Lead City University, Ibadan

Interdisciplinary Conference on
Education, Management, Social Sciences,
Technology, Tourism Development
and the African Economy

Theme: Integrating Knowledge &
Innovation for Sustainable Development
in the African Economy

ABSTRACTS & PROCEEDINGS

January 22nd - 23rd, 2026

INTERDISCIPLINARY CONFERENCE ON EDUCATION, MANAGEMENT, SOCIAL SCIENCES, TECHNOLOGY, TOURISM DEVELOPMENT, AND THE AFRICAN ECONOMY

THEME
Integrating Knowledge & Innovation for Sustainable Development in the African Economy

DATE: Thursday 22nd - Friday 23rd January, 2026

VENUE: Lead City University, Ibadan | **TIME:** 10:00am

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INTERDISCIPLINARY CONFERENCE ON EDUCATION, MANAGEMENT, SOCIAL SCIENCES, TECHNOLOGY, TOURISM DEVELOPMENT, AND THE AFRICAN ECONOMY

CONFERENCE PROGRAMME

DAY ONE: **Thursday 22nd January, 2026**

Conference Briefing via Google Meet	- 9:00am - 9:30am
Online Visual Presentation via Google Meet	- 9:30am - 1:00pm
WhatsApp Video Presentations	- 3:00pm - 4:00pm

DAY TWO: **Friday 23rd January, 2026**

Conference Briefing via Google Meet	- 9:00am - 9:30am
Online Visual Presentation via Google Meet	- 9:30am - 1:00pm
WhatsApp Video Presentations	- 3:00pm - 4:00pm

Welcome to
Lead City University, Ibadan

The University submitted its application to the National Universities Commission the year 2002. The Standing Committee on Private Universities (SCOPU) conducted the verification and the final assessment visits in August and September, 2003, respectively. At the end of the assessment visits, SCOPU reported that the profile of the Proprietor of Lead City University confirmed that it has the capacity and resources to establish a private university. Thereafter, the University was "approved for immediate take off" by the Board of NUC in December 2003 as a prelude to the ratification by the Federal Executive Council, which was effected on the 16th of February, 2005.

Though the charter of the University has City University, Ibadan as its name but due to several cases of mistaken identity and in order to avert corporate identity problem, the Board of Trustees and Council of the University had an extra-ordinary meeting on the 7th of March, 2005, and resolved to modify the name to read Lead City University, Ibadan. The change in name was subsequently communicated to the Federal Ministry of Education, the National Universities Commission, Joint Admissions and Matriculation Board (JAMB) and other stakeholders while all previous documents relating to City University, Ibadan remain valid.

Academic Programmes at the Lead City University took off from the Jericho Campus of the University located within Ibadan City, with adequate human physical and material resources. The University utilises information technology via its own V-SAT and Local Area Network to enhance holistic education for social, economic, cultural development and self-reliance. Each student will be knowledgeable in management and information sciences. They will also compulsorily offer any of the professional programmes (ATS, ACII, ICAN, NIPR, NIMN, Microsoft Certificate etc.) or vocational training in Computer Repairs and Assembling, Printing, Media Technology, Fashion Design, Electronic Repairs, etc., on the campus. It is the belief of the University that graduates would prove themselves worthy men and women who are able to use their intellect as adeptly as they can apply their physique.

Lead City University caters for both the young adolescents and the adult working class. It indeed, recognises the need to accommodate the time constraints of individuals and therefore provides flexibility by allowing for a choice between part-time and full-time study schemes. Programmes are offered by specialised faculties, comprising leading academics, practitioners and experts. To ensure that the University remains at the forefront of the latest developments in the field of information technology and applied science, social sciences and entrepreneurship, education and law, appropriate practical and relevant programmes are continually developed and delivered in a stimulating and vibrant learning environment where thoughts, concept and visions are exchanged and vigorously debated. As an institution offering courses in Social Sciences and Entrepreneurial Studies, Information Technology and Applied Sciences, and Law, our students have optimal access to data, information and knowledge through state-of-the-art computer facilities, internet linkage, audiovisual aids, and student-friendly course materials.

This is further enhanced by what has been described as our congenial study facilities and amiable staff.

Source: https://www.lcu.edu.ng/index.php/history

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The timeline for manuscript assessment and publication is as outlined below:

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    b. Secondly, papers with 51 – 80% accuracy level will be accepted for publication, but with minor corrections effected by the institute.

