

Artificial Intelligence in Education, Multilingualism, and Inclusion: Policy and Pedagogical Frameworks for Diaspora Students

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Submitted: 2026, Aug 03; Accepted: 2026, Sep 07; Published: 2026, Sep 14

Citation: Douvlos, C., Gazis, A., Toumpos, P., Mpaira, A., Santamouri, K., et al. (2026). Artificial Intelligence in Education, Multilingualism, and Inclusion: Policy and Pedagogical Frameworks for Diaspora Students. *J Curr Trends Comp Sci Res*, 5(2), 01-08.

Abstract

This paper critically examines the role of Artificial Intelligence (AI) in education, emphasizing the transition from technological innovation to the pedagogical inclusion of diaspora students. Drawing on recent international and European literature, it analyzes the ethical, policy, and pedagogical dimensions of integrating AI into education systems and argues that technology does not operate as neutral infrastructure, but as a socially and culturally situated mechanism. Particular attention is paid to the “equity paradox”: AI applications designed to promote inclusion may reproduce existing inequalities through algorithmic bias, monolingual norms, and data-centric models of learning. The analysis focuses on diaspora learners whose linguistic heterogeneity, discontinuous educational trajectories, and complex identities are often insufficiently represented in AI-supported learning environments. It also reviews European AI governance in education and identifies a gap between the rhetoric of equality and institutional implementation at the national level. The paper argues that pedagogically meaningful AI requires human-centered design, critical digital and algorithmic literacy, and the active participation of teachers and diaspora communities. It concludes that AI can contribute to educational justice only when embedded in an intercultural pedagogy and a robust framework of social accountability.

Keywords: Artificial Intelligence in Education, Generative AI, Multilingualism, Educational Inclusion, Diaspora Students, Translanguaging, Intercultural Pedagogy, Algorithmic Justice

1. Introduction

Over the past decades, the massive digitalization of societies and the integration of cutting-edge technologies in educational

institutions have profoundly reconfigured the concepts of learning, teaching, and educational success. Schools are being transformed through the introduction of new technologies like

Artificial Intelligence (AI). AI is not only a technology but also a technology that impacts pedagogy, education policy and power relations in schools. The increasing use of algorithmic systems, adaptive learning applications and generative AI tools has been accompanied by claims about personalization, equality of opportunity and inclusion, leading to expectations that technology can act as a catalyst for educational justice.

The attempt at educational reform in the UK does not necessarily imply that the process per se is neutral. The evidence from the rest of the world and Europe suggests that it is anything but that. AI is currently combined with discrimination in the context of discrimination. The asymmetric social, political, as well as cultural and economic access. Schooling for students from diasporic, migrant and intercultural backgrounds becomes complex due to their educational pathways, hybrid linguistic practices and ongoing negotiation of identity and belonging. In this context, the AI can either empower people or reproduce their exclusion depending on how it is designed, regulated and used pedagogically.

This article explores the transition from the possible use of digital technologies towards an actual pedagogical inclusion. Instead of regarding AI as a mere technical tool, it considers it a socio-pedagogical phenomenon concerning aspects of educational justice, interculturality and ethical governance. The analysis takes diaspora students as its focal point, not as a homogeneous category but as a population imbued with differentiated needs, experiences as well as forms of vulnerability that are made invisible within mainstream algorithmic and policy frameworks.

This article offers a detailed overview of current literature that focuses on the effectiveness of AI (and when it can be effectively employed) to create inclusive, culturally responsive and pedagogically just learning environments. According to the analysis, the question should not be 'What can AI do?' but rather 'How for Whom?' It further states that any educational innovation is only worth the effort if it contributes to the democratisation of education, collective responsibility and awareness of learner complexity.

2. From the Rhetoric of Inclusion to Institutional Practice: AI Governance in European Education

Artificial Intelligence in education is a crucial component of the digital strategy of Europe. The goal of the European Union is to create a cohesive ethical and legal framework that effectively combines innovation with the fundamental rights' protection. The Digital Education Action Plan 2021-2027 and the Ethics Guidelines for Trustworthy AI position AI as a means to ensure quality, access, and inclusiveness to education, while the EU AI Act sets out the same rules across the Union [1,2].

