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Curriculum Charges in Times of Uncertainty in African Higher Education

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ABSTRACT

The African higher education landscape is increasingly shaped by global and local uncertainties, including economic volatility, political instability, climate change, and technological disruptions. These challenges necessitate a critical re-examination of curriculum design and charges to ensure relevance, resilience, and responsiveness to the needs of students and society. This paper, therefore, explored the role of curriculum in addressing uncertainty within African higher education, emphasising the need for adaptive, inclusive, and context-sensitive approaches. Drawing on case context, the paper highlights the importance of integrating interdisciplinary knowledge, fostering critical thinking, and promoting lifelong learning. It also examined the tensions between theory, theorising and practice and recommended the reimagining of curricula that empower students to navigate an uncertain future. This paper was designed as a theoretical paper dealing with theoretical insights and methodological fundamentals articulated by other researchers. The paper concludes that curriculum charges and practicals should be at the centre of curriculum studies in African higher education. It also recommends that there is a need to reimagine the purpose of the curriculum in every country on the continent, as well as what it should do.

Keywords: Curriculum Charges, Curriculum Studies in Crisis, African Higher Education, Fourth Industrial Revolution, Curriculum Theory

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INTRODUCTION

The discipline of curriculum studies as a whole, regardless of the context, is set to be in crisis, and this can be attributed to a number of factors and reasons. This idea of crisis in the 21st-century modern times was first articulated by Wraga and Hlebowitsh when they postulated this crisis as being the overly theoretical nature of curriculum, thereby distancing itself from the practical realities in most classrooms.[1] Young adds to this argument that ‘‘the crisis in curriculum theory that I want to suggest is the increasingly widespread acceptance among educational researchers of the idea that knowledge itself has no intrinsic significance or validity.’’[2] This idea hasn’t changed up till now, as more attention is paid to experiences and perceptions rather than the knowledge amongst most postgraduate researchers who are considered the future of the discipline. Young continues that ‘‘the question that teachers are faced with becomes limited to ‘is this curriculum meaningful to my students?’ rather than ‘what are the meanings that this curriculum

[1] William Wraga and Peter Hlebowitsh, “Toward a Renaissance in Curriculum Theory and Development in the USA,” *Journal of Curriculum Studies* 35, no. 4 (2003): 425–37.
[2] Michael Young, “Overcoming the Crisis in Curriculum Theory: A Knowledge-Based Approach,” *Journal of Curriculum Studies* 45, no. 2 (2013): 106.

gives my students access to?' or 'does this curriculum take my students beyond their experience and enable them to envisage alternatives that have some basis in the real world?''[3]

Until these questions are answered, and rightfully so, as well as other difficult questions around the discipline, the crisis will never end. Wyse, et.al., adding more details about this crisis, speak about the distance or dissonance between the analyses of the curriculum field and increasingly government interventions on the curriculum based on national or international standardised test results.[4] This crisis has been explored from multiple perspectives, and different reasons have been advanced for this crisis. Garcia-Huidobro further argued that the source of the crisis in curriculum studies revolves around social-efficiency philosophies, which use factory models to analyse schools, thereby creating a real distinction between teachers and the curriculum from what had otherwise been an analytical distinction.[5] As a result, ''teachers and the curriculum have been studied and addressed independently with serious consequences: teachers have been understood as implementers of fixed curricula, and curricula have been developed as teacher-proof packaged materials.[6] As a result, even when teachers attempt to break away from this understanding, the managerial oversight often associated with curriculum implementation, referred to by some as curriculum managers, makes it difficult to deviate from this understanding.[7] This polemics has pushed studies around curriculum as well as curriculum studies itself to become a theory distant from classrooms. Garcia-Huidobro add to this by arguing that this crisis has ''disconnected research on teaching from questions about the ends of education…. And this is a consequence of instrumental views on education that have made teachers focus on how they teach at the cost of undertheorizing what they teach.''[8] So both how they teach and what they teach need to be theorised, amongst other things, in the quest to deal with this crisis.

However, issues like this in the curriculum are not new. Schwab spoke on this crisis in the sixties, by articulating three key issues which the reconceptualist movements which emerged afterwards tried to address.[9] Schwab argued that ''the field of curriculum is moribund. It is unable, by its present methods and principles, to continue its work and contribute significantly to the advancement of education. It requires new principles which will generate a new view of the character and variety of its problems. It requires new methods appropriate to the new budget of problems.''[10] The need for alternative approaches, methods and theories to address the issues facing the field is paramount, and the fact that the discipline exists today means it survived its moribund status at the time. Schwab continued that ''the curriculum field has reached this unhappy state by inveterate, unexamined, and mistaken reliance on theory. On the one hand, it has adopted theories (from outside the field of education) concerning ethics, knowledge, political and social structure, learning, mind, and personality, and has used these borrowed theories theoretically… On the other hand, it has attempted construction of educational theories, particularly theories of curriculum and instruction.''[11]

The questions around curriculum studies and what its focus should be per time, as well as how the questions should be approached, constitute a daunting task for the curriculum scholar. Fomunyam and Teferra argue for a hundred thousand theories addressing issues from all angles and perspectives to make education better.[12] However, Schwab further argued that the theoretical inconsistencies have resulted in grave difficulties (incoherence of the curriculum, failure and discontinuity in actual schooling) because of a variety of factors. Firstly, the borrowed theoretical constructions are ill-fitted and inappropriate to

