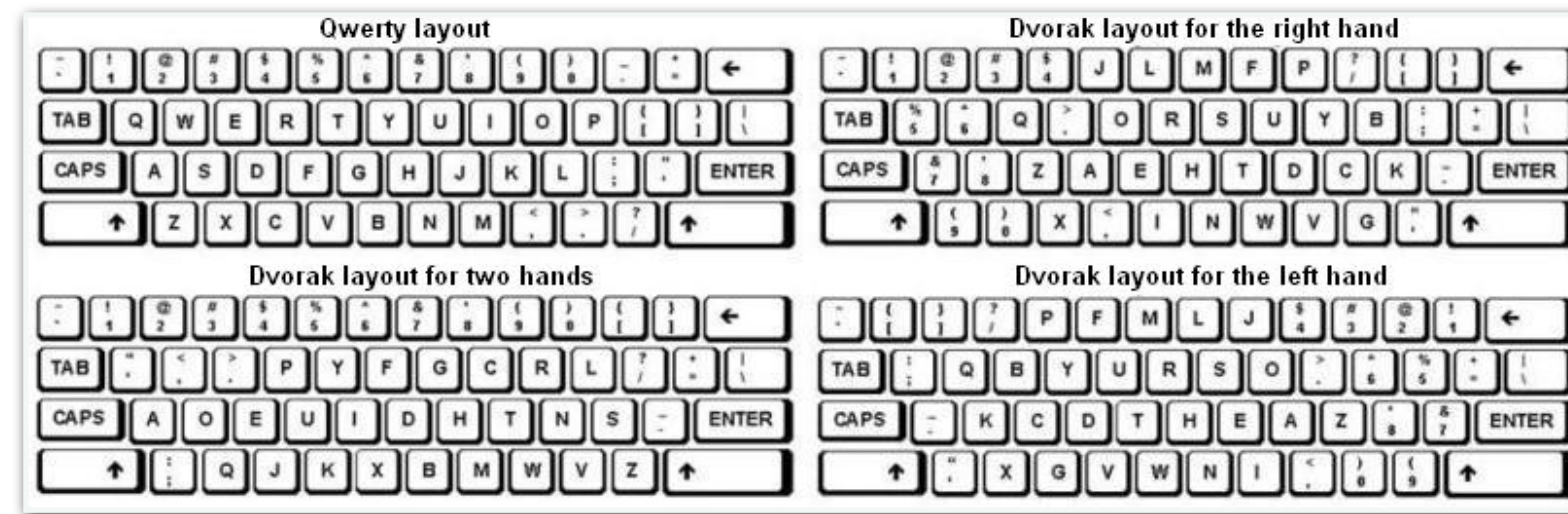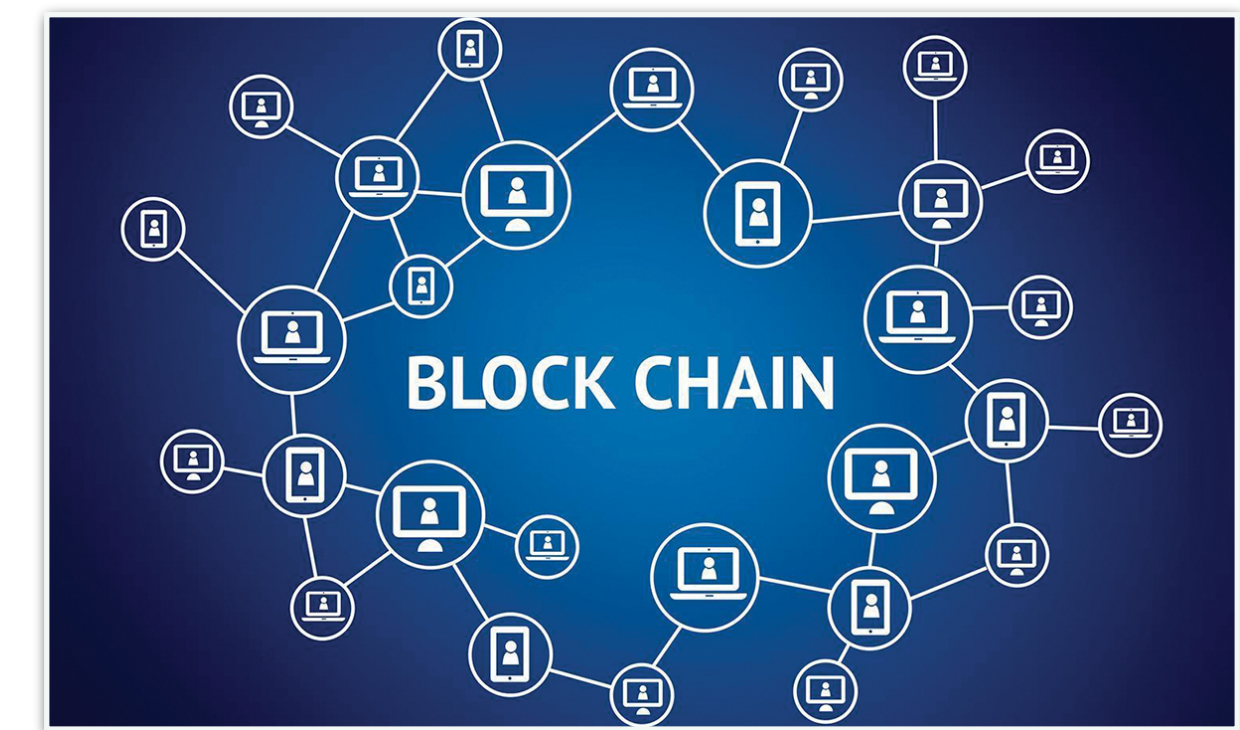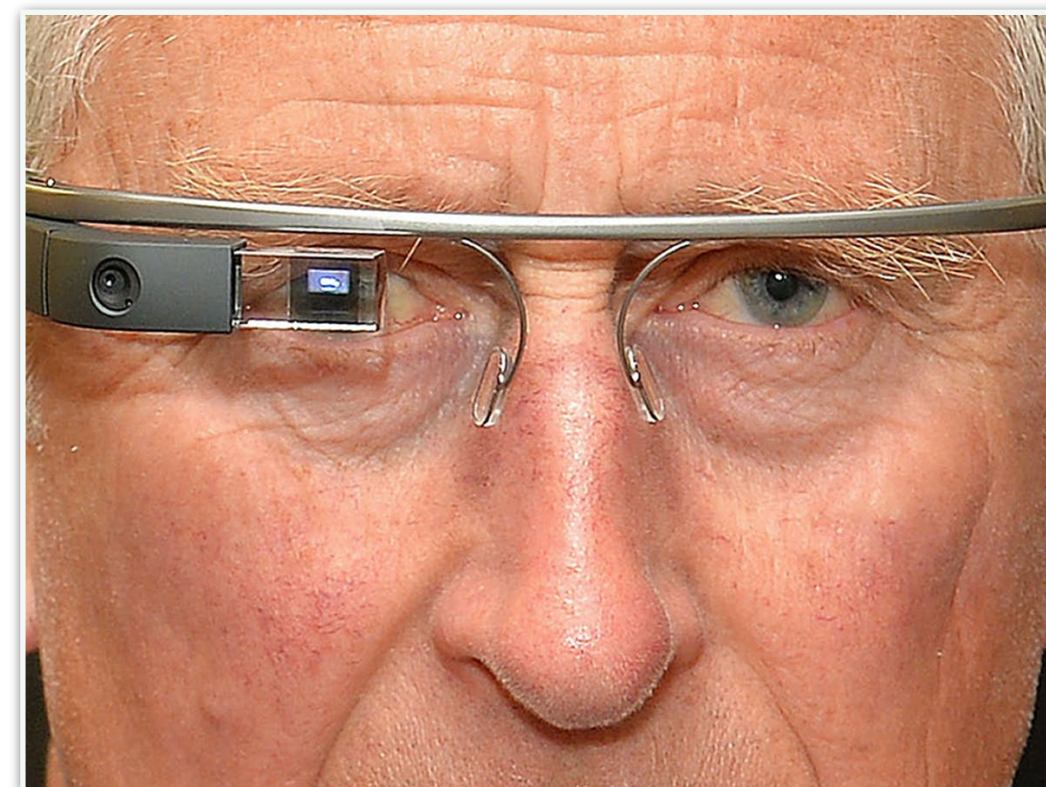PROFESSIONAL DEVELOPMENT   REAL WORLD LEARNING

