

Civic Education for Technological Takeoff: The Child-Author Development Programme as the Reimagination of African Technological Citizenship

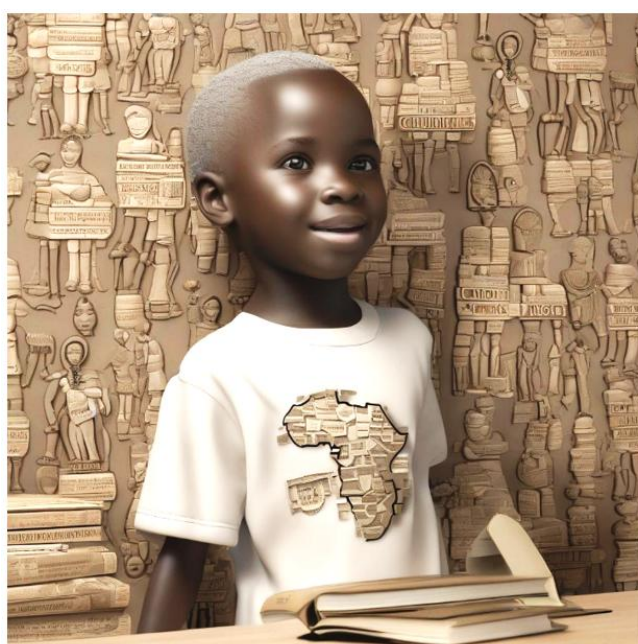
CADP CIVIC EDUCATION CONCEPTUAL PAPERS: No. 2

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The African Science Fiction Project / Child-Author Development Programme (CADP)

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**CHILD-AUTHOR
DEVELOPMENT
PROGRAMME**
*making world
leaders out of
African children*

ABSTRACT

This paper proposes a pioneering curriculum framework titled *Civic Education for Technological Takeoff* (CETT), developed under the Child-Author Development Programme (CADP). CETT reconceptualizes Civic Education through the lens of African Science Fiction and Technological Nationalism. The initiative integrates creative writing, speculative futures, and civic consciousness to prepare African children aged 10–18 for technological citizenship. Drawing from Science and Technology Studies (STS), postcolonial theory, and African Futurism, CETT positions African children as both subjects and agents of the continent's technological destiny. This paper introduces an eight-module civic curriculum designed to stimulate public participation, scientific imagination, and civic engagement in African countries. It also outlines a new academic designation – *Child-Professor of STS* – to recognize and incentivize deep techno-civic literacy.

Key Concepts: African Technological Nationalism, Civic Education, Science and Technology Studies (STS), African Futurism, Speculative Pedagogy, Technological Citizenship, Child-Author Development Programme (CADP), Civic Science Fiction, Youth Innovation, Curriculum Reform in Africa, Technological Takeoff.

INTRODUCTION

African nations have historically faced systemic exclusion from the epistemic and infrastructural regimes of global technological development (Makinde, 2021). Despite producing brilliant minds and contributing to global

knowledge systems, the continent remains on the periphery of high-technology innovation.ⁱ This marginalization is embedded in economic structures and also in *educational paradigms* (Comaroff & Comaroff, 2012) *that fail to develop the imagination and technical agency of the African child*. The current models of Civic Education in Africa, largely inherited from colonial systems, are ill-equipped to address the needs of a *21st-century technological society*.ⁱⁱ These curricula often neglect the socio-technical dimensions of citizenshipⁱⁱⁱ and ignore the role of young citizens in shaping their technological futures.

The Child-Author Development Programme (CADP) proposes an imaginative and radical departure from this status quo through its new civic curriculum, *Civic Education for Technological Takeoff* (CETT). Through an integration of speculative storytelling, civic imagination, and African techno-futures, CETT seeks to prepare African children to participate meaningfully in actualizing the technological destiny of their nations.^{iv} The curriculum emphasizes the development of critical science consciousness, public engagement with science and technology, and imaginative thinking, thereby *reconfiguring Civic Education as a strategic tool for African technological emancipation*.^v

THEORETICAL FRAMEWORKS

African Technological Nationalism

African Technological Nationalism, as proposed by Nwosu (2023), is the ideological assertion that Africa's political and economic self-reliance must be embedded in indigenous technological capability. CETT draws from this premise by embedding Civic Education in a nationalist narrative of African techno-development.

