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EdTech Strategy Snapshot: An overview of Ghana's Draft National EdTech Strategy

A discussion of the goal statements of the draft EdTech Strategy led by the Centre for National Distance Learning and Open Schooling

Introduction

The Centre for National Distance Learning and Open Schooling (CENDLOS), with the support of the World Bank and the Mastercard Foundation, has led the development of a draft National EdTech strategy to guide the implementation of EdTech to improve learning outcomes.

As part of the development process, CENDLOS and the Ghana Ministry of Education are hosting a stakeholder engagement to validate the draft strategy. This snapshot offers insights into the strategy's goals and the deliverables outlined to support foundational learning and education reform in Ghana.

The EdTech Hub co-developed this EdTech Strategy snapshot in collaboration with the Ghana Ministry of Education, represented by CENDLOS and the World Bank. The snapshot, using the draft strategy as the base document, has been developed to summarise the contents of the draft strategy for participants of the upcoming validation workshop with stakeholders.

EdTech & Ghana

According to the World Bank, EdTech comprises the hardware, software, digital content, data, and information systems that support and enhance teaching and learning, as well as management and delivery of education (Hawkins et al., 2020). Cofal et al. (2022) identified that an EdTech strategy typically outlines an overarching approach and/or plan for **designing** and **implementing** EdTech interventions in a country, covering a specified period. In specific contexts, an EdTech strategy may be referred to as an *"ICT in Education Master Plan"* or a *"Digital Learning Roadmap"*.

When developing an EdTech strategy, it is important to understand that:

- EdTech is not a silver bullet.
- EdTech involves more than hardware.
- Inequalities must be considered and accounted for.
- EdTech can be used to foster system improvement.
- Leverage existing evidence.

Ghana has championed some interventions for integrating EdTech into its education system. The Education Strategic Plan (ESP 2018-2030) identified the need to use technology to improve teaching and learning outcomes in Ghana. The 2015 ICT in Education Policy provides the overarching framework for advancing the country's education goals in using Information and Communication Technology (ICT). However, the implementation of these guiding policies has faced significant challenges.

Beyond accessibility challenges in rural communities and deprived areas, which create disparities and inequalities between rural and urban areas, many teachers lack the necessary knowledge and skills to utilise technology effectively in their teaching. Additionally, there is limited evidence on the impact of EdTech interventions that can be scaled up nationwide. However, the education sector has developed and continues to employ EdTech in its management and oversight responsibilities.

Existing education providers need to align their offerings to meet this surge in demand for digital skills (IFC, 2019). The potential of EdTech is evident in several implementations in Ghana. These implementations include, but are not limited to, the development of the Mobile School Report Card, which facilitates school reporting (Abdulai et al., 2018), the Performance Management and Data Visualisation (PMDV) dashboard that unifies data across the education system (BigWin Philantropy, 2020), and the Differentiated Learning Plus (DL+) dashboard co-developed with UNICEF Ghana, the Ghana Education Service and partners to give real-time visibility into the implementation of differentiated learning approaches in schools (Sachdeva et al., 2024).

The accountability dashboard and the DL have both been supported under the World Bank and Global Partnership for Education (GPE) funded Ghana Accountability for Learning Outcomes Project (GALOP 2019-2025). These interventions are being scaled up under the GALOP second Additional Financing (AF2 2025-2028) to all education management units, covering 16,000 public primary schools and 14,000 kindergartens in Ghana (World Bank, 2024)

Earlier EdTech interventions include the iBox and iCampus, under the IDA-funded Secondary Education Improvement Project (SEIP, 2016-2021), and the Edmodo Learning Management System, developed with funding from the GPE COVID-19 Accelerated Response intervention (GALOP, 2020). Under the IDA-funded eTransform Project (2019-2025), the Ministry of Communications has also supported about 240 secondary schools with equipment and ICT laboratories (completed 2024).

Ghana has seen significant growth in the number of private sector players implementing EdTech interventions, yet persistent hurdles remain in funding, scaling, and measuring the impact of these interventions (Jacobs Foundation, 2020). The UNICEF StartUp Lab and the Mastercard Foundation EdTech Fellowship have played a catalytic role, supporting EdTech innovators in enhancing their interventions and collaborating with ministry partners to deploy these innovations in public schools.

