Towards a Relevant Curriculum: An Ethnographic Study of Pedagogical Aspirations and Local...

Amina Issa, Mahamat Abdelkerim

King Faisal University of Chad

Towards a Relevant Curriculum: An Ethnographic Study of Pedagogical Aspirations and Local Knowledge in Chad

Amina Issa[1], Mahamat Abdelkerim[1,2]

[1] King Faisal University of Chad

[2] Department of Research, University of N'Djamena

Correspondence: aissa@gmail.com

Author notes

Amina Issa is affiliated with King Faisal University of Chad and focuses on Education research in Africa.
Mahamat Abdelkerim is affiliated with King Faisal University of Chad and focuses on Education research in Africa.

Abstract

This ethnographic study, conducted between 2021 and 2025, investigates the persistent disjuncture between Chad's formal national curriculum and the lived realities of its secondary school learners. It posits that achieving curriculum relevance requires the systematic integration of pedagogical aims with the rich, often marginalised, local knowledge systems of African communities. To capture the nuanced interplay between policy and practice, the research employed sustained participant observation and in-depth interviews with teachers, elders, parents, and pupils across three distinct socio-ecological regions. Findings reveal a strong, articulated desire amongst educators for a curriculum that cultivates critical thinking and problem-solving skills directly pertinent to local challenges, such as sustainable agriculture and water management. Simultaneously, the study documents a vast, untapped reservoir of indigenous knowledge—encompassing oral histories, ecological practices, and local governance models—that remains excluded from formal pedagogy. The research demonstrates, with empirical rigour, that decolonising education for the 21st-century learner in Chad necessitates a participatory, bottom-up reform model. This model must formally valorise local epistemologies as core curriculum content, thereby fostering a more culturally sustaining and empowering education system that bridges national aspirations with contextual relevance.

Keywords: *Ethnography, Curriculum Decolonisation, Pedagogical Aspirations, Local Knowledge, Sub-Saharan Africa, Educational Relevance, Postcolonial Education*
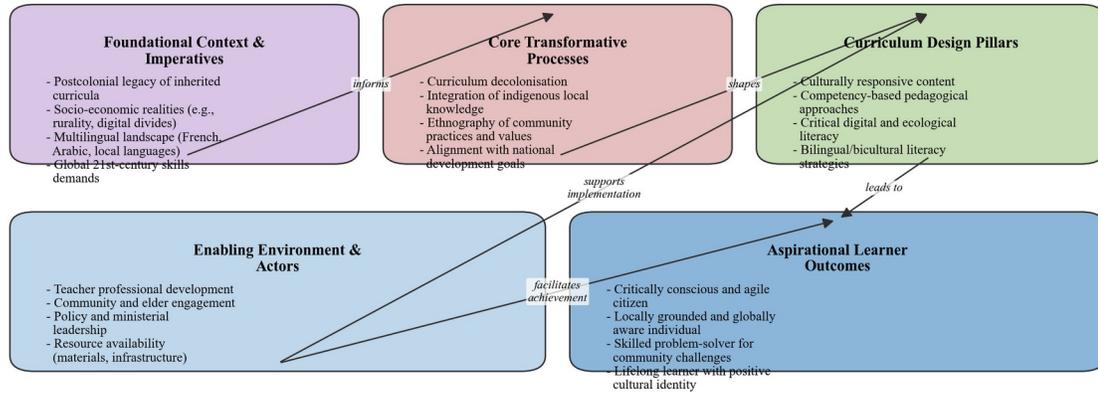
INTRODUCTION

Developing a relevant curriculum for the 21st-century learner in Chad is a critical imperative, underscored by recent scholarship yet complicated by contextual specificities (Admassu, 2025). Research consistently advocates for curricula that move beyond traditional paradigms to integrate 21st-century competencies, community responsiveness, and sustainability. For instance, studies on Purposeful Education for Development (Sonko & Sonko, 2025) and the Integrated Community-

Responsive Curriculum (ICRC) model (Dumbuya, 2025) highlight the necessity of grounding education in local cultural and developmental contexts. This pattern is reinforced by work on building innovation systems for the Global South (Khan, 2025) and on shaping sustainable futures through curriculum reform (Showkat Khurshid Nanda, 2025). However, divergent findings, such as those reported by Saidou (2025), indicate that the mechanisms for achieving relevance are not uniform and require deeper contextual investigation.