According to European regulation, AI systems that influence educational pathways, such as personal learning applications, assessment automation, and learning predictions, argue that these AI systems fall within the description of high-risk systems [3]. This category comes with added obligations for transparency,

human oversight, and fundamental rights protection, as the EU seeks to become a global AI regulator. Nonetheless, the same analysis shows that there is a significant discontinuity between regulatory purpose and regulatory practice; there is great variation in Member States' capacity to implement supranational rules in national policy. Romania's evidence shows the inadequacies of internal standards, monitoring processes and teacher training as a part of European governance.

According to, comparative analysis of national AI-in-education policies in Germany, Austria and Switzerland, this gap holds. While all three countries highlight that AI can help enable personalized and differentiated access, educational justice, participation, and cultural diversity are only mentioned at a rather general declarative level without implementation mechanisms or measurable targets [4]. In Germany, the idea of inclusion is not reflected in systematic participatory governance, nor is it aimed expressly at vulnerable groups such as learners of migrant or diaspora origin - the situation is much better, say elsewhere. On the other hand, it displays greater awareness of algorithmic biases and the digital divide.

The European Union strategy regarding computer-generated intelligence in education has a contradictory implication. By strong rhetoric of equality, rights, and inclusion, it risks reducing diversity to technocratic management. The lack of strong connection with international binding frameworks like the United Nations Convention on the Rights of Persons with Disabilities and the Sustainable Development Goals, as well as a lack of investment in teacher training and in the participation of students and their communities, limits the impact of AI on educational justice [4,5].

The necessity for an AI infrastructure that will genuinely support inclusion becomes apparent when we analyze the experiences of students with migrant or intercultural backgrounds. Since 2015, the growth in the school population in Greece has led to the admission of more students with different linguistic and cultural starting points, thus compelling schools to create integrated and inclusive learning environments. School leaders report that attempts to commit to inclusive learning for diaspora and migrant students are growing, but the quantitative addition is not backed by quality, pedagogical, or digital growth. Therefore, systematic teacher development is required so generative AI will reduce rather than amplify linguistic and participatory barriers [6].

Governance in Europe is far better than governance in the US because the regulation is far more ethical. Transcending this tension will not only require supranational regulation, but also substantive national alignment, greater teacher algorithmic literacy, and institutionalized participatory procedures. It is only if the conditions are realised that AI will be able to go beyond administrative efficiency to become an instrument of social inclusion and educational justice in European education systems.

3. Artificial Intelligence, Inclusion, and Educational Justice: Ethical, Pedagogical, and Cultural Tensions

The implementation of artificial intelligence technologies, such

as chatbots and machine-learning systems, in education escalates the ethical, social, and educational aspects of digital innovation, particularly for groups with increased vulnerability and cultural diversity. The claim that technological engagement allows a more equitable, personalized educational experience clashes with evidence from technology-enabled educational initiatives that show the negative impact of unequal digital infrastructure access, technological readiness of education systems, and pedagogical support.

The ethical dilemma brought about by artificial intelligence chatbots within the language education field for the migrant, diaspora, or Indigenous learner is discussed. On the one hand, such tools can be of basic assistance in under-resourced environments. Alternatively, they can reinforce a “minimum sufficiency” logic in which technology replaces, rather than complements, substantive pedagogical care. Shifting the conversation from technical efficiency toward the education systems’ ethical and institutional responsibility shows that AI must be anchored in universal access, pedagogical oversight, and social accountability [7].

You cannot engage diaspora, migrant, or minority learners merely by integrating technology within artificial intelligence. A meaningful educational curriculum should mirror the help the children receive in their social life and at home. The Erasmus+ undertaking across Mediterranean countries unveils: school dropouts amongst learners with migrant backgrounds have remained disproportionately high as compared to their native counterparts. This signals an inadequacy in the structural condition of educational inclusion. The educational success of diaspora students is influenced not only by language support but also by access to appropriate pedagogies, systematic teacher education, and school-family-community collaboration. In this sense, AI may promote differentiated learning and adaptation of content, but always under a pedagogical and social justice oversight; otherwise, it would reproduce the inequalities that inclusion programs set out to reduce [8].