View

DEFINITION

"An **idea**, **practice**, or **object** that is **perceived** as new by an individual or other unit of adoption." (Rogers, 2003, p. 35)
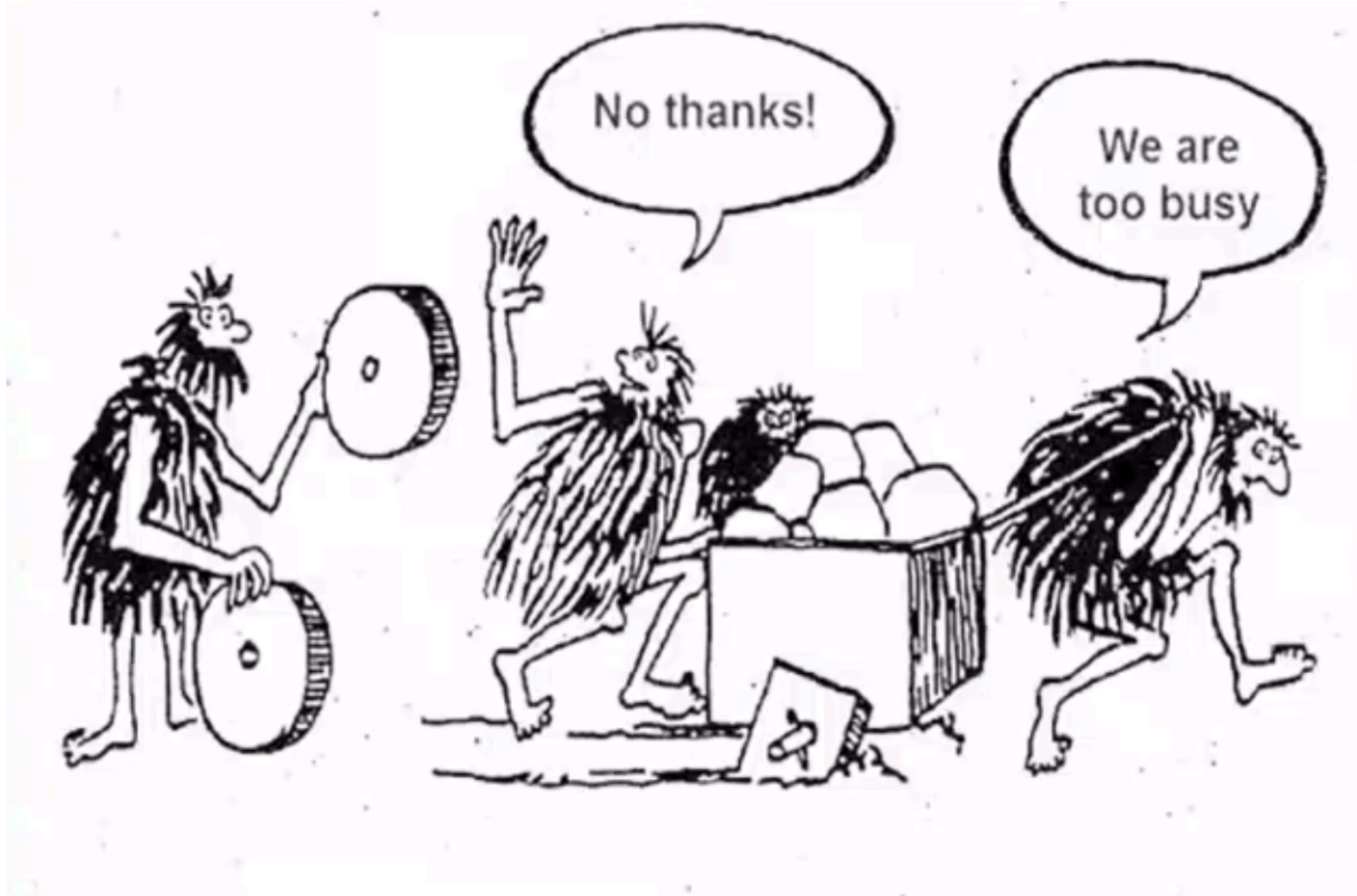
What has been the most impactful innovation in the last 1000 years?

