Holon IQ

AI in Education.
Global Landscape & Examples

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September 2024

Agenda

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Global Technology Trends are reshaping the education industry and how we experience learning

Education trends

Mobile

Personalised

Disaggregation

Social

Gamified

Digital Five Forces
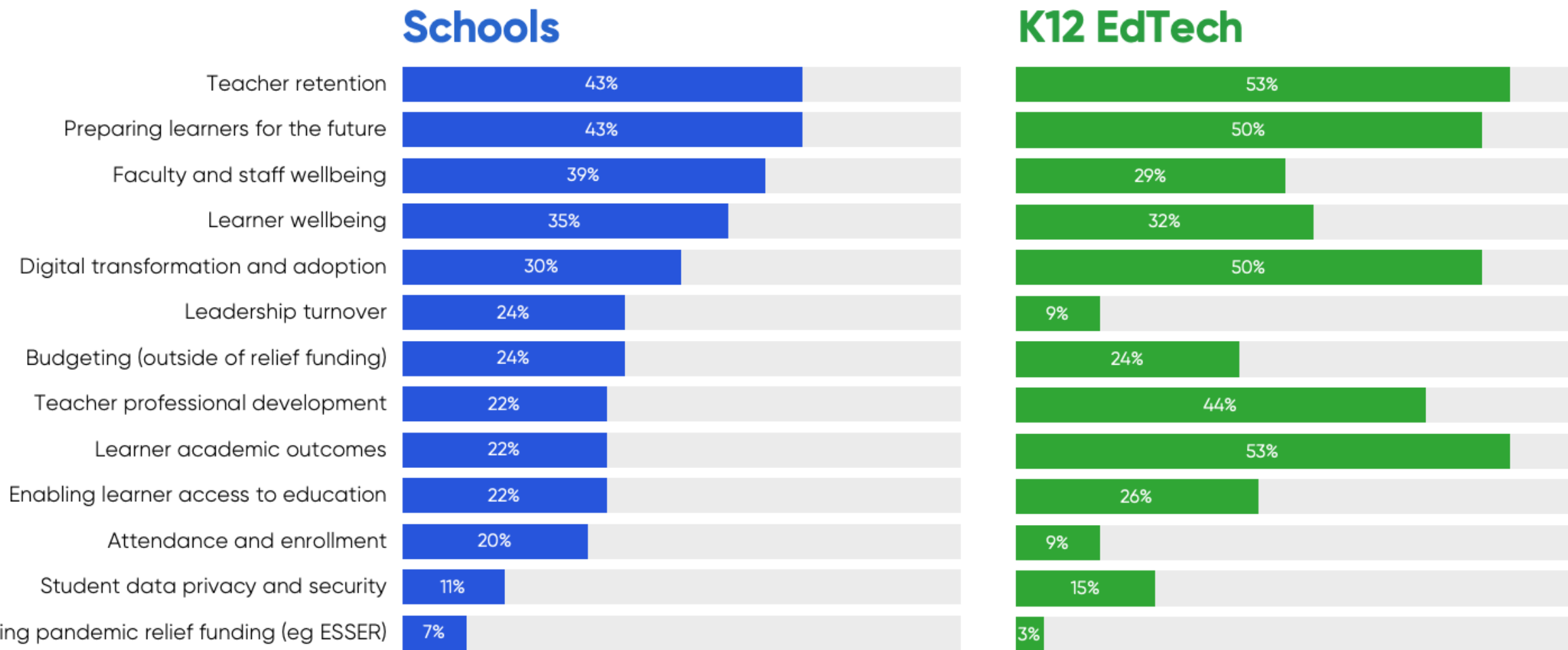
Mobility

Big Data

Social Media

Cloud

AI and Robotics

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Teacher retention, faculty and learner wellbeing and leadership turnover are the major challenges for schools.

What are the biggest challenges facing K12 teaching and learning right now?

Schools

Challenge	Schools
Teacher retention	43%
Preparing learners for the future	43%
Faculty and staff wellbeing	39%
Learner wellbeing	35%
Digital transformation and adoption	30%
Leadership turnover	24%
Budgeting (outside of relief funding)	24%
Teacher professional development	22%
Learner academic outcomes	22%
Enabling learner access to education	22%
Attendance and enrollment	20%
Student data privacy and security	11%
Managing pandemic relief funding (eg ESSER)	7%

K12 EdTech

Challenge	K12 EdTech
Teacher retention	53%
Preparing learners for the future	50%
Faculty and staff wellbeing	29%
Learner wellbeing	32%
Digital transformation and adoption	50%
Leadership turnover	9%
Budgeting (outside of relief funding)	24%
Teacher professional development	44%
Learner academic outcomes	53%
Enabling learner access to education	26%
Attendance and enrollment	9%
Student data privacy and security	15%
Managing pandemic relief funding (eg ESSER)	3%

Source: HolonIQ, January 2023, Global K12 Network Survey

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Renewed focus on skills is driving digital solutions in education & training & skills-based hiring in the region. What is the role of traditional education?

86M — 86m workers in APAC need upskilling or reskilling with advanced digital skills to match the pace of technological change