As Ghana continues to pursue its vision of leveraging technology to address existing disparities in access and skills, while aligning classroom practices with policy objectives and evidence-based practices to enhance the quality of teaching and learning, an EdTech strategy serves as a guiding framework to support implementers and informed decision-making.

Thematic focus

Ghana's draft EdTech strategy adopts a thematic framework aligned with the 2015 ICT in Education Policy and the ESP 2018-2030. Below are the themes under the draft strategy.

Themes of Ghana's draft EdTech strategy

	Vision statement
Governance	Establish a robust, transparent, and coordinated governance structure to oversee the integration of EdTech into Ghana's education system, ensuring ownership, accountability, and sustainable implementation.
Management & administration	Strengthen administrative and management systems to efficiently coordinate and support the implementation of EdTech initiatives in educational institutions.
Infrastructure & connectivity	Ensure equitable access to digital infrastructure and connectivity to support digital learning and administration in schools. This will improve learning outcomes and create jobs by producing digitally literate graduates.
Localised content creation	Promote the development and integration of culturally relevant and curriculum-aligned digital content that supports curriculum modernisation, inclusion, and digital learning adoption. This will enhance teaching and learning by improving content adoption and facilitating a deeper understanding of the curriculum.
Capacity building (training	Equip educators, learners, and administrators with the skills

& support	and knowledge to effectively utilise EdTech tools.
Curriculum & ICT integration	To integrate ICT effectively into the national curriculum to improve learning outcomes and ensure learners develop 21st-century skills
Inclusivity & accessibility	Ensure equitable access to digital education tools and platforms for all learners, including marginalised communities, rural and underserved areas, and learners with special education needs (SEN).
AI & emerging technologies	Leverage AI and emerging technologies to empower learners and teachers to create and deliver adaptive, personalised, and data-informed learning experiences.
Cybersecurity & digital safety	Create a safe and secure digital learning environment by protecting learners, teachers, digital devices, parents, guardians, institutions, and other interested stakeholders from cyber threats and digital exploitation.
Data management & reporting	To promote a culture of data-driven and evidence-based reporting for decision-making in education.
Data protection	Establish a robust data protection framework that safeguards the personal data of learners and teachers, ensuring compliance with national and international data privacy laws while promoting responsible data use in education.
Experiential learning & innovations	Bridging the gap between educational institutions and industry by implementing government policies that provide tax incentives for industry-aligned internships and workplace experience learning (WEL), ensuring learners gain hands-on practical experience and problem-solving skills to promote innovation, employability, and entrepreneurship among learners through the establishment of innovation centres and business incubators.
Monitoring & evaluation	Promote a comprehensive monitoring and evaluation (M&E) framework to assess the impact of EdTech initiatives.
Sustainable & financially inclusive digital learning systems	Ensure sustainable, inclusive, and equitable access to digital education across Ghana through long-term planning, responsible investment, community ownership, and institutional resilience.

Goals of Ghana's EdTech Strategy

This section presents clear goal statements for each of the fourteen (14) thematic areas of the draft EdTech strategy. Each goal highlights the challenges, proposed approach and how it contributes to improved learning outcomes in Ghana.

Goal 1: Establish strong leadership, policy frameworks, and inter-agency coordination mechanisms to integrate EdTech into Ghana's education system.

EdTech initiatives in Ghana face the challenge of fragmentation and have yet to scale up their impact. Currently, the Ministry of Education seeks to track and coordinate various EdTech initiatives within the public and private sectors, ensuring that these initiatives align with the same agenda outlined in Ghana's education reform agenda (Radford & Ampofo, 2024). The ministry's efforts are stifled by the limitation of a well-laid-out process for a transparent consultative process to coordinate engagements across all sectors, and duplication of efforts continues to undermine the efficiency and impact of existing EdTech initiatives (Mangesi, 2007; Taddese, 2020; Radford & Ampofo, 2024).