1. Go to the link in the chat

2. Type as many answers as you like

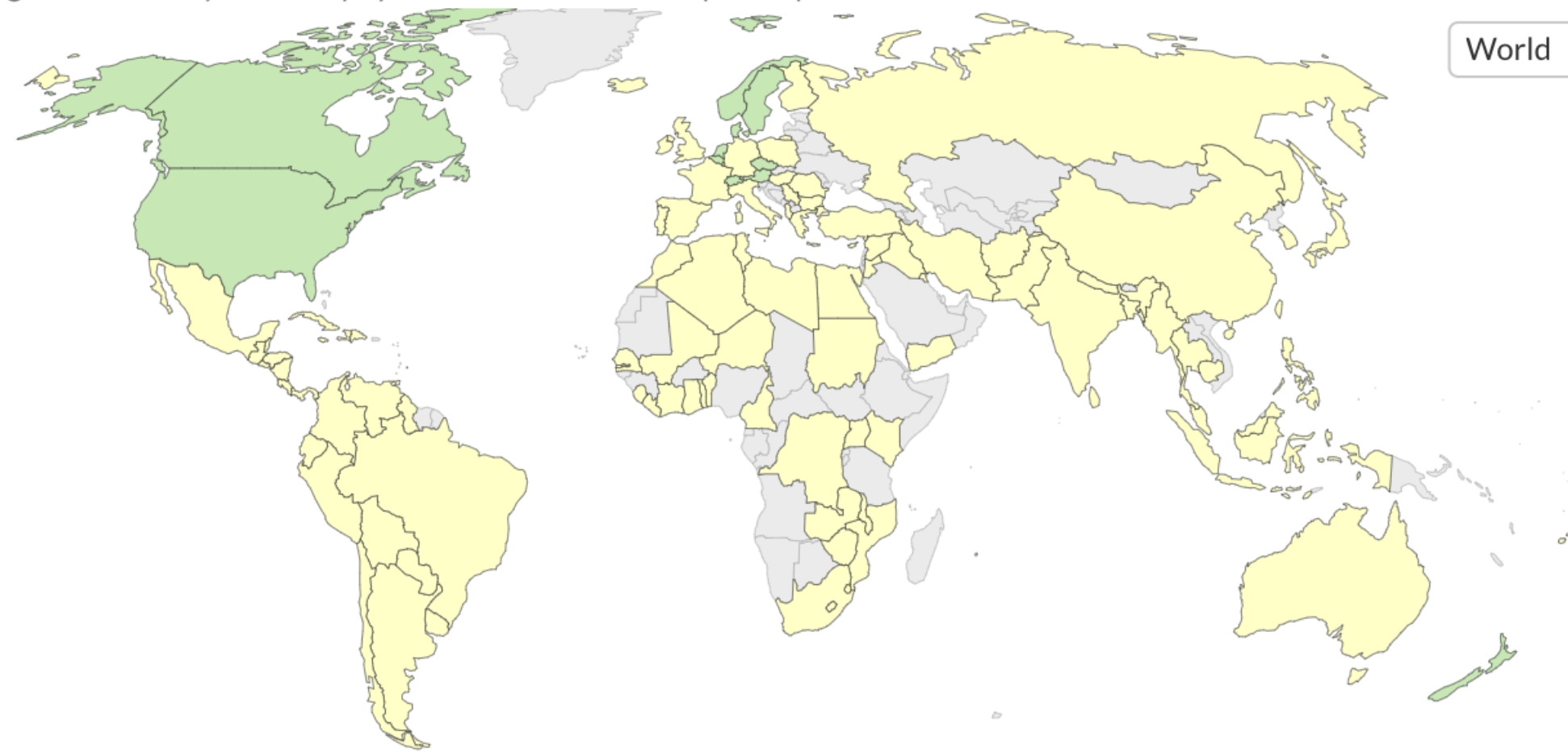Would you pay $590,000US for this cat meme?

ED-**DEFINITION**

"Innovation in education can be defined as meaningful improvements considered within the place of implementation to a new or modified practice and/or technology that supports any part of the educational ecosystem." (Petrie, 2020, p. 28)

Average years of schooling, 1870

Average number of years the population older than 25 participated in formal education.

World

No data | 0 years | 2 years | 4 years | 6 years | 8 years | 10 years | 12 years | >14 years

Source: Lee-Lee (2016); Barro-Lee (2018) and UNDP HDR (2018)
Note: Formal education is primary/ISCED 1 or higher. This does not include years spent repeating grades.

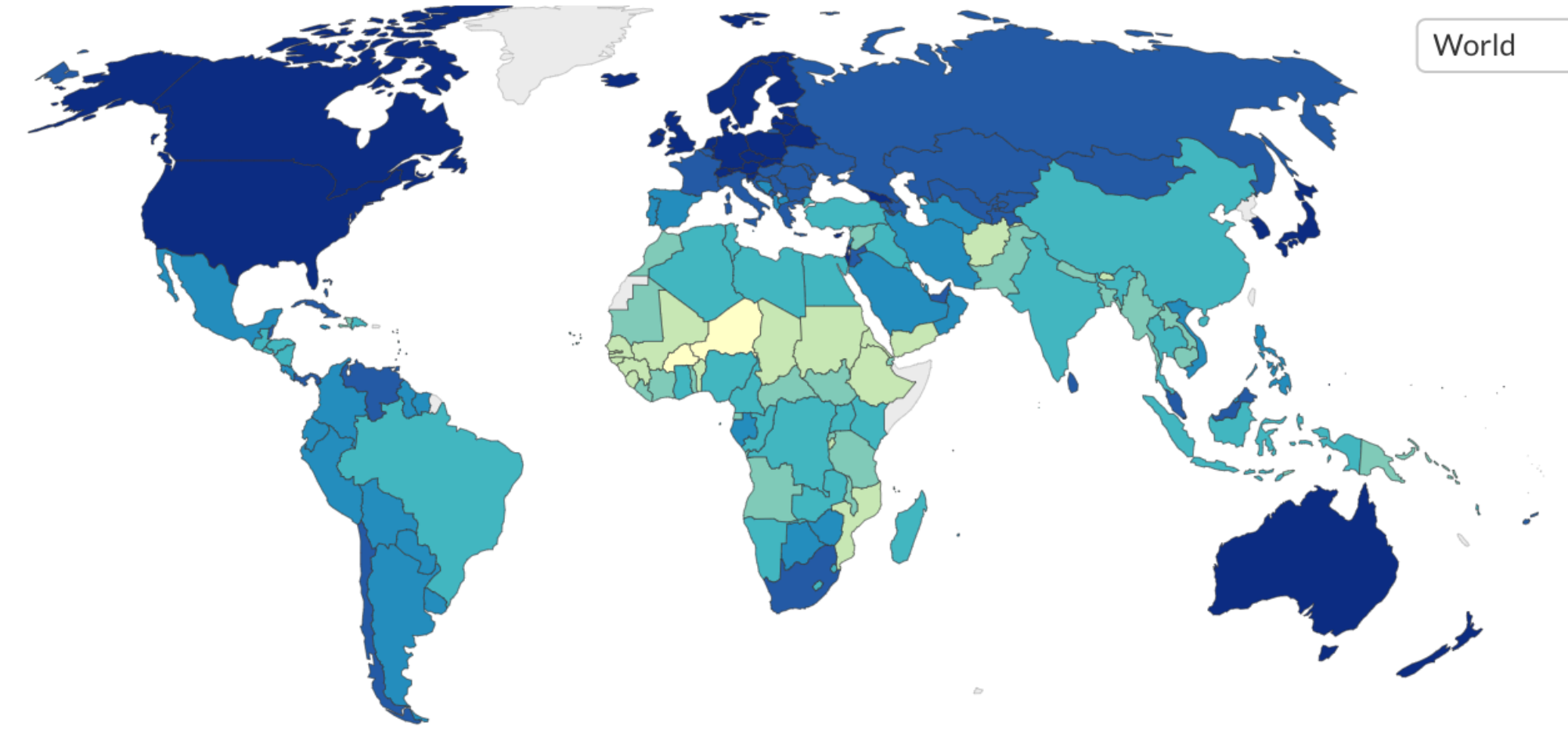OurWorldInData.org/global-rise-of-education • CC BY

▶ 1870 ○——————————————————— 2017

Average years of schooling, 2017

Average number of years the population older than 25 participated in formal education.