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Conference Abstracts

Abstract ID: ABS:09:13B-26

An Empirical Assessment of the Adoption of Digital Construction Technologies and their Influence on Project Delivery Outcomes in Nigeria

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Abstract

The construction industry in Nigeria continues to face persistent challenges associated with delays, cost overruns, quality inconsistencies, and poor coordination among project stakeholders. Globally, the application of digital construction technologies such as Building Information Modelling (BIM), drones, artificial intelligence (AI), and cloud-based project management systems has significantly improved construction performance by enhancing efficiency, accuracy, and real-time communication. However, the extent to which these technologies have been adopted in Nigeria and their measurable influence on project delivery outcomes remains insufficiently examined. This study investigates the level of adoption of digital construction technologies among Nigerian construction professionals and evaluates their impact on project time, cost, quality performance, and stakeholder collaboration. A mixed-method design involving structured questionnaires and semi-structured interviews was employed to gather data from architects, engineers, builders, quantity surveyors, and project managers. The findings reveal that although awareness of digital technologies is increasing, actual implementation remains low due to high acquisition costs, limited technical skills, inadequate infrastructure, and organizational resistance. Regression analysis demonstrates that the adoption of digital technologies positively and significantly affects project performance indicators. The study concludes with recommendations geared towards increasing digital literacy, strengthening policy frameworks, and supporting the construction industry's transition toward a more technologically driven and sustainable future.

Keywords: *Digital construction technologies; BIM; drones; project delivery; Nigeria*

Abstract ID: ABS:21:17D-25

Impact of Hybrid Learning Modalities on Academic Performance and Retention of Technical Drawing Concepts Among Technical College Students in Niger State, Nigeria

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Abstract

This research explores the impact of hybrid learning modalities on academic performance and retention of technical drawing concepts among technical college students in Niger state, Nigeria. The study utilizes a quasi-experimental pretest-posttest design with non-equivalent groups. The target population consists of 807 Technical Drawing students drawn from seven public technical colleges within the Minna Education Zone: Government Technical College Eyagi Bida, Government Technical College Minna, Government Technical College Kontagora, Government Technical College Pandogari, Government Technical College New-Bussa, Suleiman Barau Technical College Suleja, and Federal Science Technical College Shiroro.

Keywords: *Hybrid Learning Modalities, Academic Performance, Retention, Technical Drawing Concepts, Technical College Students*

Abstract ID: ABS:03:29A-25

Bridging Policy and Practice: Integrating Local Knowledge and Innovation for Sustainable Development in Nigeria

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Abstract

The recurring discourse shaping the policies of many African countries today revolves around sustainable development. While near-perfect public policies are often formulated to ensure sustained growth, reality remains a far cry from expectation. This can be traced to the mismatch between policy formulation and indigenous practical solutions in Nigeria. This paper interrogates how sustainable development can be achieved by integrating local ideas into well-structured government policies. Anchored on the Knowledge Coproduction theory, the study examines how local actors adapt interventions, build capacity, and enhance sustainable development through innovative skills. By analyzing core documents such as SDGs Implementation Reports, National Development Plans, and Community-Based Project documents, as well as key informant interviews and case illustrations from selected communities, the study identifies viable routes through which indigenous knowledge can be incorporated into policy frameworks to ensure that public policies are community-driven, inclusive, and reflective of local realities. Findings reveal that despite local communities being repositories of invaluable knowledge in waste management, soil conservation, and resource allocation, such expertise is rarely utilized by government during policy formulation. The paper suggests that bridging this gap requires an inclusive governance approach where indigenous expertise is valued alongside scientific knowledge. It recommends establishing and funding local innovation centers and participatory policy labs to foster cooperation between communities and government. By emphasizing co-creation and local participation, the paper explains how Nigeria can achieve truly sustained development.

Keywords: *Local Knowledge, Innovation, Policy Integration, Co-production, Sustainable Development, Nigeria*

Abstract ID: ABS:02:28A-25

Evaluation of Technical and Vocational Training in Enhancing Construction Standards: The Role of Trainers, Trainees, and Assessors in South-East Nigeria

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Abstract

The construction industry in Nigeria continues to face challenges of poor workmanship, structural failure, and low productivity, largely attributed to weak technical and vocational training systems. This study evaluates the roles of trainers, trainees, and assessors in enhancing construction standards in technical and vocational education centres across South-East Nigeria. Using a descriptive survey design, data were collected from 120 respondents comprising trainers, trainees, and assessors and analyzed using the Relative Importance Index (RII). The study was guided by two research questions focusing on trainer effectiveness and the contribution of assessment mechanisms to construction quality. Findings revealed that most trainers lacked adequate exposure to modern teaching tools and professional development programs, while assessors faced limitations in standard monitoring and feedback mechanisms. RII analysis showed that improved assessment procedures (RII = 0.86) and trainer competence (RII = 0.84) ranked highest among respondents. The study concludes that strengthening trainer capacity, revising assessment frameworks, and enhancing linkages between training institutions and the construction industry are key to bridging skill gaps and improving construction standards. It recommends that government and professional bodies such as the Nigerian Institute of Building (NIOB) invest in modern training equipment, continuous professional development for trainers, and robust quality assurance systems through collaboration among QAA, IQAM, and EQAM. Additionally, stronger partnerships between training institutions and construction firms for internship placements and the provision of incentives for trainers and assessors are essential to promote commitment, accountability, and sustained improvement in construction standards in Nigeria.