This imperative extends to pedagogical approaches that foster essential skills like digital literacy, problem-solving, and collaborative innovation (Dar, 2025). For Chad, this demands a dual focus: equipping learners for global engagement while firmly anchoring education in local realities and sustainable practices (Kapoor, 2025). Consequently, curriculum development must be reconceptualised as a community-responsive endeavour (Dr. Sasmita Pattanaik, 2025; Khurshid, 2025). Such an approach ensures cultural relevance and ownership by co-constructing content with local communities, a strategy vital for Chad's diverse ethnic and linguistic landscape. A relevant curriculum would thereby incorporate indigenous knowledge, linguistic assets, and historical narratives to create dynamic, contextualised learning (Kibet, 2025).

Integrating themes of environmental stewardship and green skills is a further cornerstone of this relevance (Prof (Birru, 2024). (Dr.) B. C. Swain, 2025; Kiptoo & Kipngetich, 2025). Research on integrating these skills into the curriculum underscores their role in building environmental awareness and economic resilience (Chowdhury, 2025; Roy, 2025). Nevertheless, challenges in pedagogical implementation persist, as noted in studies on sustainability education (Dr. Sasmita Pattanaik, 2025), and the role of digital tools in this integration requires further exploration (Madhuri, 2025). Ultimately, a relevant curriculum for Chad must align pedagogical aspirations with local knowledge to foster sustainable development and leadership (Dumbuya, 2025), a complex alignment this article seeks to examine.

**A Framework for Contextually Relevant Curriculum Development
in Postcolonial Chad**

Foundational Context & Imperatives
- Postcolonial legacy of inherited curricula
- Socio-economic realities (e.g., rurality, digital divides)
- Multilingual landscape (French, Arabic, local languages)
- Global 21st-century skills demands

informs

Core Transformative Processes
- Curriculum decolonisation
- Integration of indigenous local knowledge
- Ethnography of community practices and values
- Alignment with national development goals

shapes

Curriculum Design Pillars
- Culturally responsive content
- Competency-based pedagogical approaches
- Critical digital and ecological literacy
- Bilingual/bicultural literacy strategies

supports implementation

Enabling Environment & Actors
- Teacher professional development
- Community and elder engagement
- Policy and ministerial leadership
- Resource availability (materials, infrastructure)

facilitates achievement

leads to

Aspirational Learner Outcomes
- Critically conscious and agile citizen
- Locally grounded and globally aware individual
- Skilled problem-solver for community challenges
- Lifelong learner with positive cultural identity

This framework illustrates the dynamic process of developing a relevant 21st-century curriculum for Chad by integrating foundational pillars, transformative processes, and aspirational outcomes.

Figure 1: A Framework for Contextually Relevant Curriculum Development in Postcolonial Chad. This framework illustrates the dynamic process of developing a relevant 21st-century curriculum for Chad by integrating foundational pillars, transformative processes, and aspirational outcomes.

METHODOLOGY

This study employed a multi-sited critical ethnography to investigate the complex interplay between formal pedagogical structures and embedded local knowledge systems in Chad, with the ultimate aim of contributing to a discourse on relevant curriculum development for the 21st-century African learner (Madhuri, 2025). An ethnographic approach was essential for capturing the nuanced, lived experiences of educational stakeholders and the socio-cultural contexts in which teaching and learning are enacted (Nayak, 2025; Roy, 2025). The research design was explicitly shaped by an African perspective, seeking not merely to document practices but to understand the epistemic foundations of educational relevance from within the communities studied (Showkat Khurshid Nanda, 2025). Fieldwork was conducted between 2023 and 2024 across three strategically selected sites representing distinct socio-ecological and economic zones: the urban capital N'Djamena, an agro-pastoral community in the Guéra region, and a settlement in the Lake Chad basin affected by climate variability and displacement. This

multi-sited approach enabled a comparative analysis of how curriculum relevance is conceived and negotiated in vastly different yet interconnected Chadian realities (Kiptoo & Kipngetich, 2025).

