

Systemic Thinking as an Ethical Stance: a critical assessment of Artificial Intelligence and Education in the Global South

El pensamiento sistémico como postura ética: una evaluación crítica de la inteligencia artificial y la educación en el Sur Global

Pensamento Sistêmico como Postura Ética: uma avaliação crítica da Inteligência Artificial e da Educação no Sul Global

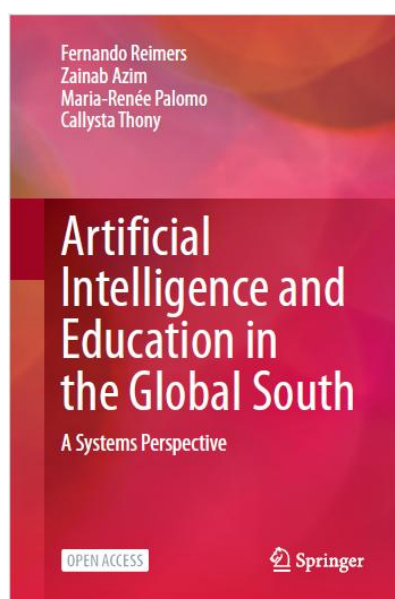
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Submitted on: 2026-04-25

Accepted on: 2026-08-14

Reimers, Fernando et al. (2026). **Artificial intelligence and education in the Global South: a systems perspective**. Cham: Springer Nature Switzerland. <https://doi.org/10.1007/978-3-032-11449-5>



1. INTRODUCTION

Artificial Intelligence and Education in the Global South is a work of academic and policy intervention. Fernando Reimers, Zainab Azim, Maria-Renée Palomo, and Callysta Thony address a deceptively simple question: can artificial intelligence transform — rather than merely improve —

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education in contexts defined by resource constraints, persistent structural inequalities, and limited institutional capacity? Their answer is neither celebratory nor dismissive. AI can support meaningful educational change, they argue, but only when understood as one component of a complex, interdependent educational ecosystem — not as a technological shortcut to deep-seated systemic problems.

The work is interdisciplinary in a substantive sense: it brings educational questions into dialogue with systems thinking, technological development, ethics, and public policy. Its object is not AI in isolation, but the relationships through which a sociotechnical component acquires — or fails to acquire — educational value. The focus is primarily on compulsory education, a delimitation that matters when assessing the reach of its conclusions (Reimers et al., 2026, p. 1).

The analytical move is significant. An adoption logic often frames discussions of AI in education: whether and how a technology is introduced into classrooms. Reimers et al. (2026) replace that logic with a transformation standard, asking not whether AI can be applied to education but whether it can solve the most important education problems at scale, sustainably, and without reinforcing existing inequalities. That reframing from a technocentric to a systemic-political question is the book's most durable contribution.

Read from this perspective, systemic thinking becomes an ethical stance: the relevant question is not only what a tool can do, but whose educational problems it addresses, under which conditions, and at whose expense. The book's value therefore rests on the coherence of its improvement/transformation distinction, the evidence supporting its claims, and its capacity to account for the heterogeneous contexts gathered under the Global South label.

2. ANALYSIS OF THE PARTS OF THE BOOK

The volume comprises nine chapters: two establish the conceptual and contextual foundations, six examine interconnected educational domains, and one draws the final synthesis. This progression moves from the purposes and conditions of education to the relationships among learning, curriculum, assessment, teachers, school organization, and governance. It is an argumentative sequence, not simply a collection of applications (Reimers et al., 2026).

The opening chapter's most analytically productive move is its distinction between educational improvement and transformation — and this distinction guides the subsequent inquiry. Improvement, the authors argue, is achievable by almost any well-designed innovation: any

technology, if properly implemented, can produce some localized gain. Transformation, by contrast, requires AI to address the most critical problems of educational systems across three specific domains that structure the entire inquiry: AI literacy, educational effectiveness for foundational skills in reading, writing, and numeracy, and curricular relevance for twenty-first-century competencies (Reimers et al., 2026, p. 2). These three domains are not merely chapter themes; they function as recurring evaluative criteria against which every AI application is judged throughout the book.

The standard is deliberately demanding because each of the three domains represents a distinct level of urgency and scale. The first domain — AI literacy — proceeds from the diagnosis that AI's transformation of the labour market creates a new and urgent educational demand: students need not only to use AI tools but to understand them critically, reason about their ethical implications, and cultivate distinctly human capacities — collaboration, moral judgment, creativity — that become more valuable precisely because AI cannot easily replace them (Reimers et al., 2026, p. 5). The second domain — effectiveness for foundational skills — is treated as the most pressing issue in the Global South: in systems where the majority of children have not yet mastered reading and writing, AI must demonstrate that it can support, and not divert resources from, basic learning. The third domain — twenty-first-century relevance — asks whether AI can help education systems move beyond standardized curriculum delivery and develop competencies that were, in the authors' formulation, "previously out of reach" through traditional modes of instruction (Reimers et al., 2026, p. 5).