62% — Analytical skills (62%) and digital skills (52%) are the top two skills prioritised by employees in Vietnam. Within digital skills, both basic and advanced skills are highly regarded.
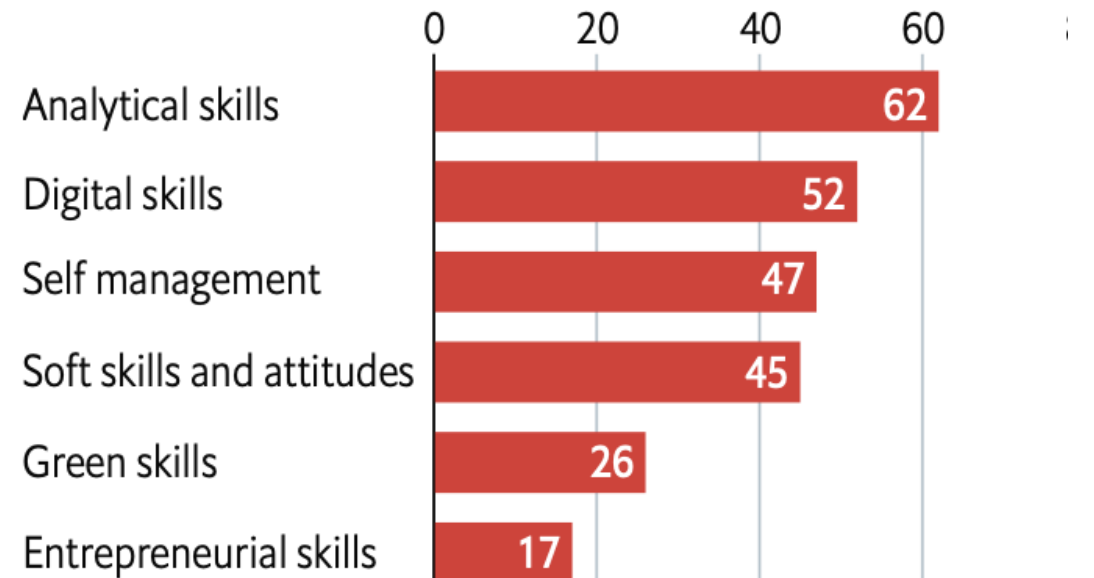
80% — Skills-based hiring is becoming popular in Vietnam; 80% of employees agree that employers are shifting the focus of hiring from full-time degrees to skills-based qualifications.
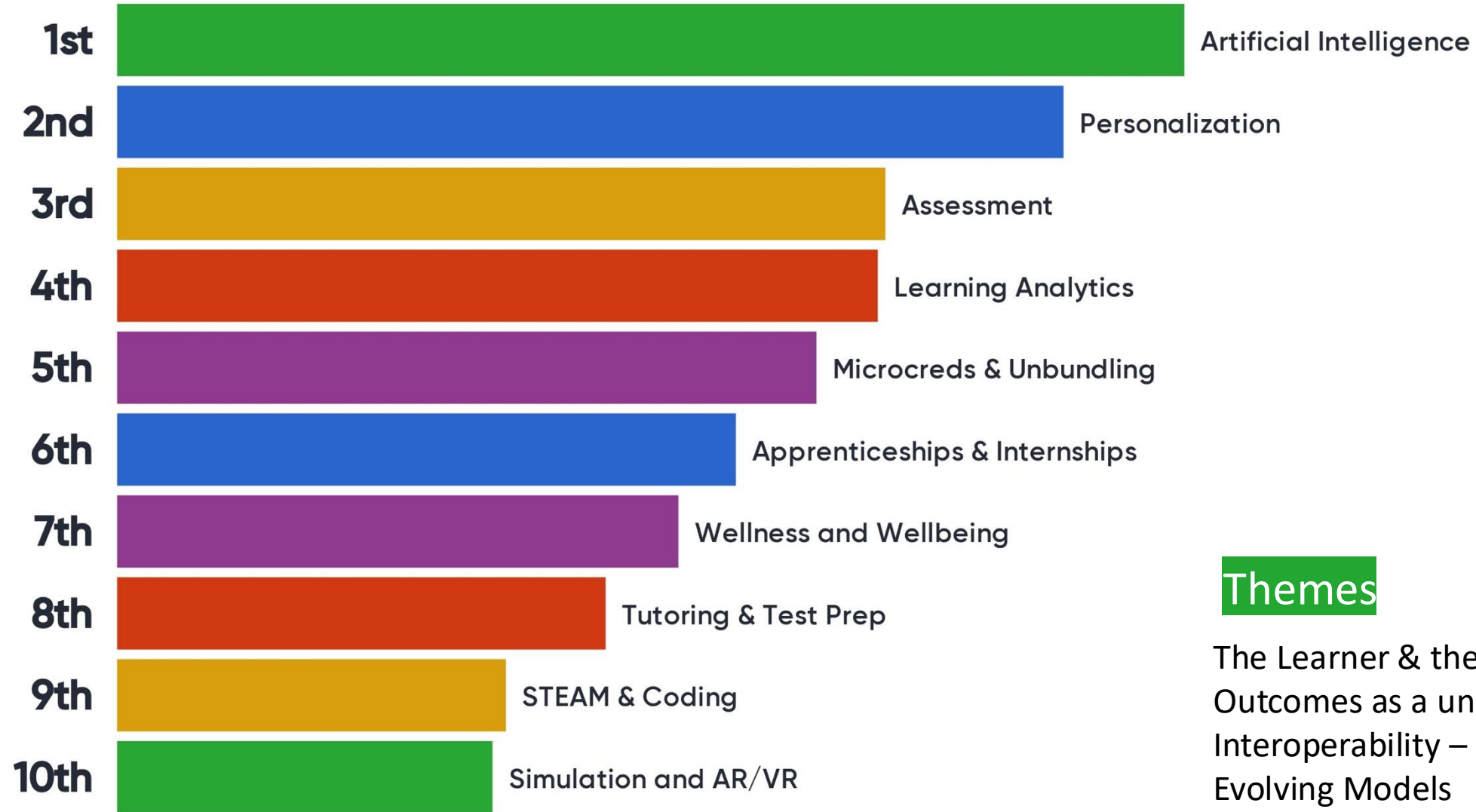
75% — 75% of APAC employers, government officials and academics believe their country has a significant digital skill gap.

Which skill categories do you think are the most important for the workforce in your sector to acquire today? (% of respondents)

Skill category	%
Analytical skills	62
Digital skills	52
Self management	47
Soft skills and attitudes	45
Green skills	26
Entrepreneurial skills	17

Top 10 Trends from Education Leaders

Rank	Trend
1st	Artificial Intelligence
2nd	Personalization
3rd	Assessment
4th	Learning Analytics
5th	Microcreds & Unbundling
6th	Apprenticeships & Internships
7th	Wellness and Wellbeing
8th	Tutoring & Test Prep
9th	STEAM & Coding
10th	Simulation and AR/VR

Themes

The Learner & their experience
Outcomes as a universal language
Interoperability – systems & field
Evolving Models
Advanced Technology integration

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Attention on student engagement and retention, along with core digital infrastructure and AI impacts.

Focus on Engagement, Retention & Learner Experience

Globally, learning loss post-COVID has taken us back several decades. Millions of disengaged and unaccounted for students sit alongside a critical teacher shortage. School systems increasingly seek digital solutions to support engagement and outcomes.

Generative AI integration

Gen AI is in the early stages of integration. Policy & guidelines are being developed. Longer term impact is yet to be seen.

Attention to core infrastructure

Technology is expected to be used in teaching, learning & assessment. School systems globally are focusing budgets and training on digital infrastructure. Core administration, digital content, cybersecurity and cloud solutions are in demand.

AI: Types and issues

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AI applications: Vision, Voice, Language, Analytics (interpretative + generative)

Vision

Facial expression
Emotion detection
Shapes, environment
LiDAR (Light Detection
& Ranging) Robotic
spatial awareness

Voice

Speech recognition
beyond text
Tone and inference
Rhythm, pauses
Accent, pronunciation