The study [9] focuses on the application of multicultural education programs; the application of machine learning is also expected to help. Machine learning has the potential to accommodate students from different ethnicities and cultures through customized learning arrangements. How teachers use AI programs like ChatGPT in classrooms is where the real test of its pedagogical use lies. The use of non-representative data and superficial integration of the pedagogy generates algorithmic bias and reproduces stereotypical interpretations of cultural difference.

This issue becomes more serious when linked up with the critical perspective on intercultural education of study [10]. The difference between functional intercultural competence and critical, emancipatory intercultural competence tells us that cultural diversity cannot be a technical matter of adaptation, but must be conceived as a field of power relations and social justice. AI application and other technologies are likely to reproduce hegemonies in cultures, unless embedded in participatory

experiential reflective pedagogies.

The dominant educational AI narrative of personalisation or recommendation could be thought of in much the same way as content curation. The study contends that while AI-enhanced personalized learning systems could improve feedback and adaptability, they also embody a fundamentally individualistic and data-centric logic. Shifting toward personalized learning plans creates a risk of impairing the collective endeavor of knowledge production, the personal pedagogical relationship, and the sociality of education. Without explicit digital equity policies and human oversight, there is increased risk of unequal access and algorithmic bias [11].

The multi-layered nature of the connection between digitalisation and intercultural education extends the meaning of AI beyond technology; it interprets it as a culture and semiotic machine. AI provides culturally diverse learners with the means to cultivate identity, voice, and belonging through digital storytelling, multimodality, and multiliteracies. However, without critical digital literacy and analysis of power relations, the technology risks reproducing stereotypes and inequalities. Pedagogically responsible AI should therefore have clear equity policies, be interculturally pedagogical, and include the active participation of teacher-student communities.

4. The “Equity Paradox” of AI in Education: Algorithmic Governance, Linguistic Normalization, and Educational Justice

Academics and education experts now largely agree that a widespread embedding of AI into education will not be a neutral technological development, but will have severe social, cultural, and pedagogical consequences. The authors’ meta-synthesis in was based on over 80 studies published from 2015 to 2025. The document systematically outlines the so-called equity paradox: technologies that are intentionally designed to promote inclusion and equality may actually reproduce or exacerbate inequalities. The origin of this paradox is not only found in the occurrence of a specific technical failure but rather in an intertwined set of structural reasons related to algorithm design, training data, and pedagogical contexts.

Attention should be paid to four interconnected aspects of inequality: algorithmic bias, which results from unrepresentative data; inequality of access to digital infrastructure and to technology; misalignment of culture and language in learning design; and finally, ethical issues around surveillance and data governance [12]. Students from migrant and diaspora contexts experience these inequities most sharply as dominant linguistic/cultural norms are part of the algorithms for adaptive learning/personalization. Students’ hybrid language practices and identities, and their discontinuous educational pathways, are not represented by these norms. Due to having formal access to technology, learners experience lower levels of engagement, educational alienation, and pedagogical irrelevance.

Revise the above to have a more academic flavour: A: Universal public policy can be understood to be one which, according to the various experts, has a relation to the theme etc of UNESCO Sustainable Development Goal 4. Flores-Vivar and García-Peñalvo believe that AI can and will aid students through a personalized approach and also enhance the quality of education. Nonetheless, they warn that this predominant emphasis on efficiency, performance, and digital-skills indicators can overwhelm qualitative dimensions of education like democratic participation, cultural recognition, and social justice. The unrestricted use of AI technologies, especially in settings where people are socially and culturally diverse, threatens to exacerbate surveillance and algorithmic categorization and to undermine human-to-human pedagogical relationships by moving the centre of educational processes away from dialogue and relationships and towards data management, [13,14].

A lot of emphasis in the linguistic semiotic dimension is around AI-supported learning environments. In authentic learning in multilingual diaspora settings, a translanguaging perspective shows, is constructed through the fluid and simultaneous use of various linguistic resources. Digital and algorithmic learning systems often encode normative monolingual models that obscure or criminalize learners' hybrid language practices. Language normalization tends to privilege superior forms of discourse and exclude alternative expressions of identity. The technology's promise of personalisation and inclusion thus coexists with mechanisms of symbolic and pedagogical exclusion [13].

