

The Five *Eras* of Education

From mass schooling to lifelong agency.

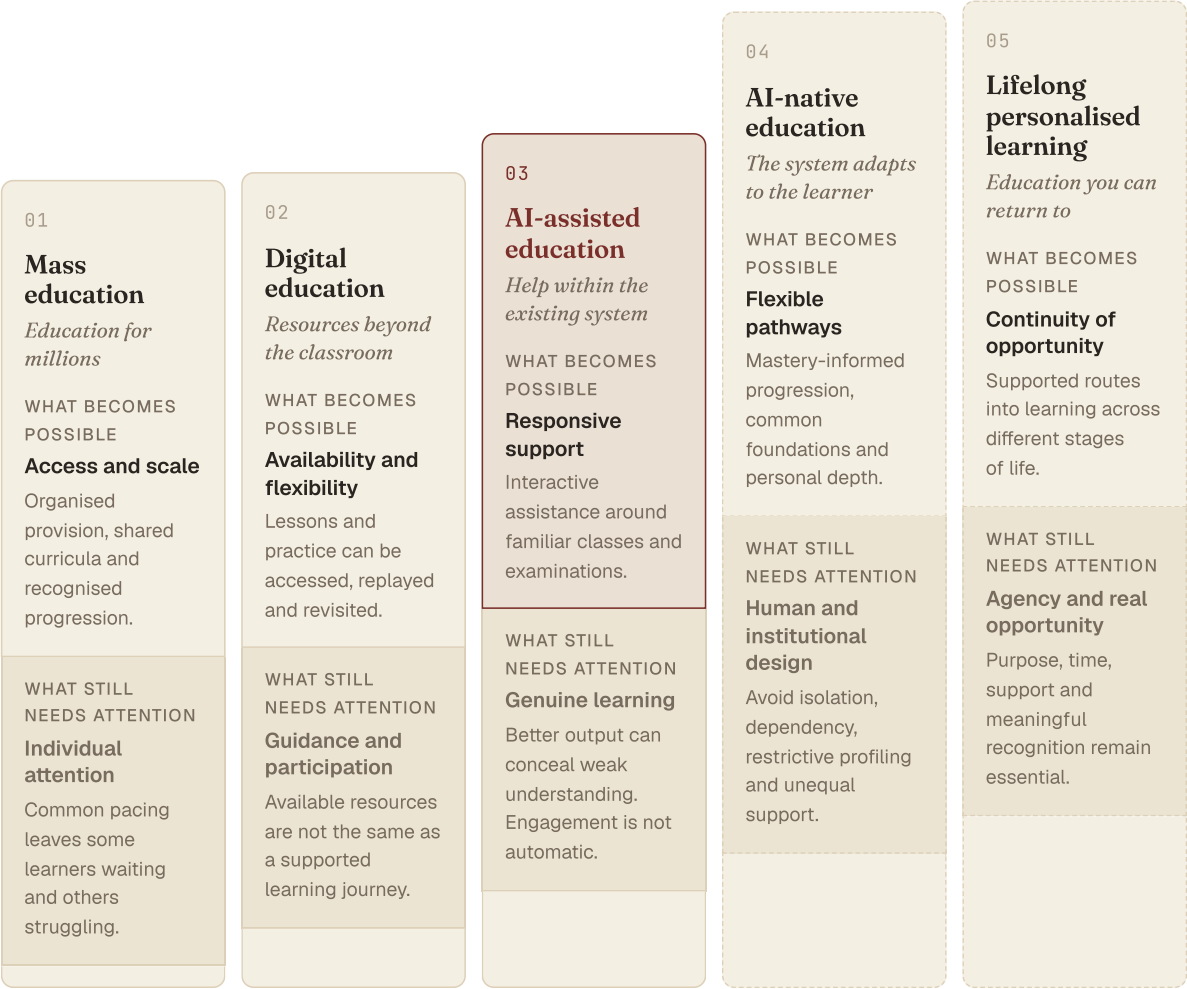
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Mass education expanded who could learn. Artificial intelligence could expand how well education responds to each learner. The larger ambition is to help people remain capable of learning throughout their lives, without losing what we gain by learning and living together.

The Five Eras of Education is a lens for thinking about that expanding ambition. It describes five overlapping shifts: mass education, digital education, AI-assisted education, AI-native education and lifelong personalised learning. These are not stages every institution must pass through. They distinguish what becomes possible, what changes in how learning is organised, and what still requires human attention.

Five eras. One expanding ambition.

Each era opens new possibilities. None automatically resolves what the previous eras left unfinished



■ Broad historical developments ■ Where the AI layer sits today ■ Possible directions, not destinations

Each constraint we remove reveals the next one.

Schematic: expanding possibilities, not a scale of educational achievement.

The eras overlap. The first two describe broad historical developments. The third identifies an emerging use of AI within existing institutions. The final two describe possibilities for redesign. They are not a timetable, and they are not a ranking of educational systems.

The five eras

01 EDUCATION FOR MILLIONS

Mass education

Organising education at scale made it possible to teach whole populations. Shared curricula, age-based classes, timetables and examinations turned a coordination problem, far more children than expert adults, into something a country could run, and gave qualifications a meaning that travelled from one town to the next. The compromises came with the scale: common pacing, limited individual feedback, fixed progression, and support that often remains tied to enrolment in a particular institution.

