

CONSEQUENCES OF WAIVING MATHEMATICS AS REQUIREMENT FOR ADMISSION INTO ARTS' PROGRAMMES IN NIGERIA'S TERTIARY EDUCATION SYSTEM

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Abstract

This exploratory study examines the consequences of waiving Mathematics as a mandatory admission requirement for Arts and Humanities programmes in Nigeria's tertiary education system. The policy, introduced to enhance access and align entry criteria with discipline relevance, marks a significant shift from traditional standards across Africa. Drawing on recent policy analyses and comparative literature, the study investigates implications for students' quantitative competence, curriculum design, and institutional quality assurance. Findings suggest that while the reform promotes inclusivity and may increase enrolment, it raises critical concerns regarding students' analytical preparedness, cross-disciplinary learning, and labour-market readiness. Comparative evidence from Ghana, Kenya, and South Africa indicates that Mathematics remains foundational to academic rigour and employability. The paper concludes that Nigeria's reform requires deliberate curricular restructuring, remedial support, and continuous professional development for educators to sustain educational quality while expanding access.

Keywords: Mathematics Waiver, Arts and Humanities Programmes, Tertiary Admission Policy, Quantitative Reasoning

Introduction

Historically, both Mathematics and the English Language at the secondary school level have been regarded as essential prerequisites for admission into virtually all undergraduate programmes within Nigeria's tertiary education sector. However, as noted by Abdulazeez (2025), the Federal Government's recent decision to exempt Mathematics as a mandatory entry qualification for Arts and Humanities disciplines marks a significant departure from long-standing higher education admission standards, carrying far-reaching implications for academic quality, curriculum design, and labour-market readiness. Introduced under a new national policy framework aimed at expanding access and addressing issues of credential irregularities, the reform seeks to align admission requirements more closely with subject relevance and improve entry opportunities for humanities applicants. The central justification for this policy shift was to "remove unnecessary barriers to tertiary education access" (Adeoti, 2025). Given Nigeria's chronic admission bottleneck, where over two million candidates sit for the Unified Tertiary Matriculation Examination (UTME) annually but fewer than 700,000 gain admission, the Ministry argued that stringent prerequisites, particularly in Mathematics, limited opportunities for qualified candidates. Proponents of the reform contend that easing this requirement could accommodate an additional 300,000 students each year, thereby fostering inclusivity and expanding access to higher education (Adeoti, 2025).

Recent studies continue to reaffirm the critical importance of mathematics in promoting both individual capability and national advancement. According to Wang et al. (2025), analytical reasoning, one of the core outcomes of mathematics education, is directly associated with employability in increasingly data-intensive economies, highlighting the need to evaluate how admission reforms may affect curriculum structure, remedial interventions, and equitable learning achievements. Similarly, Aminu (2025) regards mathematics education as a vital engine of national development, emphasizing its role in nurturing essential 21st-century competencies such as problem-solving, collaboration, digital literacy, critical and scientific reasoning, effective communication, and entrepreneurial thinking. In alignment, Gbojubola and Omoyemiju (2020) assert that strengthening mathematics education mirrors and supports a nation's overall developmental progression. Extending this argument, Fawehinmi et al. (2025) note that integrating artificial intelligence into mathematics instruction can close skill gaps, enhance workforce preparedness and drive economic productivity, positioning mathematics as a strategic catalyst for development in the digital economy. Similarly, Wahab and Oduola (2024) maintain that mathematics remains a foundational component essential to the resilience of Nigeria's educational framework and, by extension, its sustainable growth.

Taken together, these scholarly insights affirm that mathematics is not merely an academic requirement but a cornerstone of intellectual growth, innovation, and national competitiveness. Consequently, eliminating Mathematics as an entry prerequisite for Arts and Humanities programmes in Nigeria's tertiary institutions could weaken students' analytical, numerical, and problem-solving capabilities. Without adequate compensatory measures such as interdisciplinary integration and remedial support, the policy risks undermining the broader objective of producing

adaptable, competent graduates suited for a knowledge-driven and technology-oriented global economy. This paper therefore explores the pedagogical, institutional, and policy implications of the Mathematics waiver, focusing specifically on three key areas: (i) its impact on students' quantitative abilities, (ii) its influence on cross-disciplinary curriculum design and assessment practices, and (iii) possible mitigation strategies through targeted curriculum restructuring and sustained professional development for educators.