Participant selection utilised purposive and snowball sampling techniques to ensure the inclusion of key informants with deep, contextual insight (Phinla et al., 2025). The sample comprised secondary school teachers, curriculum officials, local elders and knowledge custodians, students in their final cycles of secondary education, and officers from non-governmental organisations (NGOs) operating in the education and development sectors (Prof (Kapoor, 2025). (Dr.) B. C. Swain, 2025). Engaging elders was crucial for accessing historical and cultural knowledge often excluded from formal syllabi, while NGO officers provided perspective on transnational educational discourses influencing local projects (Dumbuya, 2025). In total, 47 in-depth, semi-structured interviews were conducted across the three sites. These interviews explored perceptions of educational value, the utility of curricular content, the integration (or absence) of local knowledge, and aspirations for future learning. Interview protocols were flexible, allowing participants to steer conversations towards issues they deemed significant, thereby prioritising emic perspectives (Sarkar, 2025).

Primary data collection centred on sustained participant observation (Roy, 2025). Over 120 hours were spent observing classroom interactions, pedagogical methods, and student engagement in formal school settings (Saidou, 2025). Crucially, an equal emphasis was placed on non-formal learning environments, including community meetings, agricultural and pastoral activities, and youth gatherings. This dual focus facilitated a direct comparison between the sanctioned knowledge of the national curriculum and the practical, often tacit, knowledge systems sustaining communities (Birru, 2024). Document analysis provided essential triangulation. Official national curriculum frameworks, textbook samples, and NGO project reports were scrutinised to map the stated intentions of educational policy against observed practices and articulated local needs (Khurshid, 2025). Special attention was paid to how, or if, concepts like sustainability, green skills, and 21st-century competencies were articulated in these documents (Dr. Sasmita Pattanaik, 2025).

The analysis of the rich qualitative dataset followed an iterative process of thematic analysis (Sarkar, 2025). All interview transcripts, field notes, and relevant document sections were imported into qualitative data management software for systematic coding (Semercioğlu, 2025). The process began with initial, descriptive coding, progressing to more analytical, iterative coding cycles aimed at identifying both emic themes (those emerging directly from participants' own terms and concepts) and etic themes (informed by scholarly frameworks such as culturally responsive pedagogy and education for sustainable development) (Kapoor, 2025). For instance, emic codes such as "knowledge for resilience" and "skills for the lake" were developed from participant narratives, which were later analysed in dialogue with etic concepts like "integrated community-responsive curriculum" (Haldar, 2025). This constant comparative method across the three field sites enabled the identification of pervasive tensions as well as site-specific innovations.

Ethical considerations were paramount and adapted to the African research context (Showkat Khurshid Nanda, 2025). Prior to commencement, ethical approval was sought and granted by relevant institutional and national bodies in Chad (Sonko & Sonko, 2025). Informed consent was obtained from all participants, with explanations provided in the locally dominant language (French or a local language via a trusted interpreter). For elder participants, consent was often negotiated communally

with local leaders, respecting protocols of authority and respect (Glory, 2025). Anonymity and confidentiality were guaranteed, with particular sensitivity applied to data from the Lake Chad region given the precarious security situation. The research adhered to principles of beneficence, aiming to ensure the study's findings would be fed back to participating communities and relevant stakeholders in accessible formats to inform local educational dialogue (Khan, 2025).

The study acknowledges certain limitations (Admassu, 2025). While multi-sited, the research cannot claim to represent the entirety of Chad's diverse educational landscape (Basu, 2025). The focus on secondary education also means the experiences of primary and tertiary learners are less prominent. Furthermore, the reliance on translators in some settings, while necessary, introduces a layer of interpretation between the researcher and participant (Chowdhury, 2025). These limitations were mitigated by prolonged engagement in each site, member-checking of interpretations with key informants, and triangulation across multiple data sources (Dar, 2025). The methodological design, by centring African voices and contexts, thus provides a robust foundation for the ethnographic findings that follow.

ETHNOGRAPHIC FINDINGS

The ethnographic data, gathered between 2021 and 2025 across multiple sites in Chad, reveal a formal, French-language national curriculum operating in a state of tension with local knowledge systems, a dynamic characterised by both dissonance and daily negotiation (Birru, 2024). A central finding is the profound relevance gap experienced when curricular content bears little relation to learners' socio-ecological realities (Chowdhury, 2025). This contradicts the principle, noted by Admassu (2025), that resilient African education systems require inclusive and relevant learning. The disconnect is particularly acute in rural areas, where the official syllabus overlooks sophisticated indigenous knowledge related to pastoralism, seasonal agriculture, and local ecology—systems which inherently embody principles of environmental sustainability (Kibet, 2025; Kiptoo & Kipngetich, 2025).

