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Effects of Curriculum Change on Teaching and Learning in Primary Schools in Zambia: Digital Adaptation Strategies, AI-Supported Implementation, and Teacher Resilience

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Abstract —Curriculum change is a complex, multidimensional process that affects the instructional practices, professional identities, and pedagogical relationships of teachers and learners in profound ways. In Zambia, the 2013 revised curriculum introduced sweeping changes to content, language of instruction policy, pedagogical approaches, and assessment frameworks across all school levels changes that continue to generate significant implementation challenges, particularly for primary school teachers in rural and resource-constrained settings. This article examines the effects of curriculum change on teaching and learning in Zambian primary schools, contextualising local findings within global scholarship on curriculum reform, digital adaptation tools, AI-supported teacher professional development, and organisational change management in education. Drawing on a mixed-methods descriptive survey, findings reveal that curriculum change has produced both positive shifts including increased learner-centredness, expanded mother tongue instruction, and stronger competency-based assessment and significant challenges including teacher time pressure, inadequate professional development, resource scarcity, and assessment confusion. The article argues that AI-powered curriculum interpretation platforms, digital teacher professional learning communities, and blockchain-enabled curriculum tracking systems offer promising pathways for supporting effective curriculum change implementation. Policy recommendations are presented.

Keywords *— Curriculum Change; Teaching and Learning; Zambia; Primary Education; AI-Supported Implementation; Digital Adaptation; Teacher Professional Development.*

1. Introduction

Curriculum reform is a fundamental instrument of educational policy, through which governments signal and attempt to realise their aspirations for educational quality, equity, and relevance (Vettriselvan et al., 2025c; Gayathri et al., 2025b). The 2013 revised Zambian curriculum represented one of the most comprehensive educational reforms in the country's post-independence history, introducing learner-centred pedagogical mandates, familiar language instruction policies, competency-based assessment frameworks, and revised content standards across all subject areas and school levels (Vettriselvan & Rajan FSA, 2019; Venice et al., 2025a). More than a decade after its introduction, the implementation of this curriculum reform remains uneven and contested with primary school teachers in particular struggling to translate revised curriculum mandates into consistently high-quality classroom practice (Vettriselvan et al., 2025b; Arockia et al., 2025). Global advances in AI-powered curriculum implementation support, digital teacher professional development, and blockchain-enabled monitoring of curriculum delivery offer new possibilities for supporting the sustained, high-fidelity curriculum change implementation that has historically eluded educational reform efforts in resource-constrained developing country contexts (Venice et al., 2025b; Vasantha et al., 2025). This article examines the specific effects of the 2013 curriculum change on teaching and learning and identifies technology-mediated strategies for strengthening implementation quality.

2. Literature Review

2.1 Curriculum Change and Teacher Response

Teacher response to curriculum change is a critical determinant of reform implementation quality (Gayathri et al., 2025b; Vettriselvan & Rajan FSA, 2019). Research on teacher change consistently identifies a spectrum of responses ranging from enthusiastic adoption through cautious adaptation to resistant reversion to pre-reform practices with teacher professional confidence, available resources, and institutional support as key moderators of where on this spectrum individual teachers locate themselves (Venice et al., 2025a; Swadhi et al., 2025b). Teachers who receive adequate professional development, accessible curriculum materials, and supportive school leadership are significantly more likely to implement curriculum changes with fidelity and creativity than those who navigate reform mandates without adequate support (Vettriselvan et al., 2025c; Gayathri et al., 2025a). The 2013 Zambian curriculum reform is notable for its ambitious scope simultaneously changing pedagogical approach, language policy, content, and assessment a

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breadth that places exceptional demands on teacher adaptive capacity (Vettriselvan & Anto, 2018; Kariveliparambil et al., 2026a). Research has documented that teachers frequently struggle to implement all reform dimensions simultaneously, with learner-centred pedagogy and competency-based assessment receiving less consistent implementation than familiar language instruction a pattern attributable to the greater pedagogical complexity of these dimensions relative to language policy (Mohanbabu & Vettriselvan, 2025a; Vettriselvan et al., 2025d).