The second chapter examines the challenges and opportunities of education in the Global South, giving contextual substance to the opening framework. It connects the promise of innovation to the persistence of exclusion, insufficient learning, and unequal institutional resources. This placement is consequential: the reader encounters the educational problems before being invited to assess technological solutions (Reimers et al., 2026, pp. 23–34).

The choice of the Global South as the unit of analysis is justified on both demographic and systemic grounds. Approximately 85% of the world's population and 90% of those under the age of 18 live in these countries (Reimers et al., 2026, p. 6), meaning that any educational transformation will have its greatest impact precisely there. But the authors' argument is not merely quantitative — it is one of opportunity cost. In contexts defined by scarce per-student resources and institutional fragility, the risk of adopting poorly adapted technologies is proportionally higher. The example the authors offer is precise: in a system where most children cannot yet read or write, an AI literacy curriculum that reaches a privileged minority while consuming resources earmarked for foundational

skills is not just insufficient — it is "a distraction from addressing the elephant in the room," which is the system's failure to ensure that all children develop basic competencies (Reimers et al., 2026, p. 7). This formulation reframes the evaluative question entirely: the issue is not whether a tool works for some students, but whether it works for the most excluded, at scale, without widening the gap between those who already have access to quality resources and those who do not.

At the same time, the authors resist a homogeneous reading of the Global South. The category spans vastly different realities — Brazil, India, Nigeria, Bangladesh, Mexico, Pacific Island States — with differences not only between countries but within each country's regions, in terms of connectivity, class sizes, teacher qualifications, languages of instruction, electrical infrastructure, and local governance capacity (Reimers et al., 2026, p. 7). Effective AI integration, the book therefore insists, must be attuned to local needs, priorities, languages, cultures, and pedagogies — not simply transferred from models developed in high-resource settings. This demand for contextual adaptation is simultaneously a theoretical contribution of the book and a practical evaluative criterion: AI technologies that perform well in well-equipped schools may need to be entirely reimagined for contexts of intermittent connectivity, large class sizes, or teachers with limited professional training — and when that reimagination is absent, a technological promise becomes yet another distraction.

To examine these three domains consistently, the book's middle chapters — covering students and learning, curriculum, assessment, teacher development, school management, and governance — follow a recurring analytical sequence: identification of the most salient educational challenges in each area; analysis of AI's potential to address them; review of available evidence, rigorously distinguishing documented applications from evaluated applications; ethical discussion; and formulation of research questions for future agendas (Reimers et al., 2026, p. 3). This protocol prevents each chapter from functioning as a catalogue of tools and compels the argument to measure every technology against the transformation criteria established in the opening chapter. The outcome is revealing: in virtually every domain, the authors find evidence of incremental innovation — improvement in specific practices, localized gains, promising pilots — but rarely evidence of systemic transformation, which would require the simultaneous alignment of curriculum, teacher development, assessment, and governance (Reimers et al., 2026, pp. 159–161).

The third chapter brings the analysis to students, learning, classrooms, and schools; the fourth turns to curriculum. Read together, they connect support for learners to the purposes and content of what is learned. Personalization cannot, on this account, be judged independently of curricular

relevance: adapting the delivery of existing content is not necessarily the same as expanding educational opportunity (Reimers et al., 2026, Chapters 3–4).

The procedure is particularly productive in the fifth and sixth chapters, on assessment and teacher development, where the authors move well beyond automation (auto-graded tests, administrative chatbots) to examine formative uses: AI-generated feedback calibrated to rubrics assessing higher-order competencies, pedagogical planning support, simulation-based mentoring, and the explicitation of tacit pedagogical expertise. These discussions demonstrate the book's capacity to identify genuinely innovative applications while subjecting them to the same systemic scrutiny applied to more familiar ones. In these chapters, the relation between technological assistance and professional judgment becomes especially visible (Reimers et al., 2026, Chapters 5–6).

The seventh and eighth chapters extend the inquiry to school organization and management, and to education governance. Their position in the volume makes an essential connection: classroom possibilities depend on organizational conditions and collective decisions. Administrative efficiency acquires educational significance when it supports teaching and learning; governance must also address participation, accountability, and inequality. The ninth chapter then revisits the domains together, assessing the distance between promising applications and systemic change (Reimers et al., 2026, Chapters 7–9).

3. CRITICAL APPRAISAL

The book's first significant contribution is its human-centered framing. Drawing on the Stanford Institute for Human-Centered AI, the authors argue that AI's educational value must be assessed at the level of the classroom, community, and society — not merely the individual user — and that any integration must be guided by alignment, local adaptation, and relational webs that determine "whether AI enhances learning or simply adds complexity without benefit" (Reimers et al., 2026, p. 12). This framework resists a reduction of educational value to test scores or engagement metrics and places systemic educational justice at the centre of the appraisal.

The second contribution is the book's methodological transparency. The authors acknowledge two structural limitations of their evidence base: the temporal lag between AI development and educational evaluation cycles (a year or more), and the systematic underrepresentation of informal, self-directed learning in published literature (Reimers et al., 2026, pp. 3–4). By foregrounding these limitations rather than concealing them, the book enables readers to calibrate the scope of its claims and identifies with precision where empirical research is most urgently needed.