World

No data | 0 years | 2 years | 4 years | 6 years | 8 years | 10 years | 12 years | >14 years

Source: Lee-Lee (2016); Barro-Lee (2018) and UNDP HDR (2018)
Note: Formal education is primary/ISCED 1 or higher. This does not include years spent repeating grades.

OurWorldInData.org/global-rise-of-education • CC BY

▶ 1870 ———————————————————○ 2017

hundrED

hundred.org

World

Schools

Schools struggle to stay relevant.
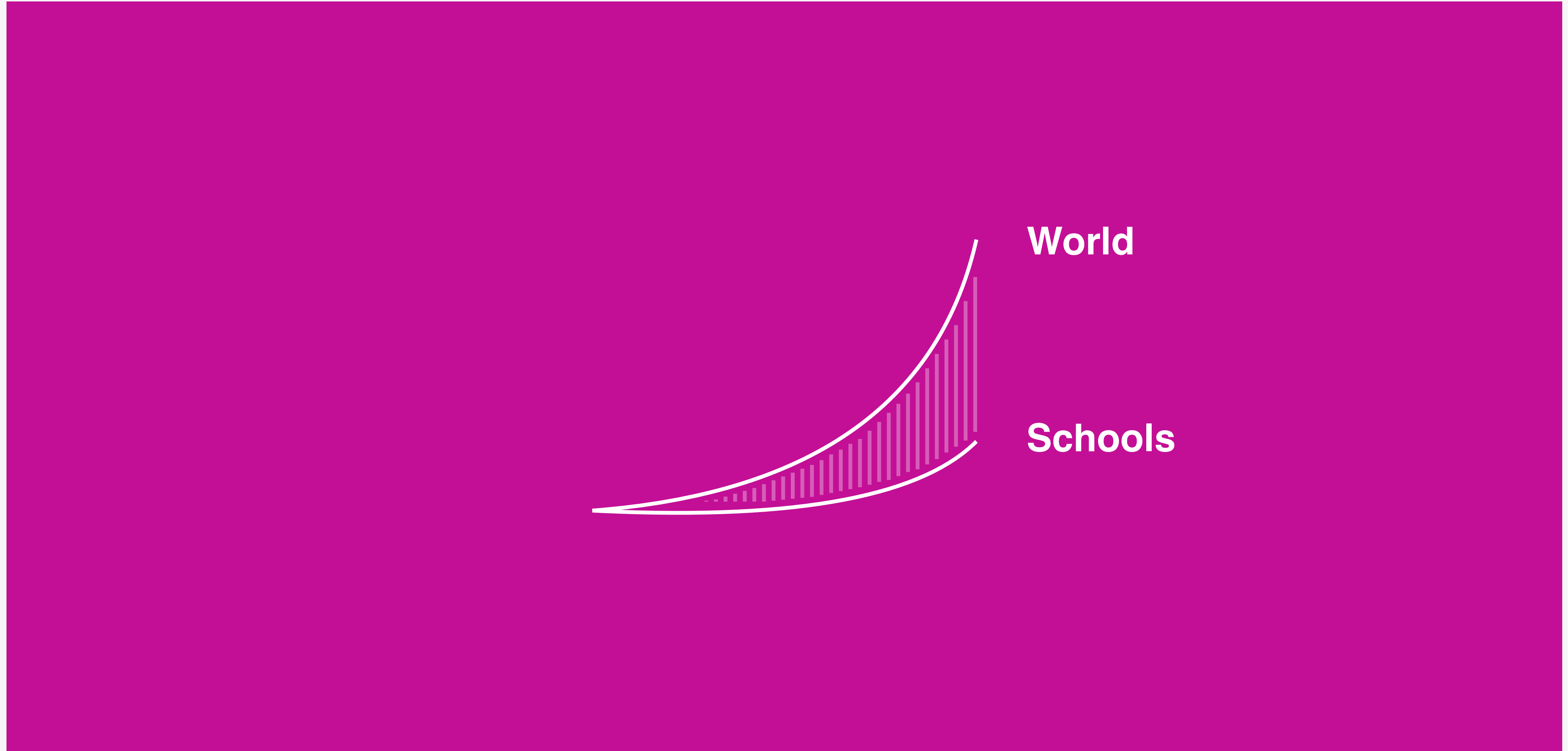
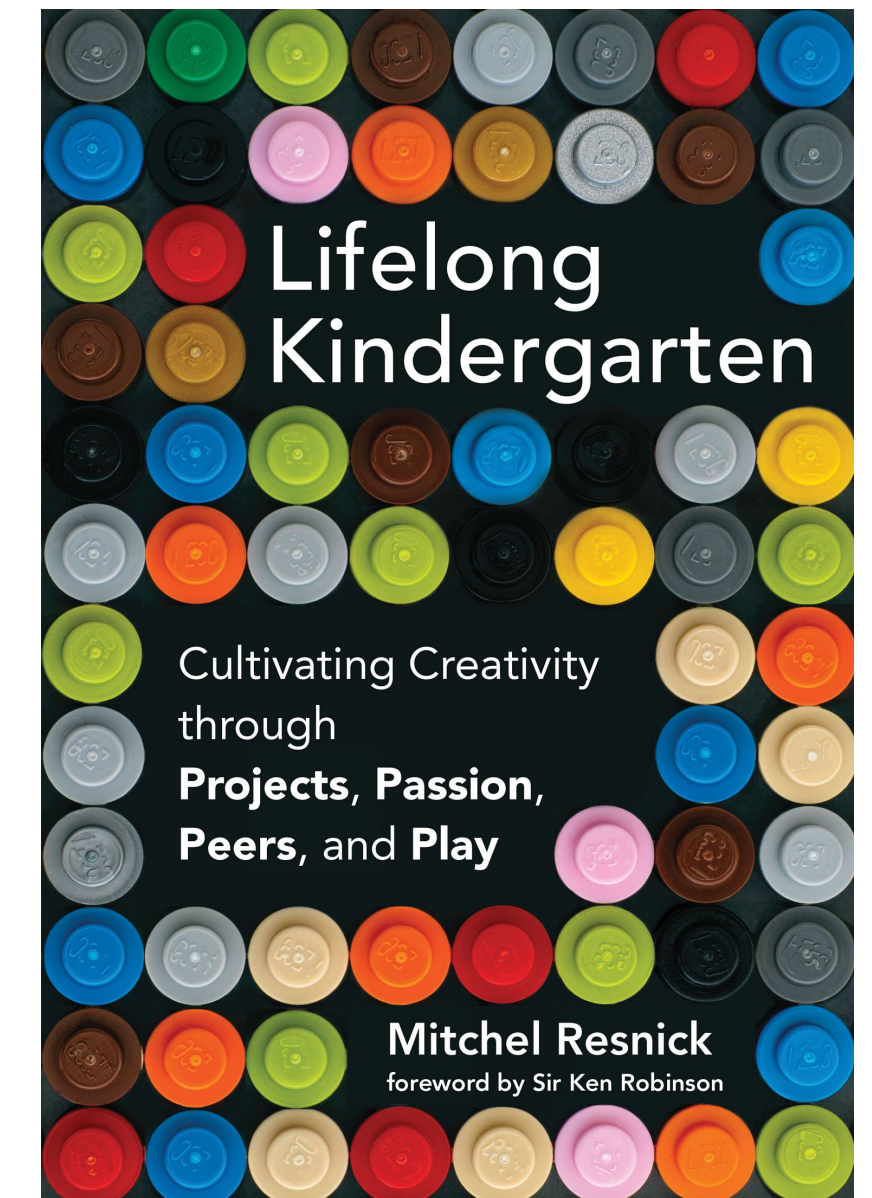"The illiterate of the 21st century will not be those who cannot read and write, but those who cannot learn, unlearn and relearn"
- Alvin Toffler