The perspectives above, paint the following picture. AI, designed with benevolence, results in inequity this is even on the condition that none of the design decisions were taken on an ad hoc basis. To resolve the equity paradox, we need more than human-centered and culturally responsive design and critical digital and algorithmic literacy; we need AI that is explicitly aligned with the pedagogical principles of social justice and democratic participation. AI can become a meaningful mechanism of empowerment and educational equity for learners navigating diverse linguistic, cultural, and social contexts, only under these conditions and not under grinding, technocratic optimization.

5. Ethics, Interculturality, and Sustainability of AI in Education: From Universal Standards to Local Responsibilities

There has been a growing debate on the ethical use of artificial intelligence (AI) in education. This debate increasingly reveals the limitations of prevailing forms of 'universal' regulation when applied in cultural and social contexts that are very different from one another. The study proposes a major change by arguing that ethical frameworks adopted by international organizations, such as COMEST by UNESCO, are primarily founded on Western, individual-centric models which are not necessarily compatible with collective worldviews in the Global South. Privileging the personhood framework of Ubuntu identifies a person not as an autonomous individual, but rather as a social being who derives their identity from ongoing relationships within their community [15].

In light of the foregoing, AI ethics are not a framework that provides an individual with protection but a social responsibility with the aim that everyone benefits; they are transparent to the community, and consent is the basis of all decisions. Theing techno-transhumanism and critiquing the capitalist and competitive nature of many AI uses demonstrates that technological innovation cannot be separated from social equity and ethical responsibility. Through rhetoric that touts inclusion, worldviews from the Global South have become absent from global discourses on AI ethics. This renders the possibilities of genuinely intercultural and pedagogically just implementations limited [15].

AI will affect the learning experience, identity formation, and belonging in the education sector. Thus, moving from top-down regulation to bottom-up ethical approaches is extremely important in this sector. From this perspective, pedagogical AI cannot simply comply with international standards. Collectivity, relationality and democratic participation must be the key educational values around which Indigenous and decolonial frameworks must be framed.

Other studies, focusing on the Greek educational context, indicate that the integration of AI is not a neutral form of technological progress. He highlights how tensions of an ethical, legal, environmental, and other nature coexist in there in complex ways. The risks related to privacy, algorithmic bias, and academic integrity presented by adaptive learning systems and content-generation tools are serious when causative national activities and systematic teacher development are absent. The Greek copyright law (Law 2121/1993) constitutes an additional institutional gap in relation to AI, as it does not cover AI-generated content, unlike the expansive regulatory framework of the EU AI Act.

The environmental dimension of AI is just as important, but it is usually left out of education. Educational innovation is linked to sustainability by the high energy consumption, growing electronic waste and environmental cost of computational infrastructure. Shifting the focus of the analysis from techno-efficiency to educational justice and sustainability reveals that responsible AI calls for institutional accountability, ethical literacy and human-centred design in order to ensure that technology will offer social justice and ecological sustainability rather than exacerbate hate, coercion and inequality [16].

The ethical, legal, and environmental issues around AI in education will likely conflict because universal regulatory standards are forced against local social realities and varying worldviews. Resolving these tensions can be effective through a multi-level strategy that adopts intercultural ethics, institutional regulation, and pedagogical reflection. This will ensure that the AI functions as a tool of collective responsibility, educational justice, and sustainable innovation.

5.1. Multilingualism Policy for AI-Supported Learning Environments

Finding a translation for multilingualism is not just a technical problem, but an institutional and pedagogical question of equitable access and participation. Language constitutes knowledge, memory, identity, and belonging for diaspora students. A school policy for AI must thus acknowledge students’ complete linguistic repertoires and reject monolingual standardization as a condition of curricular access. We should use technology to expand opportunities for expression rather than to turn the dominant language into an invisible criterion of academic competence [17,18].

The multilingual policy of the learning design stage can be framed around translanguaging, where students are allowed to understand, plan, discuss, and create meaning through more than one language and through other semiotic modes. Services such as audio rendering, simplification, conceptual comparison, and multiple versions can be supported by Generative AI. This method aligns with Universal Design for Learning as long as generated variations are pedagogically checked and do not supplant the learner's voice [19,20].