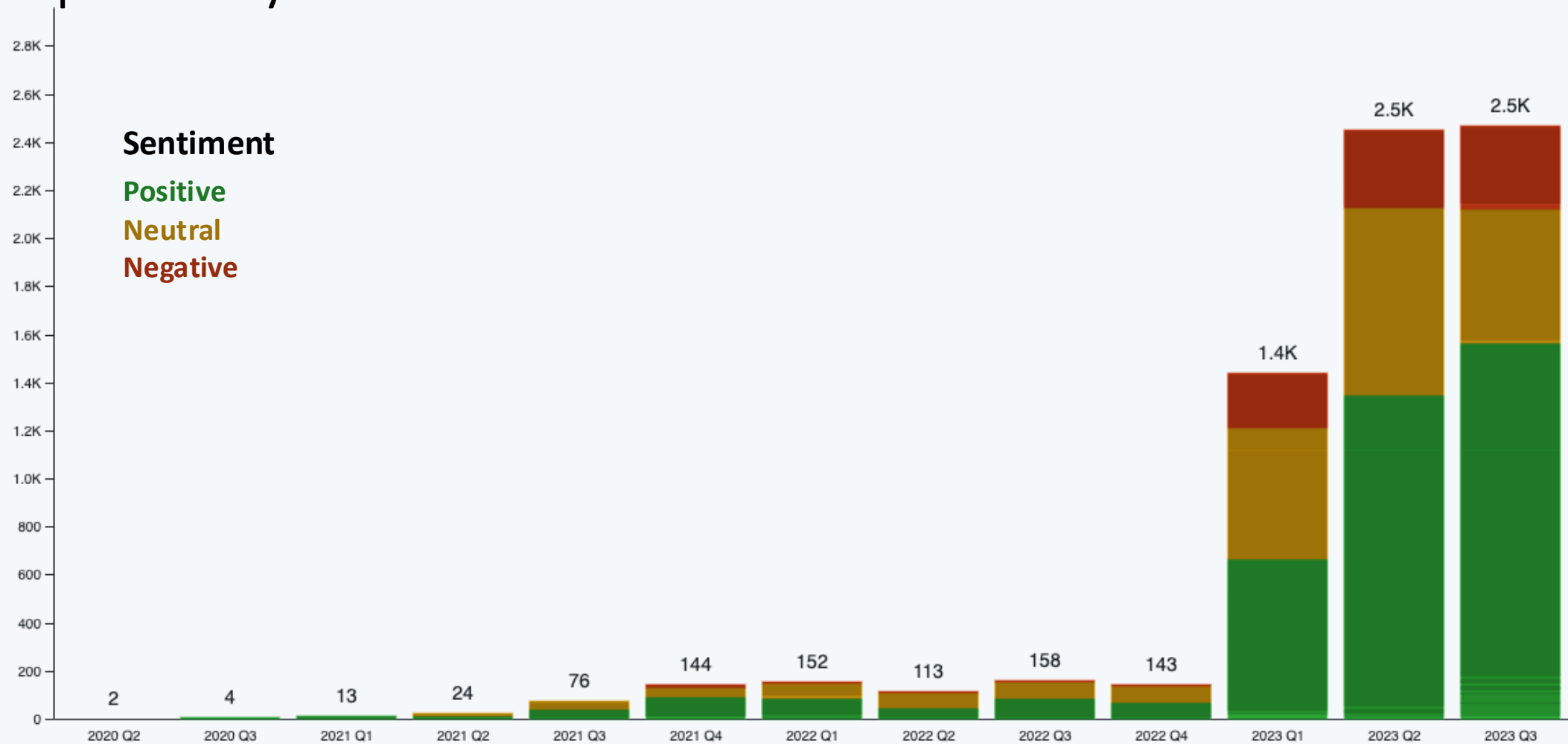### Language

Processing
Understanding
Predicting
Generating

Analytics

Predicting, calculating
Prescribing, nudging
Expressed through
numbers, prompts,
classifications

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Sentiment about 'AI + Education' is generally positive, with higher proportions of negative sentiment in 2023.

Signal sentiment with 'AI + Education' in the signal title January 2021 – July 2023

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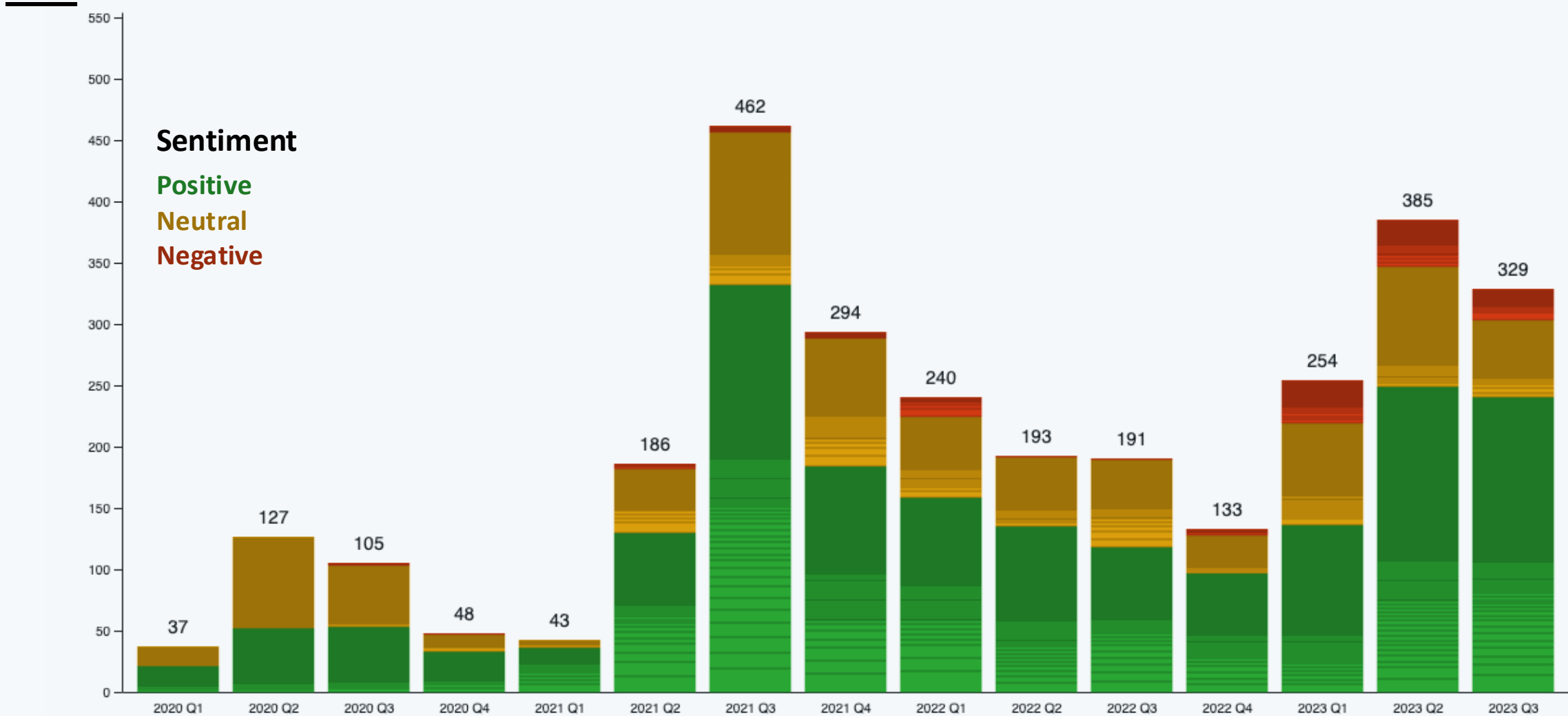
The public 'launch' of generative AI resulted in a surge of press about the applications & implications for education, with a greater negative sentiment than previously identified.

Signal sentiment with 'Education + AI + Generative' in the signal title and body January 2020 – July 2023

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Key issues & concerns related to the use of AI in education

Data security and bias in algorithms

Is the data secure? Who has access to it and how were the training algorithms built?
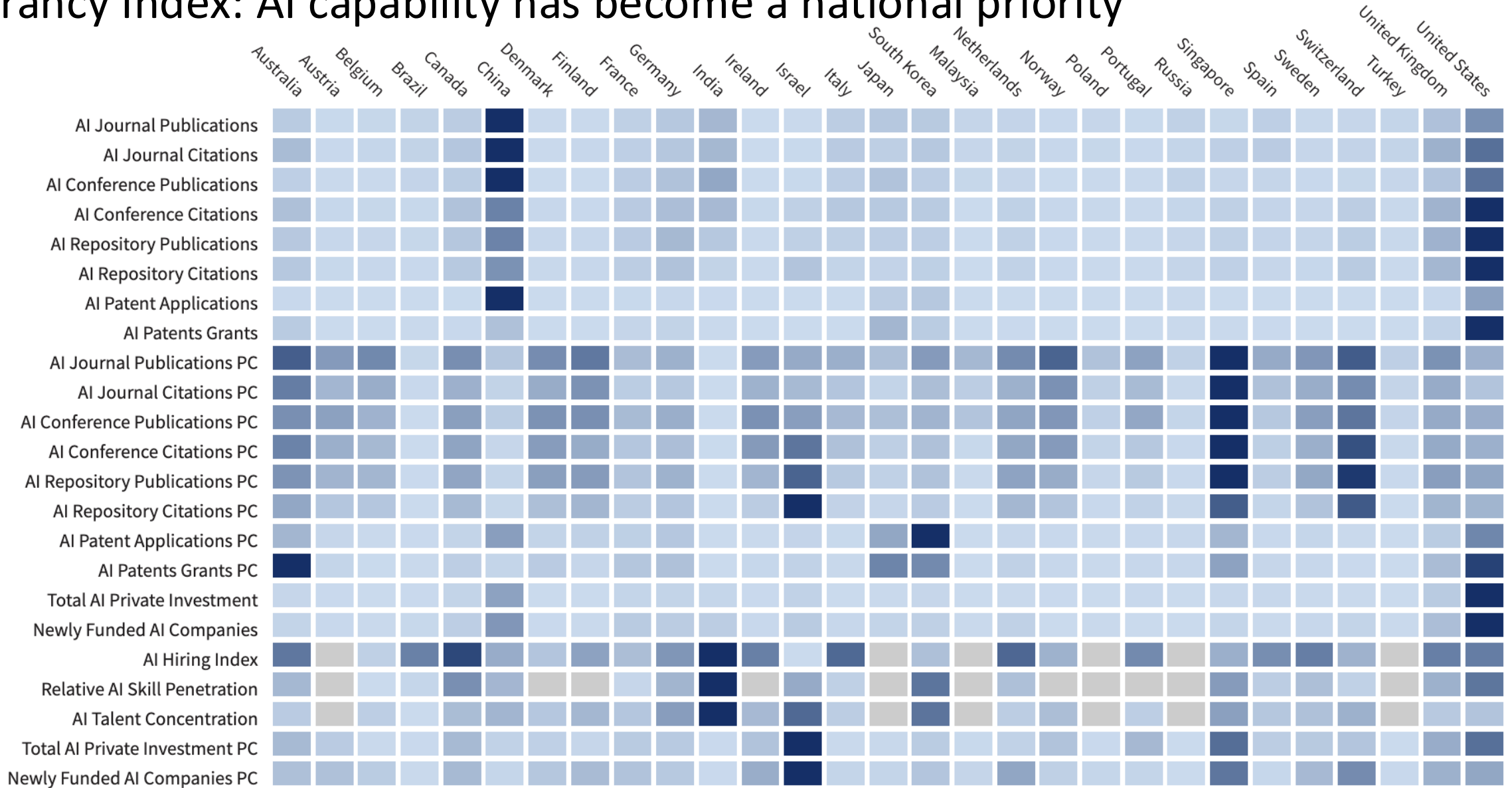
Equitable access to this technology