Friedrich Froebel (1782-1852)

Mitchel Resnick (MIT)

Pro-innovation bias = the assumption that all innovation is positive and should be:

(a) Diffused to all members of social systems

(b) Diffused rapidly

(c) Not reinvented

(d) Not rejected.

DISRUPTIONS

Steve Jobs Was a Low-Tech Parent

f ☎ 🐦 ✉ ➤ 🔖 135

While some tech parents assign limits based on time, others are much stricter about what their children are allowed to do with screens. Jonathan Nackstrand/Agence France-Presse — Getty Images

By Nick Bilton

Sept. 10, 2014

When Steve Jobs was running Apple, he was known to call journalists to either pat them on the back for a recent article or,

Technology and educational choices: Evidence from a one-laptop-per-child program ☆

Maria Lucia Yanguas ✉

Show more ⌄

+ Add to Mendeley   ⤝ Share   " Cite

Get rights and content

Abstract

This paper provides the first causal estimates of the effect of children's access to computers and the internet on educational outcomes in early adulthood, such as schooling and choice of major. I exploit cross-cohort variation in access to technology among primary and middle school students in Uruguay, the first country to implement a nationwide one-laptop-per-child program. Despite a notable increase in computer access, educational attainment has not increased; the schooling gap between private and public school students has persisted, despite closing the technology gap. Among college students, those who had been exposed to the program as children were less likely to enroll in science and technology.

Relationship between per-pupil education spending and achievement weakens significantly as spending increases

SCIENCE PERFORMANCE (SCORE POINTS)

◇ Countries/economies whose cumulative expenditure per student in 2013 was less than USD 50 000
■ Countries/economies whose cumulative expenditure per student in 2013 was USD 50 000 or more

$R^2 = 0{,}41$

$R^2 = 0{,}01$

AVERAGE SPENDING PER STUDENT FROM THE AGE OF 6 TO 15 (IN THOUSANDS USD, PPP)
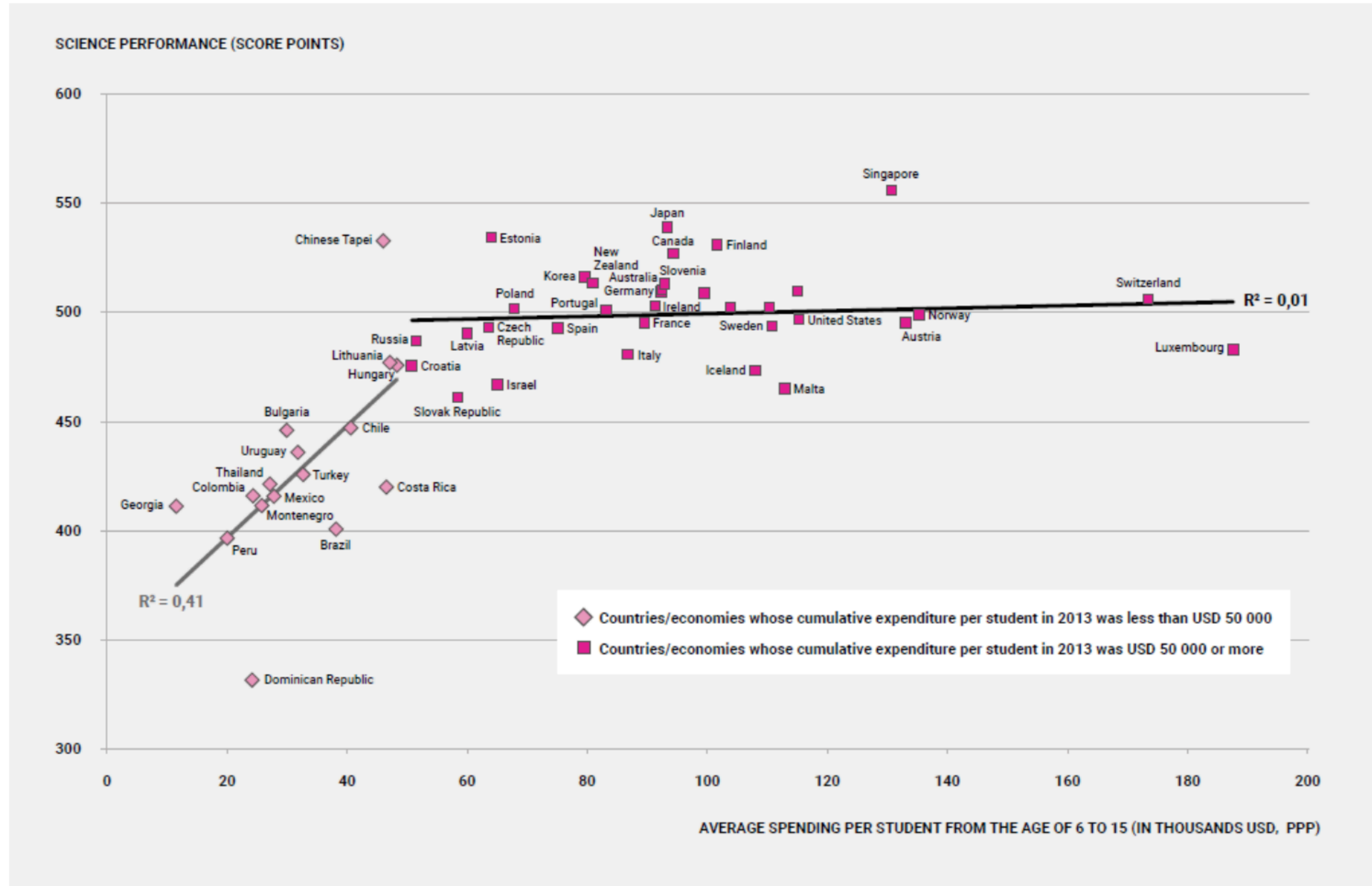
Source: Andreas Schleicher, "World Class: How to Build a 21st Century School System" (Paris: OECD Publishing, 2018), Figure 2.3, 49.