[3] Young, "Overcoming the Crisis in Curriculum Theory: A Knowledge-Based Approach."106.
[4] Dominic Wyse, Jessica Pandya, and Louise Hayward, "The SAGE Handbook of Curriculum, Pedagogy and Assessment," 2015.
[5] Juan Cristobal Garcia-Huidobro, "Addressing the Crisis in Curriculum Studies: Curriculum Integration That Bridges Issues of Identity and Knowledge," *The Curriculum Journal* 29, no. 1 (2018): 25–42.
[6] Garcia-Huidobro, "Addressing the Crisis in Curriculum Studies: Curriculum Integration That Bridges Issues of Identity and Knowledge."
[7] Kehdinga George Fomunyam, "Deterritorialising to Reterritorialising the Curriculum Discourse in African Higher Education in the Era of the Fourth Industrial Revolution," 2021.
[8] Garcia-Huidobro, "Addressing the Crisis in Curriculum Studies: Curriculum Integration That Bridges Issues of Identity and Knowledge."
[9] Joseph J Schwab, "The Practical: A Language for Curriculum," *The School Review* 78, no. 1 (1969): 1–23; J. Schwab, "The Practical: A Language for Curriculum," *National Education Association*, 1970.
[10] Schwab, "The Practical: A Language for Curriculum," 1969.1.
[11] Schwab, "The Practical: A Language for Curriculum," 1969. 1.
[12] Kehdinga George Fomunyam and Damtew Teferra, "Curriculum Responsiveness within the Context of Decolonisation in South African Higher Education," 2017.

address actual teaching and learning challenges. This is because theory, by virtue of its being theory as well as by its very character, cannot and does not take account of curriculum charges around the questions of what, who, and how to teach. This means that theories cannot be translated into principles or solutions to real-life problems of people, groups of people or institutions located in space and time. Secondly, most of the borrowed theories, even the ones that appear or are appropriate, are inadequate, even as theories, to their chosen subjects. As such, applying them to an alternative context constitutes a problem. Thirdly, in cases where a theory can be fully applied to its own subject matter, it will beg or ignore issues and questions on curriculum charges when borrowed. Thirdly, there is a need for a renaissance of the field of curriculum, which should produce a renewed capacity to contribute to the quality of education. Curriculum charges need to focus on the practical, the quasi-practical, and the eclectic. These issues, highlighted by Schwab, are still of great concern today.[13]

Tedesco et.al. argue that there is a great need for renewed curriculum debates.[14] This is because technology and politics, in all their ambiguities, are changing the way we see and do things. This has brought about more complexities to life and work, making traditional education outdated. As such, there is a need for new agreements regarding the what and the why of education (i.e. new curricula) that give coherence to policy… It is imperative to rethink the role of technology in schools, the balance between the sciences and the humanities, and the place of values, religions, and diverse worldviews in education.''[15] One of the things that exacerbates this crisis is the fourth industrial revolution. And this, according to Fomunyam, is changing the way research is conducted as well as the way society functions.[16] When these uncertainties are placed within the context of African higher education, the drive for responsiveness becomes more complex. This is because higher education in Africa operates within a dynamic and often unpredictable landscape, characterised by rapid socio-economic changes, political instability, and global disruptions such as climate change, pandemics, and technological advancements. These factors contribute to an environment of uncertainty, which poses significant challenges to the sustainability and relevance of African higher education systems.[17] In this context, the curriculum emerges as a critical tool for navigating uncertainty, fostering resilience, and equipping students with the skills and knowledge necessary to address both local and global challenges. Since the curriculum is not merely a static document but a dynamic framework that reflects societal values, aspirations, and needs, in times of uncertainty, it plays a pivotal role in shaping how higher education institutions respond to emerging issues, such as unemployment, inequality, and environmental degradation.[18] A well-designed curriculum can empower learners to think critically, adapt to change, and contribute meaningfully to their communities. However, the persistent gap between curriculum content and the realities of African societies often undermines its potential to drive transformative change.[19]

Furthermore, chronic underfunding remains a critical issue for African higher education institutions. Most universities in Africa rely heavily on the government for funding, and this is often inconsistent due to competing national priorities.[20] This financial instability has resulted in inadequate infrastructure, outdated teaching materials, and limited research opportunities. The COVID-19 pandemic further exacerbated these challenges, as governments redirected resources to address public health emergencies, leaving higher education institutions struggling to adapt (UNESCO, 2021). Without sustainable funding models, African universities will continue to face uncertainty in their ability to deliver quality education and conduct impactful research. Adding to this, Asongu and Odhiambo argue that political instability and weak governance can also be counted as one of the factors creating uncertainties

[13] Schwab, "The Practical: A Language for Curriculum," 1969.
[14] Juan Carlos Tedesco, Renato Opertti, and Massimo Amadio, "The Curriculum Debate: Why It Is Important Today," *Prospects* 44, no. 4 (2014): 527–46.
[15] Garcia-Huidobro, "Addressing the Crisis in Curriculum Studies: Curriculum Integration That Bridges Issues of Identity and Knowledge."
[16] Kehdinga George Fomunyam, " Constellations of Research, Innovation, and Internationalisation in Africa," in *Theorising Research, Innovation and Internationalisation in African Higher Education (Pp.).* , ed. Kehdinga George Fomunyam (University of Johannesburg Press, 2024), 373–81.
[17] Chrissie Boughey and Sioux McKenna, *Understanding Higher Education: Alternative Perspectives* (African Minds, 2021).
[18] Fomunyam, " Constellations of Research, Innovation, and Internationalisation in Africa."
[19] Fomunyam, " Constellations of Research, Innovation, and Internationalisation in Africa."
[20] M Oketch, "What Is the Appropriate Higher Education Finance Model for Africa? Some Reflections," *South African Journal of Higher Education* 37, no. 6 (2023): 131–52.