According to Nwosu (ibid.), African Technological Nationalism, as an emerging ideological framework asserts that Africa's political sovereignty and perpetual economic progress must be founded on domestic technological development. African Technological Nationalism reframes technology as a national resource and identity marker. Technology cannot be a foreign import or external dependency (Nwosu, 2021). CETT draws heavily from this ideological framework, embedding civic learning within the broader narrative of technological self-reliance. In CETT, children are introduced to the idea that participating in technology design, regulation, and discourse through speculative fiction writing is not only possible but necessary for authentic African citizenship in the 21st Century.

Science and Technology Studies (STS)

Civic Education, when intersected with STS, opens up pathways for young learners to critically interrogate the power dynamics, including the social forces, the techno-politics, and the ethics of technological systems (Jasanoff, 2004). More importantly, the STS methodologies of Social Construction of Technology (SCOT) (with its core notion of *interpretive flexibility*),^{vi} and Actor-Network Theory (with its core notion of *translation*)^{vii} (Latour, 2005) are embedded in this New Civic Education as non-political pathways for African societies to engage with their technological inventions and their inventors in regimes of technology demystification and technology democratization.^{viii} Science and Technology Studies (STS) provides a critical lens through which technology is examined as a socially constructed phenomenon. This interdisciplinary field explores how social, political, and cultural values shape and are shaped by scientific knowledge and technological systems. CETT incorporates STS concepts, particularly the Social Construction of Technology (SCOT), to empower students to interrogate the sociocultural and the socio-technical dynamics embedded in technology. Children are encouraged to question who designs technology, for whom, and to what end. Through *incorporating STS into Civic Education*, CETT introduces learners to the ethical, social, and cultural dimensions of technology, raising a generation of reflective and responsible techno-citizens.

African Futurism and Speculative Pedagogy

African Futurism, as articulated by thinkers like Nnedi Okorafor (2019), focuses on African cultural aesthetics and worldviews in speculative fiction. Unlike mainstream science fiction, which often marginalizes African perspectives, African Futurism creates space for African imaginaries in future worlds. CETT adapts this genre

as a pedagogical tool – a mode of instruction that uses storytelling to simulate civic scenarios, future challenges, and speculative solutions. This speculative pedagogy enables children to imagine alternative futures where Africa leads in science, technology, and innovation through their recreations of the roles of social forces and actor-networks in the technology-innovation process. It also allows for a reintegration of indigenous knowledge systems into futuristic discourse (Eglash, 1999), imbuing African youth with epistemic agency. CETT's adaptation of this genre into a pedagogical form, using storytelling as a tool for civic literacy, memory reconstruction, and future-oriented thinking becomes an innovation in itself for scholars of Education Policy and STS especially in Third World countries.

METHODOLOGY: CURRICULUM DESIGN AND PEDAGOGICAL APPROACH

CETT was developed using a design-based research approach involving iterative curriculum prototyping, facilitator feedback, and content testing with target age groups. The curriculum comprises seven interconnected learning modules, each blending theoretical instruction with creative application. Pedagogical methods include storytelling, debate, role-play, collaborative projects, public speaking, certification and cash award structure to incentivize excellence. These techniques are designed to convey content and also to cultivate public reasoning, technological imagination, and civic engagement in the participants.

A comprehensive facilitator's handbook accompanies the curriculum, providing session breakdowns, discussion prompts, assessment rubrics, and project templates. Additional learning materials include participant storybooks, writing templates, and multimedia content. This toolkit ensures that facilitators are well-equipped to guide learners through both the cognitive and creative demands of the CETT framework. Importantly, the curriculum is adaptable across languages and local contexts, reinforcing its potential for continental scalability.

CURRICULUM OUTLINE: MODULES AND OUTCOMES

The **Civic Education for Technological Takeoff (CETT)** curriculum consists of eight interconnected modules, each purposefully designed to fertilize a child's intellectual, civic, and imaginative development. These modules build a progressive cognitive arc – from understanding the role of the child in African technological citizenship to producing civic science fiction stories that simulate future policy, technology, and justice scenarios for publishing. Each module blends content knowledge with experiential and creative pedagogy, resulting in both academic outcomes and civic artefacts.^{ix} Each of the seven modules in CETT is designed to fertilize and activate students' understanding of technological citizenship, progressing from foundational concepts to active participation. The following is an outline of the CADP Civic Education Curriculum:

a. Introduction to African Technological Nationalism

Core Objective:

To introduce learners to the ideological foundation of Civic Education for Technological Takeoff – African Technological Nationalism – and to awaken in them a deep civic consciousness of Africa's technological future as a matter of self-reliance, sovereignty, and cultural imagination.