Keywords: *Technical education, vocational training, trainers, Assessors, construction standards*

Abstract ID: ABS:11:04C-25

Integrating Mathematics Education, Technology, and Digital Transformation for Sustainable Development in the African Economy

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Abstract

African economies are at a pivotal crossroads, shaped by population growth, industrialization, and the global digital revolution. Yet, challenges in education, technological infrastructure, and digital literacy hinder inclusive and sustainable development. This paper explores the integration of mathematics education, technology, and digital transformation as a tripartite strategy for fostering sustainable growth across Africa. We review current literature, analyze case studies, and propose a framework that leverages innovative pedagogies, ICT, and cross-sector partnerships. The findings highlight that synergizing mathematics education with digital tools not only enhances cognitive skills and problem-solving abilities but also equips youth and workforce with competencies crucial for Industry 4.0. The study concludes with policy recommendations and future research directions that can bridge existing gaps and propel Africa toward its sustainable development goals.

Keywords: *Mathematics Education, Sustainable Development Digital Transformation, and Africa Economic*

Abstract ID: ABS:07:29E-25

The Paradox of Sustainable Hunger: Rethinking Food Security Governance in Nigeria's Climate Transition

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Abstract

Nigeria stands at a haunting crossroads where the promise of sustainability coexists with the persistence of hunger. Each new agricultural reform whether the Anchor Borrowers' Programme, the Green Imperative, or the National Climate Plan arrives with bold rhetoric yet delivers shrinking yields, rising prices, and deepening rural despair. By mid-2025, food inflation had surged to 35.4%, and over 26 million Nigerians faced acute food insecurity despite decades of "sustainable" policies. This paper interrogates what it calls the *paradox of sustainable hunger* a condition where climate transition efforts, governance failures, and elite-centered agricultural modernization reproduce the very insecurities they claim to solve. Anchored in the political ecology of food systems, and drawing on data from FAO, NBS, and state-level adaptation frameworks, the study exposes how climate-smart narratives in Nigeria often translate into green extractivism: prioritizing contracts, donor visibility, and carbon finance over soil renewal and farmer resilience. The findings reveal that the crisis is less ecological than political, rooted in institutional incoherence and a governance model detached from local realities. The paper argues for a new governance architecture that redefines sustainability as social justice where smallholder voices, ecological regeneration, and political accountability form the foundation of true food security. In tracing how Nigeria's climate transition feeds both hope and hunger, the study reframes sustainability as the nation's most urgent moral and developmental question.

Keywords: *Food Security, Climate Transition, Sustainable Hunger, Political Ecology, Nigeria, Governance*

Abstract ID: ABS:16:10A-25

Adult Learning for Inclusive and Sustainable Development in Nigeria

Abdullahi Ahmed
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Abstract

This position paper examines the critical role of adult learning and education (ALE) in advancing inclusive and sustainable development in Nigeria. Despite Nigeria's commitment to the United Nations Sustainable Development Goals (SDGs), particularly SDG 4 which focuses on "inclusive and equitable quality education" and "lifelong learning opportunities for all," significant challenges remain in harnessing the full potential of adult learning. Current efforts fall short of addressing the diverse needs of Nigeria's adult population due to issues including inconsistent policies, digital divides, and socioeconomic barriers. This paper recommends a comprehensive approach involving policy reform, digital integration, multi-stakeholder partnerships, and context-specific programming to position adult learning as a catalyst for achieving Nigeria's development ambitions by 2030 and beyond.

Keywords: *Adult Learning, Inclusive, Sustainable development*

Abstract ID: ABS:12:04D-25

Enhancing Technical Education for Sustainable Human Capital Development in Nigeria

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Abstract

Nigeria's economic growth and development are heavily dependent on its ability to develop a skilled and knowledgeable workforce. Technical education plays a crucial role in human capital development, providing individuals with the skills and competencies required to drive innovation and economic growth. However, Nigeria's technical education sector faces numerous challenges, including inadequate funding, outdated curricula, and a lack of industry partnerships. This conference paper explores strategies for enhancing technical education in Nigeria to foster sustainable human capital development. The paper examines the current state of technical education in Nigeria, highlighting its challenges and opportunities. It discusses the importance of industry partnerships, curriculum reform, and investment in modern infrastructure for technical education. The paper also explores the role of artificial intelligence and digital technologies in enhancing the quality and relevance of technical education. The study's findings emphasize the need for a collaborative approach to technical education, involving government, industry, and educational institutions. The paper recommends regular curriculum updates, increased funding, and stronger industry partnerships to ensure that technical education meets current labor market demands. It also highlights the importance of equipping students with entrepreneurial skills, digital literacy, and practical experience to enhance their employability and contribution to national development.