in African higher education.[21] And this is because these instabilities create unpredictable environments for higher education. Frequent changes in education policies and leadership disrupt long-term planning and implementation of academic programs. Additionally, government interference in university autonomy often undermines academic freedom and institutional effectiveness. For example, in some countries, political appointments to university leadership positions have led to mismanagement and a lack of accountability.[22]

These governance challenges contribute to the uncertainty surrounding the future of higher education in Africa. Again, Africa's youthful population has led to a surge in demand for higher education. However, many institutions lack the capacity to accommodate this growing number of students. Overcrowded classrooms, insufficient faculty, and limited access to quality education are common challenges. While the expansion of private universities has provided some relief, many of these institutions struggle with quality assurance and affordability.[23] This mismatch between demand and capacity creates uncertainty about the ability of African higher education systems to meet the needs of future generations. For example, in South African higher education, Khanyile argues that most universities received applications at least as that they can handle and some 33 times more than they can take.[24] To illustrate this, Khanyile states that the University of Johannesburg (UJ) received 693,990 applications (all choices), which translates to a headcount of 358,992 applicants for approximately 10,900 undergraduate spaces. This is 33 times more than available spaces..… The University of KwaZulu-Natal (UKZN) received over 290,600 individual applications for approximately 8,600 first-year places for the 2025 academic year. This is 33 times more than the available spaces…. The Durban University of Technology (DUT) received 147,076 applications and only has 9,454 spaces. This is 15 times more than the available spaces. While Stellenbosch University received 90,027 applications for first-year study in 2025 while it has 6,005 spaces. It is 15 times higher than the available spaces.''[25]

All this indicates the huge demand for higher education and the lack of supply. The bit to accommodate more students, most universities end up with overcrowded classrooms, amongst other things, which often result in high dropout rates, creating more uncertainty. Other factors like the quality and relevance of higher education, brain drain, technological gaps, globalisation and international competition all contribute to and add more uncertainty to the African higher education landscape. This paper, therefore, seeks to specifically (1) explore how curriculum is responding to and how it should respond to the uncertainties in African higher education, (2) explore theorising idiosyncrasies or pathways that can help advance the course of curriculum in African higher education, and (3) theorise curriculum charges for dealing with the uncertainties in curriculum studies.

METHODOLOGY

This paper was designed as a theoretical paper dealing with theoretical insights and methodological fundamentals articulated by other researchers. As such, it used literature review not only as a source of data but also as a way of validating and supporting the arguments being made. It was built on existing research in the field of curriculum as well as in other humanities and social science disciplines to articulate a pathway for the future in curriculum studies.

DISCUSSION

Curriculum Studies in the Era of the Fourth Industrial Revolution

The field of curriculum studies is a rather complex one, and every educationalist, as well as politician, thinks they know the job of the curriculum scholar better than the scholar. Fomunyam argues that the field of curriculum studies is a controversial one, which has been studied and articulated differently by different

[21] Simplice Asongu and Nicholas Odhiambo, "The Role of Inclusive Education in Governance for Inclusive Economic Participation: Gender Evidence from Sub-Saharan Africa," *European Xtramile Centre of African Studies WP/21/097*, 2021.
[22] M. Mamdani, "Decolonising Universities," in *Sharing Knowledge Transforming Societies: The Norhed Programme 2013–2020*, ed. T. Halvorsen, K. S. Orgeret, and R. Krøvel (African Minds, 2019), 48–67.
[23] Oketch, "What Is the Appropriate Higher Education Finance Model for Africa? Some Reflections."
[24] G. Khanyile, " South African Universities Receive 30 Times More Applications than Available Spaces," MSN, January 29, 2025, https://www.msn.com/en-za/news/other/south-african-universities-receive-30-times-more-applications-than-available-spaces/ar-AA1xjlMe.
[25] Khanyile, " South African Universities Receive 30 Times More Applications than Available Spaces."

scholars over the past eighty years. [26]As the focal point of the educational endeavour curriculum is entrusted with the task of asking the difficult questions about knowledge, access of all kinds, as well as the relationship between theory and practice. Pacheco argues that curriculum studies as a field of study is deeply troubled with questions about its epistemological nature, often analysed along the lines of theory and practice.[27] This creates some sort of distinction between academic curriculum discourse and practice. This means what counts as knowledge has come to mean different things to different people; some being theoretical, some being practical, and some being procedural. Pacheco highlights the importance of practice, while Schubert argues for a more theoretical approach. He argues that, "we must be willing to see contemporary curriculum theorists as scholars who sometimes need to distance themselves enough from practice and context to theorise both practice and context as curricula in a larger social sense."[28] This is because context and practice both constitute part of the curriculum and determine what the educational experience will eventually be.

Beyond theory and practice, another troubling issue for the field is the question of identity. What exactly is the field, what should it explore, and who should explore it are difficult questions yet to be satisfactorily answered. Speaking to the identity crisis in curriculum studies Page argues that ''curriculum studies seems to have always had something of an identity problem (…) The identity problem has also always been inflected by external developments, including broad societal shifts and, more recently, increasing intervention in curriculum by formal government (local, state, and federal) and by a growing number of informal interest groups."[29] This is because everybody believes they can do the job of the curriculum scholar better than the scholar himself. Apple highlights the importance of these issues and posits that ''speaking honestly, I am deeply concerned that too much of the field of curriculum has lost its way. Too much of it is characterised by a condition of historical amnesia. It has too often forgotten the key questions about what and whose knowledge should be official. It has become lost in postmodern abstractions and deconstructive despair.''[30] There is a need for a refocusing of the field to the essence of what happens and the altering or challenging of descendant voices around the field. This is because the field has become ''hermetic in too many ways and has, in the process, lost its ability to speak clearly about some of the major problems facing schools, teachers, students and communities. With neoliberal, neoconservative, authoritarian populist, and new managerial forces increasingly occupying the space of real policies and practices, we have little voice in the public debates over the realities of schooling and the decisions of curriculum policies and practices. The field of education deserves more.''[31] If the field itself doesn't have a voice in the curriculum discourse, how can it shape or address the uncertainties brought about by the fourth industrial revolution? This state of confusion has very much characterised the response of the field to the fourth industrial revolution in African higher education.