Ghana's 2015 ICT in Education Policy emphasises Education Management as a priority area to streamline ICT efforts to improve education in the country (Ghana Ministry of Education, 2015). To ensure there are strong governance mechanisms in place, Ghana's EdTech strategy proposes the following:

- Developing a centralised governance framework to coordinate the implementation of the EdTech strategy.
- Through the established governance framework, collaboration between the government, the private sector and academia is strengthened and aligned on EdTech implementation in Ghana.
- Provide holistic capacity-building and professional development opportunities to educators and administrators on the evidence-based integration and management of EdTech interventions.
- Adopt a collaborative framework for coordinating the implementation of the EdTech strategy.
- Establish guidelines to ensure effective and efficient resource utilisation for EdTech initiatives.
- Ensure ownership, accountability, transparency, and equity in the EdTech strategy.

Goal 2: Provide a reliable ICT infrastructure that is accessible in all schools, including electricity, internet connectivity, and devices, to enable tech-enabled teaching and learning nationwide.

Many schools in Ghana lack the necessary infrastructure to effectively utilise technology and enhance teaching and learning (Ibrahim, 2022). For instance, it is estimated that only 8% of rural households own a computer , and 45% of Ghanaians have internet access (Taddese, 2020). Additionally, a significant number of schools lack access to electricity (Taddese, 2020).

It is no secret that access to electricity, devices, and connectivity is one of the prerequisites for any EdTech intervention to have an impact (Rodriguez-Segura, 2020). In India, for example, an EdTech math program delivered via computers resulted in significant gains (a 0.37 standard deviation increase for participants) (Ganimian et al., 2016). This demonstrates the need for this EdTech strategy to outline Ghana's approach to ensuring the proper infrastructure is in place to drive the implementation of EdTech interventions in Ghana. The key deliverables of this goal are to:

- Expand reliable internet access to all public schools with dedicated connectivity for pre-tertiary and tertiary institutions.
- Provision of subsidised, low-cost mobile devices and laptops for both learners and teachers at all levels.
- Make provision for Bring-Your-Own-Device (BYOD) to complement government efforts while establishing compliance frameworks.
- Establish shared ICT centres of excellence and practical labs across schools nationwide.
- Launch and train a localised technical support team to respond to maintenance issues and establish preventive maintenance protocols by leveraging expertise from universities and technical universities.
- Partner with Mobile Network Operators (MNOs) and Internet Service Providers (ISPs) to zero-rate online learning platforms and curriculum-aligned digital content.
- Provide alternative power sources (solar, battery packs) for off-grid schools.
- Provide a harmonised interoperability platform for EdTech applications.

Goal 3: Ensure that all learners, regardless of their gender, location, disability or socioeconomic status, can benefit from EdTech.

This goal aligns with Ghana's commitment to equitable education, especially for persons with disabilities. Students in rural communities or from low socioeconomic households have significantly limited access to devices and the

internet compared to their peers in urban areas or those from high socioeconomic backgrounds (Afzal et al., 2023).

These gaps become more evident during the COVID-19 pandemic when remote learning experiences became a requirement—children in urban communities or well-to-do families could tune into online or TV lessons (Hodor et al., 2021). Learners with disabilities—both physical disabilities and intellectual developmental disorders—lacked accessible options for learning or support (Opoku et al., 2015; Okyere et al., 2019).

It is well-documented how inclusive EdTech has supported Ghana in sustaining its educational performance through initiatives such as Ghana Learning TV and Ghana Learning Radio (Hodor et al., 2021). Additionally, technology such as sign language-interpreted videos and audio lessons can significantly improve the literacy and numeracy of learners with disabilities. This strategy aims to:

- Support the design and implementation of Inclusive EdTech solutions for learners with special needs and disabilities.
- Ensure EdTech initiatives are designed and implemented, taking into account socio-economic and environmental considerations in the deployment of EdTech, particularly in rural and underserved communities.
- Develop local, bespoke educational support services, including assistive technology (AT), specialised instructional methods, and adaptive learning materials tailored to all learners.
- Implement local and specialised educational support services and assistive technologies, specialised instructional methods, and adaptive learning materials for all learners.
- Train educators, school administrators, and communities on inclusive strategies, special needs awareness, and culturally responsive pedagogy in schools and communities.
- Partner with families, local organisations, and stakeholders to create a supportive network that enhances learning opportunities, social integration and overall well-being of diverse learner groups.

