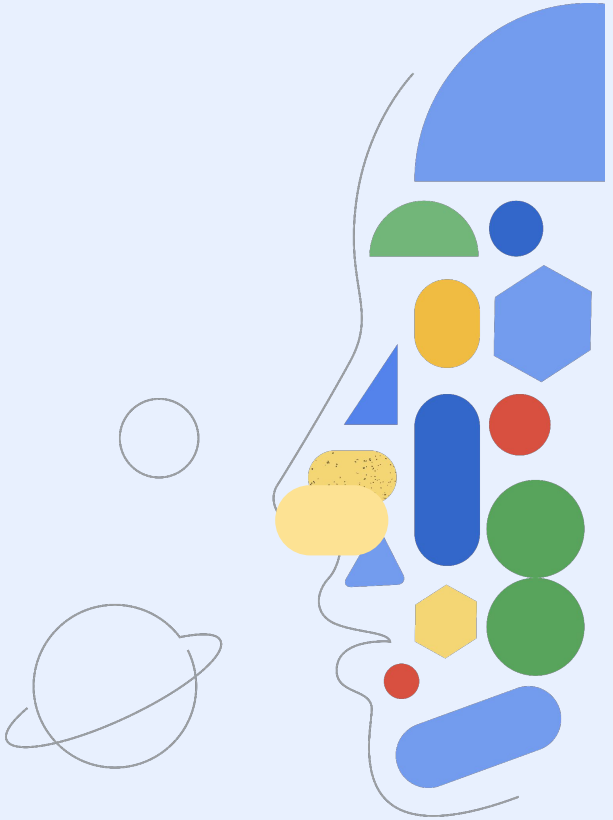
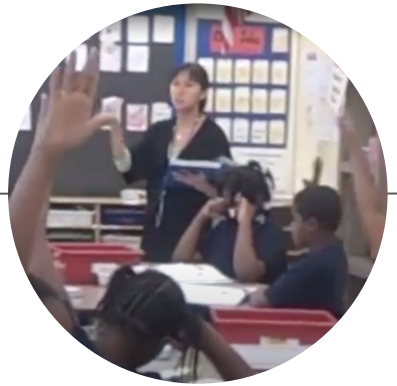
Google for Education

The Future of Education

Using Technology to reach every learner



Jennie Magiera @MsMagiera
Global Head of Education Impact, Google

Educator

August 31, 2018

Educator & Parent


YOUR FAVOURITE PREGNANCY, BABY & TODDLER MAG
Mother&Baby
june 2014 S$5.50 (Incl GST)
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18 smart solutions to soothe teething
true story
"Having a baby didn't stop me travelling the world!"
bliss you like crazy
The lowdown on M&B's best day-spa experiences
birth rite
What birth really feels like for your baby
must read
DAD'S THE WAY
How a father's role has evolved • Hands-on husbands you'd want to read about • Which daddy tribe do you belong to?
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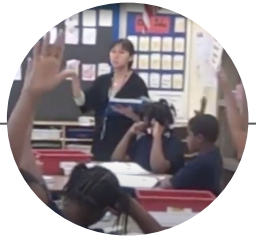
A MEDIACORP Publication

February 18, 2020

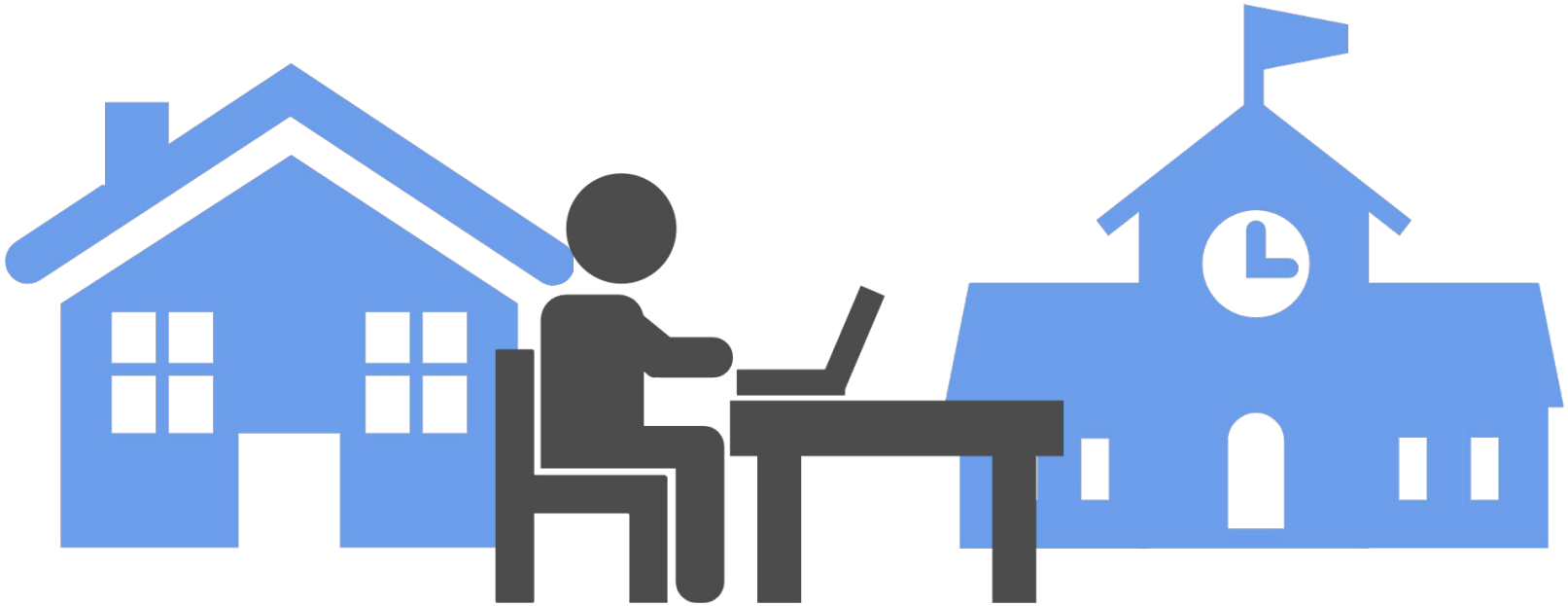
Educator
& Parent
& Googler



2020


DOUBLE ISSUE
JUNE 1 / JUNE 8, 2020
TIME
2020
GENERATION PANDEMIC
A GLOBAL CRISIS CHANGED THEIR LIVES. HOW THEY RESPOND WILL CHANGE THE WORLD
By CHARLOTTE ALTER
LIFE INTERRUPTED: KIDS AND TEENS IN THEIR OWN WORDS
time.com




Google
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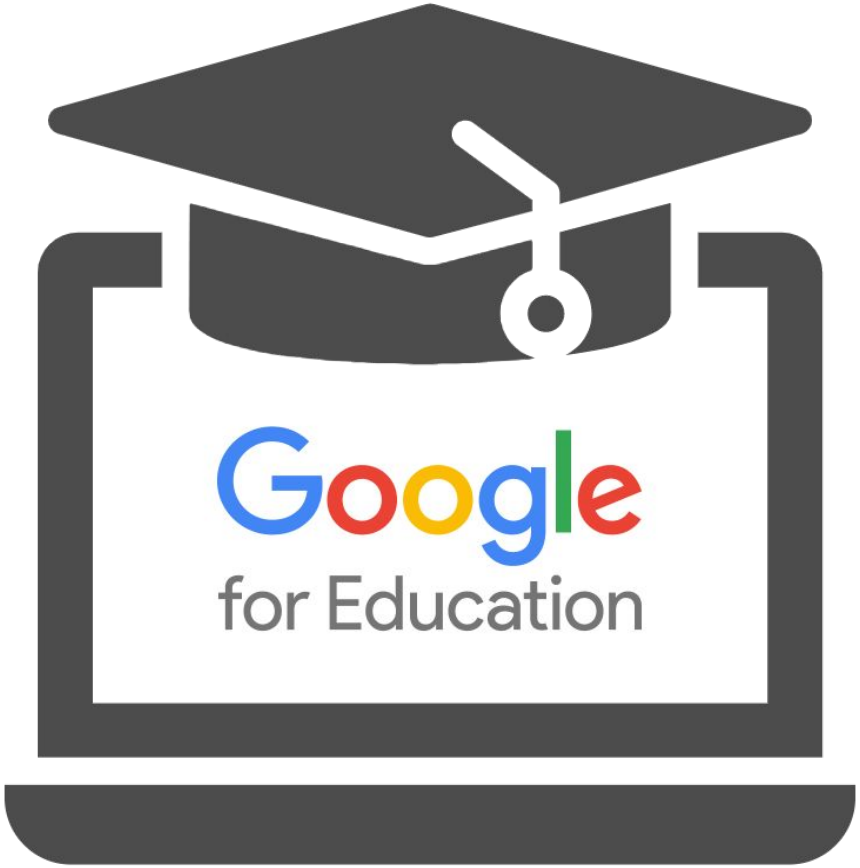

Google
for Education

EdTech isn't a contingency plan.

EdTech is an opportunity.