Conversely, despite the confusion within the field, curriculum scholars and the discipline as a whole, particularly in African higher education, are responding to the fourth industrial revolution from multiple perspectives. Academics on the continent are shifting towards pedagogies that cultivate critical 4IR skills. This involves moving beyond memorisation to foster critical thinking, creativity, collaboration, and problem-solving, identified as crucial by the World Economic Forum.[32] This is very critical because soft skills like critical thinking are set to be one of the most vital skills as the world of education progresses into the 4IR. Antwi-Boampong and Boison further argue that there is a strong emphasis on

[26] Kehdinga George Fomunyam, "Curriculum Theorising in the Era of the Fourth Industrial Revolution," *African Journal of Inter/Multidisciplinary Studies* 5, no. 1 (2023): 1–7.
[27] José Augusto Pacheco, "Curriculum Studies: What Is the Field Today?," *Journal of the American Association for the Advancement of Curriculum Studies (JAAACS)* 8 (2012).
[28] W. H. Schubert, "Curriculum in Theory," in *The Sage Handbook of Curriculum and Instruction* , ed. F. M. Connelly (Sage, 2009), 392.
[29] R. N. Page, " Foreword," in *Leaders in Curriculum Studies: Intellectual Self-Portraits* , ed. E. C. Short and L. J. Waks (Sense Publishers, 2009), ix–xvi.
[30] Michael W Apple, "Critical Curriculum Studies and the Concrete Problems of Curriculum Policy and Practice," *Journal of Curriculum Studies* 50, no. 6 (2018): 685–90.
[31] Apple, "Critical Curriculum Studies and the Concrete Problems of Curriculum Policy and Practice."
[32] O.S Aboderin and M Havenga, "Essential Skills and Strategies in Higher Education for the Fourth Industrial Revolution: A Systematic Literature Review," *South African Journal of Higher Education* 38, no. 2 (2024), https://doi.org/10.20853/38-2-5430; Alexander B Samuels and Upasana Singh, "Education Reimagined: South Africa's Journey through the 4IR and beyond," *Transformation in Higher Education* 10 (2025): 482; Olutoyin O Olaitan, S A Vijadyalekshmi, and Divya Vinoth Kumar, "Integrating 4IR Technologies into Higher Education in South Africa: Opportunities, Challenges and Strategies," *International Journal of Learning, Teaching and Educational Research* 23, no. 11 (2024): 157–79.

interdisciplinary teaching, research, and innovation, reflecting the convergence of different fields in the 4IR era.[33] Approaches like constructivism and connectivism are being adopted to encourage active, hands-on learning and leverage digital networks for knowledge construction. This ensures that students can develop transferable skills, attributes, and attitudes, rather than just content memorisation, and this is necessary for the new job market being created by the 4IR globally.[34] African Higher Education Institutions (HEIs) are progressively integrating advanced technologies into their educational frameworks, including the adoption of Artificial Intelligence (AI) for personalised learning and adaptive automation, big data analytics for performance monitoring, and blockchain for secure credentialing.[35] Furthermore, this is necessary because Africa cannot remain a consumer of these technological products but also a producer, and to be able to do this, these advances use a part of the curriculum framework across the board, and this is already happening in several countries like Ghana, South Africa, Rwanda, Kenya and Nigeria, amongst others.[36] There is also massive creation and usage of Internet of Things (IoT) devices, as well as Massive Open Online Courses (MOOCs), to expand access to education regardless of geographical or financial constraints.[37] These pedagogical and technological advancements are interdependent, requiring strategic policy development and robust governance to guide 4IR integration, including redesigning curricula and ensuring institutional readiness.

Again, there is collaboration between academia and industry as a way of fostering technology transfer, research partnerships, and experiential learning opportunities. This is to ensure not only access to better resources, thereby improving the quality of education, but also inclusivity and addressing historical disparities, with initiatives focused on digital inclusion, financial aid, and the decolonisation of the curriculum.[38] This holistic, integrated strategy acknowledges that progress in one area often depends on advancements in others, necessitating strong, adaptive leadership and cross-sectoral collaboration. Boison et.al. argue that the continent is moving away from outdated, predefined categories of learning to fostering a 'pedagogy for human beings' that prioritises 'human qualities and dispositions' over narrow, 'teleological skills', thereby developing new frameworks for broader human development. This includes developing flexible curricula that can rapidly adapt to evolving demands, addressing the "lag" between economic developments and educational systems, and advocating for policy changes that liberate universities from rigid bureaucratic frameworks, fostering institutional agility and resilience.[39] For example, in Ghana, Liekum summarises his findings by arguing that there is a ''substantial impact of AI technologies on education, enhancing teaching methods, improving student research capabilities, and positively influencing learning outcomes.'' His research focuses particularly on colleges of education, throwing more light on how African higher education institutions are responding to the 4IR. He adds that there is a need for strategic investments in infrastructure, teacher training, and policy frameworks to facilitate the successful adoption of AI in teacher education across the continent.[40]

Antwi-Boampong and Boison provide another example of how Africa is taking on the 4IR in the education sphere. They argue that Kenya adopted a progressive approach to integrating AI education into

[33] A., Antwi-Boampong and D. Boison, " Bridging the AI Education Gap: How African Schools Can Leapfrog into the Future," MyJoyOnline.com, June 16, 2025, https://www.myjoyonline.com/bridging-the-ai-education-gap-how-african-schools-can-leapfrog-into-the-future/.