Keywords: *Technical Education, Human Capital Development, Sustainable Development, Industry Partnerships, Curriculum Reform, Digital Technologies*

Abstract ID: ABS:06:29D-25

Digital Transformation as a Catalyst for a Sustainable Economy in Africa: Opportunities, Challenges, and a Strategic Framework

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Abstract

The pursuit of sustainable development in Africa, encapsulated by the African Union's Agenda 2063 and aligned with the United Nations Sustainable Development Goals (SDGs), necessitates innovative pathways to economic growth, social inclusion, and environmental management. This paper posits that digital transformation is not merely an enabler but a fundamental catalyst for achieving a sustainable African economy. The research examines the synergistic potential of key technologies—including mobile money, the Internet of Things (IoT), artificial intelligence (AI), and blockchain—across core sectors: agriculture, energy, finance, and governance. Through a systematic literature review and analysis of existing case studies, this paper identifies the significant opportunities for leapfrogging traditional development stages. These include enhancing food security through precision agriculture, accelerating the adoption of renewable energy, promoting financial inclusion via digital payments, and fostering transparent governance. However, the paper also critically analyses formidable challenges, such as the digital divide, inadequate digital infrastructure, regulatory uncertainties, and cybersecurity risks. The study concludes by proposing a multi-stakeholder strategic framework to harness digital transformation effectively. This framework emphasizes the need for massive investment in digital infrastructure, robust policy and regulatory harmonization, targeted digital skills development, and the promotion of context-specific, homegrown technology solutions. The findings underscore that a deliberate and inclusive digital transformation strategy is imperative for Africa to unlock a future of prosperous, resilient, and sustainable economic development.

Keywords: *Digital Transformation, Sustainable Development, Africa, Fourth Industrial Revolution (4IR), FinTech, AgriTech, Digital Infrastructure, Sustainability, Leapfrogging*

Abstract ID: ABS:17:10B-25

Integrating Agricultural Education Programmes for Enhancing Food Security Towards the Achievement of Sustainable Development Goal 2 in Nigeria

Fatima Jiya
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Abstract

Food security remains a critical and persistent challenge in Nigeria, exacerbated by factors such as climate change, population growth, post-harvest losses, and outdated farming practices. This situation directly impedes the achievement of Sustainable Development Goal 2 (SDG 2), which aims to "End hunger, achieve food security and improved nutrition, and promote sustainable agriculture." While numerous interventions have been attempted, a significant gap exists in the systematic integration of robust agricultural education as a foundational driver for sustainable solutions. This paper argues that the strategic integration of comprehensive agricultural education programmes across formal, non-formal, and informal sectors is a crucial catalyst for enhancing food security and achieving SDG 2 in Nigeria. The study employs a descriptive review methodology, analyzing existing literature, policy documents, and case studies to evaluate the current state of agricultural education and its linkage to food security outcomes. It identifies key challenges, including the theoretical nature of agricultural curricula, inadequate funding for practical training, a disconnect between research institutions and local farmers, and limited extension services. The paper proposes a multi-tiered integration framework. This includes: (1) revitalizing agricultural science in primary and secondary curricula to foster early interest and literacy; (2) transforming tertiary agricultural education to be more competency-based, entrepreneurial, and digitally driven; and (3) strengthening farmer education and extension services to facilitate the adoption of climate-smart and productivity-enhancing technologies. The findings indicate that such an integrated approach can empower a new generation of agri-preneurs, enhance agricultural productivity, reduce post-harvest losses, and improve value-chain efficiency. Furthermore, it promotes the adoption of sustainable practices essential for long-term environmental and economic resilience. The study concludes that for Nigeria to make meaningful progress towards SDG 2, a paradigm shift is necessary—one that positions agricultural education not as a peripheral activity but as a central, strategic investment. It recommends stronger policy alignment, increased public and private sector funding, and the promotion of public-private partnerships to ensure these educational programmes are relevant, accessible, and effectively linked to the nation's food security ambitions.

Keywords: *Agricultural Education, Food Security, Sustainable Development Goals (SDG 2), Nigeria, Curriculum Integration, Sustainable Agriculture, Farmer Education, Policy*

Abstract ID: ABS:14:07B-25

Automotive Education and Digital Technology for Sustainable Development in Africa Economy

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Abstract

The accelerating transition of the global automotive industry toward green mobility and smart technologies underscores the need for educational systems to adopt in order to promote sustainable future. Automotive education, traditionally centered on mechanical skills and workshop-based practices, is now being reshaped by digital technologies such as stimulation software, artificial intelligence (AI), argumented and virtual reality (AR/VR), and e-learning platforms. The study expresses the Nexus between automotive education, digital technology, and Sustainable future, with emphasis on the opportunities and challenges; includes inadequate infrastructure, limited teacher preparedness, and digital divide among others associated with the integration. However, the study recommends among the followings; that digital tools enhance teaching and learning efficiency, reduce environmental impact by minimizing resources consumption in teaching, and support the acquisition of competence required for emerging sector such as electric and autonomous vehicles, thus aligning with the United Nations Sustainable Development Goal (SDGs) particularly in quality education, innovation, and climate action.