The third contribution is the consistent defence of teacher agency. Across all domains, teachers appear not as passive recipients of AI tools but as irreplaceable professional mediators. From this perspective, applications that bypass, de-skill, or substitute for teachers undermine the human mediation on which transformative education depends. This is not a rhetorical gesture: the argument rests on evidence that professional development, pedagogical alignment, and institutional support are necessary conditions for any technology to produce durable learning gains—particularly in large-class, low-connectivity contexts common across the Global South.

Taken together, these three contributions — human-centered framing, methodological transparency, and the defence of teacher agency — form an integrated structure. Human-centered framing loses its force if the evidence supporting it is concealed rather than disclosed; methodological transparency is of limited value if professional judgment is subordinated to algorithmic output. This is the reading advanced here: the book is most productive when these commitments are understood as mutually reinforcing conditions, rather than as a checklist of independent virtues.

The book is not without limitations. The first concerns the tension between analytical scope and empirical depth. Examining six interconnected educational domains within a nine-chapter volume inevitably trades granularity for breadth. Specialists in assessment, curriculum theory, or educational governance may find the analysis less dense than they expect. The book functions more effectively as a policy framework matrix than as a domain-specific empirical study. This is not merely a matter of space: it is a conceptual limitation. A common evaluative standard — the improvement/transformation distinction — is applied to domains as heterogeneous as curriculum design, school management, and assessment, and the book does not always pause to ask whether transformation should mean the same thing, or be measured against the same evidentiary bar, in each of these domains.

The second limitation pertains to the analytical category itself. While the authors explicitly acknowledge that "the Global South is far from monolithic" and that "effective AI integration must therefore be attuned to local needs and priorities, languages, cultures, resources, and pedagogies" (Reimers et al., 2026, p. 7), the category still risks subsuming structural divergences that matter enormously for implementation. Differences among and within the countries covered cannot be reduced to degrees of digital infrastructure: state capacities, teacher labour markets, language ecologies, and political economies of education also shape implementation. The book's contextual adaptation call is correct; its analytical vocabulary is not always fine-grained enough to perform that adaptation.

A related concern appears in Khoza and van der Walt's (2025) review of AI-enhanced pedagogies in higher education in the Global South, which identifies infrastructural barriers, unequal access, limited faculty preparedness, and the need for locally adapted solutions. Its focus differs from the compulsory-education emphasis of Reimers et al. (2026), so it cannot directly validate the book's conclusions. It does, however, reinforce the relevance of asking which institutional and contextual conditions make an application educationally viable.

The third limitation follows from the evidence base problem the authors themselves identify. Given that the available literature is biased toward formal schooling, the book's assessment may underestimate what learners are already doing with AI outside schools. The emphasis on curriculum delivery and institutional alignment may inadvertently reproduce a school-centric model of educational change while informal and autonomous practices remain underdocumented. This is a limit to the reach of the framework, rather than a failure to acknowledge the issue: the authors explicitly identify this bias and delimit their institutional focus (Reimers et al., 2026, pp. 1, 3–4). The critical question is how that justified delimitation affects the account of transformation. Absence of documented evidence is not evidence that such practices do not exist; neither is it evidence that they are educationally beneficial.

These three limitations — scope versus depth, the coarseness of the Global South as an analytical category, and the school-centric evidence base — are not isolated flaws. They expose a common tension: the ambition to offer a comprehensive systemic framework trades some contextual and empirical precision for breadth of coverage. This trade-off does not erase the book's contribution; it defines the terms under which that contribution should be read and extended by future research.

4. FINAL CONSIDERATIONS

Artificial Intelligence and Education in the Global South makes a strategic contribution to comparative education and educational technology research. Its most enduring value lies not in findings about any specific application but in the analytical framework it provides: a set of questions about scale, equity, systemic alignment, teacher agency, ethical governance, and sustainable evidence that should precede, accompany, and follow any decision to integrate AI into an educational system.

The book refuses two equally inadequate positions: techno-optimism, which treats AI as inherently transformative, and reflexive scepticism, which rejects technology without examining its conditional possibilities. Its standard is more demanding than either: AI must prove its value against the hardest problems, under the most constrained conditions, for the most marginalized learners,

without undermining the human relationships that constitute educationally meaningful experience. The authors' concluding position is that transformation requires an adaptive, caring, democratic conception of education, grounded in local knowledge and sustained by teachers, learners, and accountable governance (Reimers et al., 2026, p. 166).

The volume is therefore especially valuable for education researchers, policymakers, teacher educators, and developers who need to assess AI integration beyond the performance of individual tools. It offers an analytical framework rather than a ready-made implementation model; its use requires contextual specification and further empirical inquiry.

That is not a technological claim. It is a claim about the political and ethical conditions under which technology can be made to serve public education. Researchers and policymakers who accept that claim will find this book indispensable.

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