My daughter Lucy will graduate from University in

2040

Rebuild

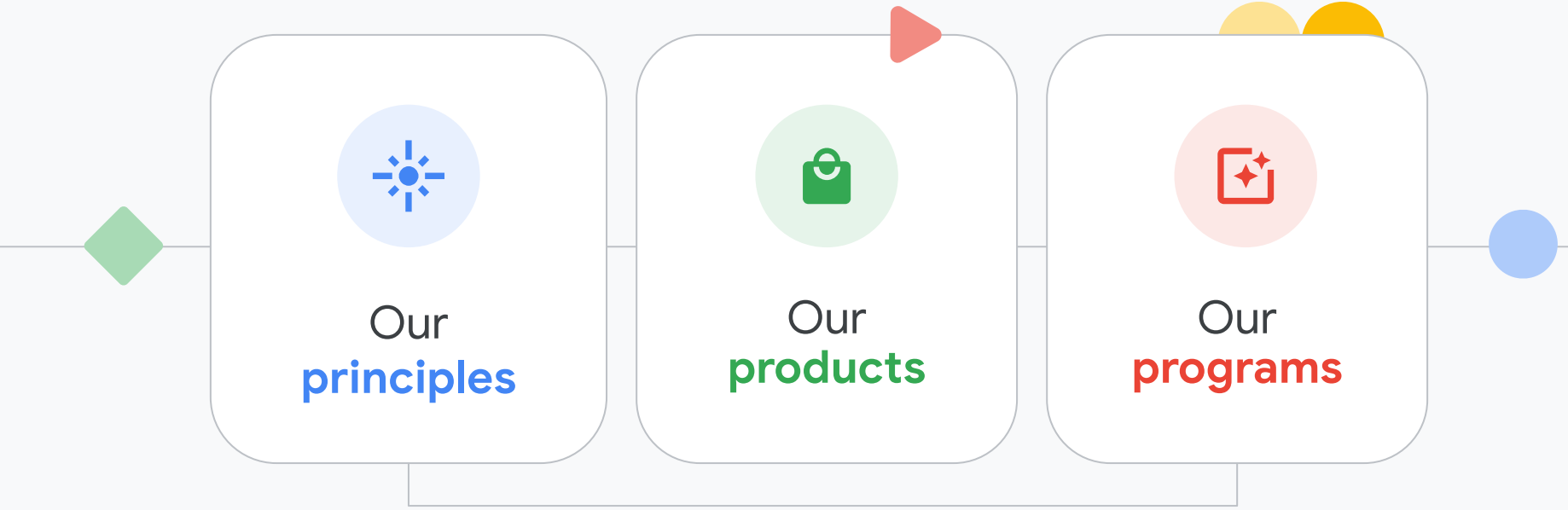
Reimagine


AI

AI is going to transform teaching and unlock student potential in ways that people can't even imagine. We are committed to helping grow it responsibly.

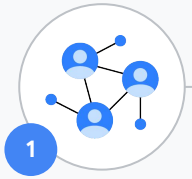
Making AI helpful for everyone

Our AI approach is multilayered and rigorous

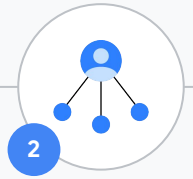


Feeds into our approach to AI in education

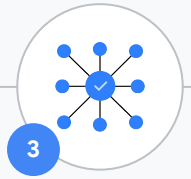
Our AI Principles (ai.google)



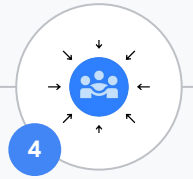
Be socially beneficial



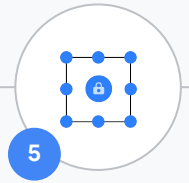
Avoid creating or reinforcing unfair bias



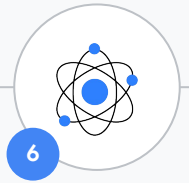
Be built and tested for safety



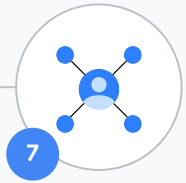
Be accountable to people



Incorporate privacy design principles



Uphold high standards of scientific excellence



Be made available for uses that accord with these principles

Applying Google's AI principles to our work in edu

> AI is simultaneously revolutionary and something that's been quietly helping us out for years.
>
> **Kent Walker**
> President of Global Affairs, Google & Alphabet

ai.google

1. Is it appropriate for education (responsible, safe, and secure)?
2. Is it clear to educators and students what the benefits of using it are, and where and how to start?
3. Is it helping all levels and backgrounds to succeed?
4. Is the educator looped into the student experience to help shape and guide (if needed)?
5. Is it enabling educators and students to utilize our workflows seamlessly?
6. Does it enable leaders to adequately and appropriately support staff and students?
7. Does it provide sufficient tooling and control for leaders?
8. Does it adhere to requirements leaders are beholden to for their institutions?
9. Does it provide leaders with the visibility and insights needed to complete their work?

It’s helpful to recall that AI is simultaneously revolutionary and something that’s been quietly helping us out for years.

Kent Walker
President of Global Affairs, Google & Alphabet

AI is already integrated into the tools you use each day...

From helping to keep users safe to supporting lifelong learning

Google is a pioneer in AI: a history of our responsible progress

2015

Google DeepMind's AlphaGo defeats Go champion Fan Hui

2017

Google Research invents the Transformer, kick-starting the LLM revolution

2018

The world's first language model, Google's BERT

Google publishes AI Principles (ai.google)

2020

LaMDA* trained on dialogue data; this model could talk about virtually anything published by Google

Read Along launched in 180+ countries in 9 languages

2022

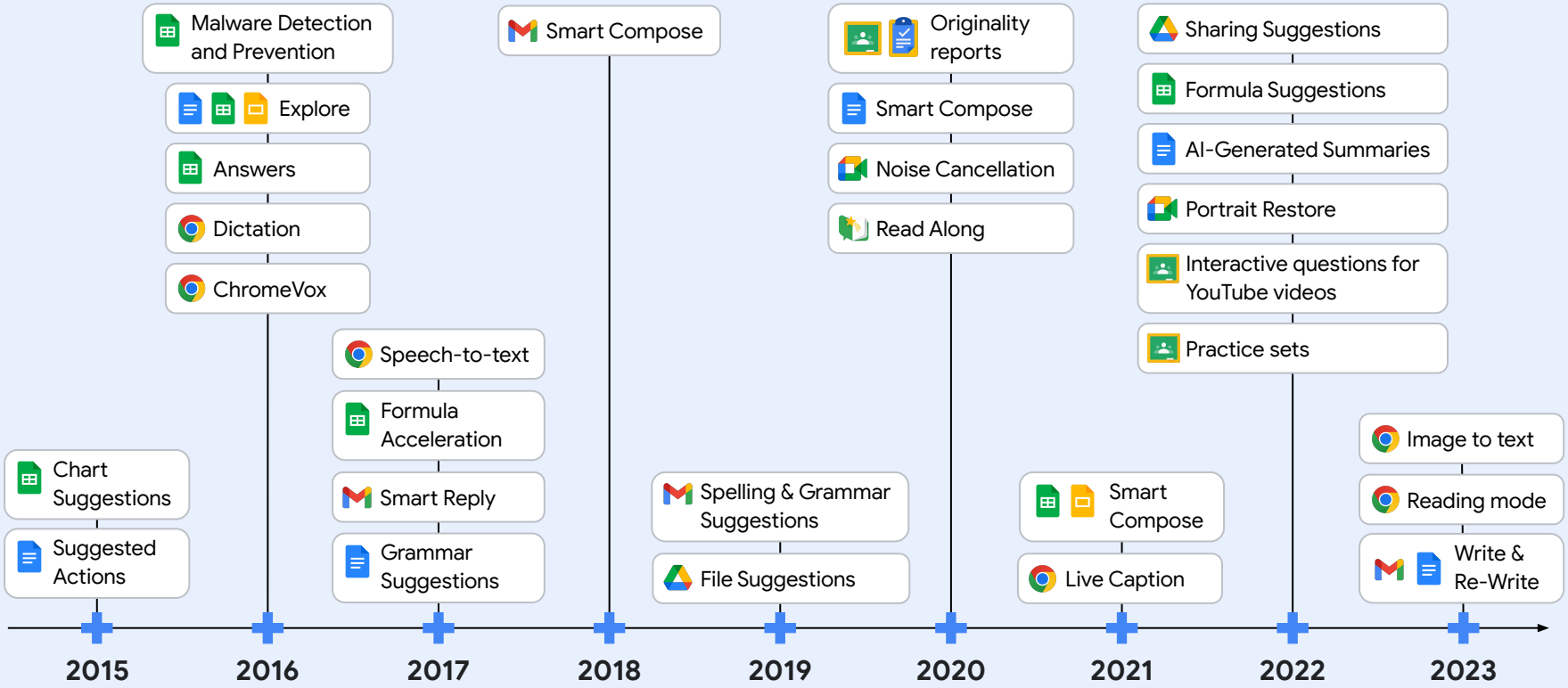
Google announces practice sets in Classroom, helping to give students a more personal path to learning and give teachers the time and tools to better support their students

2023

Google announces Duet AI, which can help create presentations, write emails, and generate slide images with a few words

*LaMDA = Language Model for Dialogue Applications

Putting AI to work in Google for Education



How will can **education evolve** to meet the **needs of ALL students in the future**?

94 educational experts

24 countries

1 global report

Self

Rising demand for global problem solvers

Change in the skill sets required for work

Shift to a lifelong learning mindset

School

Making learning personal

Reimagining learning design

Elevating the educator

System

Upgrading learning environments

Empowering educators with data

Re-evaluating student progress

edu.google.com/future-of-education

Shift to a Lifelong Learning Mindset

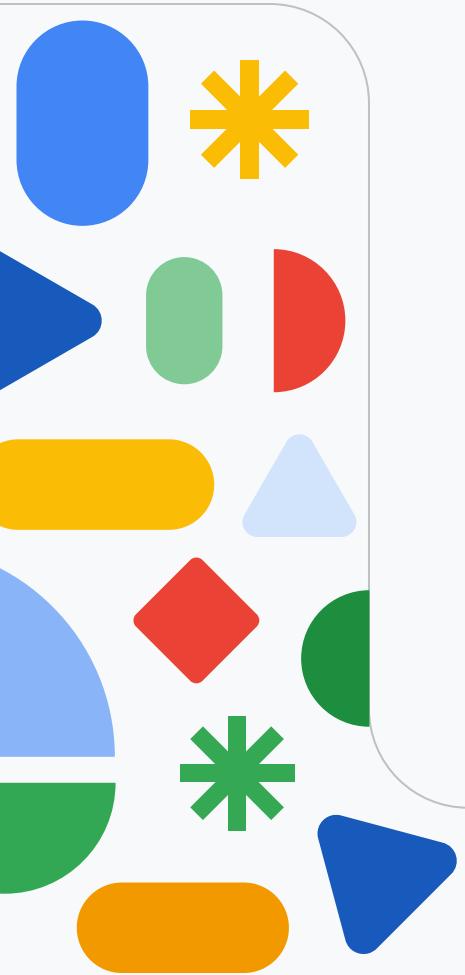
Making learning personal for students

Elevating the educator

1

Shift to a lifelong learning mindset


Google for Education



We now have technology that is powerful enough to help us realize our education ambitions.