How can we ensure that all people have equitable access to the creation, use and benefits of AI?

Evidence of effectiveness

Does the use of artificial intelligence work to support better (and equitable) learning outcomes?

# Vibrancy Index: AI capability has become a national priority

3 Key issues for emerging markets in adoption of artificial intelligence: <mark>Limited Digital Infrastructure</mark>, <mark>Skill Shortage</mark>, <mark>Lack of Quality Data</mark>. The risks of not prioritizing AI readiness are high.

Growing technological divide: A larger gap between those with knowledge of and access to advanced generative AI tools and those without is likely to trigger increased income and wealth inequality not only across countries, but also within countries.

Job market disruptions: Generative AI may reduce the value of certain skills, even as others emerge as highly valuable. Customer service – to name one area in which many emerging markets have benefited through offshore outsourcing – is at risk.

Diminished public trust and increasing political instability: Worries about false information and fake news are at all-time highs in many emerging markets. Generative AI may exacerbate these threats, making the lines between real and computer-generated content even more blurred.

Source: WEF

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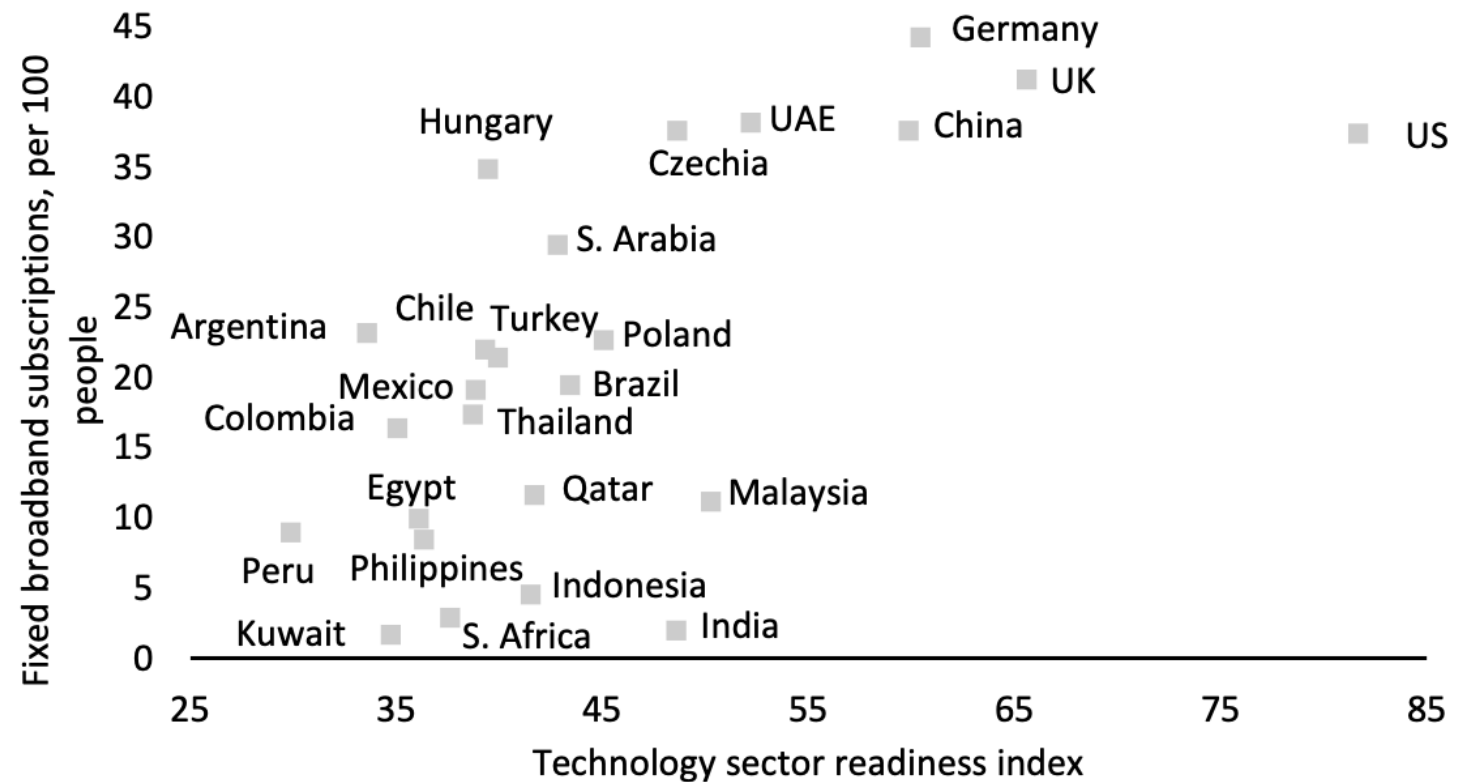
Higher Education is working across multiple fronts with respect to artificial intelligence