[34] Samuels and Singh, "Education Reimagined: South Africa's Journey through the 4IR and beyond."

[35] Samuels and Singh, "Education Reimagined: South Africa's Journey through the 4IR and beyond"; Olaitan, Vijadyalekshmi, and Kumar, "Integrating 4IR Technologies into Higher Education in South Africa: Opportunities, Challenges and Strategies"; Vuyisile Msila, "African Higher Education Institutions Catching up: The Potential of 41R in Closing the Digital Deficits," *Technium Soc. Sci. J.* 43 (2023): 85; Asheena Singh-Pillay and Jayaluxmi Naidoo, "Trainee Teachers' Shift towards Sustainable Actions in Their Daily Routine," *Sustainability* 16, no. 20 (October 15, 2024): 8933, https://doi.org/10.3390/su16208933; Chinaza Uleanya, "Leadership Crisis in African Higher Education in the 4IR: Lesson (s) for the Future," *Cogent Education* 11, no. 1 (2024): 2429870.

[36] Antwi-Boampong and Boison, " Bridging the AI Education Gap: How African Schools Can Leapfrog into the Future."

[37] Samuels and Singh, "Education Reimagined: South Africa's Journey through the 4IR and beyond"; Olaitan, Vijadyalekshmi, and Kumar, "Integrating 4IR Technologies into Higher Education in South Africa: Opportunities, Challenges and Strategies"; Msila, "African Higher Education Institutions Catching up: The Potential of 41R in Closing the Digital Deficits."

[38] Samuels and Singh, "Education Reimagined: South Africa's Journey through the 4IR and beyond"; Msila, "African Higher Education Institutions Catching up: The Potential of 41R in Closing the Digital Deficits."

[39] D. Boison et al., " AI Education from Kindergarten to University: Global Trends, Lessons, and Strategic Roadmap for Africa," ModernGhana.com, April 29, 2025, https://www.modernghana.com/news/1396350/ai-education-from-kindergarten-to-university-glob.html.

[40] Luke Boryang Liekum, "Harnessing Artificial Intelligence in Teaching Ghanaian Colleges of Education in the 21st Century: Enhancing Quality Teaching, Student Research, and Learning Abilities," *American Journal of Multidisciplinary Research and Innovation* 4 (2025): 191–204.

the curriculum through the Competency-Based Curriculum (CBC), introduced in 2017.[41] The curriculum explicitly incorporates digital literacy and coding skills, laying the groundwork for AI education at various schooling levels. In Nigeria, similar initiatives are taking place where more than 6000 teachers have been trained in digital skills and AI capabilities. These initiatives are vital and have been adopted by several countries in Africa thanks to the AiAfrica Project (a continental initiative sponsored by the African Diaspora Central Bank in collaboration with the Vanuatu Trade Commission, in Ghana). The project aims to train 11 million Africans in AI technologies by 2028, not only equipping individuals with cutting-edge skills but also supporting countries to integrate AI into their educational systems and government operations.[42] To date, over 250,000 Africans have benefited from this transformative training programme, as reported by AiAfriqca. Furthermore, universities are also taking advantage of the AI Africa project to train both academic and non-academic staff, and one of such universities is the Ho Technical University in Ghana, which ensured the training of about 400 of its staff, as reported by Ai Africa on its home page. Adding to this, Boison and Antwi-Boampong argue that the AI Africa Project offers an unprecedented opportunity and countries like Ghana, Nigeria, Liberia, Vanuatu, and Eswatini are already benefiting with major programs also launching soon in Rwanda (3 million trainees) and Imo State, Nigeria (2 million trainees in collaboration with the University of Agriculture and Environmental Sciences, Umuagwo).[43] In South Africa, Aboderin and Havenga, supported by Samuels and Singh, argue that many universities have not only adopted 4IR technologies but have also developed policies on the use of AI in teaching and learning as well as research.[44] South African universities have also been at the cutting edge of technology,[45] particularly in the usage of 3D printing, the internet of things, amongst others and new innovations brought about by the 4IR are being used to enhance the delivery of both contact and distance education, as well as the development of better technological infrastructure for the educational landscape as a whole. All these provide critical insight into how the educational landscape in Africa is responding to the fourth industrial revolution. With this in mind, it is vital to explore theoretical pathways that can help advance the course of the curriculum.

Exploring Theorising Idiosyncrasies for Curriculum Advancement in African Higher Education

Advancing the course of curriculum in African higher education amidst the Fourth Industrial Revolution necessitates robust theoretical engagement, moving beyond conventional approaches to address the unique complexities of the continent. Curriculum theorising is crucial for articulating solutions to contemporary educational challenges, as the "solutions of yesteryears would not solve the educational challenges of today."[46] This demands a proactive exploration of specific theoretical idiosyncrasies and pathways that can guide meaningful transformation. Historically, curriculum theorising in Africa has been dominated by three traditional approaches: structural theorising, generic theorising, and substantive theorising.[47] However, these conventional methods are increasingly deemed insufficient to address the rapidly evolving needs of the educational landscape in the 4IR era. They often fail to proffer solutions that drive innovation and adequately prepare students for future challenges. To overcome these limitations, alternative pathways for curriculum theorising are proposed, aiming for greater contextual relevance and responsiveness.[48]

One such critical pathway is contextual theorising.[49] This approach emphasises the development of curricula that are deeply rooted in the specific socio-economic, cultural, and historical realities of African nations. It moves away from universal, often Western-centric, models to embrace local contexts and indigenous perspectives. A key manifestation of contextual theorising is the decolonisation of the

