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Realising the potential of technology in education

EdTech in Kenya: A Rapid Scan

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Country Scan

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1. About this scan

EdTech Hub country scans explore factors that enable and hinder the use of technology in education. These factors include the policy or vision for EdTech, institutional capacity, private-sector partnerships, and the digital infrastructure. The scans are intended to be comprehensive but are by no means exhaustive; however, we hope they will serve as a useful starting point for more in-depth discussions about opportunities and barriers in EdTech in specific countries, in this case, Kenya.

This report was originally written in June 2020. It is based primarily on desk research, with quality assurance provided by a country expert. Given how rapidly the educational technology landscape is evolving, the Hub plans to provide periodic updates. Table 1 provides a summary of the situation regarding EdTech in Kenya.

Table 1: EdTech in Kenya

Policies	<ul style="list-style-type: none"> • Vision 2030 Social Pillar¹ (Education & Training) • National ICT Policy, 2019² (6.3.4 Human Resource Development)
Infrastructure	<ul style="list-style-type: none"> • Kenya has 98% mobile penetration (Datareportal, 2020) • Internet penetration in Kenya stands at 43% (Datareportal, 2020) • 52% of Kenyans are connected to mobile services (GSMA, 2020) • Disparities in access to ICT across urban and rural regions are highest for the internet and lowest for radio • 82.6% of primary schools have electricity (UNESCO Institute of Statistics, 2018)
Partners and initiatives	<ul style="list-style-type: none"> • The Ministry of Education³ (MoE) works in partnership with numerous semi-autonomous government agencies (SAGAs) including Kenya Institute of Curriculum Development (KICD), The Teacher Service Commission (TSC), Kenya National Examination Council (KNEC). These SAGAs and the Ministry of ICT (MoICT) all play a prime role in EdTech in Kenya. • KICD hosts the Kenya Education Cloud⁴ (interactive digital and on-demand radio content; textbooks for teachers and students; and teacher training on curriculum implementation and ICT in learning)

¹ Kenya Vision 2030 (n.d.), as available at <http://vision2030.go.ke/social-pillar/>

² Ministry of Information, Communications and Technology, Kenya (2019), as available at <https://www.ict.go.ke/wp-content/uploads/2019/12/NATIONAL-ICT-POLICY-2019.pdf>

³ Ministry of Education, Kenya (2016), as available at <https://www.education.go.ke/>

⁴ Kenya Education Cloud (n.d.), as available at <https://kec.ac.ke/>

	<p>and EDU Channel⁵ (YouTube).</p> <ul style="list-style-type: none"> • KICD shares content via radio⁶ and TV⁷ in partnership with local providers. • Numerous private EdTech and telecom companies are contributing to remote learning opportunities.
Covid-19	<ul style="list-style-type: none"> • The Government of Kenya closed all schools on March 16 and 20, 2020, affecting over 90,000 schools and 18 million pre-primary, primary and secondary learners. Over 150,000 refugees have also been affected (State Department of Early Learning and Basic Education, Kenya, 2020). • In May 2020, the MoE State Department of Early Learning and Basic Education launched the Kenya Basic Education COVID-19 Emergency Response Plan⁸, with a major focus being continuous learning via TV, radio and online. • Over 300,000 teachers are working remotely to support distance learning (State Department of Early Learning and Basic Education, Kenya, 2020). • 24.6% of households with members who usually attend any learning institution were not using any method to continue with learning (Kenya National Bureau of Statistics, 2020). • There is inequitable access to distance learning resources based on geography, socioeconomic status and age of learner (UWEZO, 2020). Even for those who do have digital access, learning is not consistent.

2. Country overview

Kenya is an East African nation with a population of 47.6 million (Kenya National Bureau of Statistics, 2019). Twenty-seven per cent of the population is based in urban areas, with the largest cities being Nairobi, Mombasa and Kisumu. According to the 2019 census, Kenya is a youthful country with 75% of the population under the age of 35 years (Ndungu, 2020), and a median age of 20 years (DataReportal, 2020).

In August 2010, the government ratified a new constitution that provided for the devolution of power to the 47 counties. The new constitution combined with Vision

⁵ Edu TV Kenya (n.d.), as available at

<https://www.youtube.com/channel/UCByj0XrDmb0UDUui63EOnhA>

⁶ Kenya Institute of Curriculum Development (2020b), as available at

<https://kicd.ac.ke/our-services/educational-media/kicd-radio-timetable-2018/>

⁷ Kenya Institute of Curriculum Development (2020a), as available at

<https://kicd.ac.ke/our-services/educational-media/kicd-edu-channel-line-up/>

⁸ State Department of Early Learning and Basic Education, Kenya (2020), as available at

https://www.education.go.ke/images/Kenya_basic_Education_COVID-19_Emergency_Response_Plan-compressed.pdf

2030⁹, launched in 2008 by then-President Mwai Kibaki, set the course for long-term development. Vision 2030 outlines the plan for making Kenya a middle-income country providing a high quality of life for its citizens by 2030, based on four pillars: economic, social, political and macro.