Core Themes:

- Nationalism and technological sovereignty
- Historical exclusion and contemporary opportunity
- Technology as cultural identity and civic obligation
- Africa's destiny in global innovation ecologies

Module Overview:

This foundational module orients learners to the ideological compass of the entire CETT curriculum: **African Technological Nationalism (ATN)**. It introduces children to the argument that no nation can be truly sovereign without **domestic technological capability**, and that African identity in the 21st century must include an affirmative orientation toward invention, systems design, and technological imagination.

Children are guided through historical snapshots of technological dependency in Africa – from colonial infrastructural impositions to postcolonial technology imports – and are invited to ask: *Why has Africa remained a consumer, rather than a designer, of technological futures?* Through storytelling, roleplay, and media analysis, the module demystifies technology as a neutral force and repositions it as a **civic artefact and political tool**.

Learners are introduced to the concept of **technology as an expression of national will**, examining how nations such as Japan, South Korea, and India cultivated innovation ecosystems as strategies of postcolonial strength. The African child is taught that technological underdevelopment is not destiny, but the result of political decisions – and that those decisions can be **reversed through civic will, knowledge justice, and innovation ethics**.

They examine African inventors and innovators who have historically resisted marginality by creating homegrown solutions, even in obscurity. Through discussions and mini-biographies, children are challenged to see themselves as heirs and successors of that resistance – as citizens of the **techno-nationalist vanguard**.

Sample Learning Activities:

- Civic Map: Children draw or digitally create a “Technological Map of Africa” featuring inventors, hubs, and innovations by African nationals.
- National Imagination Workshop: Learners engage in speculative group writing wherein they imagine a future where their country exports technology globally.
- Reflective Essay: “What Does it Mean to Love Africa Technologically?” – A short writing exercise *designed to deepen personal civic orientation to African innovation*.

Pedagogical Purpose:

This module lays the intellectual and ideological groundwork for CETT. It redefines civic love of country in technological terms. **To love Africa, the child learns, is to believe in her inventive capacity** – and to defend it with stories, policies, and prototypes. It is to affirm that the African flag must be flown not only at the UN, but more importantly in **global labs, launchpads, patents, and codebases**.

Outcome:

By the end of this module, the African child begins to internalize a new identity: **the image-identity of a future African inventor or a lover and promoter of African inventions** and not just a future voter. The concept of African Technological Nationalism therein becomes a formative civic commitment – a lens through which all future civic actions, writings, and debates are interpreted.^x

Learning Objectives:

By the end of this module, learners will be able to:

- a. Define *African Technological Nationalism* and explain its role in civic life and national development.
- b. Identify historical factors that have shaped Africa’s relationship with science and technology.

- c. Recognize the difference between being a user of imported technology and a builder of indigenous innovation.
- d. Articulate the importance of national pride and civic responsibility in technological development.
- e. Reflect on their personal role as child-authors and young citizens in shaping Africa's scientific destiny.

b. The African Child as a Technological Citizen

This module introduces African children to the idea that citizenship in the digital age involves technological awareness, responsibility, and agency.

Objective: To introduce children to the idea that citizenship in the 21st century includes technological fluency, ethical participation, and creative agency (Appiah, 2005).

Core Themes:

- Civic identity in the digital age
- Children as shapers, not just subjects, of technological systems
- Digital rights and responsibilities
- Early exposure to the ethics of innovation

This foundational module invites learners to reconsider what it means to be a "citizen" in technologically saturated societies. Children are taught to see themselves as active participants in shaping Africa's technological trajectory and not passive consumers of imported technology. Activities include drawing self-portraits as "techno-citizens," exploring mobile technology rights, and discussing real-life examples of youth tech activism in Africa.

- a. **What is Technological Takeoff?** This module explores historical and contemporary examples of technological revolutions and what Africa can learn from them.

Objective: To ground students in the historical and contemporary narratives of technological revolutions and to examine what Africa can learn and do differently.

This module reframes the idea of "catching up" technologically, introducing children to alternative trajectories of innovation. Using storytelling and comparative timelines, learners explore how countries like South Korea and China structured their takeoffs. They debate: *What would a uniquely African technological takeoff look like?* The idea of technological nationalism is introduced here as a guiding civic and strategic principle.