[41] Antwi-Boampong and Boison, " Bridging the AI Education Gap: How African Schools Can Leapfrog into the Future."
[42] Antwi-Boampong and Boison, " Bridging the AI Education Gap: How African Schools Can Leapfrog into the Future."
[43] D., Boison and A. Antwi - Boampong, " Coding Is No Longer Enough: Why Africa Needs AI Literacy in Every School," MyJoyOnline.com, June 16, 2025, https://www.myjoyonline.com/coding-is-no-longer-enough-why-africa-needs-ai-literacy-in-every-school/.
[44] Aboderin and Havenga, "Essential Skills and Strategies in Higher Education for the Fourth Industrial Revolution: A Systematic Literature Review."
[45] Fomunyam, "Curriculum Theorising in the Era of the Fourth Industrial Revolution."
[46] Fomunyam, "Curriculum Theorising in the Era of the Fourth Industrial Revolution."
[47] Kehdinga George Fomunyam, "Theorising Alternative Pathways for Curriculum Theorising in Africa," *Universal Journal of Educational Research* 9, no. 4 (April 2021): 720–26, https://doi.org/10.13189/ujer.2021.090402.
[48] Fomunyam, "Theorising Alternative Pathways for Curriculum Theorising in Africa."
[49] Fomunyam, "Theorising Alternative Pathways for Curriculum Theorising in Africa."

curriculum, which is grounded in critical theory, dependency theory, and Africology epistemology.[50] This emancipatory and transformative concept challenges Western-centric educational paradigms, promoting inclusivity, equality, and social justice within African higher education. [51] It advocates for the deconstruction of Western and non-contextual epistemologies to create room for a curriculum which is engaging, fosters meaning-making in ways that are real, meaningful and applicable and liberates humans from the shackles of colonialism, which seeks to subjugate and create second-class citizens.[52] This is vital, particularly with the 4IR, because technological advancements are not useful except they are applicable, and applicability is context dependent; as such, contextual theorising would not only upon up the curriculum but also create more room for innovation in the curriculum, as well as in the society where the students being taught the curriculum live. At the core of contextual theorising are indigenous knowledge systems (IKS) and recognising their value for cultural identity, environmental stewardship, and sustainable resource management.[53] Chauke continues that the theoretical framework of Indigenous Data Sovereignty (IDS) further provides a foundation for ethical, equitable, and culturally sensitive data management when integrating IKS with 4IR technologies.[54] This synergy allows for the preservation and usage within higher education and elsewhere of cultural heritage through advanced technologies like AI for documenting endangered languages, blockchain for authenticating cultural artefacts, and IoT for monitoring sacred sites. This is vital because one of the many challenges of dealing with indigenous knowledge systems is access and records, and the advances of the 4IR provide an adequate framework not only for digitalisation but also for usage.

Another vital pathway is responsive theorising.[55] This approach focuses on ensuring that curricula can rapidly adapt to the dynamic demands of the 4IR, including technological advancements, the emergence of new skill sets, and evolving labour market needs. This aligns closely with the concepts of deterritorialization and reterritorialization of the curriculum.[56] Deterritorialization involves disengaging from obsolete and irrelevant content and structures, while reterritorialization entails consciously integrating content, skills, and disciplinary responsiveness aligned with the 4IR. This ensures graduates possess up-to-date knowledge and that the curriculum is "learning responsive," adapting to evolving learning needs of both the students and society. A practical outcome of responsive theorising is the increased emphasis on Science, Technology, Engineering, and Mathematics (STEM) education, which is crucial for preparing students for innovative careers and economic growth in the 4IR era. With the use of AI growing rapidly on the continent, as already pointed out, responsive theorising is vital because it will not only ensure that students and lecturers can use AI but can also use it responsively. For this to happen, responsive theorising would ensure that AI, as well as other technologies brought about by the 4IR, are not only thought of or used, but that they constitute an essential part of the curriculum. Revising the curriculum or redesigning the curriculum in certain cases, taking these advancements in mind, would not only ensure the advancement of curriculum studies on the continent but also the improvement of these technologies as a whole. Leaving that as an afterthought explains why Africa is always struggling to catch up with the development of these technologies. However, making them an essential part of the curriculum as a whole would not only ensure that all students are familiar with these innovations, but that they can contextualise and improve them.

The third proposed pathway is theoretical theorising.[57] This involves a meta-level engagement with curriculum studies, fostering new conceptual frameworks and challenging existing paradigms to

[50] Dennis Ocholla, "Decolonizing Higher Education in Africa: Implications and Possibilities for University Libraries," *College & Research Libraries News* 81, no. 6 (June 11, 2020): 289, https://doi.org/10.5860/crln.81.6.289.
[51] Ocholla, "Decolonizing Higher Education in Africa: Implications and Possibilities for University Libraries."
[52] Fomunyam and Teferra, "Curriculum Responsiveness within the Context of Decolonisation in South African Higher Education."
[53] Margaret Chauke, "Integrating Indigenous Knowledge Systems in the Fourth Industrial Revolution (4IR): Preserving Indigenous Knowledge Through 4IR," in *Revaluation and Preservation of Indigenous Knowledge Systems in Modern Society* (IGI Global Scientific Publishing, 2025), 293–320; Ocholla, "Decolonizing Higher Education in Africa: Implications and Possibilities for University Libraries."
[54] Chauke, "Integrating Indigenous Knowledge Systems in the Fourth Industrial Revolution (4IR): Preserving Indigenous Knowledge Through 4IR."
[55] Fomunyam, "Theorising Alternative Pathways for Curriculum Theorising in Africa."
[56] Kehdinga George Fomunyam, "Towards Enhancing Science, Technology, Engineering, and Mathematics (STEM) Education; A Case for Higher Education in Africa," *International Journal of Engineering Research and Technology* 13, no. 7 (July 31, 2020): 1516, https://doi.org/10.37624/IJERT/13.7.2020.1516-1524.
[57] Fomunyam, "Theorising Alternative Pathways for Curriculum Theorising in Africa."