We learn in different ways, in different careers and in different spaces. It’s becoming more and more clear that people need to be able to access education throughout their lives. You’ve also got to develop that interest in learning and that ‘learning to learn’ ability in your students too."

Martin Henry

Research Coordinator, Education International, Belgium

Lifelong learning

Should be **acceptable** and **accessible**

Looks different from one moment to the next

YouTube as a tool for life-long learners

Source: Pew Research Center, "Many Turn to YouTube for Children's Content, News, How-To Lessons," 2018

Supporting post-secondary institutions

Expanding access to continuing education

Google for Education

Tracking skills with digital portfolios

Google for Education


Building passion
for learning
Google for Education

We hope to cultivate a society where people have the tools, resources, and support that they need to pursue their personal potential.

2

Making learning personal

Education should be personal... learning is a social process. The face-to-face learning space needs to be reinvented to enable the optimal use of time together, to collaborate in the fullest possible sense.”

Valerie Hannon

Co-founder, Innovation Unit, United Kingdom

Students are expecting **more** from their **education**

60%

want easier access to **self-service solutions**

64%

expect to receive **real-time assistance**

75%

prefer **personal interactions,** even if those interactions are not with humans

Note: US statistics millennials; Source: Zendesk, Statista, Strategy Analytics, HBR, Ovum, USA market, CISCO VNI

How will educators use technology to address the individual needs of learners?

adaptive learning

+

Google AI

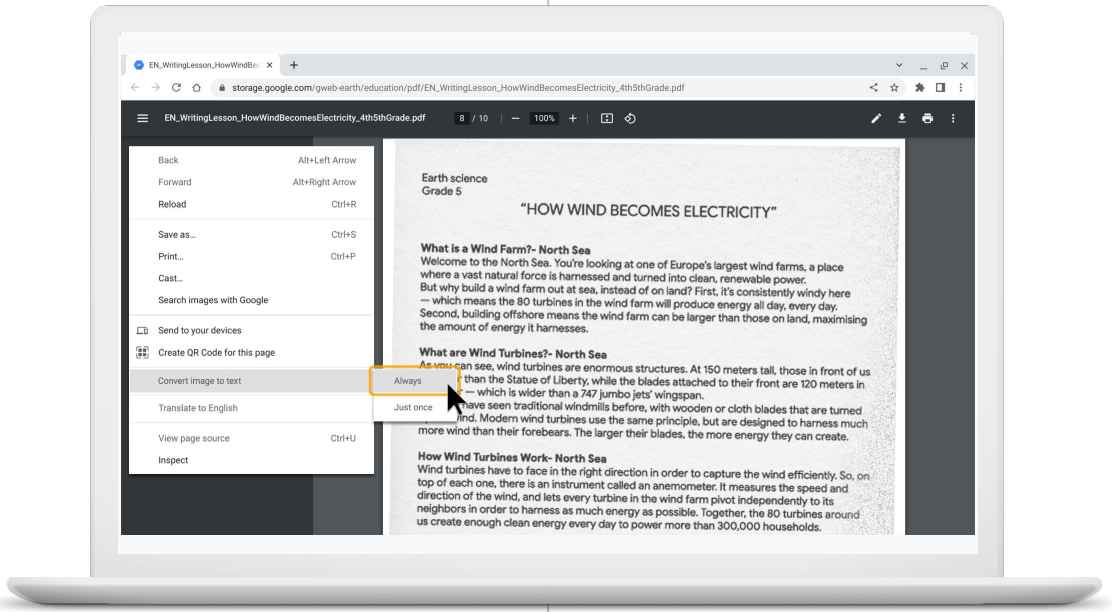
Giving students the tools they need

Harnessing **AI** and **adaptive technology** to make learning personal

Helping students **access information** in a way that works best for them

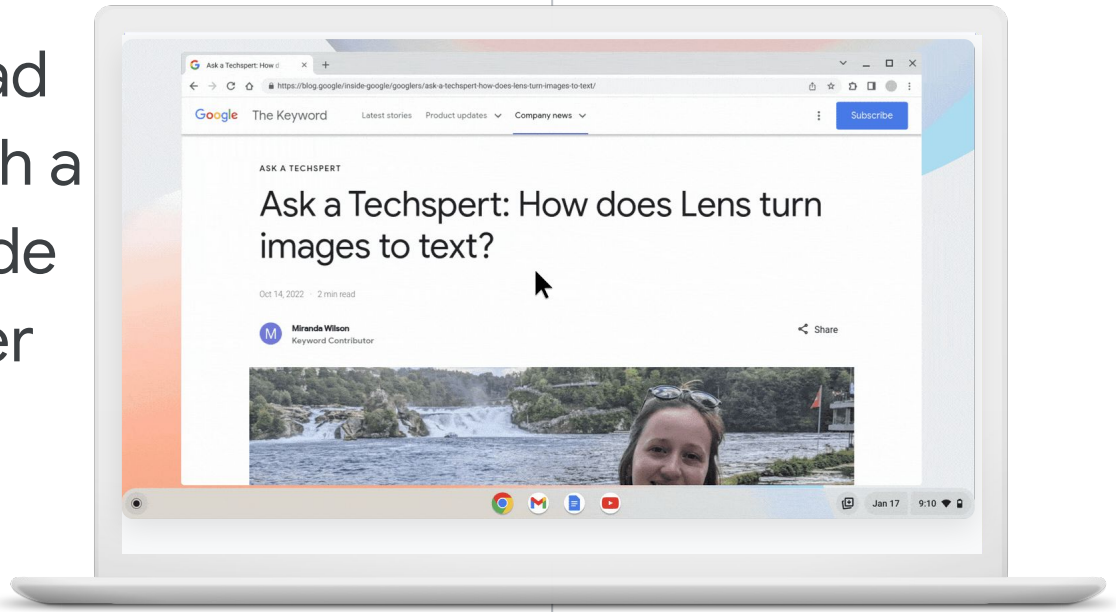
More accessible

With the help of AI in the Chrome browser, people who use screen readers can convert images to text



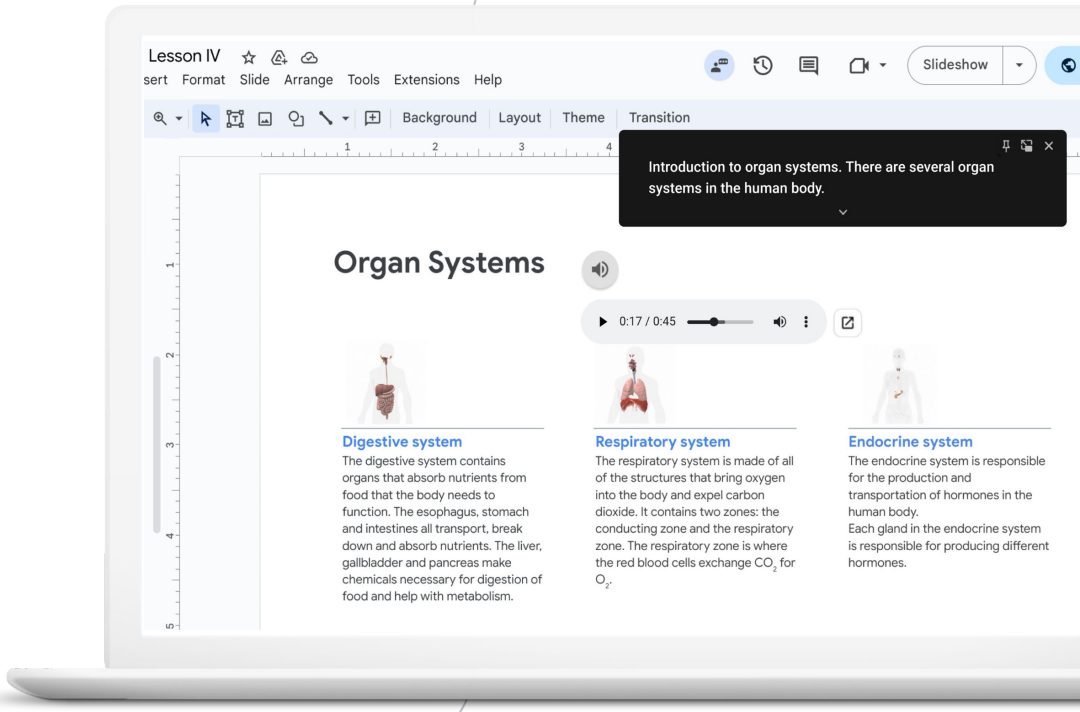
More accessible

Customize how you read content on the web with a side-panel reading mode view in Chrome browser