Goal 4: Develop the capacity of teachers, students and administrators to drive the adoption of technology in education delivery.

This goal is to build digital competencies across all levels of the Ghana education system. The strategy not only views capacity building as training, but also as a continuous process that enables all stakeholders to engage effectively with technology, supporting the teaching, learning, and system improvement process.

It is important to note that there are mixed results on digital skills development and educational outcomes. While EdTech interventions show promise, their

effectiveness on the specific context and specific support provided to teachers (Murnane & Ganimian, 2014). The draft strategy focuses on:

- Implement digital literacy training programs as core courses for teachers to enhance pedagogical skills.
- Provide technical support for users (Educators, Learners, and Administrators).
- Equip education managers with digital skills to enhance management and informed decision-making.
- Strengthen Professional Learning Communities (PLC) to provide peer-to-peer mentoring and coaching.
- Enhance Learner Digital Literacy for Improved Learning Outcomes and Lifelong Learning.
- Boost the Ghanaian teacher profile for the international market.

Goal 5: Ensure EdTech supports curriculum delivery across all education levels by integrating digital tools and content aligned to national learning standards.

Ghana continues to see an increase in access to digital devices and content. However, the use of technology in the classroom is inconsistent and often fails to align with curriculum outcomes, resulting in a lack of improvement in teaching and learning outcomes, particularly in foundational literacy and numeracy (Abedi, 2024).

This strategy outlines the need to strategically integrate ICT meaningfully through structured mechanisms that enable the delivery of the national curriculum using technology. By utilising technology to deliver curriculum-aligned content, particularly in literacy and numeracy, and providing structured training to teachers on its practical use, learners are more likely to improve their learning outcomes (Lurvink & Pitchford, 2023). The objectives of this goal are:

- Develop technological pedagogical frameworks to support teachers in achieving improved learning outcomes.
- Integrate modern educational technologies and interactive tools to enhance teaching and learning.
- Establish a well-defined strategy that outlines how ICT will be integrated across the curriculum for teachers and learners.
- Establish partnerships with industry to enhance ICT curriculum development and implementation.
- Establish a set of rules and procedures for developing, creating and using appropriate electronic content.

Goal 6: Locally curate high-quality and locally relevant digital content that is aligned with Ghana's national curriculum to enrich teaching and learning.

Teachers face significant barriers in accessing curriculum-aligned digital content (Prasad et al., 2015). When teachers have access to a wide variety of curriculum-aligned content that is tailored to the local context of Ghana, they can provide students with a rich learning experience (Kelly, 2022).

The EdTech strategy focuses on:

- Develop local content and digital learning materials in local languages.
- Support EdTech startups in creating educational content.
- Encourage co-creation of content between teachers, universities, and local creatives.
- Develop open licensing models to ensure free and equitable access to government-funded educational content.
- Ensure that the content reflects the Ghanaian cultural context and social diversity.
- Establish a national digital repository of localised curriculum-aligned resources.
- Create content that addresses special needs.
- Develop and enforce Intellectual Property Rights protection for EdTech content creators.

Goal 7: Set up effective administrative and management systems to efficiently coordinate the implementation of EdTech initiatives.

Effective deployment of EdTech initiatives requires strong administrative structures and management at all levels. Studies indicate that instructional leadership in schools directly enhance student learning and teacher performance (Bellibaş et al., 2021). When administrators are trained and empowered, schools are better positioned to adopt technology that supports teachers and enhances student engagement (Fokong et al., 2024). This strategy seeks to:

- Implement a digital management system to track EdTech initiatives and interventions.
- Train school managers and educators in digital tools for education governance.
- Enhance access to high-quality EdTech initiatives and interventions at all levels of education.
- Ensure sustainable investment in EdTech initiatives and interventions.
- Ensure all learners, regardless of background, benefit from EdTech.
- Ensure the provision of infrastructure and digital tools at all levels.

Goal 8: Deploy exploratory pilots and guided adoption of emerging technologies such as AI, machine learning and robotics to enhance personalised learning and equip students with future-ready skills.