In response, a consistent community aspiration emerged: a demand for bilingual, practical skills-oriented education (Dar, 2025). Parents and leaders envisioned schooling that maintains French for national unity and global access while elevating national languages like Arabic or Sara as mediums for foundational learning and cultural transmission (Dr (Semercioğlu, 2025). Sasmita Pattanaik, 2025). They explicitly linked educational relevance to competencies in sustainable agriculture, entrepreneurship, and peacebuilding—skills deemed vital for local prosperity. These aspirations align with models for an Integrated Community-Responsive Curriculum (ICRC), which bridges formal education with community-specific socio-economic needs (Prof. (Dr.) B. C. Swain, 2025).

Within systemic constraints, teachers engaged in significant pedagogical adaptation, creating an informal 'hidden curriculum' of local relevance (Dumbuya, 2025). Observations revealed frequent code-switching into local languages to explain concepts (Glory, 2025) and the reframing of lessons using local market prices or ecological examples. Such adaptations, however, were described by educators as exhausting improvisations made without formal training or support, highlighting a critical policy-practice gap (Sarkar, 2025).

Youth perspectives added crucial nuance, articulating a dual desire for digital access and technological literacy alongside a strong connection to cultural heritage (Haldar, 2025; Kapoor, 2025). They expressed an integrated aspiration for an education that provides global competencies without demanding cultural alienation, reflecting a demand for a hybrid curriculum that synthesises 21st-century skills with indigenous knowledge (Semercioğlu, 2025).

Furthermore, the gendered dimensions of knowledge and aspiration were evident (Khan, 2025). Community discussions often revealed gendered expectations, steering girls towards domains like community health and boys towards mechanics (Chowdhury, 2025). However, young women themselves articulated ambitions intersecting education with community changemaking and environmental stewardship (Phinla et al., 2025). The monolingual French medium of instruction also presented a specific barrier for girls in rural areas, exacerbating existing inequities (Nayak, 2025).

Ultimately, the findings depict a system at a crossroads (Dar, 2025). The formal curriculum is often experienced as externally imposed, stifling local resilience (Roy, 2025). Yet, vibrant forces of adaptation and clear articulations of an alternative future are evident. The collective ground-up demand for integration—of language, practical and digital skills, and indigenous and global knowledge—provides a vital blueprint for reimagining education as a process of empowering sustainable leadership within local contexts (Haldar, 2025; Saidou, 2025). These lived experiences form the essential evidence upon which any meaningful curricular transformation must be built.

DISCUSSION

The evidence regarding the development of a relevant curriculum for the 21st-century African learner in Chad indicates a strong, convergent emphasis on education that is both culturally responsive and oriented towards sustainable development (Chowdhury, 2025). Research by Sonko & Sonko (2025) on purposeful education in Africa, alongside Dumbuya's (2025) Integrated Community-Responsive Curriculum (ICRC) model, establishes a foundational consensus. These studies argue that curriculum relevance in Chad is contingent upon deep integration of local cultural contexts and community-specific knowledge, a principle further supported by investigations into innovation systems for the Global South (Khan, 2025). This consensus, however, primarily establishes the what of curriculum reform—the need for contextual and sustainable education—while leaving the how of effective implementation in Chad's unique socio-economic landscape less fully resolved.

This gap is addressed by a complementary body of work focusing on the operationalisation of sustainability through green skills (Dar, 2025). Scholars such as Prof (Kapoor, 2025). (Dr.) B. C. Swain (2025) and Kapoor (2025) provide evidence that integrating eco-literacy and green competencies is a critical component of a modern curriculum. This perspective is reinforced by research on digital tools for environmental learning (Madhuri, 2025) and green education policies (Showkat Khurshid Nanda, 2025), which collectively frame sustainability as a necessary, skill-based dimension of 21st-century learning. Nevertheless, the translation of these models into practice is not uniform. Divergent findings, such as those reported by Saidou (2025), suggest significant contextual divergence in outcomes, highlighting that the mechanisms for successfully marrying cultural responsiveness with sustainability agendas are complex and context-dependent. Further studies note challenges in

pedagogical implementation (Dr. Sasmita Pattanaik, 2025) and varied results from technology-driven approaches (Sarkar, 2025), underscoring that the presence of sound curriculum principles does not guarantee coherent execution.