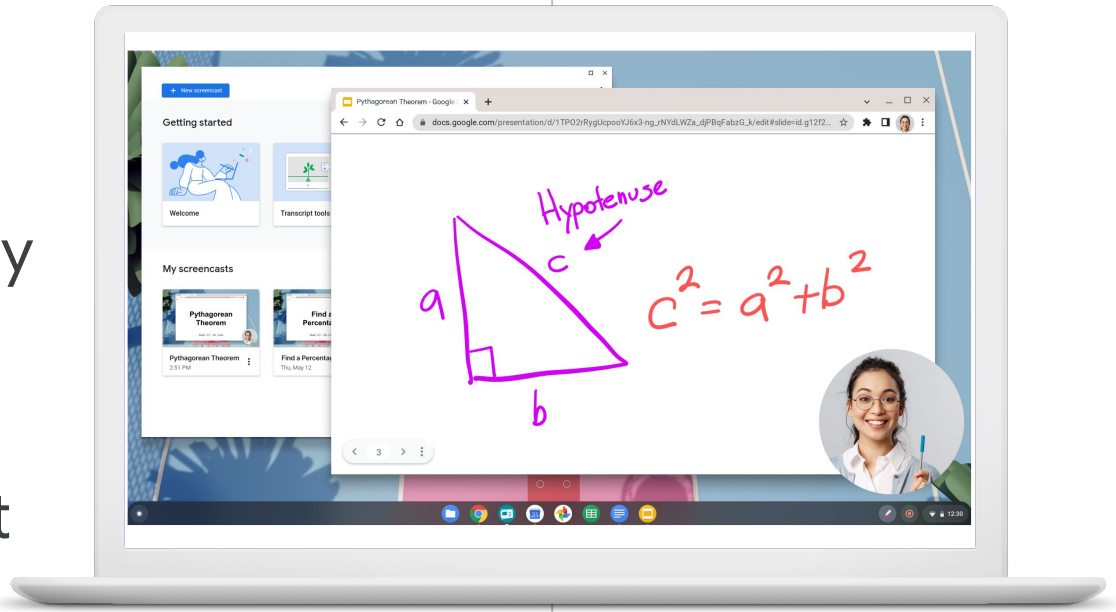
More accessible

With Live Caption on Chrome, automatically generate real-time captions for media with audio, such as YouTube videos, on their browser

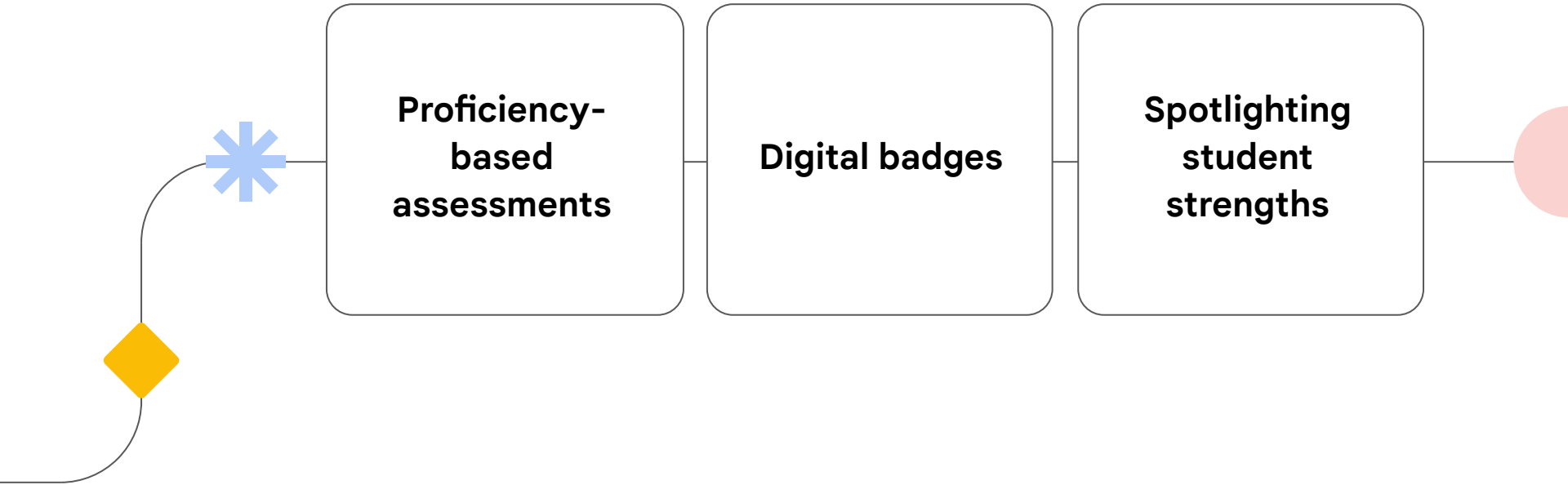


More accessible

Enhance Screencast recordings on Chromebooks with easy to use trimming, transcript translation, and searchable content



More educators are looking beyond test scores to implement...



AI-Powered Early Detection

Early detection of learning disabilities is critical to success in school and in life. Yet many children with learning disabilities go undiagnosed for years.

Some EdTech products are helping improve early diagnosis with faster, tech-based detection.

Key features in this category:

- **AI-powered testing** - AI tools that test for learning difficulties more efficiently than traditional testing measures.
- **Scientific rigor -** validated by academic research
- **New formats** - from play-based approaches to voice-centric interfaces, tools are designed to ensure students are motivated.

Automated Differentiation

While user-friendly data displays help educators identify the needs of each student, teachers need support to then address those needs with differentiated instruction.

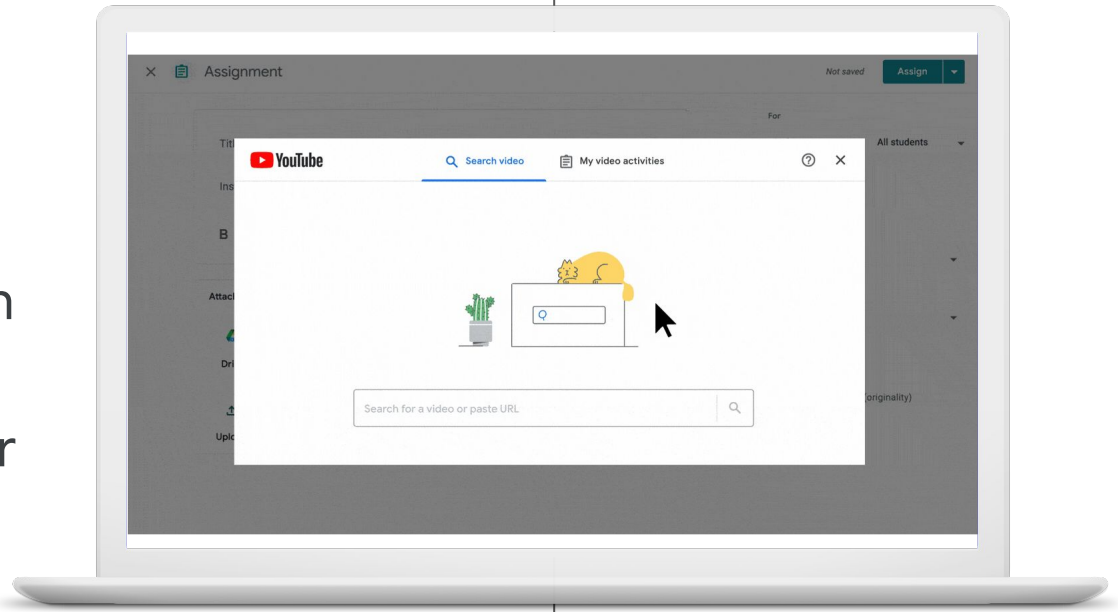
EdTech is helping educators plug learning gaps with end-to-end differentiated learning paths: from assessment to instruction and practice.

Key features in this category:

- **Personal pathways** - detection of learner gaps (often AI-powered) followed by a recommendation of best-fit content
- **Student guidance** - detailed feedback to support learners on their personal pathways
  Analytics dashboard - easy-to-understand data visuals on student performance for educators and students
- **Teacher control** - teacher override options to adjust a learner's path

More interactivity

Interactive questions for YouTube videos in Classroom will help deliver engaging video lessons with automatically suggested questions that guide deeper learning.



AI Tutors

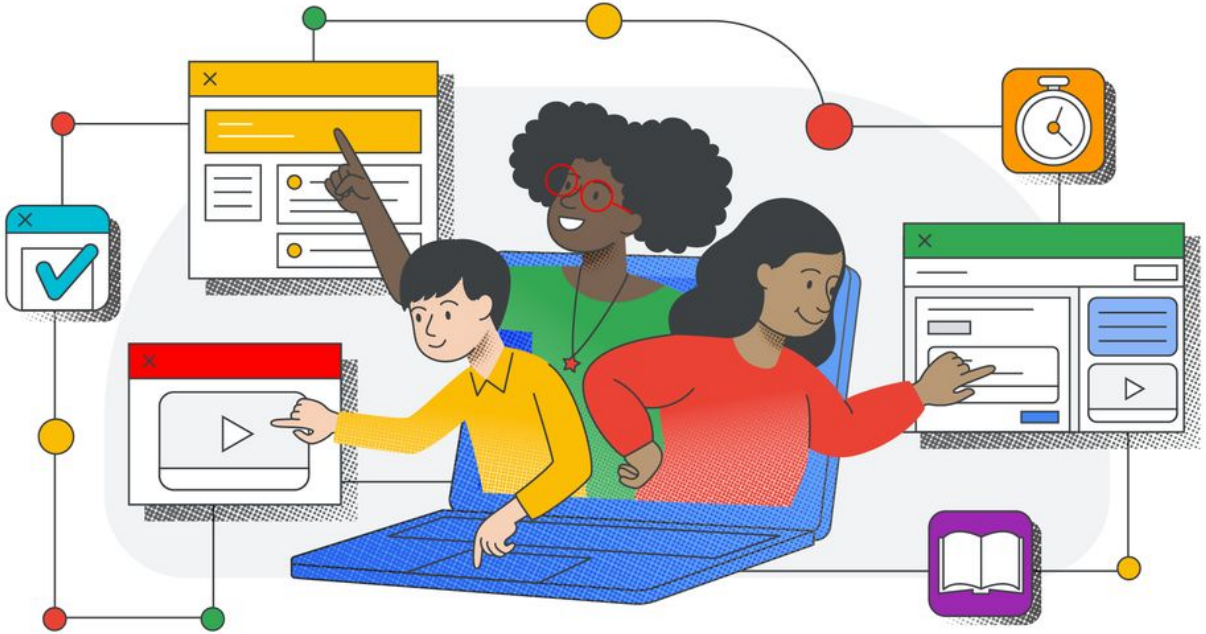
Even when they are motivated to study independently, students still need support. Personal tutors can help - but they are expensive and not accessible to all students.