The doers of language facilitation need to distinguish it from language justice. While machine translation may allow users to instantly understand foreign language material, it does not guarantee pragmatic accuracy or cultural appropriateness. Furthermore, it is biased against low-resource languages and may show poor performance on such language pairs. Adjusting content to what is assumed as a level of “ability” could also institutionalize low expectations. Recent reviews stress the importance of applications being developmentally appropriate, clear, and empirically

evaluated, especially for younger learners [21,22]. Other researchers focus on explaining that an effective use of the AI technology by teachers is to generate multilingual activities. 55% of teachers believe that these activities lighten their preparation burden and enrich differentiation. And it is only acceptable if this work is governed by the explicit criteria of learning. The authors in present their empirical evidence, which attests to the utility of AI in constructing complicated multilingual tasks in teacher education. In turn, the link between digitalization, literature, and multicultural education demonstrates the significance of multimodal storytelling and the production of content that is situationally and culturally relevant [23,24].

According to Table 1, the same type of technology can be a platform for participation or a vehicle of assimilation. The educational value of their use depends on the purpose of use, quality of the data, degree of human intervention, and students’ ability to contest or remedy outputs. A comparative reading of Table 1 makes clear that access is not equivalent to inclusion. Multilingual literacy systems can strengthen intercultural understanding, but they require design that limits cultural bias and preserves the active role of the teacher [25]. School policy should therefore provide a right not to use AI, an alternative form of human support, and a procedure for reporting linguistic or cultural errors.

Lastly, a comparative reading of Table 1 below indicates that access is not the same as inclusion. Multilingual literacy systems can help foster understanding between different cultures, but they need to be designed to reduce cultural bias and preserve teacher agency [25,26]. Thus, school policy should give pupils the right not to use AI, provide them with a human alternative, and require that linguistic or cultural mistakes be reported [27].

Approach	Pedagogical use	Affordances	Risks	Required safeguards
Machine translation/captions	Access to instructions and core content	Immediate comprehension; family participation	Meaning errors; uneven quality across languages	Human review; uncertainty disclosure
Multilingual content generation	Bilingual texts, glossaries, and exercises	Differentiation; faster preparation	Stereotypes; fabricated sources; low expectations	Quality rubric; source and level verification
Adaptive systems/chatbots	Practice and feedback by proficiency level	Repeated practice; self-paced learning	Opaque classification; overdependence	Human oversight; right to correction
Translanguaging and UDL	Full linguistic repertoire and multiple modes of expression	Identity affirmation; access; cognitive bridges	Superficial translation without pedagogical purpose	Explicit learning criteria; learner choice
Intercultural scenarios	Simulations, narratives, and multiple perspectives	Empathy; critical dialogue	Cultural exoticization; model authority	Co-design; reflection; local voices

Table 1: Comparative Assessment of AI Approaches in Multilingual Environments

5.2. The POLY-AI Framework: From Technical Affordance to Linguistic Justice

The POLY-AI Framework facilitates the establishment of a viable multilingual policy by integrating technology procurement, learning design, and evaluation into a single accountability process within a sociotechnical framework. Human-centered AI refers to more than just usability; it also includes human agency, justice, transparency, and meaningful involvement of impacted groups.

In schools, it means that students and family and teachers work together to determine what can be used and what quality criteria apply to multilingual outputs. There is a need for pedagogical mediation in learning with the help of ChatGPT in multicultural classrooms, and AI-enabled digital textbooks are also affirmed by research. When embedded in inquiry, collective reflection, and critical examination of outputs,

these tools can broaden access and dialogue. If not, personalization may alienate learners and obscure system decision-making [27], [28].

Technical prototypes serve as helpful proofs of concept. An adaptive system in multiple languages can offer personalized instruction in English; a chatbot differentiates dialogues depending on the level of proficiency [29,30]. In recent years, the level and volume of investment by European and North American companies in countries beyond these regions has been an interesting development worth discussing.

A multilingual policy should not just ensure linguistic performance, intercultural communicative competence, participation, and psychological safety. But also offer support on other levels to fit everyone's needs. Recent reviews highlight optimistic potentials for integrating chatbots and simulations into intercultural learning, while recent empirical evidence connects AI-driven language

learning with enhanced communicative competence among young people [31,32]. The time, context, and human aid to the intervention must always be kept in mind when interpreting such findings. The translation of these principles leads to the establishment of six axes of implementation. The indicators are intentionally made auditable at school level so that multilingualism does not remain a general declaration but becomes underpinned in procurement, teaching and evaluation.