Deploying AI in Operations

Using AI to deliver efficiencies, better outcomes or quality

Building AI Capacity

Ensuring the university has the capability to lead and use AI for the future

Teaching with AI

Embedding AI into the student experience

Teaching about AI

Building & delivering courses and curriculum related to AI technologies
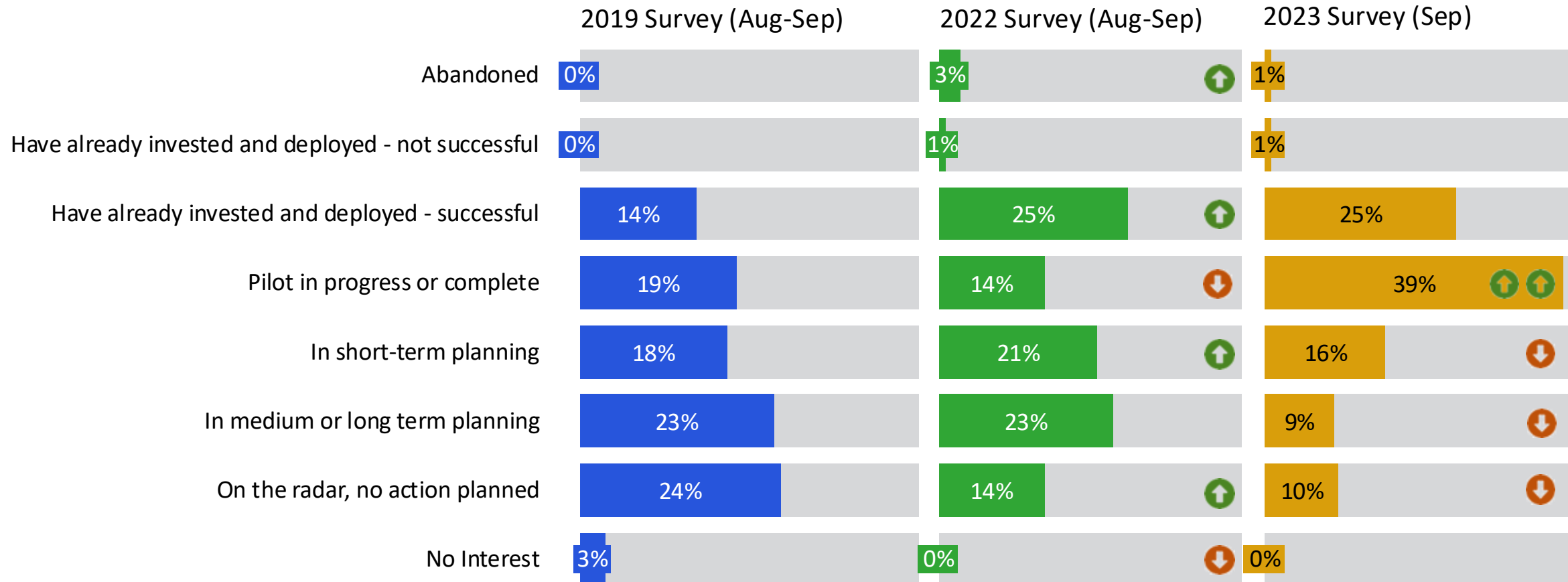
Researching AI

Undertaking research about AI and its impact across disciplines
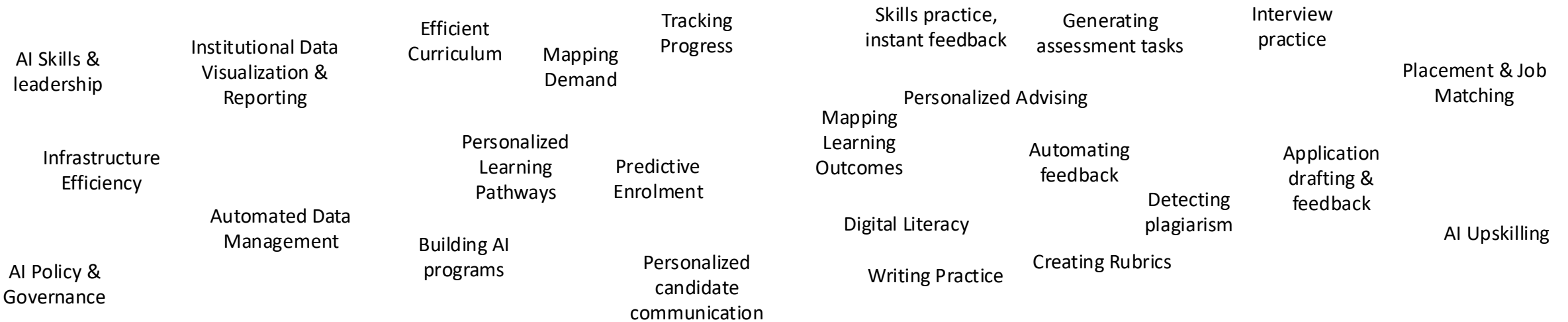
Mapping AI Across the Lifecycle

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40% of all organizations surveyed are in or have successfully completed an AI Pilot Project, more than double last year.

What are your organization's plans in terms of artificial intelligence?

	2019 Survey (Aug-Sep)	2022 Survey (Aug-Sep)		2023 Survey (Sep)	
Abandoned	0%	3%	⬆	1%	
Have already invested and deployed - not successful	0%	1%		1%	
Have already invested and deployed - successful	14%	25%	⬆	25%	
Pilot in progress or complete	19%	14%	⬇	39%	⬆⬆
In short-term planning	18%	21%	⬆	16%	⬇
In medium or long term planning	23%	23%		9%	⬇
On the radar, no action planned	24%	14%	⬆	10%	⬇
No Interest	3%	0%	⬇	0%	

Source: HolonIQ, October 2023

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Use of Artificial Intelligence across the learning journey

PEOPLE & SYSTEMS				LEARNING DESIGN				LEARNER EXPERIENCE				LIFE READY			
1.0 LEADERSHIP	2.0 TALENT MANAGEMENT	3.0 DIGITAL INFRA-STRUCTURE	4.0 DATA MANAGEMENT	5.0 DESIGN APPROACHES & STRATEGIES	6.0 TEACHING & LEARNING EXPERTISE	7.0 DIGITAL CONTENT & CURRICULUM	8.0 ASSESSMENT & SUPPORT	9.0 SCHOOL ENVIRONMENT	10.0 LEARNING ENVIRONMENT	11.0 DIGITAL CITIZENSHIP	12.0 ASSESSMENT & CREDENTIALS	13.0 WORK READY	14.0 CONTINUING EDUCATION	15.0 CAREER PREPARATION	16.0 CIVIC READY

- AI Skills & leadership
- Infrastructure Efficiency
- AI Policy & Governance

- Institutional Data Visualization & Reporting
- Automated Data Management

- Efficient Curriculum
- Personalized Learning Pathways
- Building AI programs

- Mapping Demand
- Predictive Enrolment
- Personalized candidate communication

- Tracking Progress

- Skills practice, instant feedback
- Mapping Learning Outcomes
- Digital Literacy
- Writing Practice