- b. **African Inventors, African Memory:** Engages students with local inventors and forgotten histories of science and technology in Africa, thereby immortalizing African contributions to science and technology.

Objective: To restore African agency by recovering the ignored legacies of African inventors, technologists, and scientific thinkers.

This module emphasizes memory as a civic act. Learners conduct research projects or oral interviews about local inventors (Eglash, 1999) or artisans and re-narrate their contributions through story. They learn that forgetting is a form of dispossession – and remembering is a form of civic resistance (Nwosu, 2020). The result is the re-insertion of Africa into global narratives of innovation and the creation of knowledge archives by children themselves.

- c. **Technology, Power, and Justice:** This module encourages students to analyze how technology can reinforce or resist structures of inequality.

Objective: To develop learners' critical awareness of how technological systems are embedded with power dynamics, and how these systems can both reproduce and challenge injustice.

Here, children grapple with questions like: *Who controls technology? Who benefits? Who is harmed?* (Feenberg, 2017). Drawing from the STS framework of the social construction of technology (SCOT), learners participate in role-plays simulating debates around AI surveillance in schools, or digital ID systems in elections. They are taught that ethical engagement with technology is not optional – it is a civic obligation.

- d. **Faith, Identity, and the African Future:** Here, the CETT curriculum examines how cultural and religious identities intersect with the people's technological aspirations.

Objective: To enable learners, explore the intersections between spirituality, cultural identity, and Africa's technological aspirations.

Core Themes:

- Religious values and techno-ethics
- Indigenous cosmologies and innovation
- Faith-based communities as incubators of tech hope
- Navigating plural identities in a digital world

Rather than dismiss religion as anti-scientific, this module invites critical integration. Students explore how their spiritual and moral values influence their visions of the future (Wiredu, 1998; Appiah, 2005; Nwosu, 2019). Through debates, interviews with faith leaders, and creative writing, they articulate techno-visions grounded in values of justice, stewardship, and collective good. Children learn to design futures that don't erase but embrace their multiple identities.

- e. **Writing Africa's Civic Technological Future (Civic Science Fiction as Public Discourse):** This module guides students in crafting speculative civic science fiction stories as public engagement tools.

Objective: To guide learners in composing civic science fiction stories that explore Africa's techno-political futures and serve as tools of public engagement.

Core Themes:

- Story as simulation: using fiction to model policy and future dilemmas
- Characterizing future African leaders, scientists, activists
- Crafting speculative civic scenarios
- Translating technological imagination into civic imagination

This is the curriculum's creative core. Learners are taught the basics of narrative structure, futurist worldbuilding, and civic imagination. They write stories featuring African child-scientists, mayors, AI inventors, or ecological activists grappling with challenges such as climate migration, nanotechnology ethics, or post-oil governance. Their fiction becomes a civic intervention, presenting possible futures and proposing value-based solutions to tomorrow's problems (Nwosu, 2022).

- f. **Publishing, Presenting & Participating:** At this stage we publish students' stories in anthologies on global and local book publishing platforms. The module here prepares them to share their work in public forums, simulating democratic engagement and peer learning.

Objective: To facilitate public dissemination and democratic participation by publishing the students' stories in anthologies and by organizing them to present their stories to real audiences.

Core Themes:

- The civic function of storytelling
- Youth participation in national and local forums
- Public speaking and peer engagement
- Intergenerational dialogue and advocacy

In this culminating module, the curriculum becomes praxis. Following publishing, learners publicly present their stories at school events, community libraries, radio stations, or youth summits. Selected works are compiled into anthologies and published locally and globally. This module simulates real democratic participation – allowing children to *occupy* the civic space with their speculative texts and speak directly to technocrats, educators, and policymakers.

Their stories become schoolwork and also, more importantly, civic *artefacts* – provocations for public reasoning, artefacts of technological imagination, and tools of intergenerational justice.^{xi}

The curriculum culminates in at least one creative story authored by the student. These narratives serve as both pedagogical artefacts and instruments of civic participation, inviting dialogue on the future of technology in African societies.

Each CETT module is a mirror and a window – a mirror in which African children see themselves as rightful owners of their future, and a window into the futures they are being prepared to create. These eight modules together form *a techno-civic literacy architecture* that reinvents storytelling beyond its traditional utilitarian functions of entertainment and pedagogy, to include novel functions such as *political practice, intellectual intervention*, and *nation-building strategy*.