Keywords: *Education, Automotive Technology, Digital Technology, Sustainable future*

Abstract ID: ABS:24:22A-25

Inquiry Innovative Teaching Strategy Impact on Biology Performance of Students in Abakaliki, Ebonyi State

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Abstract

Innovative teaching is a teaching method that challenge students to think deeply and creatively. It is compulsory in this modern age classroom teaching to develop creativity, critical thinking and problem-solving skills in secondary school students especially in science subjects like Biology. Inquiry based teaching strategy is a relevant innovative strategy to activate the reasoning of students to a level of becoming critical thinkers. The use of conventional method of teaching mostly dominates the mode of impacting knowledge without any consideration of the method of teaching that could develop creative thought in students. This necessitates this research to look into the impact of inquiry-based teaching as innovative teaching strategy on Biology performance of students in Abakaliki, Ebonyi state. Sample of 83 students through multi-stage sampling procedure was selected. The study was tested on two null hypotheses at a 0.05 alpha level, employing a quasi-experimental design. Data collection utilized a Biology Achievement Test (BAT), with a reliability of 0.85 using Kuder-Richardson Formula 20. This study found that inquiry-based learning is significant and better than the conventional method in improving the students' academic performance. The study recommends that teachers should adopt the use of inquiry-based strategy in the teaching and learning process to develop critical thinking in students which can lead to innovation and better academic performance.

Keywords: *Innovative teaching strategy, Impact on Biology academic performance of Students*

Abstract ID: ABS:10:04B-25

Integrating Digital Technology and Entrepreneurship Education in Pre-Service Teacher Training: An Assessment of Innovation Capacity Among NCE Integrated Science Students

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Abstract

Colleges of Education train pre-service teachers who shape Nigeria's educational future, yet traditional teacher training programs often lack adequate integration of digital skills and entrepreneurship competencies. As the education sector undergoes digital transformation, there is urgent need to assess how pre-service teachers are being equipped with 21st-century skills combining scientific knowledge, digital literacy, and entrepreneurial thinking. This study assesses the innovation capacity and readiness of NCE 2 and 3 Integrated Science students in adopting digital technologies and entrepreneurship skills within their teacher training curriculum. The research evaluates the effectiveness of skills acquisition and entrepreneurship courses in developing competencies that enable pre-service teachers to integrate technology into science teaching and explore entrepreneurial opportunities beyond classroom employment. Conducted at Dr Umaru Sanda Ahmadu College of Education Minna between August and October 2025, this mixed-methods study involved 120 NCE 2 and 3 Integrated Science students. Quantitative data from structured questionnaires assessed digital competency, entrepreneurial mindset, and innovation readiness, while focus group discussions and classroom observations provided qualitative insights. The assessment examined digital literacy skills, entrepreneurial knowledge, practical application abilities, innovation orientation, and barriers to technology integration. Results reveal that while 78% of students demonstrate basic digital literacy, only 35% feel confident integrating digital tools into science lesson delivery. Students in entrepreneurship courses showed significantly higher innovation mindset scores and greater awareness of technology-driven opportunities. Key barriers include limited digital infrastructure, inadequate hands-on practice, and disconnect between theory and application. However, students expressed strong interest in AI tools, digital content creation, and online entrepreneurship. The study recommends embedding practical digital skills and entrepreneurship training throughout the NCE program, establishing innovation labs, providing experiential learning with educational technologies, and creating mentorship programs. This approach will produce science teachers who are effective educators and innovators capable of driving digital transformation in Nigeria's education sector.

Keywords: *Pre-service teacher education, Integrated science, Digital competency, Entrepreneurship education, NCE students, Innovation capacity*

Abstract ID: ABS:04:29B-25

Leveraging Knowledge Integration and Green Innovation for Sustainable Development in the African Economy

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Abstract

Africa's pathway to sustainable development increasingly depends on how effectively knowledge systems and innovation are integrated to drive inclusive and resilient economic transformation. This paper examines the nexus between knowledge integration and green innovation as catalysts for sustainable growth within the African economy. Anchored on endogenous growth and innovation systems theories, and adopting a political economy perspective, the study explores how the fusion of indigenous knowledge, scientific research, and digital technologies can stimulate green industrialization and low-carbon development. Using a mixed-method approach, the research synthesizes cross-country evidence from Nigeria, Kenya, and Morocco, alongside institutional case studies that illustrate how knowledge integration enhances innovation diffusion, adaptive capacity, and environmental performance. Findings reveal that countries with coherent innovation policies, strong research-industry linkages, and investment in green technologies demonstrate higher progress toward inclusive, low-carbon growth. However, weak institutional coordination, policy incoherence, and inadequate innovation financing continue to impede large-scale sustainability outcomes. The paper argues for governance frameworks that mainstream knowledge integration across sectors, strengthen regional cooperation in research and innovation, and incentivize green entrepreneurship. Ultimately, it underscores that harnessing knowledge and innovation provides Africa a viable pathway to decouple economic growth from ecological degradation while advancing shared prosperity.