EdTech products are stepping in provide in-the-moment individual support with AI tutors.

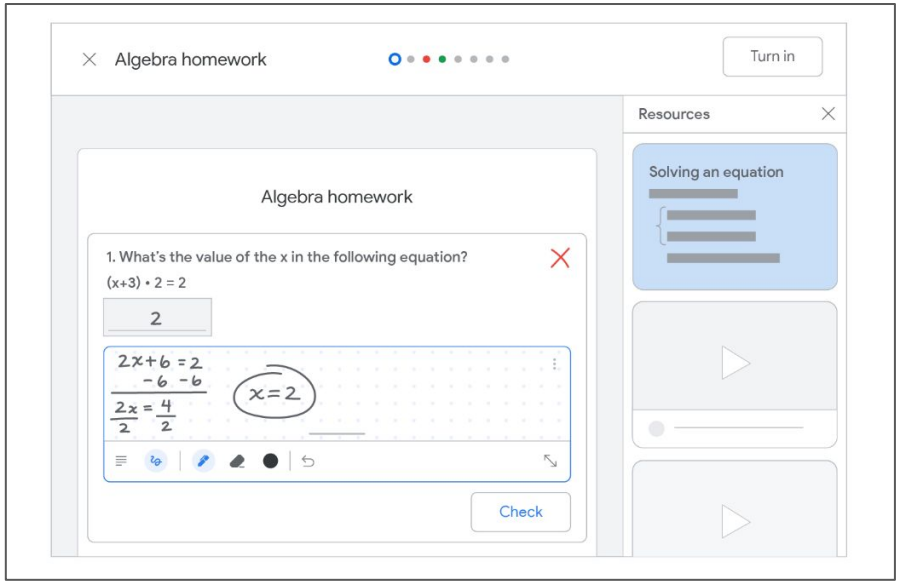
Key features in this category:

- **Engaging and interactive** - tools that foster collaboration, encouraging students to work with the AI tutor and/or with those around them
- **Real-time guidance** - as students work through tasks, they're automatically offered tips and tricks to help them progress. This is often enabled through artificial intelligence.

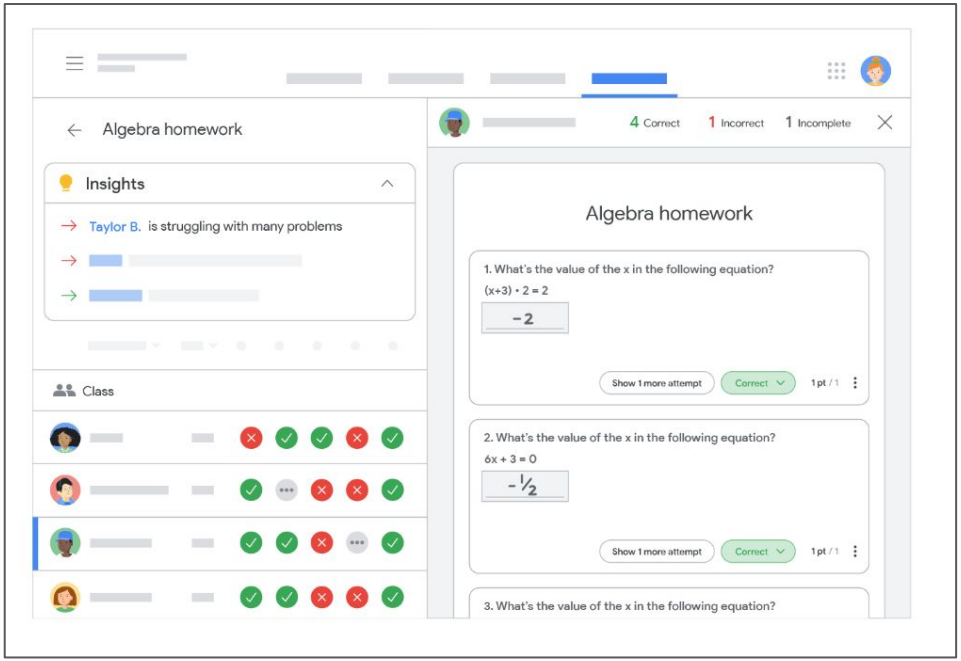
Practice sets in Google Classroom



Students get real-time feedback and hints



Educators can view automated insights

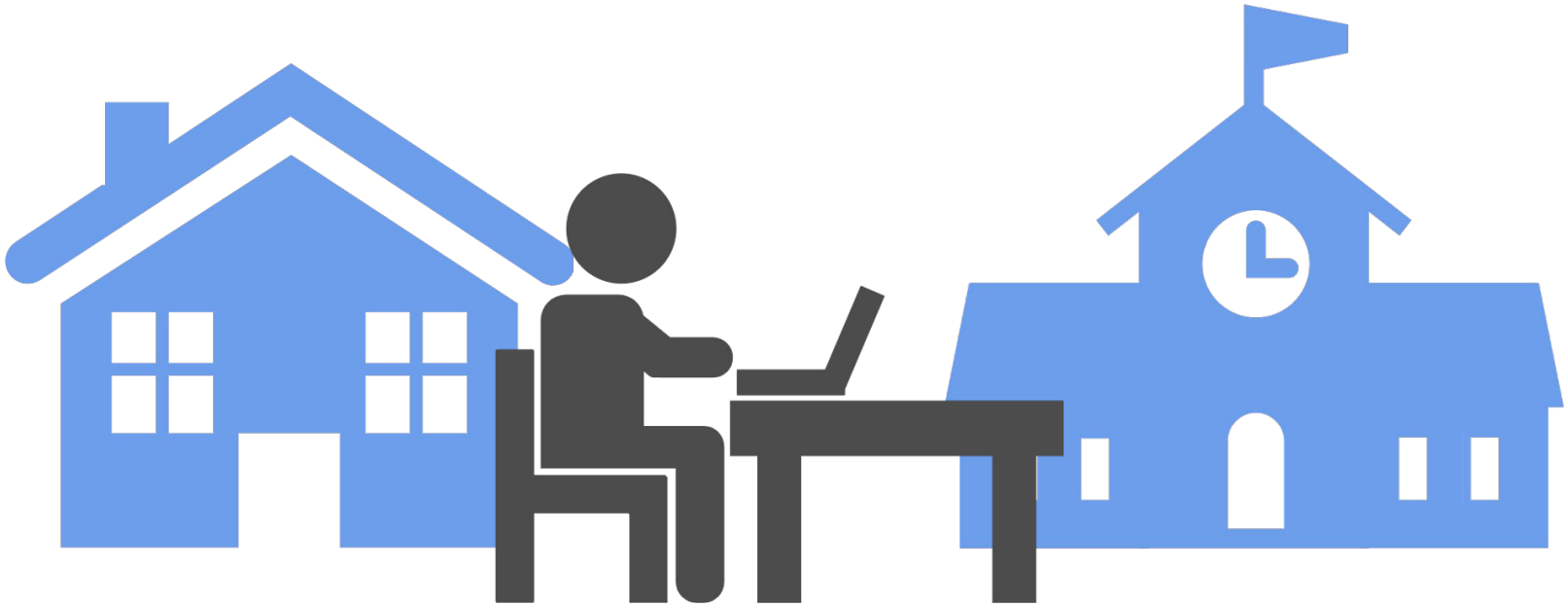


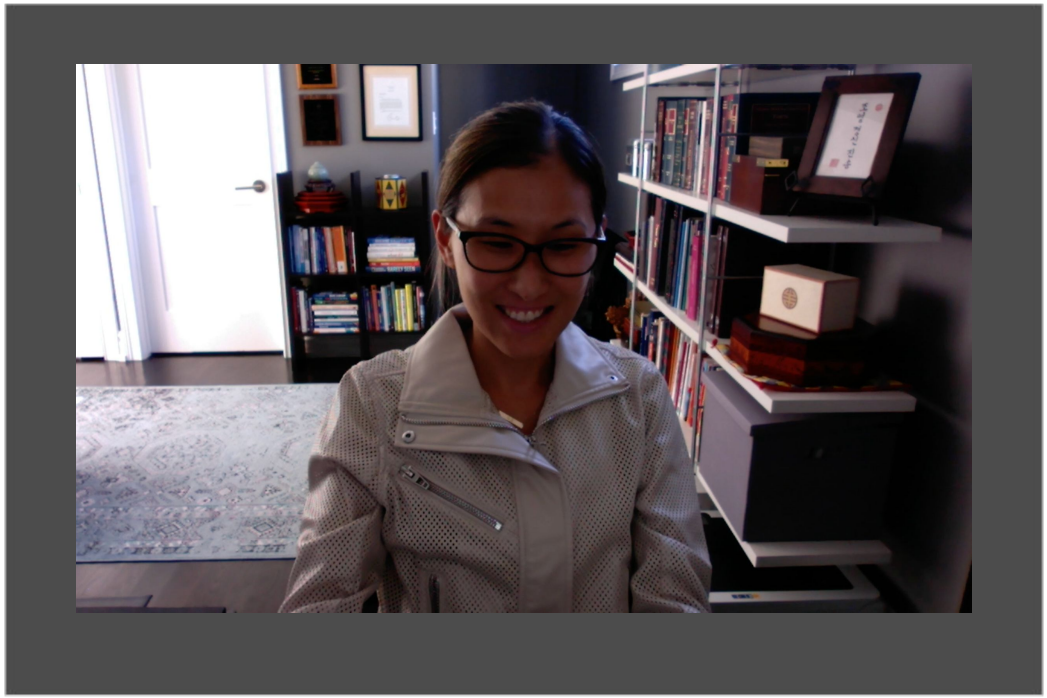
By applying AI to student learning experiences, we can help support students where they are and help them get to where they want to go faster.