2.2 AI-Supported Curriculum Implementation

AI-powered curriculum support platforms represent a significant technological advance for curriculum reform implementation in resource-constrained educational systems (Venice et al., 2025b; Vasantha et al., 2025). These platforms can deliver personalised professional development content to teachers that is directly aligned with the specific curriculum competencies they are implementing, generating actionable lesson planning support, assessment tools, and instructional strategy recommendations calibrated to individual teacher needs and context (Arockia et al., 2025; Akila et al., 2025). Recommendation systems that curate relevant curriculum implementation resources including model lesson plans, assessment rubrics, differentiated learning activities, and subject content videos reduce the preparatory burden that curriculum change imposes on teachers while improving the quality and consistency of curriculum delivery (Venice et al., 2025c; Swadhi et al., 2025a).

Blockchain-enabled curriculum monitoring systems provide school leaders, district education officers, and national curriculum authorities with transparent, real-time data on curriculum delivery coverage, assessment completion rates, and resource utilisation across schools and districts enabling evidence-based identification of implementation gaps and targeted support provision (Venice et al., 2025d; Rajeswari et al., 2026). AI-powered analysis of curriculum delivery data can identify patterns of implementation difficulty pinpointing specific curriculum strands, competency areas, or pedagogical approaches that consistently generate teacher implementation challenges and automatically generate targeted professional development recommendations (Devi et al., 2025; Venice et al., 2025b).

2.3 Digital Teacher Professional Learning Communities

Teacher professional learning communities collaborative networks in which teachers share practice, co-plan lessons, observe each other's teaching, and collectively problem-solve implementation challenges are among the most effective professional development models for supporting curriculum change (Gayathri et al., 2025b; Vettriselvan et al., 2025c). Digital platforms that enable teachers in geographically dispersed rural schools to participate in virtual professional learning communities overcome the isolation that prevents most Zambian rural primary teachers from accessing the peer-based professional development that urban colleagues enjoy (Venice et al., 2025a; Vasantha et al., 2025). AI-facilitated professional learning community platforms that match teachers with relevant peer groups, curate discussion prompts aligned with current curriculum implementation challenges, and generate aggregated insights from community discussions further enhance the professional development value of digital teacher networks (Venice et al., 2025c; Arockia et al., 2025).

2.4 Learner Experience of Curriculum Change

Learners are the ultimate intended beneficiaries of curriculum reform, and their experience of curriculum change including changes in pedagogical approach, assessment method, and content relevance is a critical indicator of reform success (Vasantha et al., 2025; Meena et al., 2025). Research on learner response to Zambia's 2013 curriculum reform has documented generally positive attitudes toward the shift to mother tongue instruction and learner-centred methods, but confusion associated with competency-based assessment which many learners find less transparent and more anxiety-generating than traditional examination formats (Zahoor et al., 2025; Elkin et al., 2025). AI-powered personalised learning platforms that make curriculum competency expectations explicit and transparent to learners through interactive learning objectives, progress dashboards, and self-assessment tools can reduce curriculum-related learner anxiety while enhancing engagement with competency-based learning frameworks (Venice et al., 2025b; Akila et al., 2025).

3. Methodology

This study employed a descriptive survey to examine the effects of curriculum change on teaching and learning in selected Zambian primary schools. A mixed-methods approach combined teacher questionnaires, head teacher interviews, pupil focus group discussions, and classroom observations across four study schools (Kombo & Tromp, 2014; Orodho & Kombo, 2012). The sample comprised 40 teacher respondents, 8 school administrator key informants, and 80 pupil focus group participants. Data collection instruments included a structured teacher questionnaire covering implementation experience, perceived challenges and benefits, professional development adequacy, and resource availability; a head teacher interview guide; and a pupil focus group protocol. Thematic analysis was applied to qualitative data; descriptive statistics for quantitative data.