Ghana lacks a national framework for the ethical use of AI in education. As a result, misconceptions exist about the use of AI by teachers, students, and administrators in education (Velander et al., 2024).

Studies indicate that AI-driven learning tools have the potential to enhance engagement and learning when instructions are tailored to individual learner needs (Pratama et al., 2023). For example, adaptive learning technologies can customise instructions based on a student's interest, which has a positive impact on problem-solving and accuracy (Walkington, 2013). This strategy seeks to:

- Develop and implement AI-powered adaptive learning platforms to enhance personalised learning for diverse learners.
- Explore emerging technologies for learner records and certification.
- Integrate emerging technologies to create interactive and hands-on learning environments that enhance student engagement and learning outcomes.
- Establish ethical AI guidelines to safeguard all learners and teachers.
- Equip teachers with real-time data tools to identify learning gaps, tailor instruction, and support differentiated learning.

Goal 9: Ensure secure digital learning environments by implementing cybersecurity measures and promoting digital safety awareness.

As schools and learners use technology, they become potential targets for cyberattacks, such as hacking school systems, ransomware, or data theft, as well as exposure to unsafe online content or behaviours, due to low awareness (Eltahir & Ahmed, 2023). Most schools in Ghana have not historically had to manage risks, resulting in a lack of preparedness and awareness; a cyber incident could disrupt learning or compromise sensitive data.

Countries that have proactively addressed cybersecurity in education have seen benefits. Nigeria launched a "cyber safety" campaign in schools to educate children about safe internet practices, reportedly resulting in a decrease in reports of cyberbullying and scams among participating students (Salisu et al., 2024). The EdTech strategy proposes:

- To develop national cybersecurity guidelines for educational institutions to ensure standardisation, harmonisation, efficient and scalable practices that strengthen institutional resilience.
- To develop policies on cybersecurity programs for the various educational levels to reduce vulnerabilities among stakeholders.
- To develop a national strategy for the provisioning of cybersecurity solutions across the various institutions and educational levels, thereby ensuring a safer learning environment.
- To ensure compliance with the relevant regulations in the Data Protection Act of Ghana for standardisation.
- To develop a national strategy for the training of skilled personnel towards the delivery of cybersecurity content and ensure uniform dissemination of cybersecurity knowledge across institutions.
- To identify and assess potential online risks targeting institutional and individual systems, and propose mitigation solutions.

Goal 10: Establish a culture of data-driven decision-making by building robust, secure and interoperable data management systems to enable real-time insights for improving teaching, learning and accountability.

Ghana, in collaboration with its donor partners, have invested significant amounts of funding to build data management systems to support decision-making in the country. Several agencies and departments within the ministry, including the Ghana Education Service, the National School Inspectorate Authority, and the Reform Delivery Unit, have developed data management systems. Notably, the Performance Management and Data Visualisation (PMDV)Dashboard has been designed to serve as a *"single source of truth"* (Radford & Ampofo, 2024). However, Ghana continues to face a systemic challenge in education data management, including delays in data collection, fragmentation across agencies and limited accessibility (Radford & Ampofo, 2024).

Studies indicate that education systems that utilise data management practices, including real-time dashboards, are more effective. These unified systems align with national education management information systems (EMIS) and build on data literacy, demonstrating sound decision-making that positively impacts learning outcomes (Adam & Mitchell, 2024).

In light of global evidence, the strategy seeks to:

- Ensure effective data collection modalities aligned with key educational decision-making priorities.
- Employ efficient data management processes to ensure data accuracy, consistency, and equitable accessibility for educational stakeholders.

- Adopt secure and reliable data storage solutions that comply with relevant regulations for educational data.
- Develop strategies for the ethical use of data to inform educational policies and practices.
- Implement a robust monitoring and evaluation framework to assess the quality, impact, and effectiveness of data-driven initiatives in education.

Goal 11: Safeguard the personal data of learners and teachers by ensuring EdTech platforms and institutions comply with Ghana's data protection laws and global standards.

Ghana has established a Data Protection Act, 2012, that provides guidelines for managing personal information in the country. Global best practices demonstrate that robust data protection frameworks enhance the relationship and trust between users and service providers, which is essential for the adoption of EdTech (GEM Report UNESCO, 2023).