Keywords: *African economy, Green innovation, Inclusive growth, Knowledge integration, Sustainable development*

Abstract ID: ABS:20:17C-25

Indigenous Technologies in Technical and Vocational Education and Training (TVET) as a Medium for Empowerment of Youths in Nigeria

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[3]**Nathaniel Jibrin Usman**
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Abstract

A society that focuses more on development of indigenous technologies creates more avenues for youth empowerment in form of paid employment and self-employment. The frequencies at which indigenous technologies are deployed in solving national technology problems have immense impact on the quality of Technical and Vocational Education and Training (TVET) programme. An effective TVET programme is expected to empower youths with relevant vocational and technical skills needed to gain employment or to set up their own craft business and be self-reliant. The high rate at which Nigerian governments depend on foreign professional craftsmen and technicians to solve national technological problems discourages the youths from focusing on indigenous technologies in Nigeria. The adoption of policies that discourages the development of indigenous technologies consequently hinders effective skills acquisition through TVET programme. This paper reviewed the situation of TVET and indigenous technologies in Nigeria with highlights on youth empowerment and TVET skills acquisition in TVET through indigenous technologies, indigenous technologies and TVET for development of human resources, challenges to TVET and indigenous technologies development in Nigeria. Recommendations were made and it was concluded that TVET plays a vital role in enhancing youth empowerment through indigenous technologies.

Keywords: *Indigenous technologies, Vocational education and Youths empowerment*

Abstract ID: ABS:08:29F-25

Policy Implementation Strategies and Administrative Capacities as Determinants of Growth of Universities in 21st Century Nigeria

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Abstract

Universities are among the most important institutions in any society. They provide education, carry out research, and train people who later contribute to the development of the country. In Nigeria, universities are expected to play a big role in national growth, especially in the 21st century when knowledge, technology, and skills are needed more than ever before. However, the growth of Nigerian universities has been affected by many challenges, including poor leadership, weak administrative capacity, and poor implementation of government policies. Universities play a central role in national development by producing knowledge, skills, and research needed for progress. In Nigeria, the growth of universities in the 21st century is strongly shaped by how well government policies are implemented and how effective university administrations are. This paper examines policy implementation strategies and administrative capacities as key factors influencing university growth. Using a qualitative approach, it analyzes academic literature, government reports, and international perspectives to explain why policies often fail and how weak administrative systems hinder progress. The findings show that poor leadership, inadequate funding, and weak monitoring are major obstacles, while effective policy strategies and strong administrative capacities are vital for sustainable growth. The study recommends better policy implementation frameworks, capacity building, and inclusive governance in Nigerian universities.

Keywords: *Policy implementation, Administrative capacity, University growth, Higher education, Nigeria, 21st century*

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Undimensionality of Basic Science and Technology Basic Education Certificate Examination Test Items in Borno State, Nigeria

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Abstract

The study examined the unidimensionality of Basic Science and Technology (BST) Basic Education Certificate Examination (BECE) test items for 2022/2023 administered in Borno State, Nigeria. The study was carried out against the backdrop of persistent underperformance in Senior School Certificate Examination (SSCE) science subjects. A descriptive survey design was employed, using probability proportion to size sampling technique to sample 3557 students script out of 51946 scripts of students that sat for the 2021/2022 Basic Education Certificate Examination Basic Science and Technology in Borno State, Nigeria. A document consists of question paper and students' scripts was adopted from Borno State Education board as an instrument for data collection. The result revealed that the Bartlett's test of sphericity was significant at $p = 0.001$. Since the p-value is less than the 0.05 level of significance ($p < 0.05$), it means that the data was suitable for factor analysis. In determining factors to be retained, the Kaiser criteria of an eigenvalue greater than 1 and the scree plot test were used in retaining factors to avoid over- or under-extraction of factors. In extracting factors, the principal component method was used. In the table, the first factor explained for more than 20% of the variability and the ratio of variance explained by the first factor is greater than four; therefore, sufficient evidence for unidimensionality has been established, hence the test items measure only one dominant factor, that is, there is only one factor, indicating that the unidimensionality assumption has been established. Furthermore, BECE 2022/2023 BST multiple-choice test items conform to the assumption of unidimensionality of Item Response Theory. The result revealed that the Bartlett's test of sphericity was significant at $p = 0.001$. Since the p-value is less than the 0.05 level of significance ($p < 0.05$), it means that the data was suitable for factor analysis. In determining factors to be retained, the Kaiser criteria of an eigenvalue greater than 1 and the scree plot test were used in retaining factors to avoid over- or under-extraction of factors. In extracting factors, the principal component method was used. In the table, the first factor explained for more than 20% of the variability and the ratio of variance explained by the first factor is greater than four; therefore, sufficient evidence for unidimensionality has been established, hence the test items measure only one dominant factor, that is, there is only one factor, indicating that the unidimensionality assumption has been established. Based on this finding, it is therefore recommended that the federal ministry of education through state education board should in force a compulsory course on development and standardization of test for all those personnel constructing test for BECE BST at state and national level. Such capacity building will strengthen the alignment between BST assessments and the competencies required for success in senior secondary science curricula, thereby improving student placement accuracy and mitigating long-term shortages of qualified science professionals in medicine, engineering, agriculture and education

