Tanzania Institute of Education (TIE)

Research Agenda

2025 – 2030

Advancing Quality, Relevance, and Equity in Education through Evidence-Based Research

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1. Introduction

The Tanzania institute of is a government institute under the Ministry of Education, Science, and Technology established under the Act of Parliament No. 13 of 1975. The institute is responsible for implementing four major functions that are fundamental to the educational framework of Tanzania:

i. Design, develop, and review curricula for pre-primary, primary, secondary, and teacher education levels (certificate and diploma levels).

ii. Prepare curriculum support materials, including textbooks, syllabi, and teacher guides.

iii. Provide in-service teacher training to ensure effective and efficient curriculum implementation

iv. Conduct research and provide consultancy services to the government and other educational stakeholders on various issues in education including curriculum, teaching approaches, teacher professional development, and overall educational strategies and innovations at the basic levels of education.

Building on its core mandate, the Tanzania Institute of Education (TIE) has developed the first Strategic Research Agenda aimed at generating evidence-based insights to inform and guide educational transformation in Tanzania. The Agenda is firmly anchored in Tanzania Vision 2050, supporting the nation's aspiration to become an innovation-driven and knowledge-based economy through the development of a well-educated, skilled, and adaptable population. It further operationalizes the objectives of the Education and Training Policy (ETP) 2014, the 2023 revision, which emphasize competency-based education, teacher professionalism, inclusive and equitable access to education, and

the integration of digital technologies in teaching and learning processes. In addition, the Agenda is aligned with Sustainable Development Goal 4 (SDG 4), which calls for inclusive, equitable, and quality education and the promotion of lifelong learning opportunities for all, thereby ensuring that TIE's research priorities are responsive to both national imperatives and global development commitments.

The research agenda is focusing on key strategic themes-including curriculum reform, teacher education, technology integration, early childhood development, and inclusion to position TIE as a leading center for educational innovation and evidence generation. It also promotes collaboration, knowledge sharing, and policy linkages to ensure that education in Tanzania remains responsive to emerging societal needs, labor market demands, and global trends, thereby contributing to sustainable national development and global competitiveness.

The Research Agenda adopts a pragmatic, process-oriented, and outcome-driven approach aimed at bridging the gap between research, policy, and practice in education. It underscores the Institute's commitment to fostering a culture of inquiry, innovation, and continuous improvement to advance teaching, learning, and curriculum excellence in Tanzania.

2. TIE Vision and Mission

TIE Mission
To facilitate provision of quality education through quality curricula in pre-primary, primary, secondary and teacher education.

TIE Vision
To become the centre of excellence in curriculum design, development, and implementation with highly competent, motivated and committed professionals.

3. Guiding Principles

- **Evidence-based Decision Making** – Research findings should

directly inform policy and practice.

- **Equity and Inclusion** – Addressing the learning needs of marginalized, disadvantaged, and special needs learners.
- **Relevance** – Research priorities aligned to Tanzania's socio-economic and cultural context.
- **Collaboration** – Partnerships with local, regional, and international institutions.
- **Innovation** – Leveraging technology and creative approaches in research and dissemination.

4. Strategic Research Themes and Priorities

Theme 1: Innovations in Curriculum Reforms - Design, Development and Implementation

This research agenda focuses on advancing innovative approaches to curriculum reforms across pre-primary, primary, secondary, and teacher education in Tanzania. It emphasizes the design, development, and implementation of curricula that are rigorous, contextually relevant, and forward-looking. The primary goal is to ensure research inform practices in curriculum reforms and that graduates acquire skills aligned with Tanzania's national education priorities, including the promotion of academic excellence, vocational and life skills needed to compete regionally and globally. This theme prioritizes evidence-based research on the curriculum's design, development and implementation as well as relevance, impact, and sustainability. The theme will also cover researchers on formative assessment, teaching and learning approaches and how technology such as AI and other technologies can be used to enhance teaching and learning.

Key areas of inquiry include:

i. Curriculum Design and Development

- Explore innovative methods of curriculum design that reflect Tanzania's cultural, social, and economic contexts;

- Assess the relevance of curriculum content in preparing learners for both academic and vocational pathways;
- Identify the best practices for integrating 21st-century skills to meet societal and global labor market demands; and
- Explore best practices for incorporating cross-cutting themes, including inclusivity, gender equality, universal designs for teaching and learning and climate education.
- Explore digital innovation in curriculum development including embedding digital tools and resources into curriculum design and materials production

ii. Curriculum Implementation Strategies

- Investigate effective approaches for rolling out curriculum reforms nationwide.
- Explore how teachers, schools, and communities adapt to curriculum changes.
- Examine models for scaling successful practices across regions.

iii. Assessment, Teaching, and Learning Approaches

- Promote research on formative assessment methods that support continuous learning.
- Explore pedagogical innovations that foster critical thinking, problem-solving, collaboration, communication and creativity among learners.
- Exploring innovative pedagogical practices such as learner-centred and active methodologies and the use of technological tools including AI-driven learning.

iv. Technologies (ICTs) and Innovation

- Assess the role of **digital platforms, AI, and emerging technologies** in enhancing teaching, learning, and curriculum delivery.