There is a need to develop human beings who are internally strong and resilient. The importance of knowledge transmission will decline in order to place a greater emphasis on fundamental and higher thinking skills, including children's socio-affective spheres."

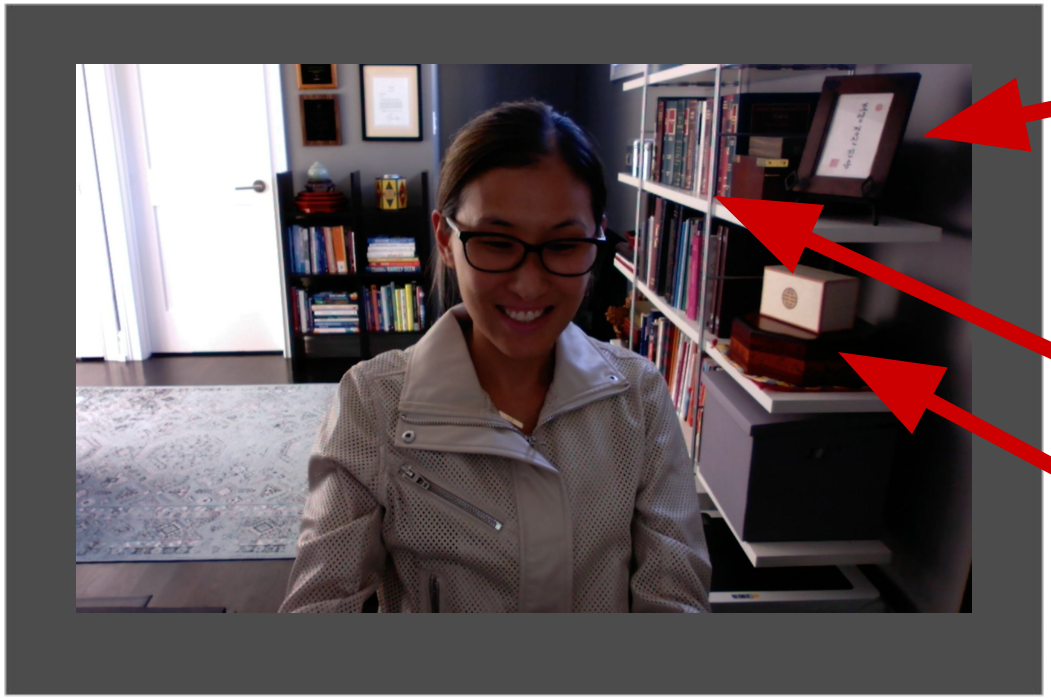
Sylvia Schmelkes

Researcher at Universidad Iberoamericana, Mexico





Google Meet

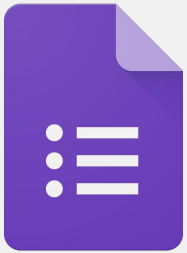


Family Tree
in Hangul

Husband's
Law Books

Korean Rice
Cake Box

Social Emotional Learning



Google Forms

:) Mood Check In :)

* Required

Name *

Your answer

How do you feel today? *

- [ ] happy, thrilled
- [ ] excited, energized
- [ ] proud, beaming
- [ ] chill, relaxed, calm
- [ ] tired, sleepy
- [ ] nervous, scared
- [ ] sorrowful, sad, morose
- [ ] irate, angry

Why do you feel this way? *

Your answer

Create one goal for today *

Your answer

Teacher Conference? *

- ( ) Yes
- ( ) No

Google Classroom

:) Mood Check In :)

* Required

Name *

Your answer

How do you feel today? *

happy, thrilled

excited, energized

How do you feel today?	Why do you feel this way?
happy, thrilled, excited, energized, proud, beaming, chill, relaxed, calm	I love school

Your answer

Create one goal for today *

Your answer

Teacher Conference? *

Yes

No

:) Mood Check In :)

* Required

Name *

Your answer

How do you feel today? *

- happy, thrilled
- excited, energized

How do you feel today?	Why do you feel this way?
tired, sleepy, nervous, scared, irate, angry	I wasup all night then had to walk to school. I'm hungry now.

Your answer

Create one goal for today *

Your answer

Teacher Conference? *

- Yes
- No

The right tools, used the right way, will deepen our students' **humanity, and connection** to each other.

3

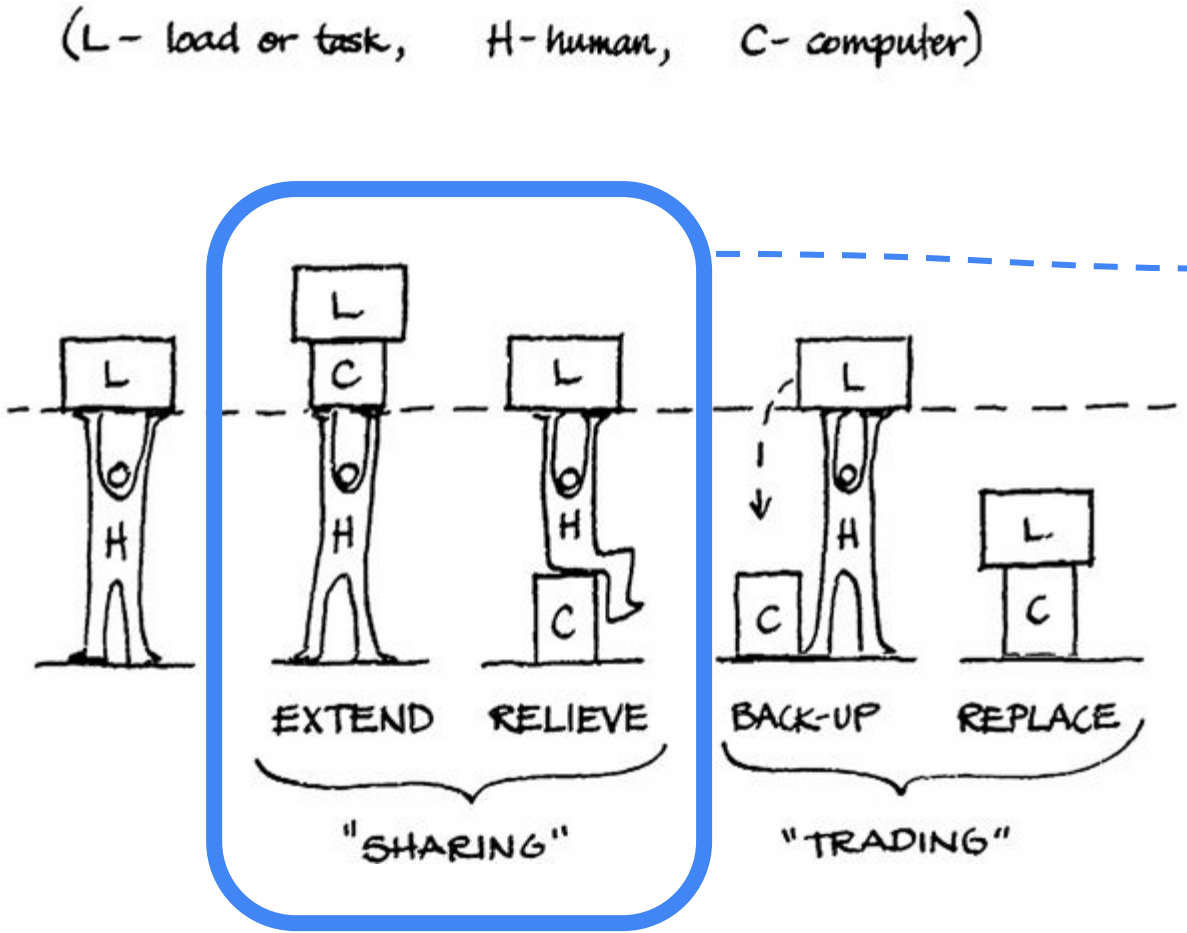
Elevating the educator

UNESCO predicts that

69 million new teachers will be required by 2030,

a target unlikely to be met if current trajectories continue.

Source: UNESCO, "The World needs almost 69 million new teachers to reach the 2030 Education goals," 2016



How might we leverage AI to “share the load” for educators?