02

RESOURCES BEYOND THE CLASSROOM

Digital education

Explanations and practice became less dependent on a particular room at a particular time. A lesson could be replayed, a demonstration paused, an exercise attempted again the following evening. Adaptive practice and mastery dashboards were already part of digital education. They did not begin with generative AI. What stayed hard was diagnosis: knowing what this particular learner misunderstood, and what should happen next.

03

HELP WITHIN THE EXISTING SYSTEM

AI-assisted education

The school year, the curriculum and the examinations stay as they are, and richer, more flexible responsive support is added to them: a diagnostic question, a different explanation, a relevant exercise, feedback on the learner's attempt, and tools that can help teachers identify learning needs and direct their attention more effectively. This is where the AI layer sits today. It can change a great deal about the support a learner receives without changing the institution around them, which is both its usefulness and its limit.

04

THE SYSTEM ADAPTS TO THE LEARNER

AI-native education

A possible redesign, not an established outcome, and not simply a school with more AI tools. In the third era a learner gets extra help with the chapter the class is studying. In the fourth, demonstrated readiness could help determine which chapter, level or learning group comes next. That requires assessment and progression to change: mastery-informed progression, a common foundation with a personalised frontier, and age that continues to organise belonging without determining every academic task.

05

EDUCATION YOU CAN RETURN TO

Lifelong personalised learning

This era does not invent lifelong learning, and it need not wait for schools to complete the fourth. It extends the ambition: a coherent, supported learning journey should remain available beyond any particular institution or stage of life. An adult returning to mathematics after twenty years could be met

where they are, through a fresh assessment of what they know and, where useful, a learning record they choose to carry. The route back need not begin from the beginning. Continuity of opportunity matters more than continuous enrolment.

How to read the framework

This framework places most of the AI now arriving in schools in Era 3: responsive support added to familiar learning and teaching arrangements. But the eras overlap. An education system may combine elements of several at once, while another may still be working to provide reliable access to the first.

The lower band of each step in the diagram names a challenge made especially visible in that era, not a problem confined to it. Individual attention, guidance, genuine learning, human support and agency matter throughout. New capabilities do not release education from its earlier responsibilities. Each constraint we remove reveals the next one, but revealing the next constraint does not mean the earlier ones have disappeared for everyone. [UNESCO's analysis of education technology](#) makes the same point from the other direction: access to technology, governance and regulation, and teacher preparation are system-wide conditions for technology to reach its educational potential, not problems that software resolves on its own.

A LEDGER PRINCIPLE

As some technological constraints ease, the conditions for meaningful learning matter more, not less.

Towards greater agency

If that is the direction of travel, personalisation cannot be the destination in itself. A system that becomes ever better at deciding what a learner should do next could still leave that learner dependent on the system. The larger ambition, then, is greater agency.

By agency, I mean the growing ability to choose a worthwhile direction, understand what learning it requires, and sustain the effort, with support where needed. It is not a synonym for willpower, and it is not solitary independence. A child can exercise increasing agency inside a structured classroom. An adult can be self-directed while relying on mentors and peers.

Agency is not a quality we assume learners already possess. It is something education should help them develop. That is the distinction between a personalised system that continually tells someone what to do next and one that gradually helps them make those decisions themselves.

The ambition is not merely a system that knows the learner better. It is a learner who becomes more capable of directing their own learning.

What personalisation must preserve

Greater agency does not mean leaving each learner alone to choose everything for themselves. Personalisation carries its own risks. It can narrow horizons around existing interests, weaken common foundations, increase dependence on the system doing the personalising, or turn learning into an increasingly solitary experience.

So the framework needs guardrails as well as ambition. Three commitments define them.

A LEDGER PRINCIPLE

Common foundation. Personalised frontier. Shared life.

Common foundation. Language, mathematics, science, history, the arts, physical development, civic understanding and digital judgment remain candidates for a shared educational base. Personalisation does not mean abandoning shared knowledge, and the balance between those subjects requires collective deliberation, not an automated decision by a platform.

Personalised frontier. A learner should be able to go deep in one area without waiting for an age cohort, and should find support where progress takes longer. Personalisation should expand a learner's world, not merely optimise around what they already like. A

child who loves football might meet probability through sport, but should also meet subjects that have nothing to do with football.

Shared life. A fully personalised learning journey need not mean an individualised childhood. Debate, performance, practical work and collaboration are central forms of education, not rewards for finishing screen-based work. The aim is greater independence in learning, not independence from other people.

The ambition is not to move every institution to the right-hand side of a diagram. It is to make education more responsive to each person while preserving what only a shared educational life can give.

The test is not how much technology a system contains. It is whether people gain the capacity, opportunity and desire to keep learning.

The series

The framework anchors a series of essays under the title *The Next Era of Education*. [The Illusion of Learning](#) sets out the first danger of the AI-assisted era: that AI can make a student's work better before it makes the student better. [Learning Before Answering](#) describes a product built in response to that danger, and what it still cannot promise. Further essays may explore the institutional choices behind Era 4 and the conditions for lifelong agency in Era 5, drawing on evidence and experience as they develop.

WRITTEN BY

Veemal Gungadin

WITH ASSISTANCE FROM **Claude Fable 5.1** · Anthropic , **GPT-6 Astra** · OpenAI

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