fundamentally reimagine curriculum constructs and pedagogies. This necessitates moving beyond rigid, content-focused models and predefined categories and types of learning towards a more fluid and responsive approach with not only sees students as objects of and for learning but also as constructors of knowledge and experiences, which can be legitimised by the pathways and idiosyncrasies adopted and enforced by the curriculum. Curriculum scholars must therefore articulate theoretical pathways that would ensure the designing of innovative and empowering curricula and pedagogies that not only disrupt the spaces of teaching and learning but also create new ones in the process. This shift emphasises flexible, adaptable, and human-centred pedagogies that cultivate transferable skills such as critical thinking, creativity, collaboration, and problem-solving, which are crucial for navigating unforeseen job roles.[58] Furthermore, theoretical theorising lays a strong emphasis on interdisciplinary teaching, research, and innovation, reflecting the convergence of different fields in the 4IR era.[59] These pedagogical shifts working or functioning within a broader framework of effective curricular changes are integral to ensuring that the crisis within the field of the curriculum is addressed one step at a time. This would also give room for a hundred thousand or a million theories grounded in the curriculum itself, as opposed to being borrowed from other fields to answer educational questions.

Collectively, these theoretical idiosyncrasies aim to address the systemic and relational dynamics that influence curriculum implementation. This includes exploring power relations among colleagues and the legitimacy of knowledge within academic settings.[60] Acknowledging challenges such as faculty readiness and a lack of technological expertise is crucial for developing effective pathways. Curriculum scholars must advocate for policy changes that liberate universities from rigid bureaucratic frameworks, fostering institutional agility and responsiveness to the rapid demands of the 4IR.[61] Practical pathways to overcome these challenges include strategic partnerships with industry, which facilitate technology transfer and experiential learning, and continuous professional development for faculty to enhance their digital literacy and pedagogical competence.[62] These theoretical and practical considerations collectively aim to ensure that African higher education curricula are not only technologically advanced but also culturally relevant, socially just, and truly empowering for future generations. And to guarantee that these technological and practical considerations yield the desired fruits, they must be articulated along the lines of vital curriculum charges, which would guarantee excellence and relevance.

Theorising Curriculum Charges for Dealing with Uncertainties in Curriculum Studies

Fomunyam and Teferra posit that curricular charges and particular charges that matter a vital in shaping the course of curriculum as a whole and particularly when it is in need of change.[63] This is supported by Fomunyam and Khoza, who argue that curricular charges should be at the forefront of curriculum endeavours, particularly in this era of the fourth industrial revolution, where technology and society are changing at a pace that education is struggling to catch up with.[64] They go ahead to advocate for an open curriculum pathway driven by charges as a way forward for the curriculum field. This section of the article builds on that with a focus on African higher education and how the educational landscape should be shaped. Since the curriculum landscape in higher education in general and African higher education in particular has primarily and perpetually been shaped by a confluence of dynamic forces, some internal and some external to the field and this has necessitated the crisis in the field.

[58] Aboderin and Havenga, "Essential Skills and Strategies in Higher Education for the Fourth Industrial Revolution: A Systematic Literature Review"; Abiola Mopelola Modupeola Omotoso, Esther Oluwayemi Jatto, and Seun Gbolahan Kolawole, "The Fourth Industrial Revolution And Its Impact On Learning In Academic Institutions," 2024; Samuels and Singh, "Education Reimagined: South Africa's Journey through the 4IR and beyond."

[59] Omotoso, Jatto, and Kolawole, "The Fourth Industrial Revolution And Its Impact On Learning In Academic Institutions"; Aboderin and Havenga, "Essential Skills and Strategies in Higher Education for the Fourth Industrial Revolution: A Systematic Literature Review"; Samuels and Singh, "Education Reimagined: South Africa's Journey through the 4IR and beyond."

[60] Fomunyam, "Curriculum Theorising in the Era of the Fourth Industrial Revolution."

[61] Uleanya, "Leadership Crisis in African Higher Education in the 4IR: Lesson (s) for the Future"; Fomunyam, "Theorising Alternative Pathways for Curriculum Theorising in Africa."

[62] Uleanya, "Leadership Crisis in African Higher Education in the 4IR: Lesson (s) for the Future"; Olaitan, Vijadyalekshmi, and Kumar, "Integrating 4IR Technologies into Higher Education in South Africa: Opportunities, Challenges and Strategies."

[63] Fomunyam and Teferra, "Curriculum Responsiveness within the Context of Decolonisation in South African Higher Education."

[64] K. G. Fomunyam and S. B. Khoza, "Theorising Open Curriculum Charges as Pathway to Responsiveness in South African Higher Education," in *Curriculum Theory, Curriculum Theorising, and the Theoriser*, ed. K. G. Fomunyam and S. B. Khoza (Brill, 2021).

Curriculum-centric approaches must be engaged to deal with the crisis in the field. The fourth industrial revolution has added new layers to the crisis in the curriculum field, and new solutions must be articulated to deal with the uncertainties in the field, particularly in the African higher education sector. One of the ways to deal with the crisis and uncertainties is the engagement of curriculum charges and particularly charges that matter theoretically, contextually and responsively. Curricular charges like responsibility, consciousness, commitment, project-related learning, access, social justice, amongst others, are some of the few articulated by Fomunyam and Teferra and Fomunyam and Khoza.[65] While the focus of this section is not to expound on the veracity of individual charges, it is important to note that the ones mentioned above are critical for every curriculum endeavour. Curricular charges need to be constructed and articulated in ways that align with alternative theorising approaches, such that they can provide latitude for exploration and consideration at different times and in different contexts. This would help break the moribund nature or hegemony of some curriculum theories and theorising approaches on the discipline and open up the conversation to everyone in the field. These charges must speak to excellence and relevance and must seek to address issues in the curriculum, not only in the now but also in the future.