The final story authored by each participant then becomes a capstone – a civic deed. It becomes a nexus between their learning and Africa's future, a speculative blueprint through which the African child – bold, brilliant, and assertive – joins the vanguard of global technological imagination.

5. The Child-Professor of STS Designation

A core innovation of CETT is the creation of the *Child-Professor of STS* designation, which formally recognizes children who demonstrate advanced civic-technological literacy. This distinction is awarded based on three criteria: (1) completion of the *Child-Author Proficiency Certificate*, (2) submission of an accepted civic science fiction story for publication, (3) completion of the Child-Professor of STS Curriculum which includes advanced technology domestication and technology demystification epistemes.

Each awardee receives a N100,000 cash prize and a certificate endorsed by an academic moderator from a partnering university (Nwosu, 2023). This designation serves as a powerful motivator and public signal of excellence, modelling a scholar-practitioner pathway for young Africans. It also encourages mentorship, as students develop confidence in presenting complex socio-technical ideas before peers, educators, and community members.

6. Implications for African Civic Education Policy

Civic Education for Technological Takeoff (CETT) introduces a transformative lens through which policymakers, educators, and curriculum developers can reimagine civic instruction. Through positioning technology as a civic concern, CETT breaks new ground in how African children understand their responsibilities and opportunities within a techno-driven world. Its implications include:

i. Curriculum Reform

CETT offers a viable model for integrating speculative fiction, civic ethics, and technological fluency

into national education systems (Ogunbanjo, 2018). It aligns well with the goals of 21st-century skills development, including critical thinking, creativity, and digital literacy.

ii. Policy Innovation

The programme advances a novel understanding of civic engagement – one that goes beyond electoral participation to include technological imagination and innovation. CETT thus contributes to nation-building beyond the conventional political discourse through public-oriented technological imagination and inquiry.

iii. Public Participation

CETT redefines children as active contributors to national conversations on science, ethics, and the future (Nwosu, 2022). Their stories become participatory texts that invite adults, policymakers, and technocrats into intergenerational dialogues about Africa's path forward.

CONCLUSION

Civic Education for Technological Takeoff (CETT) embodies a new civic epistemology for Africa **that recognizes imagination as a political tool and storytelling as a civic act** (Nwosu, 2020; Nwosu, 2023). Through equipping African children to narrate, design, and critique technological futures, the Child-Author Development Programme offers a revolutionary model of youth empowerment and educational reform. CETT not only prepares students to understand technology but to engage with it as citizens, creators, and change agents. It is a call to educators, policymakers, and communities *to invest in the civic intelligence of Africa's youth* as a cornerstone of the continent's technological liberation.

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APPENDIX

CADP CIVIC EDUCATION CONCEPTUAL PAPERS

Being

Conceptual Papers for Integrating the CADP Curriculum into African Civic Education Programmes

1. Conceptualizing the CHILD-AUTHOR DEVELOPMENT PROGRAMME as the Missing Element in African Civic Education Programmes. (CADP Civic Education Conceptual Papers: No. 1.)
2. Civic Education for Technological Takeoff: The Child-Author Development Programme as the Reimagination of African Technological Citizenship. (CADP Civic Education Conceptual Papers: No. 2.)
3. The African Child as a Technological Citizen (CADP Civic Education Conceptual Papers: No. 3.)
4. Redefining Civic Responsibility as Scientific Leadership: the CADP Civic Education Model. (CADP Civic Education Conceptual Papers: No. 4.)
5. CADP Stories as Informal Civic Science Education Tools. (CADP Civic Education Conceptual Papers: No. 5.)
6. Immortalizing African Inventors: The Function of CADP in Recovering the Erased Civic Memory of African Scientific Agency. (CADP Civic Education Conceptual Papers: No. 6.)
7. Building the Personality-Type of the Technological Nationalist: the CADP-Civic Education Model. (CADP Civic Education Conceptual Papers: No. 7.)

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Endnotes

- i. Despite producing brilliant minds and contributing to global knowledge systems, the continent remains on the periphery of high-technology innovation. p. 2. **CETT as the Redefinition of Civic Education.** Civic Education for Technological Takeoff (CETT) redefines Civic Education beyond mere transmission of governance literacy or patriotic ideals, to include *the construction of technologically situated citizenship*. CETT proposes a paradigm shift where civic participation is broadened beyond voting or social responsibility into *the active imagination, critique, and design of technological systems as a civic deed*.