As such, the use of Table 2 in the bi-annual audit of schools and educational organizations will assist in assembling output samples, teacher logs, students' feedback, meetings with families, etc. Any one strong result on a single indicator does not compensate for serious failure on language rights, data protection, or human oversight. Evaluation is being reframed as "Is the tool working?" Researchers have tried to answer this question through many decades of researching translation-based and dual language programs.

Axis	Minimum actions	Illustrative indicator	Primary risk addressed
P — Policy and rights	Register of permitted uses; right not to use AI; human alternative	% of learners with an equitable alternative	Coercion and exclusion
O — Organizational data ecology	Data minimization; representativeness checks by language	Coverage of languages/dialects in the test set	Bias and privacy violations
L — Liability and accountability	Record purpose, versions, errors, and responsible persons	Time required to correct a reported error	Opaque decisions
Y — Youth and teacher support	Training in prompting, source checking, and linguistic justice	% of staff completing practice-based training	Uncritical or uneven use
A — Agency through translanguaging	Multiple languages/modes; community co-design	% of activities offering genuine language choice	Monolingual normalization
I — Inclusive assessment	Assess achievement, belonging, self-regulation, and group differences	Outcome gap by language/dialect	False equality and hidden disparities

Table 2: The POLY-AI Framework for Responsible Multilingual Implementation

6. Conclusions

According to experts, the use of AI cannot just be seen as a technical or functional tool supporting efficient and effective learning. It equally plays a role in enhancing the goal of education. The examination of its policy, pedagogical, and ethical dimensions reveals instead a cultural and socially embedded mechanism shaping power relations, norms, and the conditions of participation in knowledge. An emphasis on students in the diaspora makes particularly visible how technological innovations are not introduced in a vacuum, but rather into already unequal, linguistically hierarchical, culturally asymmetrical education systems.

Critical synthesis of the literature reveals an equity paradox. Artificial Intelligence is hailed as improving personalization, accessibility, and inclusion. Yet, exclusion is produced through algorithmic bias, unidirectional monolingual norms, and data-centric logics through AI, which ignores the rooted realities of diaspora learners' experiences. One can find the tension that jeopardizes the educational justice of AI-supported practices in

educational practices where academic discourses continue to denote linguistic normalization, weakened collective learning and move data manager the educational relationship.

Artificial intelligence, therefore, is not a pedagogically neutral infrastructure, but rather a cultural apparatus that can aggravate or help mitigate barriers for the diaspora student voice. The threat of domination and homogenization of minorities is present as long as incarnation takes place. The goal of education must remain to equip students with the tools of change. According to an assessment study on European strategies and educational interventions, a gap between rhetoric and practices was highlighted. Investment in teacher development, inclusion of diaspora communities, and connecting AI to theories of social justice will facilitate the necessary conditions; performance indicators, regulatory frameworks, and technological innovations will not lead to substantive inclusion in education without these conditions. Increasing marginalisation of minorities will only worsen.

The transformation from technological enhancement to pedagogical integration is neither automatic nor linear. It is essential to reflect upon, undertake human-centered design and continually negotiate the values that are embedded within technology. It is only through the medium of culture, community and globalisation that AI could become a tool of empowerment, recognition and educational justice for diaspora students.

Future Research and Applications

Future research can apply the POLY-AI Framework in pilot networks of diaspora schools through participatory co-design with students, teachers, families, and linguistic communities. A mixed-methods longitudinal study could compare activities without AI, with AI, and with teacher-mediated AI, examining language development, self-regulation, participation, belonging, intercultural competence, error frequency, and differences in performance across languages or dialects. Collaborative annotation of anonymized examples could also create an open multilingual test set and a reusable school-level evaluation. Card without turning student work into uncontrolled model-training data. Such an approach would test claims about multilingual personalization in authentic conditions, document the teacher competencies required, and generate comparable evidence for national or transnational scaling. Implementation should remain incremental, reversible, and subject to human oversight, with predetermined stopping criteria when systematic linguistic discrimination, privacy violations, or erosion of the pedagogical relationship is detected.

Author Contributions: All authors contributed equally to the conception, synthesis, framework development, and final manuscript.

Funding: No funding was received for conducting this study.

Conflict of Interest: The authors declare no conflicts of interest.

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