- Explore effective methods for use of AI and virtual labs, Leveraging AI-driven learning tools and virtual laboratories to enhance learner engagement and outcomes.
- Evaluate cost-effectiveness and sustainability and scalability of ICT-based learning models.
- Explore oblique for integration of digital platforms, in curriculum delivery
- Explore personalized learning approach through AI including using AI tools to tailor educational content to individual learner needs and abilities.
- Explore technology-enabled monitoring and evaluation systems for real-time feedback.

v. Relevance, Impact, and Sustainability

- Conduct evidence-based studies on how curriculum reforms contribute to national development goals.
- Evaluate the long-term sustainability and impact of reforms on learners, teachers, and the labor market.
- Enhance the adaptability and integration of digital innovations in curriculum development, instructional materials, and implementation processes in Tanzania
- Examine curriculum relevance and sustainability, particularly its alignment with SDG4, labor market needs, and national development priorities.

The ultimate goal is to generate actionable insights on how technological and pedagogical innovations can enhance curriculum design, teaching, and assessment ensuring that Tanzania's education system equips learners with the skills and competencies needed for personal development, social contribution, and global competitiveness.

Theme 2: Teacher Education and Professional Development

This research theme focuses on leveraging technological innovations to enhance the development, accessibility, and distribution of teaching and learning resources in Tanzania. It emphasizes both the quality and equity of educational materials to support diverse learners across the country.

Key areas of inquiry include;

i. Pre-service and In-service Teacher Preparation

- Evaluate the effectiveness of pre-service and in-service training programs in improving teaching quality and learner outcomes.

- Identify innovative approaches that strengthen both academic and pedagogical competencies of teachers.

ii. Mentoring, Coaching, and Support Systems

- Research models of teacher mentoring and coaching that provide sustainable, school-based support.

- Explore professional learning communities as platforms for peer learning and shared practice.

iii. Digital Literacy and ICT Integration

- Promote research on digital literacy for teachers and strategies for integrating ICT into teacher training programs.

- Investigate the role of digital pedagogies and e-learning solutions in strengthening teacher professional growth and instructional effectiveness.

iv. Continuous Professional Development (TCPD)

- Assess innovative models of TCPD that are cost-effective, scalable, and contextually relevant.

- Explore blended and online CPD approaches to reach teachers in both urban and rural settings.

- Research interventions to increase teacher participation and engagement in Continuous Professional Development (TCPD).

v. Gender-Responsive and Inclusive Pedagogies

- Investigate approaches that promote gender equity and inclusion in teacher education and classroom practices.
- Develop frameworks that support teachers in addressing the diverse needs of learners, including marginalized and vulnerable groups.

Theme 3: Technology and Innovation in Teaching and Learning Materials

This research theme focuses on leveraging technological innovations to enhance the development, accessibility, and distribution of teaching and learning resources in Tanzania. It emphasizes both the quality and equity of educational materials to support diverse learners across the country.

Key areas of inquiry include:

i. Digital Content Development

- Creation of interactive e-textbooks and multimedia-rich content.
- Application of adaptive learning technologies to personalize learning experiences.
- Exploration of artificial intelligence tools for content delivery, learner support, and assessment.

ii. Accessibility and Inclusivity

- Designing digital learning materials that are accessible to learners with disabilities (e.g., screen readers, audiobooks, sign-language videos).
- Promote gender-responsive and inclusive design in digital resources.

iii. Distribution and Access Models

- Establishment of centralized digital repositories, such as e-libraries, for textbooks and supplementary materials.
- Research on low-cost, scalable digital distribution models (both offline and online), with a special focus on rural and undeserved areas.
- Exploration of mobile-based platforms for the delivery of textbooks and other learning materials.
- Explore cost effective ICT devices accessible for local context

iv. Quality, Relevance, and Standards

- Evaluate the availability, accessibility, and quality of teaching and learning materials.
- Ensuring equality in the distribution of materials across regions and schools.
- Defining specifications and standards for teaching and learning resources that reflect Tanzania's educational priorities and context.

Theme 4; Early childhood education (ECD)

This research theme emphasizes the importance of establishing a strong foundation for lifelong learning through the development of **early literacy and numeracy skills**. It seeks to ensure that children in Tanzania are well-prepared for subsequent stages of learning by promoting effective, inclusive, and age-appropriate approaches to ECD.

Key areas of inquiry include:

i. Foundational Skills

- Identify best practices for strengthening 3Rs skills in early years.
- Research child-centered pedagogies that foster curiosity, creativity, and problem-solving from an early age.

ii. Teaching and Learning Methodologies

- Explore innovative, contextually relevant methodologies for teaching and learning in ECD.
- Investigate play-based and experiential learning approaches that support holistic child development.

iii. Implementation and Program Challenges

- Assess barriers to effective implementation of ECD programs, including policy gaps, teacher training, and community engagement.
- Examine the role of parental involvement and home-based learning in supporting ECD outcomes.

iii. Infrastructure, Resources, and Materials

- Evaluate the availability and quality of infrastructure, facilities, and learning environments for ECD.
- Develop and assess the effectiveness of age-appropriate teaching and learning materials tailored to Tanzania's cultural and linguistic context.