- Personalized Advising
- Creating Rubrics

- Generating assessment tasks
- Automating feedback
- Detecting plagiarism

- Interview practice
- Application drafting & feedback

- Placement & Job Matching
- AI Upskilling

AI embedded into Enterprise Solutions
Data Analytics, Learning Management, Student Information Systems, Curriculum Mgmt
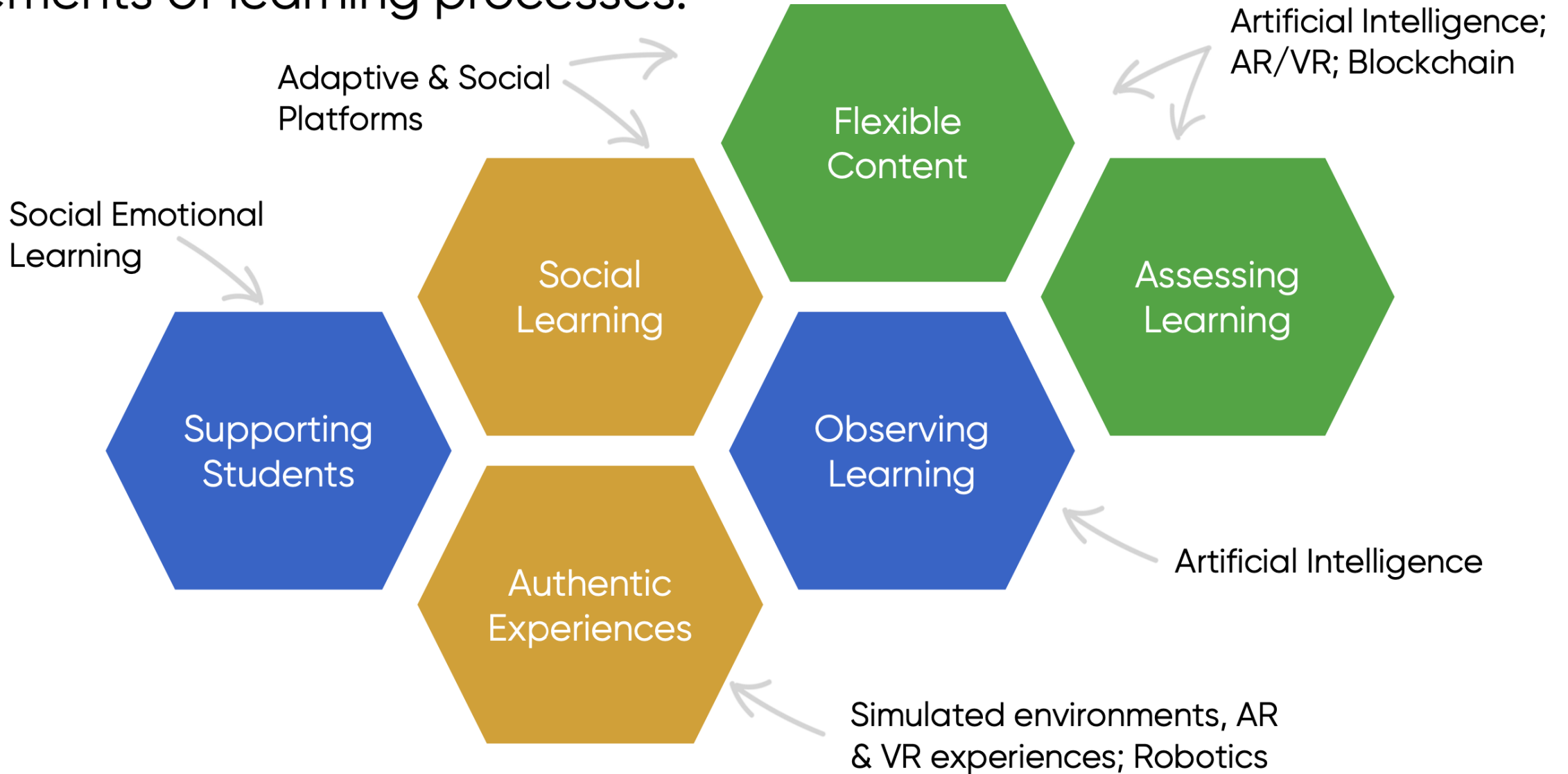
# AI is being used across many aspects of the learning process, curriculum, assessment, administration & teacher support.

Language & Literacy
AI-based apps and tools that facilitate the acquisition and mastery of languages for learners across various ages and proficiency levels. These solutions offer interactive learning experiences with features like real-time feedback, adaptive content, pronunciation checking, reading, and speech coaching.
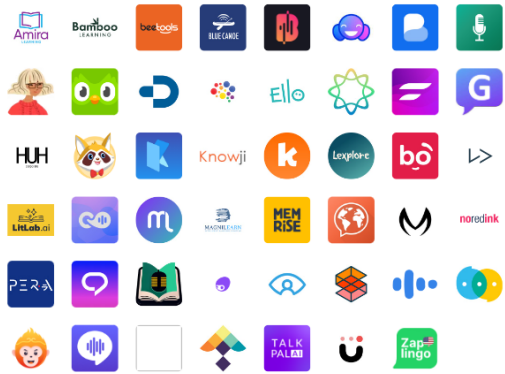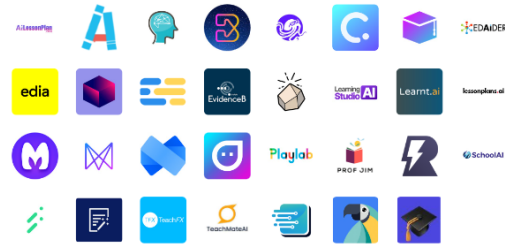

47 Organizations

Productivity
AI tools that enhance individual efficiency and organization. From automated note-taking, transcribing, and mind-mapping, to intelligent search engines and coaching tools, these tools empower users to improve productivity in educational and professional contexts.
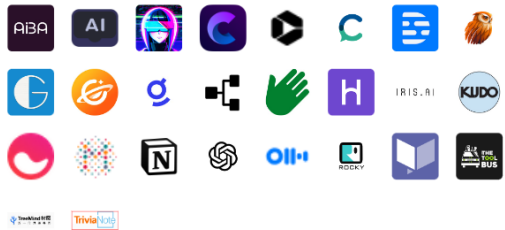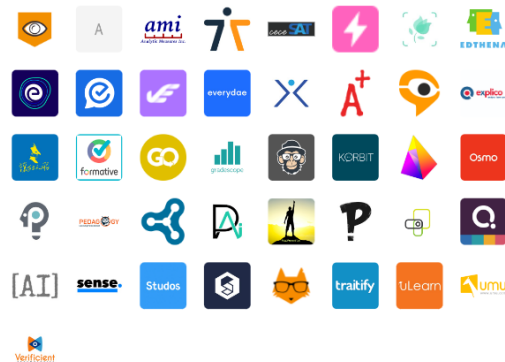

26 Organizations

Teacher Productivity
AI tools that aim to streamline and optimize parts of a teacher's workflow, such as course creation, lesson planning, grading, communication, and administrative tasks.
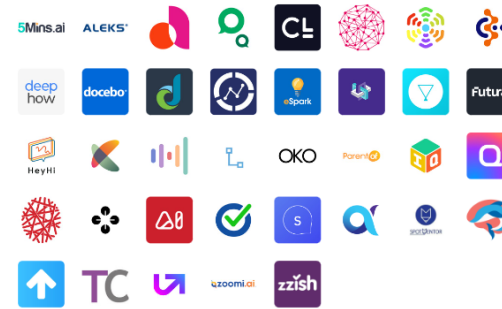

31 Organizations

Assessment & Feedback
AI-driven technologies that facilitate evaluation, monitoring, and feedback within educational contexts. Encompasses AI-driven proctoring, automated grading, assessment generation, and real-time feedback mechanisms, aimed at enhancing the efficiency, objectivity, and effectiveness of learner assessment processes.

41 Organizations

Personalized Learning
Platforms that harness AI to analyze learner data, deliver personalized learning experiences, and optimize educational content. These solutions aim to enhance the learning process, adaptability, and outcomes by tailoring educational approaches and content based on real-time insights.

37 Organizations

Engagement, Retention, & Wellbeing
Solutions designed to foster active participation, retention, and well-being among students and employees. Through AI-driven chatbots, monitoring systems, and personalized interventions, these solutions aim to enhance engagement, address individual needs, and create supportive learning or work environments.
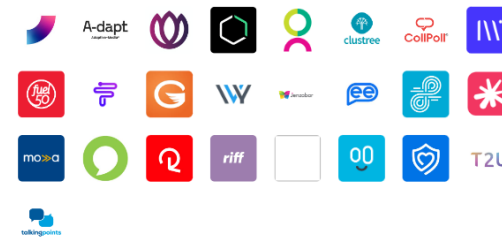
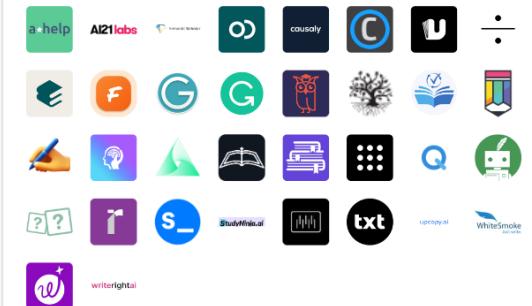25 Organizations