Keywords: *Undimensionality, Basic Science, Technology and Basic Education*

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Physicochemical and Structural Property of *Balanites Aegptyiaca Membrane* Extracted Products

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Abstract

Demands for protein ingredients continues to rise globally. This study reports the physicochemical and structural properties of plant *Balanites aegptyiaca* Del proteins using 5 KDa membrane molecular cut off. The meal after defatting protein concentrate (APC) and membrane salt and alkaline soluble concentrates by membrane ultrafiltration were obtained; mNaOH and mNaCl concentrates. Results revealed that APC had a high protein content (74.05%) compared to mNaCl (48.18%) and mNaOH (40.74%) samples. The mNaCl revealed excellent essential amino acid, macro and micro elements. Near-UV circular dichroism spectra, thermal properties and heat of coagulation revealed that mNaCl had better properties and a native tertiary conformation, while APC and mNaOH revealed unfolded structures. The APC and mNaCl and samples could improve surface related properties and better ingredients for beverage, pharmaceuticals and food processing sectors.

Keywords: *Aduwa protein concentrate, Membrane concentrates, Membrane ultrafiltration, Isoelectric precipitation, Proximate, Minerals*

Abstract ID: ABS:18:17A-25

Education and Human Capital Development: Role of Adult and Non-Formal Education Courses in Colleges of Education, North Central, Nigeria

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Abstract

This study focused on vocational/technical courses and the development of entrepreneurial mindset amongst students of Adult and Non-formal Education programmes. Despite initiatives aimed at equipping graduates as job creators and promoting self-reliance among students, significant challenges continue to rear their faces. The study aimed at examining how vocational/technical education courses develop entrepreneurial mindset among students, can transform graduates from job seekers to job creators and promote self-reliance, amongst adult and non-formal education programme. The study adopted a descriptive survey approach guided by three research questions. The population consisted of 23 lecturers and 184 students from NCE adult and non-formal education programs from colleges of education North Central, Nigeria. Data collection was conducted using a structured questionnaire, and data analysis employed mean and standard deviation as statistical measures. The findings revealed that while the objectives of adult and non-formal education programmes aligned with developing an entrepreneurial mindset among learners, there were significant gaps in implementation. The current curriculum content and teaching methodologies were found to be inadequate in promoting the necessary entrepreneurial skills. This study concludes that the vocational and technical education component of the NCE Adult and Non-Formal Education Programme suffers from a significant disconnect between its well-defined intentions and its actual execution.

Keywords: *Entrepreneurship, Adult Education, Entrepreneurial mindset, Sustainability Development*

Abstract ID: ABS:23:17F-25

Enhancing Critical Thinking Through Technical Drawing Education: A Pedagogical Approach to Skill Development in Secondary School and Tertiary Institutions

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Abstract

Technical Drawing education plays a pivotal role in developing students' cognitive, spatial, and analytical capabilities, especially in the context of 21st-century learning. This paper explores the potential of Technical Drawing as a strategic pedagogical tool for enhancing critical thinking skills among learners in secondary schools and tertiary institutions. The study highlights how the structured processes involved in TD such as interpreting complex views, solving spatial problems, and visualizing geometrical relationships foster logical reasoning, precision, and creative problem-solving. Through a qualitative and descriptive approach, the research investigates the impact of TD on students' ability to analyze, synthesize, and evaluate information critically. Furthermore, the paper examines existing curriculum frameworks, teaching methodologies, and assessment strategies to determine how effectively they incorporate critical thinking outcomes. Findings suggest that when TD is taught using inquiry-based, student-centered approaches such as project-based learning, real-life applications, and collaborative tasks it significantly boosts learners' engagement, innovation, and higher-order thinking skills. The research also identifies gaps in teacher training and instructional materials that hinder the full integration of critical thinking development in TD classrooms. To address these challenges, the paper proposes a pedagogical model that integrates reflective questioning, interdisciplinary connections, and technology-enhanced instruction. The model aims to transform TD from a purely technical subject into a dynamic platform for intellectual development. This study contributes to the growing discourse on educational reform by positioning Technical Drawing as a vital contributor to skill acquisition, lifelong learning, and holistic education in Nigeria and beyond.