Types of consequences:

Desirable <———> Undesirable

Direct <———> Indirect

Anticipated <———> Unanticipated

Section 2:
Case studies

DIFFUSION OF INNOVATIONS

FIFTH EDITION

EVERETT M. ROGERS

Five Characteristics of Innovations (Rogers, 2003)

1.   **Relative advantage**
2.   **Compatibility**
3.   **Complexity**
4.   **Observability**
5.   **Trialability**
6.   (Reinvention)

Evaluate 5 innovations

We produce free & creative tools for students to take action for the SDGs

World's Largest Lesson

United Kingdom

Standing alongside partners including UNICEF and UNESCO, we produce free and creative resources for educators to teach lessons, run projects and stimulate action in support of the Sustainable Development Goals (SDGs). These resources are free, open source and translated into over 30 languages reaching 17.9 million children located in over 70 countries.

CURRICULUM TOOLS AND RESOURCES, GLOBAL CITIZENSHIP, GLOBAL EDUCATION, SUSTAINABILITY

How can we create a strong body of teachers and create a continuous improvement culture?

leerKRACHT (teachingFORCE)

📍 Netherlands

The leerKRACHT (teachingFORCE) foundation believes in the quality of all teachers, and wishes to give ownership of education back to the teachers. It aims to achieve this through helping schools to promote a continuous improvement culture, wherein teachers work together to improve their teaching, with school leadership being role models in the improvement process.

EDUCATOR QUALITY, EDUCATORS, LEADERSHIP DEVELOPMENT, LEADERSHIP EDUCATION, PROFESSIONAL DEVELOPMENT

How can urban agriculture transform students, schools, health outcomes and communities in marginalised neighbourhoods?

Green Bronx Machine

North Hempstead, United States

Green Bronx Machine builds healthy, equitable and resilient communities through inspired education, local food systems, and 21st century workforce development. Students can change how they eat, live and learn to change outcomes and trajectories for their community and all generations. Green Bronx Machine serves more than 50,000 students daily!

COMMUNITY, COMPASSION, CULINARY ARTS, CURRICULUM, ENVIRONMENT, FOOD EDUCATION, INTERDISCIPLINARY, LESSON PLANS, MENTAL HEALTH, NATURE, PHYSICAL HEALTH, REAL WORLD LEARNING, RETENTION, SCIENCE

The school with no classes, no classrooms and no curriculum.

Agora

📍 Netherlands

We start with you. What do you want to learn? What are your talents, interests, and ambitions? You can use everything in the world that's worthwhile to investigate, make or develop as your personal starting point for learning. Your personal coach will support and supervise your learning process. At Agora we traded courses, timetables, classes, and tests for challenges, collaboration and coaching by teachers.

ENTREPRENEURIAL, INTRINSIC MOTIVATION, PROJECT BASED LEARNING, WHOLE-SCHOOL MODEL
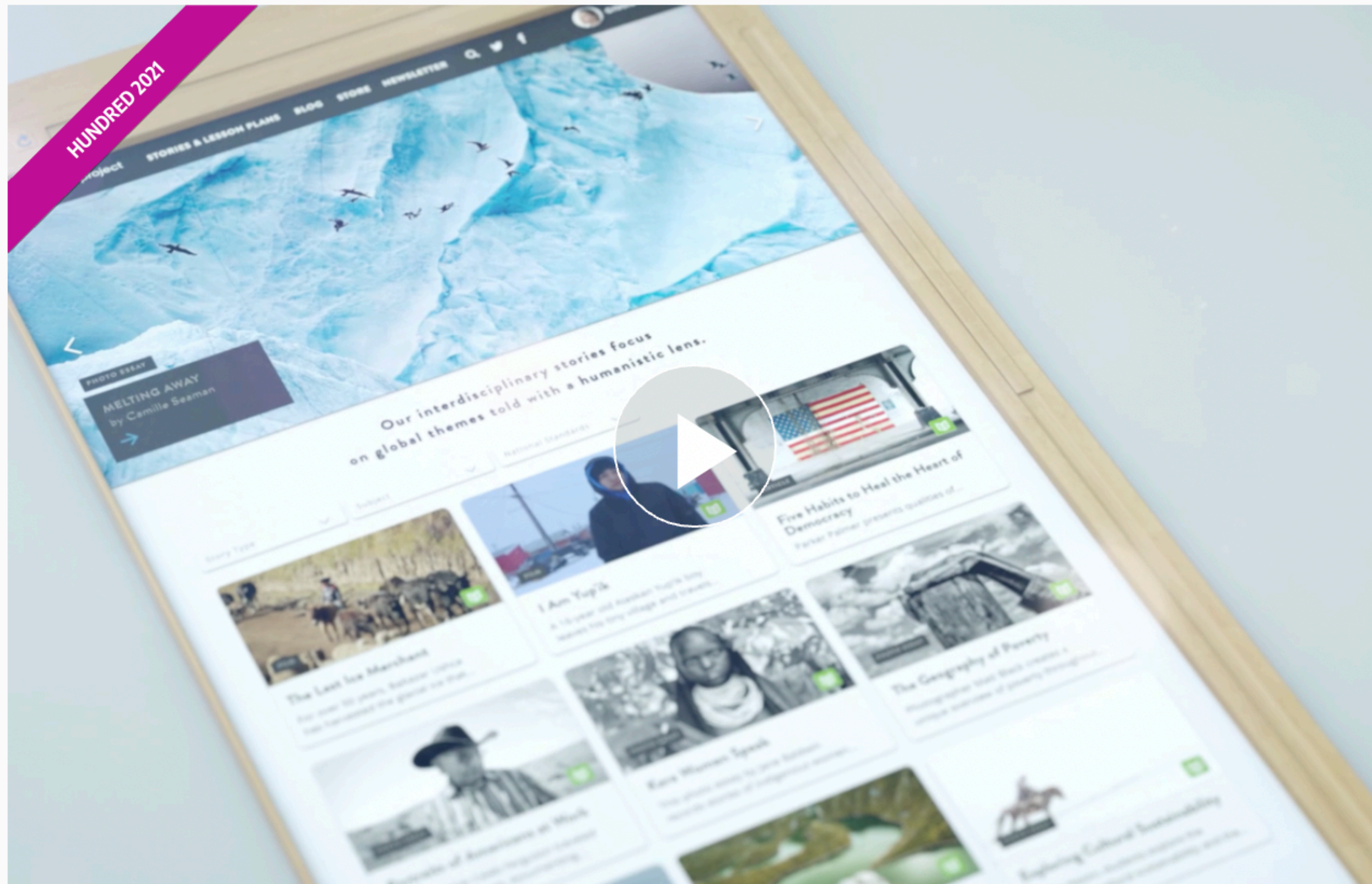
Want to use powerful visual stories & films to develop global citizenship?