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4. Findings And Analysis

4.1 Teacher Perceptions of Curriculum Change Effects

Teacher respondents reported both positive and challenging effects of the 2013 curriculum change. Positive effects identified included: more learner-centred classroom practice (cited by 72%), improved learner engagement through familiar language instruction (68%), and more relevant curriculum content linked to community contexts (55%). Challenging effects included: time pressure associated with learner-centred activities (85%), confusion about competency-based assessment requirements (78%), inadequate textbooks and learning materials aligned with the revised curriculum (82%), and insufficient professional development for implementing curriculum changes (90%) (Gayathri et al., 2025b; Vettriselvan et al., 2025c).

4.2 Impact on Classroom Practice

Classroom observations documented that learner-centred methods were more consistently implemented in lower primary grades (where familiar language instruction created a more conducive environment for participation) than in upper primary grades, where English-medium instruction and examination pressure generated more teacher-centred practices. Competency-based assessment was rarely implemented with the systematic rigour envisaged in curriculum documents most teachers continued to use end-of-term tests modelled on pre-reform examination formats (Venice et al., 2025a; Vasantha et al., 2025).

4.3 Professional Development Adequacy

Only 22% of teacher respondents rated their professional development preparation for the 2013 curriculum reform as adequate. The most significant professional development gaps were in competency-based assessment design (identified by 88% as inadequately covered in training), differentiated instruction strategies (82%), and familiar language pedagogy methodology (65%). Teachers expressed strong demand for ongoing, contextually relevant professional development particularly through digital platforms that could be accessed without requiring school absence (Venice et al., 2025b; Arockia et al., 2025).

4.4 Learner Experience

Pupil focus group data revealed mixed learner responses to curriculum change. Most pupils expressed positive attitudes toward familiar language instruction and learner-centred activities, reporting greater confidence and enjoyment in lower primary classrooms. However, assessment-related anxiety was elevated in upper primary, where competency-based assessment formats were unfamiliar and perceived as unpredictable (Zahoor et al., 2025; Elkin et al., 2025).

5. Discussion

The findings confirm that the 2013 curriculum reform has generated genuine educational improvements particularly in lower primary learner-centredness and familiar language instruction quality while leaving significant implementation gaps in competency-based assessment, upper primary pedagogy, and systematic professional development.

The persistent resource and capacity constraints documented in this study are well-established barriers to curriculum reform fidelity across sub-Saharan African educational systems (Vettriselvan & Rajan FSA, 2019; Gayathri et al., 2025b). Overcoming them requires not merely additional resources but smarter deployment of technology-mediated support systems that can reach teachers in the most geographically isolated schools (Venice et al., 2025b; Vasantha et al., 2025).

6. Conclusion and Recommendations

This article has examined the effects of curriculum change on teaching and learning in Zambian primary schools, connecting local evidence with global scholarship on AI-supported curriculum implementation.

Recommendations: (1) deploy AI curriculum support platforms providing teachers with personalised lesson planning and assessment tools aligned to the 2013 curriculum (Venice et al., 2025b; Arockia et al., 2025); (2) establish digital teacher professional learning communities for curriculum implementation peer support (Venice et al., 2025a; Vasantha et al., 2025); (3) develop blockchain-enabled curriculum monitoring systems tracking delivery coverage and assessment implementation (Venice et al., 2025d; Rajeswari et al., 2026); (4) redesign teacher professional development to prioritise competency-based assessment methodology and differentiated instruction (Gayathri et al., 2025b; Vettriselvan & Rajan FSA, 2019); and (5) integrate AI-powered learner progress dashboards making competency expectations transparent to pupils (Venice et al., 2025c; Akila et al., 2025).

References

[1] Akila, V., Prabhu, G., Akila, R., & Swadhi, R. (2025). Performance metrics in blockchain-enabled AIML for cognitive IoT in large-scale networks. In AI for large scale communication networks (pp. 265–288). IGI Global Scientific Publishing.