Source:
Sheridan & Verplank, 1978

Table 3. The Level of Automation Taxonomy (LOAT)

A INFORMATION ACQUISITION	B INFORMATION ANALYSIS	C DECISION AND ACTION SELECTION	D ACTION IMPLEMENTATION
A0 **Manual Info Acquisition**	**B0** **Working Memory Based Info Analysis**	**C0** **Human Decision Making**	**D0** **Manual Action and Control**
The human acquires relevant information on the process s/he is following without using any tool.	The human compares, combines and analyses different information items regarding the status of the process s/he is following by way of mental elaborations. S/he does not use any tool or support external to her/his working memory.	The human generates decision options, selects the appropriate ones and decides all actions to be performed.	The human executes and controls all actions manually.
A1 **Artefact-Supported Info Acquisition**	**B1** **Artefact-Supported Info Analysis**	**C1** **Artefact-Supported Decision Making**	**D1** **Artefact-Supported Action Implementation**
The human acquires relevant information on the process s/he is following with the support of low-tech non-digital artefacts. *Ex. 1) Identification of aircraft positions on an aerodrome/airport according to Procedural Air Traffic Control rules and without use of radar support.*	The human compares, combines, and analyses different information items regarding the status of the process s/he is following utilising paper or other non-digital artefacts. *Ex. 1) Use of flight strips to compare altitudes/levels/pl. times of different aircraft and to pre-plan future traffic.*	The human generates decision options, selects the appropriate ones and decides all actions to be performed utilising paper or other non-digital artefacts.	The human executes and controls actions with the help of mechanical non-software based tools. *Ex. 1) Use of a hammer or leverage to increase the kinetic energy of human gesture.* *Ex. 2) Use of a mechanical or hydraulic rudder to achieve a change in direction.*
A2 **Low-Level Automation Support of Info Acquisition**	**B2** **Low-Level Automation Support of Info Analysis**	**C2** **Automated Decision Support**	**D2** **Step-by-step Action Support:**
The system supports the human in acquiring information on the process s/he is following. Filtering and/or highlighting of the most relevant information are up to the human. *Ex. 1) Identification of aircraft positions in the airspace by way of Primary Radar working positions.*	Based on user's request, the system helps the human in comparing, combining and analysing different information items regarding the status of the process being followed. *Ex. 1) Activation by ATCOs of Speed Vectors for specific tracks on the CWP, in order to anticipate potential conflicts in a defined time frame.*	The system proposes one or more decision alternatives to the human, leaving freedom to the human to generate alternative options. The human can select one of the alternatives proposed by the system or her/his own one. *Ex.1) AMAN visualization of the proposed sequence of aircraft.*	The system assists the operator in performing actions by executing part of the action and/or by providing guidance for its execution. However, each action is executed based on human initiative and the human keeps full control of its execution. *Ex. 1) The aural and visual component of TCAS RA in current TCAS II version 7.0 (also LOA C5)*

SHARING CONTROL AND RESPONSIBILITY WITH ALGORITHMS

Automation Level	
1	The computer offers no assistance: humans must make all decision and actions
2	The computer offers a complete set of decision/action alternatives
3	Narrows the selection down to a few
4	Suggests one alternative
5	Executes that suggestion if the human approves
6	Allows the human a restricted time to veto before automatic execution
7	Executes automatically, then necessarily informs humans
8	Informs the human only if asked
9	Informs the human only if it, the computer, decides to
10	The computer decides everything and acts autonomously, ignoring the human

From: Parasuraman, Sheridan, Wickens, 2000

Parasuraman, Sheridan, Wickens, 2000

Save & Feuerberg, 2014

How might we leverage AI to “share the load” for educators?

<table>
<tr><th>Information Acquisition</th><th>Information Analysis</th><th>Action Selection</th><th>Action Implementation</th></tr>
<tr><td>Replace</td><td colspan="2" rowspan="2">Low
AI Implementation</td><td>Extend & Relieve</td></tr>
<tr><td>High
AI Implementation</td><td>Moderate
AI Implementation</td></tr>
</table>

AI in education: what excites educators?

New possibilities for teaching

Ability to save teachers time

Enormous positive potential

20-40% of current tasks

could be outsourced to technology

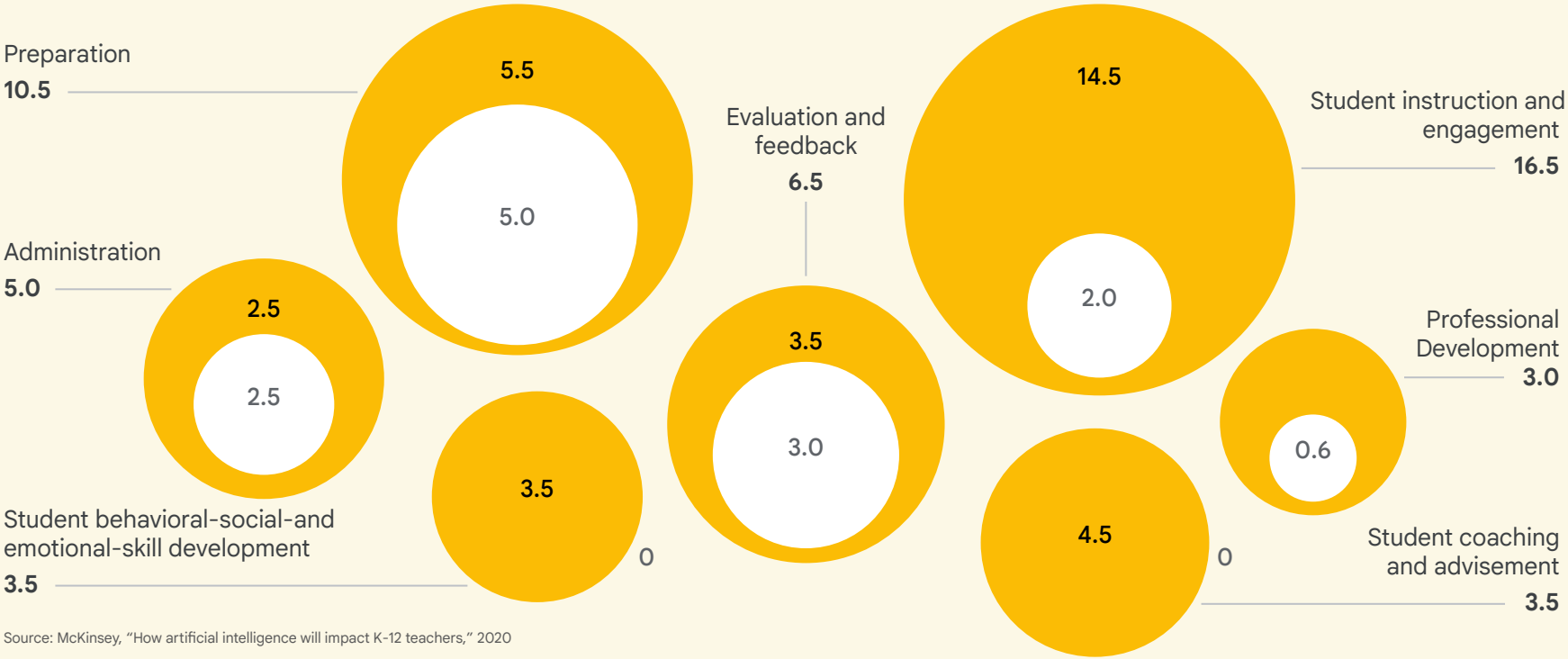
AI could free up 13 hours

of teacher time a week by automating tasks

Source: McKinsey, “How artificial intelligence will impact K-12 teachers,” 2020

How AI can save professors' time

Potential for time reallocation, number of hours per week



Source: McKinsey, "How artificial intelligence will impact K-12 teachers," 2020

Helping educators understand tech's value add

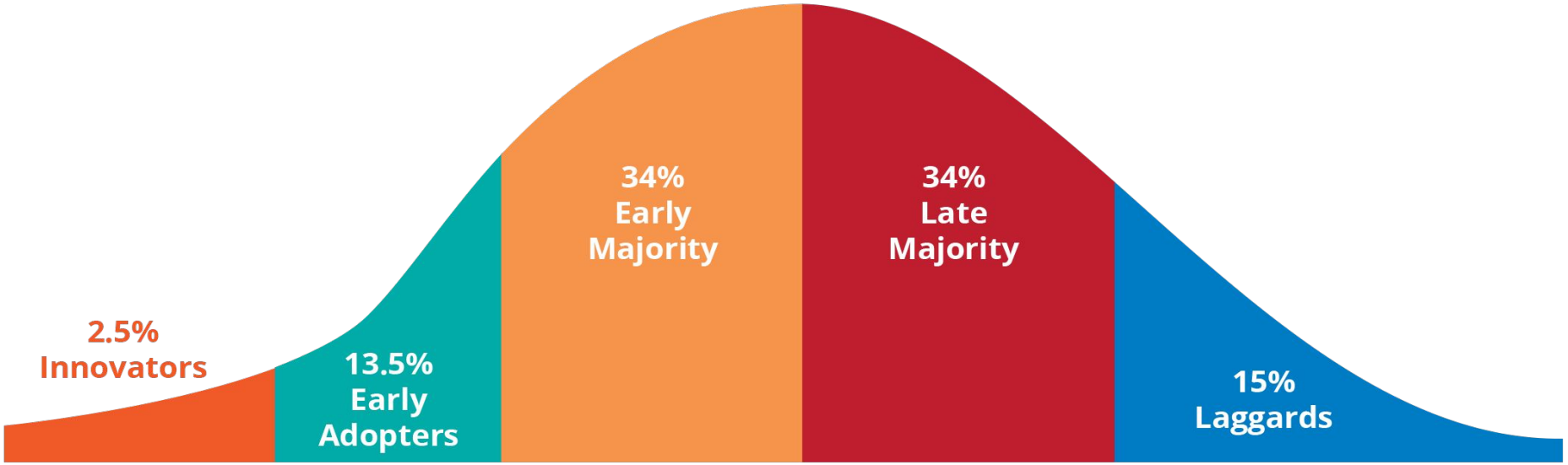
The VATT examines three technology value adds in relation to three key areas of impact.

The areas of impact are broken down into additional fields and practices, which organize value-add impact statements that describe skills and practices relevant to these areas.

These fields and practices offer users a way to filter through the impact statements to align to their closest needs.