Keywords: *Technical Drawing, Critical Thinking, Pedagogy, Skill Development, Secondary Education, Tertiary Institutions*

Abstract ID: ABS:05:29C-25

The Efficacy of Website and Facebook Page in Promoting Business Ventures in Imo State

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Abstract

The study aimed to analyze the efficacy of website and Facebook page in promoting business ventures in Imo state. In carrying out the study, an Expost Facto research design was adopted. The study was conducted in Imo State. The targeted population for the study consisted of all the entrepreneurs in Imo State. Simple regression statistics was used in selecting a total of 180 business entrepreneurs used for the study. The instrument used for data collection was "Efficacy of Website and Facebook Page in Promoting Business Ventures Questionnaire" (EWFPPBVQ). Face and content validation of the instrument was carried out by an expert in test, measurement, and evaluation in order to ensure that the instrument has the accuracy, appropriateness, and completeness for the study under consideration. The reliability coefficient obtained was 0.83, and this was high enough to justify the use of the instrument. The researcher subjected the data generated for this study to appropriate statistical techniques such as descriptive statistics meant to answer the research questions and simple regression analysis meant to test the hypothesis. The test for significance was done at 0.05 alpha levels. The findings underscore the critical role of well-designed websites in enhancing customer satisfaction and conversion rates. One of the recommendations made was that the business owners should prioritize user-friendly design, responsive layouts, and clear navigation on business websites to enhance the overall user experience as well as implementing SEO strategies to improve search engine visibility and attract relevant local traffic.

Keywords: *Website Facebook Page, Business Ventures and Imo State*

Abstract ID: ABS:22:17E-25

Transforming Technical Vocational Education and Training (TVET) for Sustainable Development in Nigeria

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Abstract

Technical Vocational Education and Training (TVET) is critical area for equipping learners with practical knowledge, skills, and competencies necessary for socio-economic development. In Nigeria, however, the TVET system has faced challenges including poor funding, outdated curricula, weak linkages with industries, and low societal perception. This paper examines the current state of TVET in Nigeria, highlights the need for transforming to align with emerging global trends, and explores its potential as a driver of sustainable development. It proposes improve strategies such as curriculum innovation, integration of ICT, industry partnerships, capacity building, and funding diversification. The paper concludes with recommendations aimed at repositioning TVET as a catalyst for employment creation, poverty reduction, innovation, and sustainable national development.

Keywords: *TVET, Sustainable Development, Skills Training, Nigeria, Curriculum Innovation, Employment, Green Economy*

Abstract ID: ABS:13:07A-25

Comparative Effects of Structured and Guided Inquiry Instructional Techniques on Technical College Students' Achievement in Woodwork

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Abstract

The study was designed to determine the comparative effects of structured and guided inquiry instructional techniques on technical college students' achievement in woodwork. Four research questions and six null hypotheses were formulated to guide the study. A pre-test, post-test, non-equivalent control group, quasi-experimental research design was adopted. A total of 233 students were involved in the study. This consisted of 134 students as the subjects in the experimental group I and 99 students as the subjects in the experimental group II. The instrument used for data collection was "Comparative effects of structured and guided inquiry instructional techniques on technical college students' achievement in woodwork Achievement Tests" (WWAT). The instrument was subjected to face and content validity by two experts in Industrial and Technology Education and one expert in science education, Federal University of Technology Minna. The reliability coefficient Instrument was .88 using Pearson's product moment correlation. Mean was used to answer the research questions, while ANCOVA was employed to test the hypotheses at .05 level of significance. The study revealed that students taught comparative effects of structured and guided inquiry instructional techniques on technical college students' achievement in woodwork using the guided inquiry instructional technique had a higher mean score than students taught using the structured inquiry technique in achievement test. Furthermore, the mean score of boys taught comparative effects of structured and guided inquiry instructional techniques on technical college students' achievement in woodwork using the guided inquiry instructional technique was higher than the mean score of girls taught using the same guided inquiry instructional technique in the achievement test. Consequently, it was recommended among others that, technical College teachers should adopt the use of the guided inquiry instructional technique for the teaching of comparative effects of structured and guided inquiry instructional techniques on technical college students' achievement in woodwork and the Ministry of Education and Administrators of Technical Colleges should always organize seminars, conferences and workshops to sensitize technical teachers on the use of the guided inquiry instructional techniques in the Technical Colleges.

Keywords: *Guided inquiry, Structured inquiry, Instructional techniques, Achievement and comparative effects of structured and guided inquiry instructional techniques on technical college students' achievement in woodwork*

Note

Note