This supports Sheila Jasanoff's (2004) notion of the *co-production of science and social order*, where the shaping of knowledge systems and political life are interdependent. CETT operationalizes this co-production by creating African children as upstream co-authors of technological systems rather than downstream users of imported science.

CETT thus extends the jurisdiction of citizenship to include *the technological future of the nation*. It re-scripts the African child from a passive civic actor to an *epistemic agent* in Africa's techno-political reconstruction.

The critique of colonial Civic Education frameworks draws from postcolonial studies, which emphasize how inherited curricula often reproduce dependence. In reframing Civic Education through technological imagination, CADP reclaims epistemic sovereignty for Africa's children.

- ii. The current models of Civic Education in Africa, largely inherited from colonial systems, are ill-equipped to address the needs of *a 21st-century technological society*. p.2. **CETT as Political Practice for 21st-Century Africa.**

Though a pedagogical ornament, CETT models **storytelling** as imaginative political practice. In the 21st century – where algorithms, data regimes, and platform economies constitute power – the ability to *narrate futures* becomes a central mode of political engagement. CETT teaches African children to simulate policy, ethics, and innovation futures via speculative fiction.

Ricoeur's work on narrative identity and the "imaginative variations" of possible futures (Ricoeur, 1984) supports this. CETT deploys narrative as an anticipatory tool, a *political rehearsal* through fiction.

Through CETT, African Science Fiction becomes a sovereign technology – a **civic simulator** for training the African mind in foresight, responsibility, and intergenerational design thinking.

- iii. These curricula often neglect the socio-technical dimensions of citizenship... p. 2. **CETT as Indigenous Intellectual Architecture.**

Unlike Euro-American civics models, CETT originates from African epistemologies, spiritual identities, and political aspirations. It is a civic curriculum with an **indigenous spine** – embedding African Technological Nationalism and memory justice into its pedagogical blueprint.

Ngũgĩ wa Thiong'o (1986) emphasized the decolonization of the mind through language and memory. CETT follows this trajectory, integrating *epistemic resistance* into formal civic instruction.

CETT is not a curriculum imported for localization – it is a curriculum born of location. Its **epistemic legitimacy** is ancestral, not borrowed. It is pedagogy reassembled from **Africa's own unfinished technological imagination**.

- iv. Through an integration of speculative storytelling, civic imagination, and African techno-futures, CETT seeks to prepare African children to participate meaningfully in actualizing the technological destiny of their nations. p.2. **CETT as the Democratization of African Technological Aspirations**

CETT democratizes technological discourse by removing it from the exclusive domains of experts, engineers, and bureaucrats — and making it available to children, communities, and storytellers. Through storytelling and debate, children simulate participation in decisions around surveillance, AI, climate policy, and infrastructure.

This reflects Langdon Winner's (1986) assertion that technologies have political qualities. CETT ensures these political qualities are **scrutinized and reimagined** in classrooms, and not exclusively in think tanks.

CETT is **technological democracy at the grassroots** — enabling participation in what technology does and in what it *ought to become*.

- v. The curriculum emphasizes the development of critical science consciousness, public engagement with science and technology, and imaginative thinking, thereby *reconfiguring Civic Education as a strategic tool for African technological emancipation*. p. 2. **CETT as Curriculum for Policy Simulation**.

In CETT, the child's story becomes a *speculative policy text*. Stories do not merely entertain; they simulate ethical dilemmas, governance breakdowns, and alternate legal futures. Civic Science Fiction thus functions as a tool of *futurist jurisprudence*, inviting reflection on regulatory architectures yet to exist.

This echoes the methodological proposition in Leach, Scoones, and Stirling's (2007) work on *pathways to sustainability*, where narratives are used to explore future socio-technical trajectories.

Here, the child does not "study" policy — the child *writes* it, *tests* it, and *invents* its logics. CETT turns classrooms into **policy laboratories**, and child-authors into policy prefigurators.

- vi. Social Construction of Technology (SCOT) (with its core notion of *interpretive flexibility*) ... p. 3. *Interpretive flexibility* is a core concept in Science and Technology Studies (STS), especially within the Social Construction of Technology (SCOT) framework. It refers to the idea that technologies do not have a fixed or inherent meaning. Instead, their design, use, and significance are shaped by different social groups who interpret them in varying ways based on their needs, values, and experiences. In simpler terms: a single technology can mean different things to different people, and its "meaning" or function evolves as various groups interact with it.