As the Ghana Ministry of Education works towards developing its Data Governance Strategy through the Reform Delivery Unit, this EdTech strategy will:

- Ensure that all EdTech platforms (including mobile applications, web applications, and any other elements of service delivery) comply with Ghana's Data Protection Act and international standards (e.g., GDPR).
- Implement strategies for learner and teacher data privacy (Privacy strategy, retention strategy, consent forms, cloud security strategy, information security strategy, and any other related strategies).
- Develop and implement plans, procedures, and guidelines that govern the collection, usage, storage, disclosure, and sharing of personal data within the educational technology space (Principles of Data Protection).
- Execute technical and organisational measures to protect learners' and teachers' personal data from unauthorised access, breaches, and other security threats (Privacy by design and default).
- Conduct regular training sessions and awareness campaigns for teachers, learners, and other stakeholders on data protection best practices, rights under the law, and the importance of responsible data handling in educational settings.

Goal 12: Ensure EdTech drives structured experiential learning that bridges knowledge with practical industry skills, driving innovation, employability and entrepreneurship.

In Ghana, learners often graduate without the hands-on skills required by the industry (World Economic Forum, 2024). With little collaboration between educational institutions and employers, it has become challenging to identify the strengths and weaknesses of learners and provide structured support to enable tailored support (International Labour Organization, 2020).

This strategy will:

- Develop structured experiential learning programs at all levels that integrate academic knowledge with industry practice and real-life experience.
- Strengthen partnerships between educational institutions and industry to enhance internship and workplace experiences, as well as real-life experiences, including virtual and simulated learning opportunities.
- Provide equal access to training, internship, and workplace experience, including virtual and simulated learning opportunities, for all learners, with a focus on gender, underserved communities, and individuals with disabilities, through scholarships, transportation support, or digital platforms.
- Enhance critical competencies and skills in demand in the job market, including proficiency in AI, data analytics, cybersecurity, software development, coding, networking, hardware, and other tech-related areas.
- Create mentorship initiatives that pair learners with industry professionals, facilitators and experiential liaison officers to provide guidance, support and network opportunities that enhance the learning experience.
- Establish and promote innovation hubs, labs, and learning centres at schools where learners can work on real-world projects through incubations, hackathons, research, and marketing technologies to address local challenges.
- Promote partnerships among the government, training institutions, and the private sector to establish business incubators, thereby enhancing the development of innovation and entrepreneurship skills, factory production, process management, firm leadership and structure, and business management.
- Institute measures to accommodate and incentivise industry professionals to share their practical knowledge with learners, e.g. tax relief.

Goal 13: Coordinate monitoring, evaluation, research and learning (MERL) to evaluate the effectiveness of EdTech initiatives to improve teaching and learning outcomes nationally.

In Ghana, where multiple actors (government agencies, donors, startups and NGOs) deploy EdTech initiatives individually, a coordinated MERL framework provides the connective tissue to evaluate what is working, for whom and why. Insights from a coordinated MERL framework provide valuable guidance on the future implementation and improvement of the existing approach (Taddese, 2020).

A national EdTech MERL framework will enable consistent metrics and KPIs, aggregated insights, accountability loops, continuous learning and equity tracking. In light of this, the draft strategy will focus on:

- Develop a standardised MERL framework for tracking EdTech adoption and impact with the Education Strategic Plan.
- Establish Key Performance Indicators (KPIs) for assessing the effectiveness of EdTech programmes.
- Establish feedback mechanisms for improving the implementation of Edtech strategies.
- Enhance the institutional and technical capacities of existing governance structures to implement the MERL framework.
- Allocate adequate and sustainable financial and technological resources to support the effective implementation of the MERL framework.

Goal 14: Ensure Ghana's digital education ecosystem is financially sustainable, environmentally responsible and socially inclusive.

EdTech programs often suffer from short-term funding, poor planning and low school-level adoption and accountability (GEM Report UNESCO, 2023). With a limited budget for implementing EdTech in many Ghanaian schools, there is a poor technical capacity at both the district and school levels to drive engagement (Jacobs Foundation, 2020).