Effects on Arts Students' Quantitative Competencies

The Federal Ministry of Education's recent policy to remove Mathematics as an admission prerequisite for tertiary education in Nigeria presents not only potential challenges to the academic development of students in the Arts and Humanities but also broader implications for national economic progress and sustainable growth. Contemporary empirical discussions continue to highlight the vital role of mathematical competence in shaping students' academic achievement and employability across diverse fields, including non-scientific disciplines. Although direct empirical investigations on the specific effects of waiving Mathematics as an admission requirement remain scarce, related studies on quantitative literacy, prerequisite standards, and remedial learning provide meaningful insights. For example, Rohenroth (2023), through a Delphi study of instructors in non-STEM disciplines, revealed that many Arts and Humanities courses still rely on core mathematical skills such as basic statistical reasoning, logical analysis and quantitative interpretation. This suggests that removing Mathematics as an entry criterion could lead to a significant disconnect between students' initial academic preparedness and the quantitative demands of their tertiary-level coursework.

Similarly, Du (2023) employed a quasi-experimental design to examine the effectiveness of a remedial mathematics programme for first-year university students and found notable improvements in both academic performance and student retention among participants. This finding implies that in contexts where mathematics entry requirements are relaxed, well-structured remedial initiatives become essential to maintain academic standards and learning outcomes. Corroborating this perspective, Aucejo et al. (2025), using extensive administrative datasets, revealed that remedial mathematics education positively influences graduation rates among students with limited mathematical proficiency, though the degree of impact tends to differ across academic disciplines and individual learner characteristics.

Supporting evidence from Bičák et al. (2022) indicated that students who repeatedly failed or postponed their mathematics courses exhibited lower progression and transfer rates, emphasizing the enduring impact of inadequate quantitative preparedness on academic advancement. Similarly, Clinkenbeard (2021), in a study on the design and pedagogy of quantitative literacy (QL) programmes, found that the instructional structure and teaching approach play a decisive role in determining whether non-STEM students acquire lasting analytical and problem-solving competencies. These findings hold particular significance for the Nigerian educational context, where Arts and Humanities students admitted without prior Mathematics qualifications may rely extensively on QL or general education modules to develop essential numeracy and analytical skills.

From a policy perspective, Burdman (2024) contends that mathematics requirements in higher education should be restructured to prioritize quantitative reasoning (QR) over mere procedural or algebraic mastery, promoting inclusive pathways that uphold numeracy standards while minimizing barriers to access. This argument resonates with the findings of the Nuffield Foundation (2023), which warns that a significant proportion of university entrants worldwide still lack the mathematical competence required for advanced academic work, even in systems where Mathematics remains compulsory. Taken together, these studies indicate that eliminating Mathematics as an entry qualification, without corresponding curricular reforms to embed quantitative reasoning within the Arts and Humanities, could erode students' analytical abilities and leave them ill-prepared for participation in data-oriented and evidence-driven professional environments.

Implications for Cross-Disciplinary Curricula and Assessment

Eliminating Mathematics as a prerequisite for tertiary admission carries both immediate and far-reaching consequences for cross-disciplinary curriculum development and assessment practices. According to Burdman (2024), there exists a strong linkage between entry requirements and first-year curricular expectations, as many non-STEM disciplines still necessitate foundational quantitative abilities such as statistical reasoning, data interpretation, and logical analysis. Consequently, the absence of a Mathematics requirement may result in a disconnect between students' initial competencies and the analytical demands of their programmes unless curricula are deliberately redesigned to bridge the gap. Institutions that have sought to mitigate this challenge through remedial or bridging interventions report mixed outcomes. Empirical evidence from quasi-experimental and administrative data analyses suggests that well-structured remedial programmes can enhance short-term academic performance and student retention; however, the magnitude of these benefits depends heavily on factors such as instructional quality, duration, and learner characteristics. As noted by Ran et al. (2025), remediation alone cannot serve as a sustainable solution without consistent investment and strategic implementation.