Tutoring & Learning Support
Includes Intelligent Tutoring Systems (ITS) and other platforms that leverage AI to provide learning support, homework assistance, and supplementary resources to help learners master academic subjects, improve performance and grasp concepts.
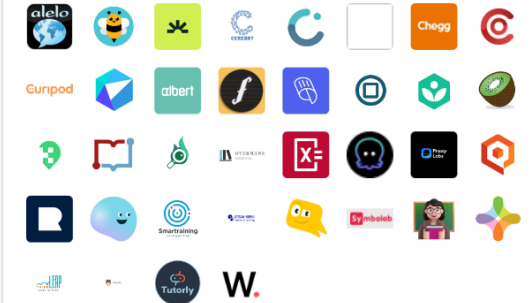
36 Organizations

Research & Study Tools
AI writing assistants, grammar and plagiarism checkers, and research platforms, and other tools that offer students and researchers support for content creation, academic integrity, and knowledge discovery.
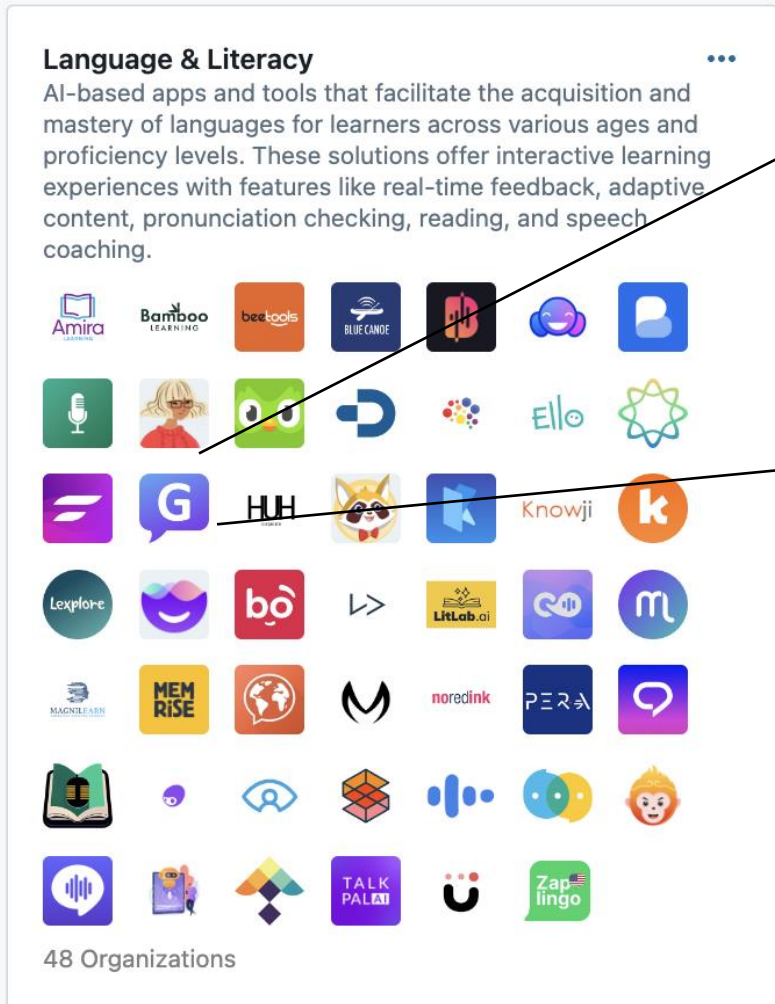

34 Organizations

Source: HolonIQ

AI in Education Examples

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Language & Literacy learning is a popular use case for AI, with voice-based and generative AI developments opening new possibilities.

Language & Literacy •••

AI-based apps and tools that facilitate the acquisition and mastery of languages for learners across various ages and proficiency levels. These solutions offer interactive learning experiences with features like real-time feedback, adaptive content, pronunciation checking, reading, and speech coaching.

48 Organizations

Indicative Market Map: EdTech companies using AI

'AI-based language Teaching Tool'

Gliglish is an AI-based language teaching tool that helps users improve their fluency and confidence in speaking different languages. It has multilingual speech recognition, adjustable speed, feedback on grammar, translations, and suggestions to keep users engaged.
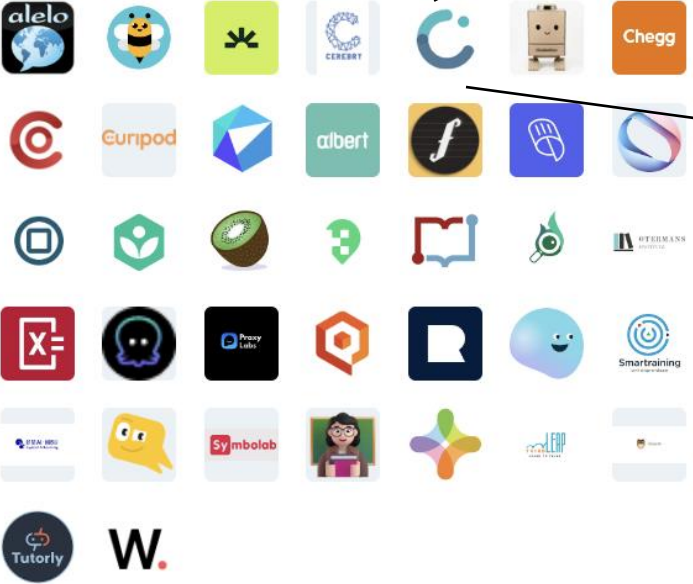
Gliglish

Learn languages by speaking with AI.

Talk to a teacher. Roleplay real-life situations. Improve your speaking & listening.

**Speak now for FREE →**

No signup required ☺

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Newly available AI tools are being used to support learning content development and course creation.

Tutoring & Learning Support

Includes Intelligent Tutoring Systems (ITS) and other platforms that leverage AI to provide learning support, homework assistance, and supplementary resources to help learners master academic subjects, improve performance and grasp concepts.