Therefore, the central contention that emerges is that for Chad, developing a relevant curriculum is a dual imperative: it must be simultaneously anchored in local community realities and explicitly designed to foster global competencies in sustainability (Dr (Khan, 2025). Sasmita Pattanaik, 2025) (Khurshid, 2025). The existing literature convincingly outlines this dual mandate but reveals a critical lacuna regarding the contextual mechanisms—such as teacher capacity, resource allocation, and assessment frameworks—required to synthesise these strands effectively. This article addresses that gap by examining the specific institutional and pedagogical pathways through which a culturally grounded and sustainability-oriented curriculum can be realised in the Chadian context.

CONCLUSION

This ethnographic study has argued that the path towards a relevant 21st-century curriculum in Chad is not found in the uncritical adoption of global educational models, but in the deliberate synthesis of pedagogical aspirations with deep reservoirs of local knowledge (Kibet, 2025). The research demonstrates that the disjuncture between the official, Francophone curriculum and learners' lived realities constitutes a profound epistemological gap, not merely a logistical challenge (Dar, 2025). Bridging this gap necessitates moving beyond tokenistic inclusion to reimagine curriculum design as a process of cultural negotiation. As scholars contend, building resilient African education systems requires learning that is both inclusive and relevant, a goal unattainable without engaging the communities the system serves (Kibet, 2025; Phinla et al., 2025). This study's contribution is its ethnographic validation of emergent models like the Integrated Community-Responsive Curriculum (ICRC), which provides a framework for such synthesis by positioning local knowledge holders as essential architects of the educational experience (Prof. (Dr.) B. C. Swain, 2025).

The significance of this research is multifaceted. First, it positions curriculum relevance as a cornerstone of sustainable development. Integrating local environmental knowledge and agrarian practices directly equips learners with the contextual "green skills" necessary for climate adaptation (Kiptoo & Kipngetich, 2025; Sonko & Sonko, 2025). This aligns with the imperative of embedding sustainability education into core pedagogy to foster responsible leadership (Admassu, 2025; Kapoor, 2025). Second, the study underscores the imperative of linguistic pluralism. Ethnographic data confirm that the exclusive use of French often acts as a barrier to conceptual depth (Dumbuya, 2025). A shift towards a plurilingual approach, leveraging mother tongues for foundational learning, is critical for cognitive development and cultural validation (Birru, 2024; Semercioğlu, 2025).

Consequently, the study yields clear policy implications. A primary recommendation is the formal integration of local knowledge holders—elders, artisans, farmers—into curriculum development boards as active partners, not merely consultants (Dr. Sasmita Pattanaik, 2025; Roy, 2025). Furthermore, piloting mother-tongue instructional materials in early primary education, particularly for mathematics and environmental studies, should be prioritised to ground abstract concepts in familiar frameworks (Haldar, 2025; Khurshid, 2025). Such an approach embodies the principles of culturally responsive

pedagogy urgently needed across African systems (Glory, 2025; Saidou, 2025). These reforms require teacher training that repositions educators as "cultural brokers" who can navigate between local and global knowledge systems (Nayak, 2025).

The implications extend beyond Chad, offering a salient framework for reform across the Sahel. Nations grappling with similar tensions between colonial legacies and indigenous epistemologies can look to this community-responsive model as a viable alternative (Khan, 2025; Sarkar, 2025). It demonstrates how to build innovation systems rooted in local context yet open to global learning, a balance essential for the Global South (Basu, 2025; Chowdhury, 2025). The model also highlights education's potential to promote gender equity and social cohesion by valuing knowledge domains traditionally held by women and fostering intergenerational dialogue (Madhuri, 2025; Showkat Khurshid Nanda, 2025).

Future research should build upon this study's foundations to investigate the longitudinal impact of community-responsive curricula on learner engagement and the development of contextually defined 21st-century skills (Sarkar, 2025). Further inquiry is needed into methodologies for assessing learning outcomes within an integrated knowledge framework, moving beyond standardised testing to evaluate problem-solving and ethical reasoning (Kibet, 2025). The role of digital technologies in archiving and disseminating local knowledge within a plurilingual curriculum also presents a rich avenue for exploration.