VATT: Value Add of Technology on Teaching

www.valueedtech.org



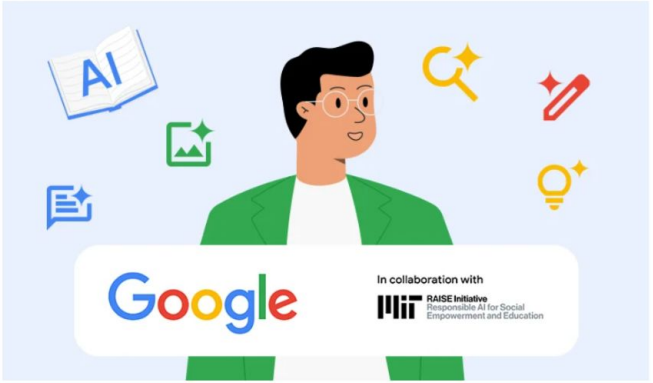
Everett Rogers' Diffusion of Innovation Theory

Not an educator? Learn about Google AI Essentials - applicable across roles and industries.

Generative AI for Educators

As a teacher, we know your time is valuable and student needs are broad. With Generative AI for Educators, you'll learn how to use generative AI tools to help you save time on everyday tasks, personalize instruction, enhance lessons and activities in creative ways, and more.

Get started



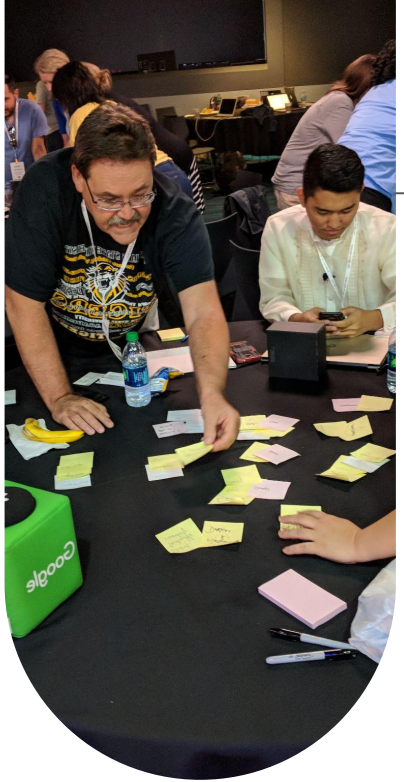
Flexible AI training designed for teachers

This self-paced course fits into a teacher's busy schedule with flexibility in mind. It offers hands-on, practical experience for teachers across disciplines.

100%

2 hours

Educators need Support, Community, Recognition.



What we're doing

Supporting global educator communities

Google for Education
Champions

Champions for **students**.
Champions for **educators**.
Champions for the **future of education.**

When we elevate teachers, we elevate learning.

The future of education will be shaped by a complex, nuanced process rather than a single wave of change.

On behalf of the Future of Education, our children...

Thank you

edu.google.com/future-of-education

- Wednesday October 2nd @ 11am
  - 40-45 minutes for talk
  - 15-20 minutes of Q&A
- Audience (HE professionals: Continuing education leaders, Universities)

- What is the role of Universities for inclusion, educational transformations
- Inclusion / Education Democratization:
  - Access to education (financial and geographical)
  - Adult learners (not K12) - certifications / continuing / non-credit part of professional development programs (reskilling and upskilling programs for career professionals) - all industries
- Notes
  - Want to give transportation for the event - Daniel Rebolledo Cormack and Kimberly Lane Clark to attend
  - Will provide a translator
  -
- Tue July 23 meeting Attendees
  - Nadia Loreley Loera - lead and RECLA
  - Laylah Ferreyra
  - Catalina Rodriguez
  - Diego Martin Chang Prado - Catholic University of Peru
  - Edward Rubio Guerroro - Palma University
  - Daniel Robelledo Cormack
  - Jennie Magiera

Conference

Possible topics:

It is clear that education marks a before and after in people's lives, so the theme of "inclusion" or "educational democratization" should be the guiding thread of Jennie Magiera's presentation. In this regard, it will be important to address the factors of innovation and technological development, complementing our human nature and future vision for the planet in all its aspects.

Length: **60 minutos**
Time: **10:00 - 11:00 am Perú time**
Date: **Friday, October 4th**
Modality: **In-person**

¿What is RECLA?

RECLA
Red de Educación Continua de Latinoamérica y Europa

The Continuing Education Network of Latin America and Europe (RECLA) is a non-profit organization, legally established in 1997 in Colombia.

It is the only university cooperation network in Latin America and in relation to the number of associates worldwide it ranks fourth. For more than 26 years, RECLA has promoted innovation in the management of continuing education and lifelong learning, connecting leaders from Latin America and Europe, promoting cooperation, reflection and international networking.

Objectives:

- Create spaces for discussion and reflection on trends, projections, and the future of Continuing Education.
- Strengthen the processes of the continuing education units of its members.
- Promote the design and development of cooperation programs.

OUR ASSOCIATES

RECLA
Red de Educación Continua de Latinoamérica y Europa

163 educational institutions in Latin America and Europe

+300 continuing education professionals/managers

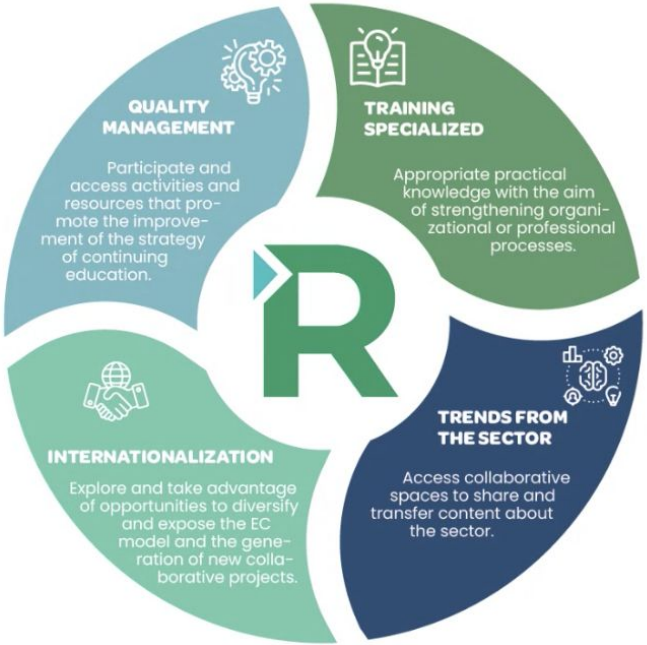
21 countries represented

16 agreements of cooperation international

MEMBERS

SERVICES BRIEFCASE

RECLA
Red de Educación Continua de Latinoamérica y Europa



- Courses
- Encounters
- Workshops
- Conferences

- Digital magazine
- Podcast
- Blog
- Studies

- Scholarships
- Awards
- Expert commissions
- Networking and alliances

- EC management guides
- 360 self-diagnosis
- Peer Mentoring Program

Aimed at the entire community of the institution

Agile and transformative leadership of continuing education in new environments of change.

In-person modality that will take place in the city of Lima, Peru

Organizers

UNIVERSIDAD RICARDO PALMA

EDUCACIÓN CONTINUA

We are a social institution that represents society, is its conscience, its soul and its lighthouse. And at the same time it is its moral and intellectual reserve. It is a leading institution in that in difficult circumstances it must illuminate the path of knowledge.

We are celebrating half a century of pedagogical work. We promote the interdisciplinary spirit, humanism and personal fulfillment as elements that are impossible to separate.

How to get there?

How to get there?

PUCP

EDUCACIÓN CONTINUA PUCP

We are a community inspired by ethical, democratic and Catholic principles to serve society and transform reality through the development of knowledge, research, innovation and creation.

We offer a humanistic, scientific, integral and innovative formation of excellence, recognized nationally and internationally.

How to get there?

KEYNOTE SPEAKERS

MARNI BAKER STEIN
Chief Content Officer
Coursera

JOSÉ ESCAMILLA
Director Asociado del Institut para el Futuro de la Educación Tecnológico de Monterrey

JENNIE MAGIERA
Global Head of Education Impact
Google

FERNANDO REIMERS
Profesor de Práctica de la Educación Internacional de la Fundación Ford
Director de la Iniciativa de Innovación Educativa Global Universidad de Harvard

Themes

TRACK 1

Continuing education leadership in the new change scenarios

- Agile leadership in the management of continuing education.
- Inclusive continuing education oriented to the construction of lifelong learning.
- Corporate education and its impact on human talent in organizations.
- Exploring continuing education experiences during the stages of childhood and adolescence.
- Silver education: promoting the well-being of the senior generation.
- Autonomous learning: strategies to enhance this competence.
- Leading ESD projects through continuing education.
- Educational microcredentials and certification processes.

TRACK 2

Digital transformation in the construction of new apprenticeships

- Impact experiences using artificial intelligence in continuing education.
- Education, government and digital citizenship: transformation of the public sector.
- Role and efficiency metrics in human talent management.
- Collective intelligence: creating collaborative learning networks.
- Educational models and emerging technologies in lifelong learning.
- The hybrid model applied to new educational and work environments.
- Blockchain technology applied to educational environments.

TRACK 3

Experiential workshops on emotional education in the training and management of human talent.

- **WORKSHOP A:** Creativity and emotional agility from design thinking.
- **WORKSHOP B:** Body Coaching, managing emotions from corporeality and movement.
- **WORKSHOP C:** Emotionally intelligent leadership.
- **WORKSHOP D:** Emotional coping in post-pandemic organizations.
- **WORKSHOP E:** Impact tools for emotional management and well-being.
- **WORKSHOP F:** The power of feedback in effective communication and interpersonal relationships.