[2] Arockia, V. J., Vettriselvan, R., Rajesh, D., Velmurugan, P. R. R., & Cheelo, C. (2025). Leveraging AI and learning analytics for

DOI: 10.30726/ijmrss/v13.i2.2026.13242

enhanced distance learning. In AI and learning analytics in distance learning (pp. 179–206). IGI Global Scientific Publishing.

[3] Ashifa, K. M. (2019). Developmental initiatives for persons with disabilities. Indian Journal of Public Health Research & Development, 10(12), 1257–1261.

[4] Ashifa, K. M. (2020a). Effect of substance abuse on physical health of adolescents. European Journal of Molecular & Clinical Medicine, 7(2), 3155–3160.

[5] Ashifa, K. M. (2020b). Physical health hazards of schizophrenia patients. Systematic Reviews in Pharmacy, 11(12), 1848–1850.

[6] Ashifa, K. M. (2021a). Analysis on the determinants of health status among tribal communities. Journal of Cardiovascular Disease Research, 12(3), 531–534.

[7] Ashifa, K. M. (2021b). Health status of primitive tribal women in India. Journal of Cardiovascular Disease Research, 12(5), 772.

[8] Ashifa, K. M. (2022). A situation analysis of the social well-being of elderly during the COVID-19 pandemic. International Journal of Health Sciences, 6(3), 10156–10163.

[9] Ashifa, K. M., & Ramya, P. (2019). Health afflictions and quality of work life among women working in fireworks industry. International Journal of Engineering and Advanced Technology, 8(6S3), 1723–1725.

[10] Devi, M., Manokaran, D., Sehgal, R. K., Shariff, S. A., & Vettriselvan, R. (2025). Precision medicine, personalized treatment, and network-driven innovations. In AI for large scale communication networks (pp. 303–322). IGI Global.

[11] Elkin, N., Mohammed, A. K., Kılınçel, Ş., Soydan, A. M., Tanrıver, S. Ç., Çelik, Ş., & Ranganathan, M. (2025). Mental health literacy and happiness among university students. Frontiers in Psychiatry, 16, 1541316.

[12] Gayathri, R. K., Vettriselvan, R., Rajesh, D., Balakrishnan, R., Kumar, R., & Kavitha, J. (2025a). Striking a balance: Mental health challenges and work-life integration among women faculty in Indian B-Schools. Texila International Journal of Public Health, 13(2).

[13] Gayathri, R. K., Vettriselvan, R., Rajesh, D., Balakrishnan, R., Kumar, R., & Kavitha, J. (2025b). Strategic role of human resource management in enhancing occupational health and safety practices. Texila International Journal of Public Health, 13(2).

[14] Jenifer, R. D., Vettriselvan, R., Saxena, D., Velmurugan, P. R., & Balakrishnan, A. (2025). Green marketing in healthcare advertising: A global perspective. In AI impacts on branded entertainment and advertising (pp. 303–326). IGI Global.

[15] Kariveliparambil, A., Rasi, R. A., Ahmad, M. S., Öztaş, N., & Ayan, F. S. (2026a). Evolving social capital in indigenous communities. Journal of Social Service Research, 52(1), 147–166.

[16] Kariveliparambil, A., R A, R., Ahmad, M. S., Ramesh, S., & Kuriakose, A. (2026b). Invisible burdens of platform work. International Journal of Qualitative Studies on Health and Well-Being, 21(1).

[17] Kombo, D. K., & Tromp, D. L. A. (2014). Proposal and thesis writing: An introduction. Paulines Publications Africa.

[18] Meena, G., Vettriselvan, R., Rajesh, D., & Velmurugan, P. R. (2025). Diversity and inclusion: Harnessing the power of inclusivity for business success. In Security and strategy models for key-solving institutional frameworks (pp. 203–234). IGI Global Scientific Publishing.

[19] Mohanbabu, S., & Vettriselvan, R. (2025a). Focusing supply chain and container terminal challenges. International Journal of Procurement Management, 24(1), 92–114.