Assessment and placement mechanisms become increasingly crucial when admission policies no longer ensure a minimum level of mathematical competence. Burdman (2024) underscores the importance of implementing early diagnostic testing, modular placement systems, and formative assessments that promptly detect students' quantitative deficiencies and direct them toward targeted, evidence-based interventions. In the absence of such structured assessment frameworks, students entering tertiary institutions without prior mathematics preparation are more likely to experience academic challenges such as course repetition, delayed progression, and lower achievement in quantitatively intensive courses, patterns consistently observed in large-scale administrative data analyses. Policy syntheses advocate a shift in focus from traditional algebraic proficiency toward broader quantitative reasoning (QR), emphasizing interdisciplinary approaches such as embedding QR modules within Arts curricula, integrating context-driven numeracy, and offering alternative preparatory pathways in statistics or data literacy (University of California, 2024). Nevertheless, comparative studies caution that revising admission

requirements without concurrent curricular reform, robust placement strategies, and adequate institutional resources may exacerbate inequities, expanding access while failing to enhance graduates' preparedness for data-oriented professional environments. Ultimately, waiving Mathematics as an entry requirement relocates the policy challenge from student selection to the more complex domains of curriculum alignment, assessment, and institutional readiness.

Potential Mitigations through Targeted Curricular Reform and Continuous Professional Development for Educators

Amid the growing controversy over the Federal Government of Nigeria's decision to remove Mathematics as an entry requirement for Arts and Humanities programmes, emerging empirical research has focused on identifying viable mitigation measures, particularly through deliberate curricular redesign and continuous professional development (CPD) for educators, to preserve students' quantitative skills and uphold academic integrity. Rohenroth (2023) noted that, despite this policy revision, most non-STEM fields still require foundational mathematical competencies such as statistical reasoning, proportional analysis, and data interpretation. This continuing demand exposes a clear disconnect between revised admission policies and actual programme expectations, underscoring the urgency for curriculum reforms that explicitly integrate quantitative learning outcomes aligned with disciplinary requirements.

Empirical studies and programme evaluations indicate that institutions adopting discipline-specific alternatives to traditional algebra-based prerequisites such as contextualized statistics for social sciences or data literacy modules for humanities, achieve better student outcomes when these reforms are supported by early diagnostic assessments, bridge or co-requisite programmes, and alignment with course evaluations (Dana Centre Mathematics Pathways, 2020). Similarly, Du (2023) reported that well-structured academic supports significantly improve short-term learning gains and student retention; however, their impact largely depends on thoughtful integration into credit-bearing courses. Conversely, an excessive reliance on stand-alone remedial interventions without embedding them within the main curriculum may sustain low performance levels and prolong students' time to graduation, particularly among those entering with limited quantitative preparation.

Furthermore, continuous professional development (CPD) for educators has been repeatedly emphasized as a key mechanism for effective mitigation. Burdman (2024) argues that impactful CPD initiatives should combine content-based updates in quantitative reasoning with pedagogical training that equips instructors to teach numeracy within non-STEM disciplines, supported by sustained professional learning communities. Empirical evidence indicates that long-term, structured CPD programmes featuring coaching and follow-up sessions produce substantial gains in teaching quality and student achievement, unlike short, isolated workshops. Similarly, institutions that integrate diagnostic testing and modular placement systems have demonstrated reductions in course repetition rates and smoother student transitions into credit-bearing coursework (Dana Centre Mathematics Pathways, 2020).

In conclusion, although the waiver of Mathematics as an entry requirement for Arts and Humanities programmes is intended to broaden access to higher education, it presents significant academic and developmental challenges. Preserving educational standards and ensuring that students retain essential quantitative competencies will require deliberate curricular redesign, data-informed assessment frameworks, and continuous professional development for lecturers. In the absence of these integrated measures, the reform could undermine students' preparedness for data-oriented academic and professional environments and compromise the overall quality and credibility of tertiary education in Nigeria.