Kenya has improved across a number of human development categories in recent years. Kenya's overall literacy rate is 82%, compared to a world average of 86% (World Bank, 2020c). It is in the medium category on the Human Development Index, with a value of 0.579 and a ranking of 147 out of 189 (UNDP, 2019). Seventy-five percent of Kenyans have access to electricity (World Bank, 2020a) with a disparity of 71% in rural areas versus 84% in urban areas. However, Kenya is a country of extreme income inequality. The top 0.1% of Kenyans own more wealth than the bottom 99.9% (Oxfam, 2020).

In recent decades Kenya has made steady financial improvements, and in 2015 transitioned from a low-income to a lower-middle-income country (Rawal, Aslam and Outhred, 2018). GDP growth reached 5.7% in 2019, making it one of the fastest-growing economies in sub-Saharan Africa (World Bank, 2019). Kenya's GDP was expected to rise in 2020, however, with the impact of Covid-19, the projections are now uncertain.

3. Education system overview

The Kenya Ministry of Education, Science and Technology (MoE) derives its mandate from the Constitution of Kenya and is responsible for national policies and programmes that aim to help Kenyans access quality and affordable basic and tertiary education. The MoE is divided into four state departments:

1. Early Learning and Basic Education (pre-primary, primary, secondary and teacher education)
2. Vocational and Technical Training
3. University Education and Research
4. Post Training and Skills Development

The Cabinet Secretary and the principal secretaries of these four departments lead the MoE. Under the state departments, there are Semi-Autonomous and Autonomous Government Agencies (SAGAs) which are responsible for a variety of education roles. They are joined by the Teachers Service Commission (TSC), an independent constitutional commission that regulates the teaching service, in leading the education sector in Kenya. As a result of devolution, the national government shares responsibility for education with the county governments.

Figure 1. Functions of National and County Government. (Source: Ministry of Education, , 2018a)

"The Fourth Schedule of the Constitution of Kenya distributes functions between the

⁹ Kenya Vision 2030 (n.d.), as available at <https://vision2030.go.ke/>

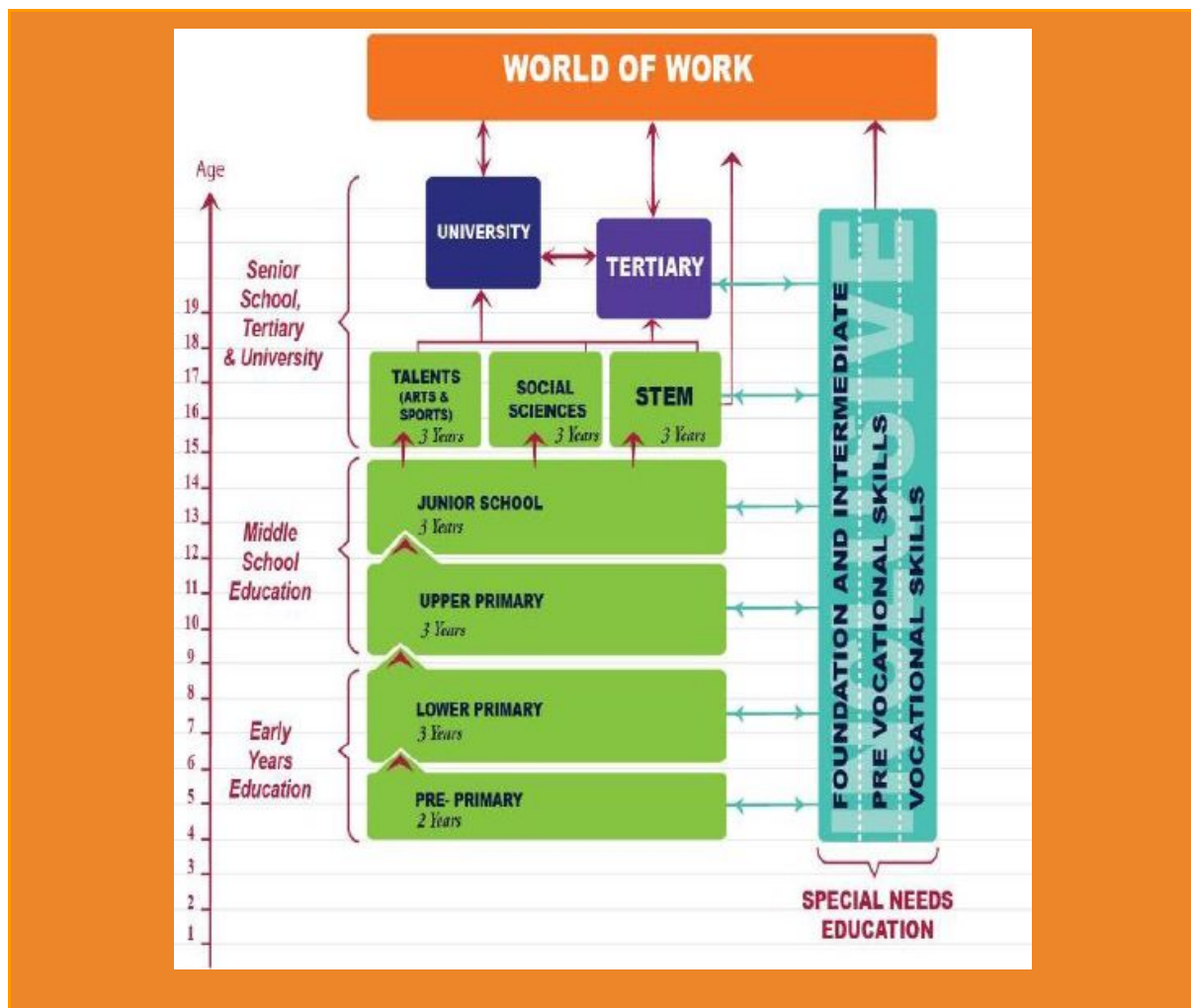
National Government and County Governments. The functions of the National Government are: education policy, standards, curriculum, examinations, granting of university charters, universities, tertiary educational institutions, institutions of research, higher learning, primary schools, special education, secondary schools, special education institutions and promotion of sports and sports education. The functions of the County Government in relation to education are pre-primary education, youth polytechnics, home craft centres, farmers training centres, and childcare facilities.”