By moving away from battered charges and concerns and creating new ones around the news of the discipline, the curriculum scholar would address the root cause of some of the crises in the discipline. This is because curriculum charges are the least explored aspects of the curriculum and yet the most ignorantly engaged by both those within the field and those outside the field.[66] Since curriculum charges focus on the various demands, expectations, and influences that shape and define what the curriculum is to do and achieve, they are not supposed to be static but make way for excellence and relevance as two key pillars in the curriculum. Curriculum charges are not just merely there to dictate the level of responsibilities but to shape what needs to be known, how it should be known, who determines when it's known and the parameters to judge the level of knowing.

Curriculum charges offer several pathways for addressing the inherent uncertainties in curriculum studies. Firstly, curriculum charges enhance responsiveness in dynamic contexts. These charges should be directed and both students and staff, and other stakeholders, so that they can also work together to ensure excellence and relevance. By clearly defining the roles and responsibilities of stakeholders, curriculum charges will enable institutions to rapidly re-engineer curriculum content and pedagogical approaches in response to emergent challenges like the 4IR and global health crises.[67] This agility ensures that educational offerings are not static but continuously adapt to new circumstances and the evolving demands of the job market and society. This also fosters a consciousness among stakeholders regarding the fluid nature of knowledge and skills required in the 4IR era, moving beyond rote memorisation to critical analysis and synthesis.

Secondly, curricular charges will strongly support decolonisation and contextual relevance, which are intrinsically linked to access and social justice. This particular emphasis will encourage curriculum stakeholders to focus on knowledge relevant to the context, be it context as time, space or sphere. By moving away from Eurocentric models and embracing local indigenous knowledge systems, the curricular changes will facilitate the co-creation of curricula and curricular experiences that are culturally resonant and address the specific socio-economic realities of African nations. This commitment to inclusivity ensures equitable access to quality education and promotes social justice by addressing historical disparities and empowering marginalised communities. Thirdly, it fosters stakeholder empowerment and shared responsibility, driven by commitment. By articulating distinct charges for curriculum scholars or developers, lecturers, students, and administrative staff, per time, curriculum theorising would not only ensure that the work of the curriculum remains with the curriculum scholar but that there is a collective sense of ownership of the curriculum and its implementation.[68]

This collaborative approach, underpinned by a strong commitment from all parties, is vital for overcoming challenges such as faculty resistance to new technologies and ensuring that all members of

[65] Fomunyam and Teferra, "Curriculum Responsiveness within the Context of Decolonisation in South African Higher Education"; Fomunyam and Khoza, "Theorising Open Curriculum Charges as Pathway to Responsiveness in South African Higher Education."
[66] Fomunyam and Khoza, "Theorising Open Curriculum Charges as Pathway to Responsiveness in South African Higher Education."
[67] Fomunyam and Khoza, "Theorising Open Curriculum Charges as Pathway to Responsiveness in South African Higher Education."
[68] Aboderin and Havenga, "Essential Skills and Strategies in Higher Education for the Fourth Industrial Revolution: A Systematic Literature Review."

the academic community are equipped and motivated to contribute to curriculum transformation. This commitment extends to continuous professional development for faculty to enhance their digital literacy and pedagogical competence. Finally, curriculum charges promote institutional agility and innovation through project-related learning. Advocating for policy changes that liberate universities from rigid bureaucratic structures enables institutions to be more nimble and proactive in their response to the rapid changes of the 4IR. This theoretical lens, coupled with practical pathways like strategic industry partnerships and the integration of active and project-related learning environments, ensures that African higher education can not only adapt to uncertainties but also leverage them as opportunities for growth and innovation. This emphasis on practical, problem-based approaches cultivates the critical thinking, creativity, and collaboration skills essential for the future workforce.

Curriculum charges provide a comprehensive and adaptable theoretical lens through which curriculum scholars in African higher education can confront and effectively manage the pervasive uncertainties of the contemporary era. By emphasising stakeholder responsibility, fostering consciousness of dynamic contexts, demanding commitment to shared goals, promoting project-related learning, ensuring responsiveness and access, and upholding social justice, it offers a robust pathway for ensuring that education remains relevant, inclusive, and empowering for future generations across the continent.

RECOMMENDATIONS

This paper recommends the following, because the findings show that prioritising curriculum changes would be the way forward. Firstly, there is a need to explore curriculum charges from a contextual, responsive and theoretical theorising standpoint, to ensure that the curriculum produces excellence and is relevant. Secondly, curriculum charges should not be explored as static or moribund but should be understood as being a catalyst for fluidity and change, particularly when exploring curriculum as a process. Finally, curriculum charges should be explored.

CONCLUSION

This paper has explored the role of curriculum in addressing uncertainty within African higher education, emphasising the need for adaptive, inclusive, and context-sensitive approaches. The findings have revealed that the discipline of curriculum is in a crisis, and this is further exacerbated by the fourth industrial revolution and the incessant changes it is bringing both into the academic sphere and the world of work. Different institutions and countries have been responding to the fourth industrial revolution differently, particularly with respect to the curriculum. Paying particular attention to the crisis in the field and the changes being brought about by the fourth industrial revolution is very important. The paper concludes that curriculum charges and practicals should be at the centre of curriculum studies in African higher education. The key stakeholders in the educational sector should take charge to ensure this takes place to pave the way for efficient and effective tutoring.

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