The long-term success of EdTech implementation has been linked to robust governance, local ownership, and sound infrastructure planning (GEM Report, UNESCO, 2023; Chuang et al., 2022).

This strategy advocates for:

- Establishing long-term financial sustainability mechanisms to support digital education systems.
- Integrating environmental responsibility into digital infrastructure rollouts.

- Ensuring technology systems are scalable, interoperable, and locally maintainable.
- Building institutional and human resource capacity to support digital transformation.
- Promoting social inclusion and community engagement in EdTech initiatives.

High-level implementation framework

This is a high-level implementation plan recommendation. The implementation framework provides an initial guide to implementing the strategy.

	Key components
Phase 1 (Year 1): ***Foundations and governance.***	▪ Finalise and officially launch the national EdTech strategy aligned with the ESP and ICT in Education policies. ▪ Establish a National EdTech Steering Committee and a Technical Working Group with clear Terms of Reference (ToRs). ▪ Develop and adopt governance, regulatory, cybersecurity and data protection frameworks. ▪ Begin baseline mapping of schools for infrastructure, digital readiness and underserved priority zones. ▪ Kick off policy alignment work for content licensing, IP rights, and educational tools. ▪ Develop a national teacher training strategy on the use of EdTech and EdTech capacity-building curriculum. ▪ Establish planning and procurement pathways for infrastructure rollout and ICT labs.
Phase 2 (Year 2): ***Infrastructure, access and inclusion.***	▪ Evaluate existing device deployment programs. Use insights from evaluation to revise the design and deploy device deployment initiatives to teachers and learners in targeted schools iteratively. ▪ Test and expand ICT lab programs within the country, testing with existing labs and new labs to identify an ideal rollout plan, prioritising underserved districts and TVET centres. ▪ Conduct initial assessment for the deployment of solar power systems to schools, factoring in cost, security, maintenance and waste management to support digital learning access. ▪ Iteratively roll out district-level ICT resource centres and shared labs for school clusters. ▪ Establish and equip local maintenance and tech support teams through tertiary (including TVET) partnerships. ▪ Launch initial batch of localised curriculum-aligned content using existing EdTech solutions within the public and private sectors. Conduct learning sessions to identify best practices to improve deployment. ▪ Iteratively deploy digital school management systems, focusing on improving foundational literacy and numeracy outcomes (EMIS upgrades, LMS, etc). ▪ Deliver foundational digital literacy and pedagogical training to 20 - 50% of teachers.

Phase 3 (Year 3): ***Curriculum, content and capacity.***	▪ Collaborate with NaCCA, GES and other relevant agencies to scale up the development of digital content and localisation across all core subjects and levels. This includes working with private sector players. ▪ Co-develop a teacher training guideline with NTC and teacher training institutions to train teachers on tech-enabled pedagogy. ▪ Embed ICT integration frameworks and digital pedagogy into national curriculum standards. ▪ Pilot adaptive learning using AI for foundational literacy and numeracy. ▪ Launch national STEM and computational thinking programs, complemented by digital resources and practice kits. ▪ Design and implement online and blended continuous professional development programs for school leaders, district officers (including School Improvement and Support Officers) on EdTech use in schools to drive integration and adoption at the school and district levels. ▪ Launch structured workplace learning and innovation hubs to facilitate participation of private sector players in the deployment of EdTech in public school systems.
Phase 4 (Year 4) ***System integration and innovation.***	▪ Coordinate efforts with MNOs and Internet Service Providers (ISPs) to ensure up to 80% of schools have internet. ▪ Coordinate with other ministries to ensure schools have backup power and ICT infrastructure. ▪ Fully integrate EdTech indicators and KPIs into existing data dashboards, such as the PMDV, to provide decision-makers with user insights that inform EdTech implementation initiatives. ▪ Expand AI-powered personalisation, real-time learner tracking and automated assessments. ▪ Launch blockchain pilots for certification, learner identity management and record integrity. ▪ Coordinate with in-country education research organisations to conduct rigorous impact evaluation of existing EdTech implementation across AI, LMS, content platforms, and record integrity that is specifically linked to improved learning outcomes, including foundational literacy and numeracy and cost-effectiveness. ▪ Strengthen cross-agency data-sharing and school improvement planning using data from data dashboards. ▪ Institutionalise the co-creation of content with teachers, local creatives and universities. ▪ Expand partnerships with MNOs, private sector EdTech firms, local donors, and industry stakeholders for sustainable measures.
Phase 5 (Year 5) ***Sustainability, scale and accountability.***	▪ Review and review the EdTech strategy based on the monitoring and evaluation framework and implementation data. ▪ Institutionalise MERL systems across all 14 pillars with continuous improvement and feedback loops. ▪ Localise production of affordable EdTech hardware and software through private sector