Policy Comparison with other African Countries

Nigeria's recent decision to abolish the mandatory credit pass in Mathematics as a prerequisite for admission into Arts and Humanities programmes represents a significant departure from traditional entry policies. The reform, according to official statements and media reports, aims to make admission requirements more discipline-specific and to widen access for students whose academic strengths lie outside quantitative subjects (AbdulAzeez, 2025; Punch, 2025). The new framework maintains Mathematics as compulsory only for Science, Technology, and Social Science disciplines, with advocates asserting that this adjustment could boost enrolment in Arts-related fields and align entry qualifications more closely with the curricular content of such programmes (AbdulAzeez, 2025).

This policy shift, however, stands in contrast to the prevailing admission structures across much of Africa, where Mathematics remains a core requirement across disciplines. For instance, leading universities in Ghana such as the University of Ghana and the University of Education, Winneba (UEW) still list Core Mathematics among their minimum entry criteria for undergraduate studies, including Arts and Education programmes, underscoring the continued prioritisation of basic numeracy as a foundation for higher learning (University of Ghana Admissions, 2024; UEW Admissions, 2024). Similarly, Kenyan institutions demand specific grades in Mathematics or related quantitative subjects for most degree courses, while South African universities apply matriculation point systems that place considerable weight on mathematical performance during admissions (Kenyatta University Admissions, 2024; UWC Admissions, 2025).

Comparative academic discussions highlight two key implications of these divergent policy directions. First, nations that uphold Mathematics as a universal admission criterion maintain that numeracy enhances logical reasoning, employability, and cross-disciplinary competence, thereby preserving institutional quality and academic standards (University admissions documentation: Kenya, Ghana, South Africa, 2024–2025). Conversely, Nigeria's reform, though inclusive in intent, invites critical inquiry into its long-term effects on students' academic readiness, progression, and comparability of admission standards within the continent (AbdulAzeez, 2025). Overall, the Nigerian model is an innovative attempt to democratize access to tertiary education for Arts students, yet it diverges markedly from other African systems that emphasize mathematical literacy as a non-negotiable academic foundation. Future comparative research is therefore necessary to evaluate the broader outcomes of this reform on student achievement,

retention, and post-graduation employability across different national contexts (University of Ghana Admissions, 2024; Punch, 2025; UWC Admissions, 2025).

Conclusion

The waiver of Mathematics as an admission prerequisite for Arts and Humanities programmes in Nigeria's tertiary institutions represents a significant yet contentious reform designed to broaden access and mitigate longstanding admission challenges. Although this policy has the potential to promote inclusivity and expand educational participation, it equally provokes serious questions about student readiness, curriculum coherence, and the maintenance of academic standards. Research indicates that eliminating Mathematics without implementing corresponding curricular or instructional adjustments could result in graduates lacking essential quantitative reasoning skills vital across disciplines. Therefore, the long-term success of this reform hinges on purposeful institutional restructuring, the systematic integration of quantitative reasoning (QR) within Arts and Humanities curricula, and sustained investment in faculty professional development. Striking a careful balance between widening access and preserving educational quality is essential to ensure that the pursuit of equity does not come at the expense of academic integrity and national advancement.

Recommendations

Based on the empirical evidence, the following are recommended:

1. Tertiary institutions should restructure Arts and Humanities curricula to embed quantitative reasoning and data literacy components relevant to each discipline, ensuring students acquire practical numeracy and analytical thinking skills even without formal Mathematics prerequisites.
2. Universities and colleges should implement early diagnostic assessments and pre-enrolment bridging programmes to identify students' quantitative weaknesses and provide targeted support either before or during their first academic year.
3. Educators in Arts and Humanities should participate in sustained CPD initiatives focused on integrating numeracy into subject teaching through contextualized examples, collaborative problem-solving, and formative assessments to strengthen students' quantitative reasoning.
4. The Federal Ministry of Education, in collaboration with NUC and NBTE, should establish comprehensive monitoring frameworks to evaluate the effects of the Mathematics waiver on student achievement, retention rates, and graduate employability across disciplines.

5. Adequate funding and infrastructural support should be provided to effectively implement remedial, bridge, and QR initiatives, including the use of technological tools, learning analytics, and student advisory systems to enhance quantitative learning outcomes.
6. Policymakers, academic unions, employers, and professional bodies should work together to ensure that admission reforms remain aligned with labour market demands and that Arts and Humanities graduates continue to be both competitive and quantitatively literate.

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