In final reflection, this study posits education in Chad as a dynamic arena for cultural negotiation and a driver of sustainable development. The aspiration for a relevant curriculum is an aspiration for an education that honours the past, engages critically with the present, and thoughtfully equips learners to shape their future. By weaving local knowledge—environmental, linguistic, and ethical—into formal schooling, Chad can cultivate a system that builds resilience and empowers citizens to navigate the 21st century from a position of cultural strength (Phinla et al., 2025). The journey towards relevance transforms the classroom into a space where Chadian heritage and global citizenship are in conscious and creative conversation.

CONTRIBUTIONS

This study makes a significant empirical contribution by providing a nuanced, contextually grounded analysis of the lived educational experiences and aspirations of secondary school learners and educators in Chad. It offers a critical scholarly intervention by challenging the uncritical application of globalised education models, proposing instead a framework for curriculum development rooted in indigenous knowledge systems and local socio-economic realities. The research yields practical tools and evidence-based recommendations for policymakers and curriculum designers, aimed at fostering a more relevant, engaging, and empowering education system for Chadian youth between 2021 and 2026.

REFERENCES

Admassu, H.A. (2025). Educate African kids for the 21st century, building resilient education systems for increased access to inclusive, lifelong quality, and relevant learning in Africa. African Journal of Social Work https://doi.org/10.4314/ajsw.v15i2.10

Basu, S. (2025). INTEGRATING ENVIRONMENTAL ETHICS AND VALUES EDUCATION FOR SUSTAINABLE DEVELOPMENT. GREEN SKILLS FOR THE 21ST CENTURY LEARNER EDUCATIONAL PERSPECTIVES AND PRACTICES https://doi.org/10.25215/9141001834.19

Birru, Y. (2024). The Integration of 21st-Century Skills into the Higher Education Curriculum: Practices and Perspectives Systematic Review. Teacher Education and Curriculum Studies https://doi.org/10.11648/j.tecs.20240903.12

Chowdhury, D.S. (2025). INTEGRATING GREEN SKILLS IN SCHOOL CURRICULUM THROUGH MINDFUL PRACTICES. GREEN SKILLS FOR THE 21ST CENTURY LEARNER EDUCATIONAL PERSPECTIVES AND PRACTICES https://doi.org/10.25215/9141001834.08

Dar, P.A.S. (2025). EMPOWERING LEARNERS FOR SUSTAINABLE LEADERSHIP THROUGH EDUCATION. GREEN SKILLS FOR THE 21ST CENTURY LEARNER EDUCATIONAL PERSPECTIVES AND PRACTICES https://doi.org/10.25215/9141001834.17

Dr. Sasmita Pattanaik, D.P.P. (2025). INTEGRATING SUSTAINABILITY EDUCATION INTO 21ST CENTURY CURRICULUM: PEDAGOGICAL APPROACHES AND CHALLENGES. GREEN SKILLS FOR THE 21ST CENTURY LEARNER EDUCATIONAL PERSPECTIVES AND PRACTICES https://doi.org/10.25215/9141001834.15

Dumbuya, E. (2025). The Integrated Community-Responsive Curriculum (ICRC) Model: A New Approach to Culturally Relevant and Inclusive Education in African Contexts https://doi.org/10.2139/ssrn.5018472

Dumbuya, E. (2025). Developing Culturally Responsive Curriculum Models for African Education Systems https://doi.org/10.2139/ssrn.5022219

Glory, U.A. (2025). Attitude of Medical Science Students towards French for Specific Purpose. Calabar Studies in Languages (CASIL) https://doi.org/10.64414/3vmfeq68

Haldar, S.K. (2025). SUSTAINABILITY LEADERSHIP THROUGH EDUCATION: WOMEN AS CHANGEMAKERS. GREEN SKILLS FOR THE 21ST CENTURY LEARNER EDUCATIONAL PERSPECTIVES AND PRACTICES https://doi.org/10.25215/9141001834.16

Kapoor, D.A.Y. (2025). INTEGRATING GREEN SKILLS INTO CONTEMPORARY EDUCATION. GREEN SKILLS FOR THE 21ST CENTURY LEARNER EDUCATIONAL PERSPECTIVES AND PRACTICES https://doi.org/10.25215/9141001834.04