37 Organizations
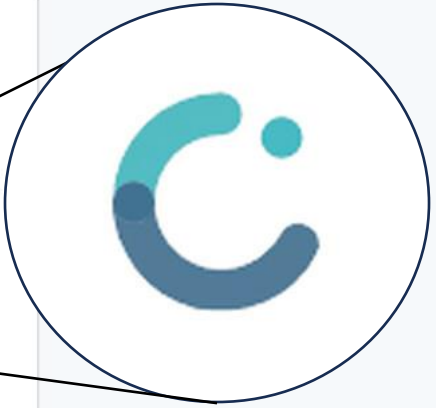
'Intelligent Course Development Assistant'

Chat2Course is an AI-powered course builder and AI tutor that enables users to create custom course overviews, interactive curriculums, personalized learning content, and GPT-4-driven learning experiences, as well as edit and refine content and publish and share their courses.
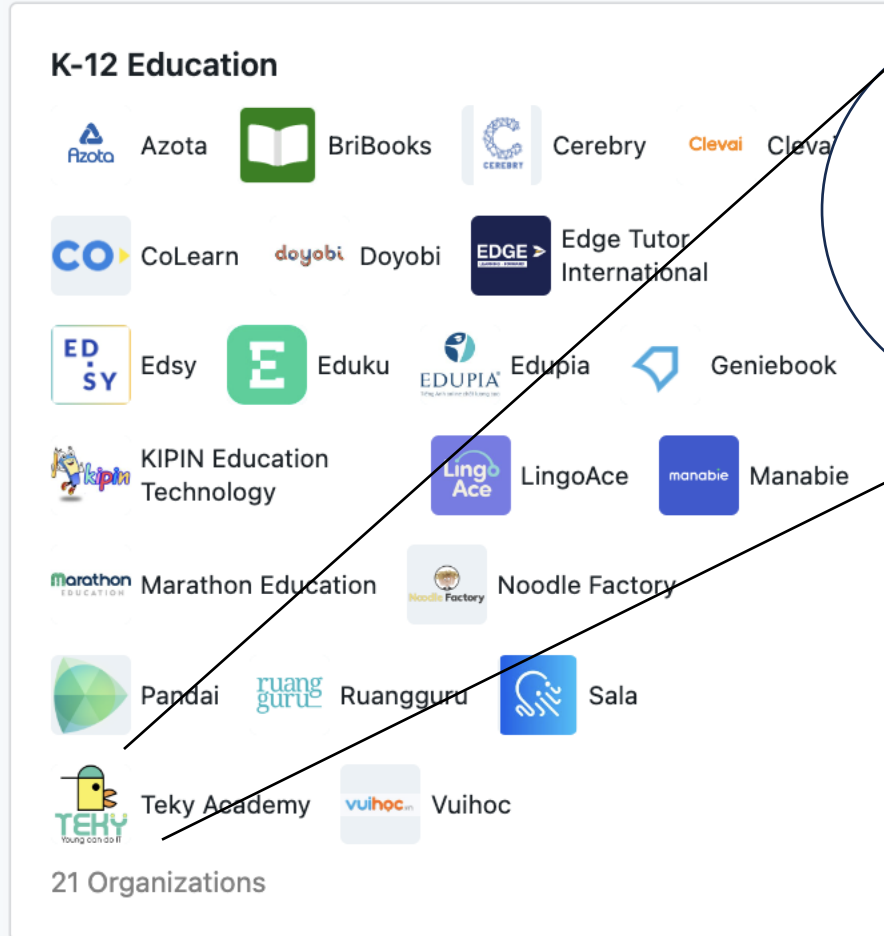
Indicative Market Map: EdTech companies using AI

Intelligent Course Development Assistant

Supercharge Your Course Development Workflow with AI-Driven Solution

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Early teaching of technology, data, coding, and now AI skills is critical to building national capacity in the long term

K-12 Education

Azota · BriBooks · Cerebry · Clevai · Cleva

CoLearn · Doyobi · Edge Tutor International

Edsy · Eduku · Edupia · Geniebook

KIPIN Education Technology · LingoAce · Manabie

Marathon Education · Noodle Factory

Pandai · Ruangguru · Sala

Teky Academy · Vuihoc

21 Organizations

TEKY Young can do IT

'Teaching STEM, Coding and AI Skills'

Teky is a STEAM education platform for K-12 students in Vietnam (STEAM stands for Science, Technology, Engineering, the Arts and Mathematics). Founded in 2017, Teky mainly provides computer programming, coding, robotics & engineering, 3D printing, AI, AR/VR education services for 5-18 year old, preparing for the revolution of technology 4.0 and the 21st century.

Indicative Market Map: EdTech companies using AI

TEKY
TRƯỜNG HỌC CÔNG NGHỆ

Danh mục ▼

+ Tải lên

Đăng nhập

🎮 **Chơi & Xem**

📖 Học

🎯 Làm Game/dự án

📋 Cộng đồng

🎁 Đổi quà

Khám phá

#mindstormsev3   #uaro

#wedo   #spike

#laptrinhgame   #cospace

#scratch   #unity

#pygame   #html

#python   #tinkercad

#Bạn nên thử - Top Trending

Toàn bộ ✖️

Code thủ **Bùi Minh Đức** • 11 tuổi

Foodie Tycoon
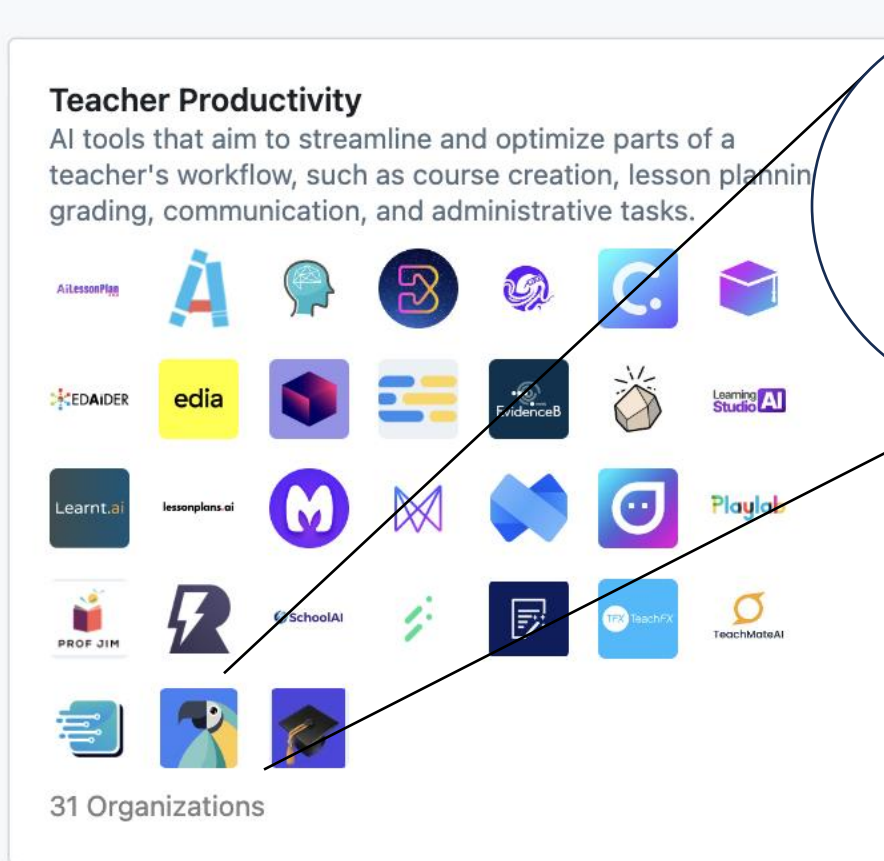#gamevui #funny #dangyeu #dethuong

Chơi ngay

⋯

FOODIE TYCOON

$24

❤️
85

💬
144

🔗

Nhà sáng tạo **Lê Gia Bách**

quản lý thu chi

Chơi ngay

⋯

Chương trình quản lý thu chi
****

Zalo

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One of the most immediate uses of AI is to support teachers in their work, with the potential to save many hours per week.

Teacher Productivity

AI tools that aim to streamline and optimize parts of a teacher's workflow, such as course creation, lesson planning, grading, communication, and administrative tasks.

AiLessonPlan · EDAiDER · edia · EvidenceB · Learning Studio AI · Learnt.ai · lessonplans.ai · Playlab · PROF JIM · SchoolAI · TeachFX · TeachMateAI

31 Organizations

'Teachy is a platform that doubles teachers' time through AI'

Generation of customizable exercise lists, Correction of objective and discursive tests, Preparation of classes and supplementary materials, Commented templates, More than 100,000 original and competition questions.

Indicative Market Map: EdTech companies using AI

Teachy

🇧🇷 Português Brasileiro
🇪🇸 Español
🇺🇸 English
🇮🇩 Bahasa Indonesia
🇵🇭 Filipino
🇫🇷 Français
🇮🇳 Hindi
🇻🇳 Tiếng Việt
🇲🇾 Bahasa Melayu
🇩🇪 Deutsch
🇯🇵 日本語
🇰🇷 한국어
🇵🇰 اردو
🇧🇩 বাংলা

Prepare lessons, assess, grade 10 times faster

Join over 500,000 teachers using the best AI with educational quality

Start Free

Prepare Lesson

Create anything with AI

Create Assignments

Grade Assignments

AI in Education.
Global Landscape & Examples

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Co-Chief Executive, HolonIQ
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