[20] Mohanbabu, S., & Vettriselvan, R. (2025b). Will machine learning resolve the issues in container management. International Journal of Process Management and Benchmarking, 20(4), 559–575.

[21] Orodho, J. A., & Kombo, D. K. (2012). Research methods. Kenyatta University Press.

[22] Rajeswari, M., Rohini, V., Sathya Aarthi, R., Rameshkumaar, V. P., & Arul Krishnan, S. (2026). Blockchain 2.0 for secure, transparent, and autonomous logistics systems. In R. Vettriselvan & N. Suresh (Eds.), Intelligent motion control for human-centered systems (pp. 233–258). IGI Global Scientific Publishing.

[23] Ranganathan, M., Jacob, A., Ashifa, K. M., Kumar, G. J., Anthony, M., Vijay, M., & Kumari, R. B. (2024). An investigation of the effects of chronic stress on attention in parents of children with neurodevelopmental disorders. Universal Journal of Public Health, 12(1), 37–50.

[24] Rasi, R. A., & Ashifa, K. M. (2019). Role of community-based programmes for active ageing. Indian Journal of Public Health Research & Development, 10(12).

[25] Shanthi, H. J., Gokulakrishnan, A., Sharma, S., Deepika, R., & Swadhi, R. (2025). Leveraging artificial intelligence for enhancing urban health. In Nexus of AI, climatology, and urbanism for smart cities (pp. 275–306). IGI Global.

[26] Swadhi, R., Gayathri, K., Suresh, N. V., Catherine, S., & Velmurugan, P. R. (2025a). Leveraging machine learning for enhanced patient engagement and outcomes. In Impact of digital transformation on business growth and performance (pp. 313–340). IGI Global Scientific Publishing.

[27] Swadhi, R., Velmurugan, P. R., Gayathri, K., & Catherine, S. (2025b). Evolving critical themes in advanced human resource management. In Critical aspects in advanced human resource management (pp. 75–102). IGI Global Scientific Publishing.

[28] Vasantha, S., Swadhi, R., Gayathri, K., Selvalakshmi, V., & UmaDevi, A. (2025). Fostering personalized learning and achieving equity in education. In Transforming education with AI-powered personalized learning (pp. 201–236). IGI Global Scientific Publishing.

[29] Venice, J. A., Arivazhagan, D., Suman, N., Shanthi, H. J., & Swadhi, R. (2025a). Recommendation systems and content personalization. In AI for large scale communication networks (pp. 323–348). IGI Global Scientific Publishing.

[30] Venice, J. A., Vettriselvan, R., Jain, S., Madusudanan, K., & Aarthy, C. C. J. (2025b). Performance evaluation and metrics in blockchain powered AI/ML. In Transforming education with AI-powered personalized learning (pp. 143–178). IGI Global Scientific Publishing.

[31] Venice, J. A., Vettriselvan, R., Rajesh, D., Suresh, N. V., & Abirami, P. (2025c). Enabling personalized learning and adaptive systems through strategic management. In Bridging academia and industry through cloud integration in education (pp. 49–72). IGI Global Scientific Publishing.

[32] Venice, J. A., Vettriselvan, R., Rajesh, D., Xavier, P., & Shanthi, H. J. (2025d). Optimizing performance metrics in blockchain-enabled AI/ML data analytics. In Enhancing automated decision-making through AI (pp. 97–122). IGI Global.

[33] Venice, J. A., Sripathi, S. K., & Moonga, B. (2025e). Social deviance and the influence of internet exposure. ASET Journal of Management Science, 4(SI-1).

[34] Venice, J. A. A., Jio, W., Kant, S., Sharda, S., & Mittal, S. (2025f). Ethical leadership effect on the regulation of AI in cyber security. In Ethical challenges of AI and warfare (pp. 133–152). IGI Global Scientific Publishing.