Theme 5: Inclusion, Equity and Special Needs Education

This research theme focuses on advancing inclusivity and equity in Tanzania's education system, with a particular emphasis on learners with disabilities, marginalized groups, and those underrepresented in STEM and vocational pathways. It aims to generate evidence-based strategies that remove barriers, promote participation, and improve learning outcomes, ensuring that no learner is left behind in alignment with ETP, 2014, 2023 edition and SDG 4.

Key areas of inquiry include:

i. Access, Participation, and Retention

- Explore strategies to increase enrollment, retention, and progression of learners with disabilities and marginalized groups.

- Investigate community and school-level initiatives that enhance participation in education.

ii. Inclusive and Equitable STEM & Vocational Education

- Research approaches to expand access to science, technology, engineering, mathematics, and vocational fields for underrepresented learners.
- Identify practices that promote achievement and reduce exclusion in these critical subjects.

iii. Gender-Responsive and Intersectional Pedagogies

- Examine teaching practices that promote gender equity and inclusivity.
- Address intersectional challenges faced by girls, learners with disabilities, and other marginalized groups.

iv. Inclusive Teaching and Learning Practices

- Assess classroom strategies, differentiated instruction, and universal design for learning (UDL) models.
- Document innovative practices that support diverse learning needs effectively.

v. Policy, Systems, and Resource Support

- Generate evidence to inform policies, resource allocation, and institutional frameworks that advance equity and inclusion.
- Strengthen support systems at the school and community levels to ensure sustainability.

5. Research Methodologies

- **Quantitative Surveys** – Large-scale data collection to assess student performance, teacher competencies, and resource usage.
- **Qualitative Studies** – Case studies and ethnographic research for in-depth understanding of classroom practices, learning experiences, and contextual factors.
- **Mixed-Methods Approaches** – Integration of statistical data with qualitative insights for comprehensive analysis.

- **Action Research** – Teacher-led, classroom-based experimentation, reflection, and iterative improvement of teaching and learning practices.
- **Impact Evaluation Studies** – Rigorous experimental or quasi-experimental assessments to determine the effectiveness, relevance, and sustainability of educational interventions and curriculum innovations.
- **Evidence-Based Policy Studies** –Systematic research connecting empirical evidence to policy development, examining how policies affect educational access, quality, equity, and learning outcomes.

6. Capacity Building and Partnerships

- Training TIE researchers in advanced data analysis, monitoring, and evaluation.
- Establishing collaborative networks with universities, NGOs, and government agencies.
- Participating in regional and global research platforms.

7. Knowledge sharing and Dissemination

Knowledge will be shared through various ways including TIE weakly seminars, Annual TIE Research Symposium, publication of findings on reputable journals, policy briefs targeting decision-makers, open-access digital repository for research outputs and various relevant national and international conferences.

8. Research Implementation Approach

Partnerships: Collaborate with universities, research institutions, Non- Governmental organisation and development partners.

Knowledge Sharing: conduct Annual TIE Research Symposium and publication of findings.

Funding Mobilization: Strategic advocacy, partnerships, collaboration, and networking with dedicated research organizations and institutions to effectively leverage available funding opportunities,

including advocating for grants and utilization of the national budget.

9. Implementation and Monitoring

- Creation of a Research Coordination Committee within TIE.
- Annual review of research priorities to respond to emerging needs.
- Measurable indicators to track research impact on curriculum, teacher quality, and student learning outcomes.

10. Funding and Sustainability

To ensure long term sustainability, TIE will allocate dedicated research funds within its annual budget to support priority areas. In additional, the institute will establish strategic partnerships with donor agencies, development partners, and private sector sponsors. Research activities will also be integrate research activities into ongoing TIE projects to enhance efficiency and cost-effectiveness.

11. Conclusion

By implementing this Research Agenda, the Tanzania Institute of Education (TIE) positions itself as a national leader in educational research, innovation, and policy guidance. The evidence generated will inform continuous curriculum improvement, enhance teacher competence and pedagogical innovation, and support data-driven education policy decisions. It also ensures that Tanzania's education system remains responsive, resilient, and globally competitive, thereby laying a strong foundation for sustainable national development and contributing directly to the goals of Tanzania Vision 2050, the Education and Training Policy (2014, updated 2023), and Sustainable Development Goal 4 (SDG 4). Moreover, the agenda reinforces TIE's leadership in generating and applying knowledge to drive curriculum excellence, foster innovative teaching and learning practices, and improve learning outcomes for all learners across the country. Ultimately, this agenda lays the groundwork for an education system that is future-ready, knowledge-driven, and capable of supporting Tanzania's long-term national development goals.