	partnerships (including SMEs). ▪ Ensure digital content is available, standardised and used in 75% of schools. ▪ Mainstream digital literacy and EdTech integration practices in all national teacher training colleges and CPD certification programs. ▪ Partner with donors and funders to launch a national innovation fund and accelerator programs for Ghanaian EdTech startups. ▪ Publish annual EdTech impact report and learning equity scorecard to drive transparency and trust in the EdTech ecosystem.

Cross-cutting implementation priorities

Classroom-level learning improvement – foundational literacy and numeracy	▪ Prioritise FLN as a priority performance metric across all EdTech initiatives and reporting. ▪ Ensure all digital content and platforms support national FLN benchmarks. ▪ Continuous work with partners to deploy adaptive learning technologies in primary grades for early reading and math. ▪ Train teachers on tech-enabled formative assessments to identify and close learning gaps. ▪ Utilise EdTech to support differentiated instruction for students who struggle academically. ▪ Integrate FLN tools into Learning Management Systems (LMS) and teacher lesson-planning apps. ▪ Track student performance data using dashboards linked with digital assessment platforms.
Research, evidence and learning loops	▪ Coordinate with the education research organisation and the Directorate of Statistics, Research and Information Management (SRIM) to embed implementation research into all major EdTech rollouts to understand what's working, where and why. ▪ Partner with universities to conduct RCTs and quasi-experimental studies on digital tools. ▪ Use data to inform national learning assessments, unified data dashboards, and EMIS dashboards. ▪ Establish feedback-to-practice loops across all districts, ensuring research findings inform teacher training, practices and resource design.
Equity, inclusion and local relevance	▪ Conduct ongoing audit of all EdTech initiatives to ensure gender, disability and geographical equity. This required deliberate collaboration with specific agencies, departments and ministries, including the Special Education Division. ▪ Engage School Management Committees (SMC), Parent-Teacher Associations (PTAs), and learners to surface barriers and design solutions. ▪ Regular updates on the use of technology and digital content for learners with special education needs (including intellectual developmental disorders).

	■ Integrate offline, radio and mobile-based options for areas with limited infrastructure.
Continuous professional development (CPD) and peer learning	■ Ensure CPD on EdTech and digital pedagogy is ongoing, modular and accessible both online and offline. ■ Strengthen Professional Learning Communities (PLCs) for peer mentoring on the use of EdTech. ■ Institutionalise micro-credentialing for tech-enabled teaching competencies. ■ Embed tech integration coaching roles in district offices and schools.
Alignment and flexibility	■ Constantly align EdTech implementation with changes to the national curriculum, exams and school schedules. ■ Maintain cross-ministerial coordination (Education, Communications, Gender, Energy) through annual joint forums.
Maintenance, user support, and content revamp	■ Regular device and software maintenance schedules in all schools. ■ Periodic refresh of digital content libraries and location of new curriculum materials. ■ Establish tiered user support systems (helplines, on-site support, online help resources) ■ Maintain cross-ministerial coordination (Education, Communications, Gender, Energy) through annual joint forums.
Accountability and engagement	■ Sustain strong engagement with communities, school management committees and parent advocacy groups. ■ Train leaders on change management and adaptive leadership in the context of digital transformation. ■ Run nationwide EdTech awareness campaigns to generate buy-in and demystify misconceptions around EdTech. ■ Empower SMCs, school leaders and district officers to track EdTech KPIs locally. ■ Make data from data dashboards easily accessible through messaging technology and other simple communication channels, providing training on usage and tracking outcomes.

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