Global Oneness Project

📍 United States

The Global Oneness Project brings the world's global cultures alive in the classroom. They provide award-winning films and photo essays which explore cultural, social, and environmental issues and accompanying lesson plans using stories as a pedagogical tool to inspire growing minds. All for free.

BLENDED LEARNING, COMPASSION, GLOBAL CITIZENSHIP, MEDIA LITERACY, OPEN RESOURCE PLATFORMS, PROJECT BASED LEARNING, STORYTELLING

An innovative teaching methodology through which children exercise verbal, visual, gestural and auditory communication.

Creating Together by By Kids to Kids

📍 Brazil

Creating Together by By Kids to Kids is an innovative teaching methodology through which children exercise verbal, visual, gestural and auditory languages. Creating Together contributes to important areas of a child's development through stories which are brought to life through animated films and books. The methodology is easily implemented in any environment anywhere in the world.

ANIMATION, BOOKS, CREATIVE THINKING, DIGITAL EDUCATION, DRAWING, INNOVATIVE EDUCATION, LIFE SKILLS, SOCIAL SKILLS, STORYTELLING

Português | English

Section 3:
Practical strategies for cultivating innovation friendly systems

hundrED

hundred.org

"Build a better mousetrap, and the world will beat a path to your door."
– Ralph Waldo Emerson

The average American school lags 25 years behind the best practice. (Mort, 1953)

hundred.org

Rogers, 2003. P. 36

hundrED   hundred.org
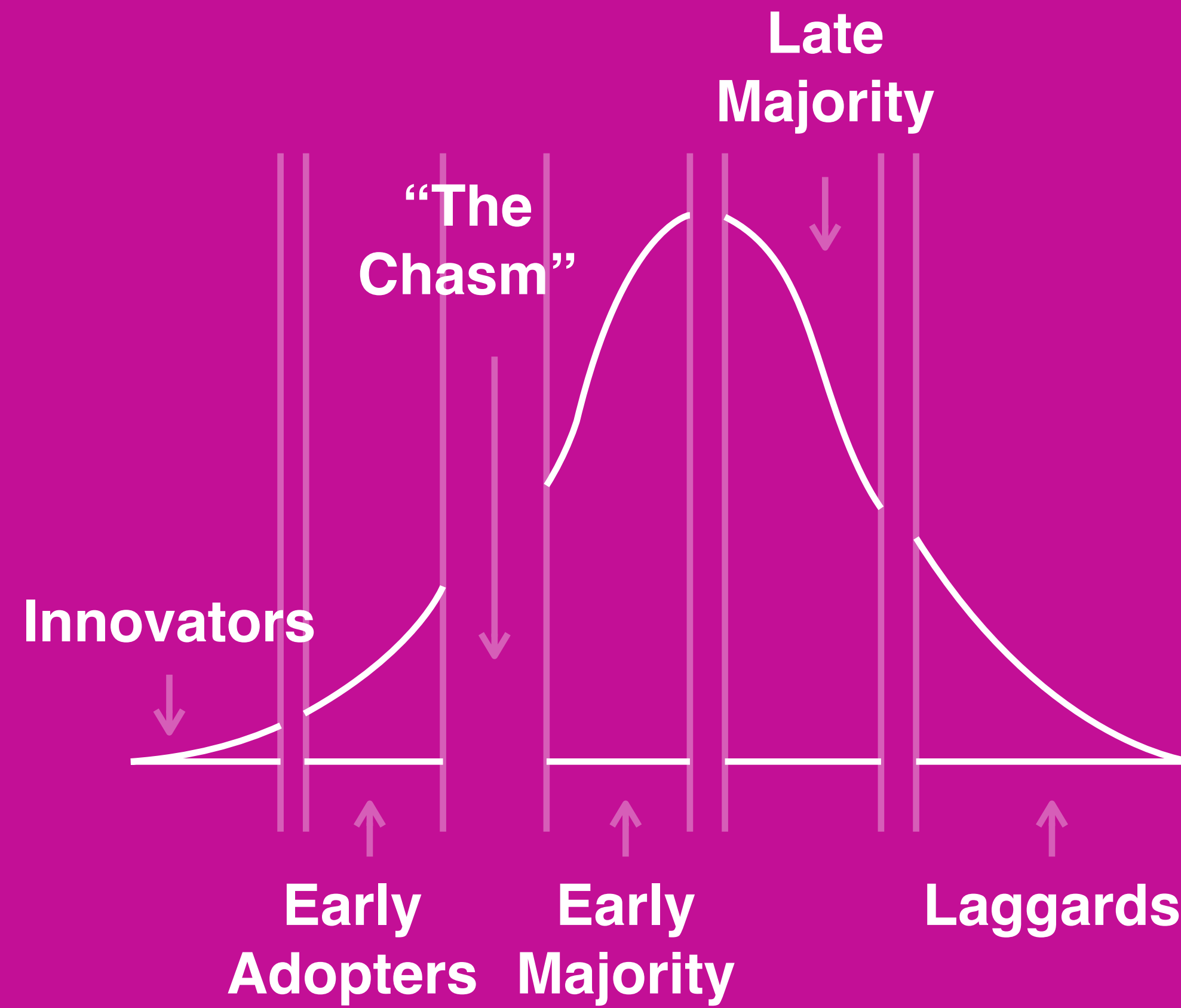
Selective perception:

Hassinger (1959) argued that individuals seldom expose themselves to messages about an innovation **unless they first feel a need for the innovation,** and that even if individuals are exposed to innovation messages, such **exposure will have little effect unless the innovation is perceived as relevant to the individual's needs and is consistent with the individual's attitudes and beliefs.**

COMMUNICATION CHANNELS

PRIOR CONDITIONS

1. Previous practice
2. Felt needs/problems
3. Innovativeness
4. Norms of the social systems

I. KNOWLEDGE

II. PERSUASION

III. DECISION

IV. IMPLEMENTATION

V. CONFIRMATION

1. Adoption
2. Rejection

Continued Adoption
Later Adoption
Discontinuance
Continued Rejection

Characteristics of the Decision-Making Unit

1. Socioeconomic characteristics
2. Personality variables
3. Communication behavior

Perceived Characteristics of the Innovation

1. Relative advantage
2. Compatibility
3. Complexity
4. Trialability
5. Observability

Rogers, E.M. (2003, p. 170). Diffusion of Innovations.

hundrED

hundred.org

Students

Teachers

Administrators

School Leaders

District leaders

Policy makers

Opinion leaders

Changemakers

…

Poll

Types of innovation-decisions:

Optional

Collective

Authority

Skills

Assessment

Professional development

Environments

Leadership

...