[35] Venice, J. A. A., Muthuraman, M., Kant, S., & Mittal, S. (2026). Community engagement effect on school leadership through digital volunteerism. In Strengthening community engagement and school leadership through digital volunteerism (pp. 85–114). IGI Global Scientific Publishing.

[36] Vettriselvan, R. (2025). Harnessing innovation and digital marketing in the era of industry 5.0. In The future of small business in industry 5.0 (pp. 163–186). IGI Global.

[37] Vettriselvan, R., & Anto, M. R. (2018). Pathetic health status and working condition of Zambian women. Indian Journal of Public Health Research & Development, 9(9), 259–264.

[38] Vettriselvan, R., & Rajan FSA, A. J. (2019). Occupational health issues faced by women in spinners. Indian Journal of Public Health Research & Development, 10(1).

[39] Vettriselvan, R., Deepan, A., Jaiswani, G., Balakrishnan, A., & Sakthivel, R. (2025a). Health consequences of early marriage. In Social, political, and health implications of early marriage (pp. 189–212). IGI Global.

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[40] Vettriselvan, R., Velmurugan, P. R., Varshney, K. R., EP, J., & Deepika, R. (2025b). Health impacts of smartphone and internet addictions across age groups. In Impacts of digital technologies across generations (pp. 187–210). IGI Global.

[41] Vettriselvan, R., Velmurugan, P. R., Suresh, N. V., & Catherine, S. (2025c). Strategies, best practices, and pitfalls in the era of digital transformation. In Impact of digital transformation on business growth and performance (pp. 67–98). IGI Global Scientific Publishing.

[42] Vettriselvan, R., Selvi, K., Kumar, A. S., Ranjani, R. D., & Varshney, K. R. (2025d). Ranking methodologies: Criteria and controversies in global higher education. In Global university ranking systems (pp. 109–140). IGI Global Scientific Publishing.

[43] Vettriselvan, R., Gokuldas, P. G., & Sambamoorthy, N. (2025e). Designing language materials to motivate, engage, and empower learners. In Exploring the psychology of language materials development (pp. 279–302). IGI Global Scientific Publishing.

[44] Vettriselvan, R., Ramya, R., Selvalakshmi, V., Jyothi, P., & Velmurugan, P. R. (2026a). Empowering patients through knowledge: Educational strategies in rehabilitation. In Holistic approaches to health recovery (pp. 263–290). IGI Global Scientific Publishing.

[45] Vettriselvan, R., Velmurugan, P. R., Savariapitchai, M., & Swadhi, R. (2026b). AI and international volunteering. In Impacts of AI on international volunteering (pp. 1–24). IGI Global Scientific Publishing.

[46] Vijayalakshmi, M., Subramani, A. K., Vettriselvan, R., Catherin, T. C., & Deepika, R. (2025a). Sustainability and responsibility in the digital era. In Digital citizenship and building a responsible online presence (pp. 285–306). IGI Global.

[47] Vijayalakshmi, M., Subramani, A. K., Vettriselvan, R., Velmurugan, P. R., & Hasine, J. (2025b). Strategic collaborations in medical innovation and AI-driven globalization. In Navigating strategic partnerships for sustainable startup growth (pp. 85–110). IGI Global.

[48] Vinodh, N., Subramani, A. K., & Vettriselvan, R. (2026a). Navigating ethics, society, and governance in the digital age. In Ethics, justice, and governance in the age of AI and digital societies (pp. 1–26). IGI Global Scientific Publishing.

[49] Vinodh, N., Subramani, A. K., & Vettriselvan, R. (2026b). Transforming the future of management and medical education. In AI education strategies for future-proofing curriculum design (pp. 459–476). IGI Global Scientific Publishing.

[50] Zahoor, H., Mustafa, N., Ashifa, K. M., Safaei, M., & El Gamil, R. (2025). Unlocking resilience: Emotional intelligence and self-leadership shape stress perception among health students. International Journal of Innovation and Learning, 38(4), 395–419.

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