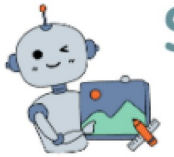
Kraków Forum on AI in Education · 2026

AI in primary education: perspectives on the current landscape and opportunities for the future

Findings from the SmartStart Expert Key Strategy Paper

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SmartStart – Teacher Academy · Erasmus+ Grant Agreement n.° 101196580

The project

SmartStart: a Teacher Academy across seven countries

Germany · Norway · Poland · Portugal · Slovakia · Spain · Sweden

An international teacher training programme that empowers teachers and student teachers to integrate AI-based digital media into everyday classroom practice.

WP1

Theoretical framework

The theoretical foundation of the Teacher Academy, built on a Design-Based Thinking strategy

EXPERT PANEL

Focus group discussions

Stakeholders from all partner countries share views, practices and needs

OUTPUT

Expert Key Strategy Paper

Six themes on AI integration in primary education: the focus of this talk

“

AI can already plan the lesson, write the test and draft the report.

So what is a (primary) school teacher for?

31 education stakeholders from 7 countries helped us answer it

Context

Why look at AI in primary education?

AI is entering formal education

Curricula are integrating AI both as a tool for teaching and learning and as content to be learnt (UNESCO, 2022, 2025).

The promise is better pedagogy

The main interest lies in improving pedagogical processes and their effectiveness (Gao et al., 2024).

Many questions remain open

Ethics, effectiveness of practices, and how educational actors perceive digital learning environments (Abdullah, 2022; Jeon, 2024; Yumbul & Sulak, 2024).

IN THE EARLY YEARS

The questions are structural: cognitive and ethical

Gao et al., 2024; Gravino et al., 2024

OUR QUESTION

How do educational stakeholders conceive the roles AI can take in the first years of compulsory schooling?

Method

Who we listened to

31
participants

7
focus group discussions

1
interview with a policymaker

Jan–Jul
2026 data collection

Stakeholder profiles (participants per group)

- School leaders 7
- Schoolteachers 5
- AI experts 4
- Psychologists 4
- Parents 4
- Teacher trainers 3
- Teacher associations 3
- Policymaker 1

Analysis

From four discussion areas to six themes

Discussion guide

1. AI concept
2. AI experiences and effects on the educational landscape
3. Opportunities and challenges of AI integration in primary education
4. Strategic future action, including policymaking

Thematic content analysis

NVivo · two researchers · emergent and pre-defined categories

Bardin, 1977; Vaismoradi & Snelgrove, 2019

- **Conceptions of AI as a tool**
- **Attitudes and emotions towards AI**
- **Challenges in AI integration**
- **Pedagogical approaches**
- **Ethical dimensions of AI use**
- **Policy and governance**

Mostly a productivity tool, increasingly a pedagogical one

AI as a productivity tool

USES

Saving time on routine and administrative work: tests, reports, lesson plans, materials

IN PRACTICE

Still emergent: many teachers are not yet part of this culture

> *What I decided was to work with ChatGPT on the things that I don't like to do in my job. For example, creating exams.*
>
> Teacher trainer, Spain

AI as a pedagogical tool

USES

Adapting to students' learning levels, feedback, support for children with special needs

IN PRACTICE

Exploratory stage: parents describe AI as largely absent from classrooms

> *It was a very helpful tool for them because they sometimes don't have the time or get annoyed having to explain something over and over again.*
>
> Psychologist, Germany, on educators of children with special needs

Ambivalence: openness to experiment, alongside distrust

OPENNESS

“Teachers have more concerns about using AI than young people. For us it's a chance to develop our activities to a new level.”

School leader, Poland

UNCERTAINTY

“(...) the use (...) is very individual. (...) there is no network (...) and that causes (...) some anxiety regarding this resource.”

School leader, Portugal

RESISTANCE

“Every time a new technology emerges, teachers are some kind of repulsive to it. We don’t want it. We like the classic methods.”

Teacher trainer, Portugal

A familiar pattern: each new technology brought its own fears (AI expert, Poland)

MOOCs
Teachers replaced by technology

→

Mobile technologies
Concentration and attention spans

→

Cloud computing
Privacy and data protection

→

AI
Concerns “much more serious” than before

Three challenges dominate the conversation

1 Assessment

Hard to know what students can do on their own; schools move back to in-class, supervised and oral exams.

2 Cognitive dependency

Speed and correct answers over process: a risk of “cognitive debt” and weaker patience, resilience and problem-solving.

3 Control and academic integrity

Students find ways around rules even where restrictions exist; AI-assisted cheating is becoming normalised.

> *They [students] are cheating and they use different possibilities (...) they want to find quick success.*
>
> Teacher trainer, Poland

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Teachers remain central to meaningful AI use

Personalisation

Differentiation in heterogeneous classes, e.g. students aged 10–11 using AI to simplify research texts.

Critical thinking

Questioning AI outputs, and understanding how algorithms filter what reaches students.

The teacher's role

AI does not replace the teacher; it calls for a redefinition of mediation and guidance.

Students' engagement

Faster, more direct access to information does not automatically lead to meaningful learning.

> *It's the teacher who is going to regulate and be a role model for the students, rather than the students actively or independently using AI tools.*
>
> School leader, Sweden

Ethics: shared frameworks are still missing

Ethical use and responsibility

Teachers and students may use AI without enough awareness of its ethical implications. Ethics is a shared, structured responsibility, not an individual choice.

- Authorship
- Fairness
- Learning integrity

Ethical education covers what AI should not be used for, such as generated content that harms classmates.

Data privacy and protection

GDPR concerns from parents, children sharing family data, bias and copyright. Schools build safe tools, but students still turn to ChatGPT.

> *“The second is the data leak problem. Many kids might put real data of their families, where they live, what is their mother’s PIN code to the card, and so on.”*
>
> Schoolteacher, Poland

Policy and governance: four levers for system-level change

01

Institutional and cross-national coordination

Frameworks exist; the gap is circulation and alignment across schools, sectors and countries.

02

AI in initial teacher education

No clear political decision on AI's place in the curriculum, amid competing priorities.

03

Continuing professional development

A systemic requirement, not individual effort: beyond technical skills, into pedagogy and critical reflection.

04

Infrastructure

Beyond hardware: maintenance, costs and long-term support; bans move use out of school.

Policy decisions alone do not produce change: without implementation, monitoring and evaluation, adoption is left to a few innovators, an equity issue.

Conclusions

What this means for primary education

01 **AI does not replace teachers,** but it might redefine their role: guiding ethical use, fostering critical thinking and ensuring meaningful learning.

02 **Experimentation is evident, but at different paces.** Without implementation capacity, adoption depends on a few innovators, which turns it into an equity issue.

03 **Governance is the missing layer.** Stakeholders highlight the need to think AI integration into education as a system-level challenge rather than classroom-level within a multi-level governance and policy framework.

04 **Priorities for action.** AI in curricula, continuing professional development, and fair access to infrastructure.

Questions to take home

Something to think about

If AI can produce the perfect answer, what exactly are we assessing?

Should a seven-year-old first learn to use AI, or to notice when an algorithm is deciding for them?

Who governs AI in schools: the ministry, the school, or each teacher alone?

When we ban devices at school, do we protect children, or move AI use to their bedrooms?

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Thank you! :)

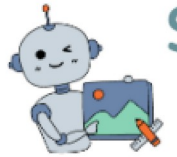
Questions and comments are very welcome

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