- vii. Actor-Network Theory (with its core notion of *translation*) ... p. 3. **Actor-Network Theory (ANT) in Science and Technology Studies (STS)** is a theoretical and methodological approach developed mainly by **Bruno Latour, Michel Callon, and John Law**. ANT seeks to understand how scientific knowledge, technologies, and social realities are **co-produced** through networks of both **human and non-human actors**. Rather than frame them as top-down plans or lone-genius moments, ANT reframes stories and strategies like CADP and African Technological Nationalism as *webs of interaction between humans and things, meanings and materials, inventions and institutions*, all shaping Africa's path toward scientific self-determination.

In **Actor-Network Theory (ANT)**, the core concept that best **embeds or summarizes** its philosophy — similar to how *interpretive flexibility* anchors **SCOT** — is **Translation**. **Why Translation? Translation** is the *engine* of ANT. It describes how actors — both human and non-human — *negotiate, enroll, and align* one another's interests into a **network** that becomes stable and coherent over time. In essence, **translation is how reality is assembled**.

viii. are embedded in this New Civic Education as non-political pathways for African societies to engage with their technological inventions and their inventors in regimes of technology demystification and technology democratization. p.3. **CETT as Youth Innovation Framework.**

CETT serves as an institutional structure for **discovering, certifying, and rewarding** youth civic-technological innovation. Through the *Child-Professor of STS* designation, CETT creates a scholar-practitioner identity for young Africans – one that fuses storytelling with systems thinking.

This model resonates with *Maker Pedagogy* and *Participatory Action Research* (Rappaport, 1987; Halverson & Sheridan, 2014), which affirm children's capacity to theorize and intervene in social systems through creation.

The **child is not a junior citizen**. The child is a *proto-visionary*, whose imagination holds latent design codes for the African techno-future. *CETT installs a framework that certifies excellence as a civic virtue*. not just an academic score.

ix. Each module blends content knowledge with experiential and creative pedagogy, resulting in both academic outcomes and civic artefacts. p.4. **CETT as Infrastructure for New Intellectual History.**

CETT constructs a *parallel archive* – an intellectual infrastructure where the thoughts of children on AI, nationhood, ecology, and innovation are published, anthologized, and cited. These civic texts become contributions to a **new history of African ideas**.

This notion mirrors Achille Mbembe's call for *epistemic delinking* and for Africa to become the site of *intellectual originality* (Mbembe, 2016). CETT fulfills this by generating child-authored narratives as **primary texts** in civic futures scholarship.

CETT is more than curriculum. It is a **print infrastructure of African futurity**. It installs a generation of thinkers whose first civic act is to *author history forward*.

x. The concept of African Technological Nationalism therein becomes a formative civic commitment – a lens through which all future civic actions, writings, and debates are interpreted. p.5.

CETT is a **foundational civic infrastructure** for the ideological project of African Technological Nationalism. It supplies the citizen-subject, the epistemic toolset, and the narrative agency required to build a continent defined by **design sovereignty**, not by debt or aid. This agrees with Walter Dignolo's (2011) concept of *epistemic disobedience*, where colonized communities reorient development on their own terms, using tools of their own invention.

CETT is an architecture of resistance: not armed, but intellectual; not reactionary, but prophetic. It is the **civic base station** of the technological Africa to come. **CETT as Civic Architecture for African Technological Nationalism.**

xi. Their stories become schoolwork and also, more importantly, civic *artefacts* – provocations for public reasoning, artefacts of technological imagination, and tools of intergenerational justice. p.10.

This statement underscores the translation of children's stories within the CADP framework from mere pedagogical exercises into civic artefacts with enduring social and political significance. While functioning as schoolwork that builds literacy and critical skills, these narratives simultaneously operate as instruments of public reasoning, stimulating collective debate on Africa's technological future. They become artefacts of technological imagination, embodying African epistemologies and projecting alternative futures beyond dependence on imported models. Most importantly, they act as tools of intergenerational justice, ensuring that the visions, anxieties, and aspirations of today's children are preserved as civic claims upon the future, demanding accountability from present and future leaders. In this way, each child-authored story is both a classroom exercise and a civic deed – an intellectual intervention into Africa's technological destiny.