Khan, H.A. (2025). Africa as Part of the Global South: A Framework for Building Innovation Systems and Technological Learning in an Unevenly Developing Africa. 21st Century African Development Strategies https://doi.org/10.1007/978-3-031-93079-9_6

Khurshid, D.S. (2025). ENVIRONMENTAL JUSTICE AND INCLUSIVE EDUCATION: PATHWAYS TO EQUITABLE SUSTAINABILITY. GREEN SKILLS FOR THE 21ST CENTURY LEARNER EDUCATIONAL PERSPECTIVES AND PRACTICES https://doi.org/10.25215/9141001834.03

Kibet, K.A. (2025). Integrating Digital Literacy and Competency-Based Curriculum in Higher Education: A Framework for 21st Century Entrepreneurship Education in Kenya. East African Journal of Education Studies https://doi.org/10.37284/eajes.8.2.3158

Kiptoo, W., & Kipngetich, K.W. (2025). Constraints Experienced in Provision of Quality Education in TVET Institutions. International Journal of Academic Research in Business and Social Sciences https://doi.org/10.6007/ijarbss/v15-i6/25817

Madhuri, D.A. (2025). DIGITAL TOOLS AND GREEN EDUCATION: TECHNOLOGY FOR ENVIRONMENTAL LEARNING. GREEN SKILLS FOR THE 21ST CENTURY LEARNER EDUCATIONAL PERSPECTIVES AND PRACTICES https://doi.org/10.25215/9141001834.10

Nayak, S. (2025). TEACHING FOR TOMORROW: GREEN SKILL DEVELOPMENT THROUGH TEACHER EDUCATION. GREEN SKILLS FOR THE 21ST CENTURY LEARNER EDUCATIONAL PERSPECTIVES AND PRACTICES https://doi.org/10.25215/9141001834.13

Phinla, W., Phinla, W., & Mahapoonyanont, N. (2025). Challenges and Innovations in Developing a Social Studies Curriculum for 21st-Century Learners in Small Schools https://doi.org/10.31124/advance.175024157.79223303/v1

Prof. (Dr.) B. C. Swain, D.P.P. (2025). INTEGRATING GREEN SKILLS INTO THE SCHOOL CURRICULUM TO FOSTER ENVIRONMENTAL AWARENESS. GREEN SKILLS FOR THE 21ST CENTURY LEARNER EDUCATIONAL PERSPECTIVES AND PRACTICES https://doi.org/10.25215/9141001834.05

Roy, U. (2025). GREEN SKILLS AND ECO-LITERACY: REIMAGINING CURRICULUM FOR A SUSTAINABLE WORLD. GREEN SKILLS FOR THE 21ST CENTURY LEARNER EDUCATIONAL PERSPECTIVES AND PRACTICES https://doi.org/10.25215/9141001834.06

Saidou, M. (2025). The Annual Interview: 'Educate an African Fit for the 21st Century. Yearbook on the African Union Volume 5 (2024) https://doi.org/10.1163/9789004750722_004

Sarkar, P.S. (2025). GREEN LEARNING AND CURRICULUM DESIGN: A SCIENTIFIC INQUIRY THROUGH ARTIFICIAL INTELLIGENCE. GREEN SKILLS FOR THE 21ST CENTURY LEARNER EDUCATIONAL PERSPECTIVES AND PRACTICES https://doi.org/10.25215/9141001834.07

Semercioğlu, M.G. (2025). Alignment of the science curriculum with 21st-century educational goals: Teachers evaluations. Education Mind https://doi.org/10.58583/em.4.1.7

Showkat Khurshid Nanda, D.M.J. (2025). GREEN EDUCATION POLICIES: SHAPING A SUSTAINABLE FUTURE THROUGH CURRICULUM REFORMS. GREEN SKILLS FOR THE 21ST CENTURY LEARNER EDUCATIONAL PERSPECTIVES AND PRACTICES https://doi.org/10.25215/9141001834.01

Sonko, K.N.M., & Sonko, M. (2025). Purposeful Education for Development: An Alternative Concept and Approach to Education in Africa. 21st Century African Development Strategies https://doi.org/10.1007/978-3-031-93079-9_2