Poll

ClassDojo connects teachers with students and parents to build amazing classroom communities.

ClassDojo

📍 United States

ClassDojo is a school communication platform that teachers, students, and families use every day to build close-knit communities by sharing what's being learned in the classroom home through photos, videos, and messages.

CONNECTING FAMILIES, STUDENT ENGAGEMENT, STUDENT VOICE AND AGENCY

Participant-driven professional development for teachers by teachers.

Edcamp Community by Digital Promise

📍 United States

Edcamps are free and open to anyone, organized by volunteers, usually full-time teachers. The sessions are decided on the day by those who are participating, making each one an expression of the needs and passions of those attending. The magic of Edcamp comes from the power of teachers collaborating and learning together through conversations, rather than standard "sit and get" presentations.

COLLABORATIVE LEARNING, LEADERSHIP EDUCATION, PROFESSIONAL DEVELOPMENT, TEACHER TRAINING

Section 4:
Recap and recommendations

Recap

Section 1: What is innovation? Key problems in education today

- *Need for change in education*
- *Pro-innovation bias*
- *Types of consequences*

Section 2: Leading cases from around the world

- *Evaluated innovations on different characteristics*

Section 3: Practical strategies for cultivating innovation friendly systems

- *5 characteristics of innovations to enable diffusion*
- *Education eco-system*
- *Strategies for cultivating innovation friendly eco-systems in education*
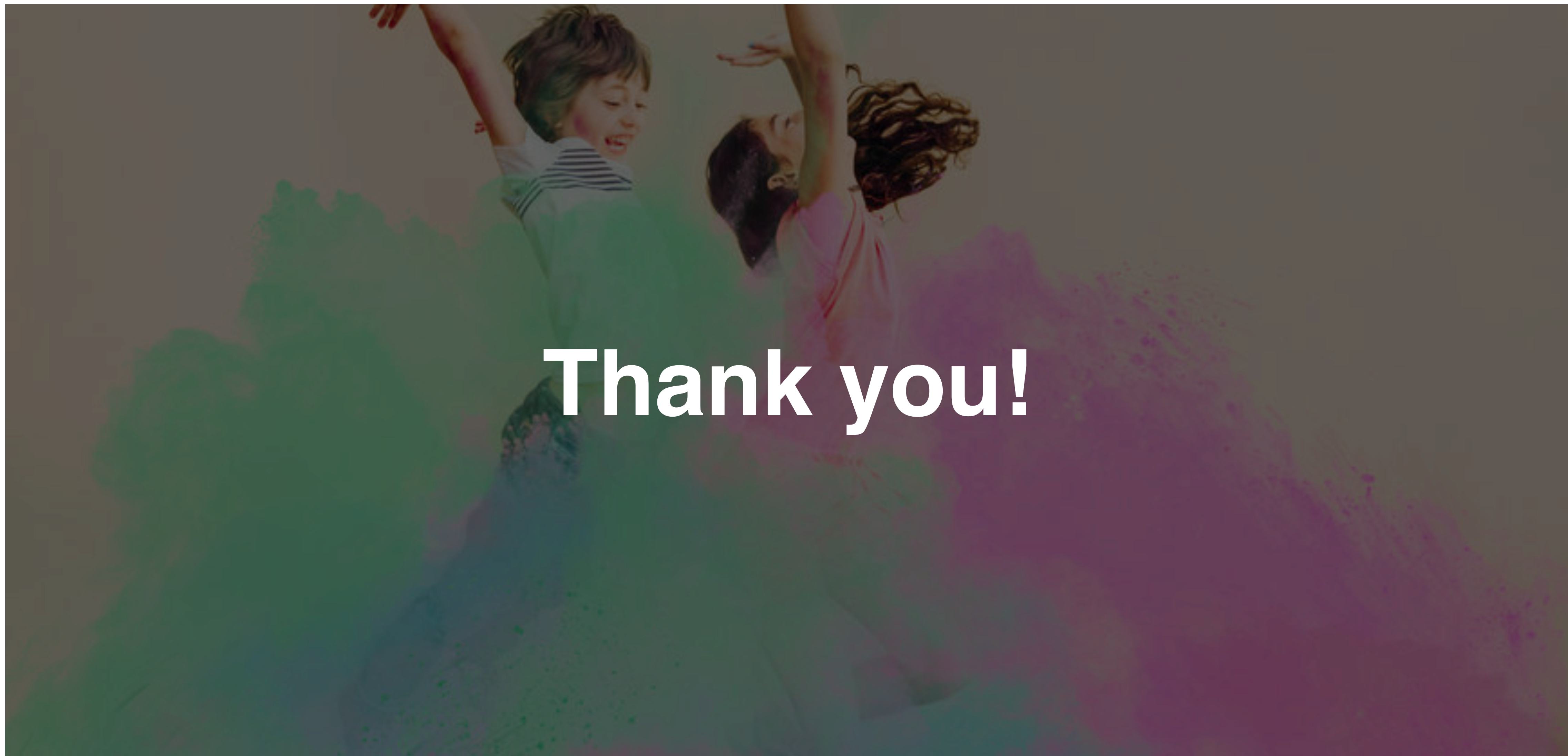
11 Recommendations

1. Learn what is already out there that is outside of your local area. Visit HundrED.org and other innovation spotter websites.

2. Conduct a rigorous and honest needs assessment to understand the direction and needs of your end users!

3. Think about the community and interaction of communication rather than technology (don't focus on technology being the solution.

4. Utilise design thinking and agile based processes as a means to sustain educational improvement (e.g. regular and honest user testing to inform iterative development).

5. In a post-COVID world, we need hybrid models - do not solely rely on in-person or digital modes, but a mixture that make use of their respective strengths.

11 Recommendations continued...

6. Understand what existing practice your innovation is it replacing? How do you know it is better?

7. Identify if it is an optional, collective, or authority innovation-decision to implement it?

8. Understand how the innovation maps onto the 5 characteristics of innovations by Rogers (2003).

9. How is your innovation sustainable? Consider whether the physical and mental resources to implement the innovation.

10. Consider the consequences (Desirable <> Undesirable; Direct <> Indirect; Anticipated <> Unanticipated). Remember many people will not voice negative feedback so often your perception of overall user feedback will be positively skewed.

11. Sunk costs fallacy - remember it is common for ideas to not succeed at first. Don't be afraid to pivot or let go of old thinking.

Questions

hundrED   hundred.org

Thank you!

hundrED

hundred.org