Kenya’s education system is currently undergoing a transformation. In 1985, then-President Daniel Arap Moi introduced the 8-4-4 system. The name comes from the years spent in school: 8 years in primary, 4 years in secondary and 4 years of university education. The primary level assessment is the Kenya Certificate of Primary Education (KCPE) and the secondary level assessment is the Kenya Certificate of Secondary Education (KCSE). The 8-4-4 system was designed to promote self-reliance, with the introduction of practical skill-based subjects at all levels. However, due to implementation challenges, the focus of learning became exam preparation.

Critics of 8-4-4 felt that the system was too focused on performance during KCPE and KCSE. Both assessments were structured to ensure students could memorise facts instead of demonstrating understanding or ability.

In 2017, a new system of education was proposed, which would be called 2-6-3-3 or the Competency-Based Curriculum (CBC). The new system is similar to the British curriculum: 2 years of pre-primary, 6 years of primary (split into upper and lower primary), 3 years of lower secondary (middle school) and 3 years of upper secondary (senior school). Under the new system, KCPE and KCSE are being phased out and replaced by a focus on continuous assessment tests at early years, middle school and senior school.

Figure 2. The 2-6-3-3 Education System. (Source: Ministry of Education, Kenya, 2018b)



The government's spending on education dropped from 5.3% in 2018 to 5.2% in 2019 (UNDP, 2020). Despite a growing economy, Kenya's level of spending on education has gradually fallen each year since the early 2000s (Oxfam, 2020).

3.1. Education sector progress and challenges

Free primary education was introduced in 2003, and free secondary education in 2008 (Rawal, Aslam and Outhred, 2018). With these changes, gross enrollment rates have continued to increase with primary level reaching universal enrollment and secondary level moving above 70% in 2018. Gender parity improved to 0.97 at the primary level and to 0.95 at the secondary level (Ministry of Education, Kenya, 2018a). Additionally, Kenya has made it a priority to bring focus to learners with special needs and to introduce ICT and digital literacy as key competencies to be developed.

Although enrollment rates have increased, there are significant drop-offs at transition points. According to UNDP (2020), gross enrollment for primary level is 105% and the survival rate to the last grade of lower secondary general education is 81%. At the tertiary level, gross enrollment drops dramatically to 12% of the tertiary school-age population.

Additionally, there is substantial variation in enrollment rates across counties. Particularly in arid- and semi-arid land (ASAL) counties, access to education is limited and girls are often excluded. An estimated one million children are currently out of school in Kenya, mostly from ASAL counties (Ministry of Education, Kenya, 2018a).

Even when children are in school, they may be attending facilities with unsatisfactory infrastructure. Vision 2030 (2020) calls for improvement in basic education infrastructure through the construction or rehabilitation of nearly 50,000 classrooms and over 1,000 schools at the pre-primary, primary and secondary levels. The plan also requires the development of nearly 100 classrooms in rescue centres, special needs and specialised schools.

Quality of learning also remains a challenge. Assessments by the government and non-state actors show that achievement remains quite low, especially for girls, learners from low socio-economic status and students in ASAL counties (Ministry of Education, Kenya, 2018a). Qualified teacher shortages and poorly trained teachers are key contributing factors to low learning achievement. In 2018, TSC estimated a shortage of over 96,000 teachers in primary and secondary levels. That number is projected to rise to nearly 120,000 teachers by 2023 (Ministry of Education, Kenya, 2018a).

Figure 3. Learning gap for Kenyan children. (Source: Ministry of Education, Kenya, 2020)

Children in Kenya can expect to complete 10.7 years of pre-primary, primary and secondary school by age 18. However, when years of schooling are adjusted for quality of learning, this is only equivalent to 7.8 years — a learning gap of 2.9 years.

3.2. National Education Sector Strategic Plan 2018–2022

This National Education Sector Strategic Plan (NESSP) 2018–2022¹⁰ was developed by the Ministry of Education in partnership with the state departments, the Teacher Service Commission, the SAGAs in the Ministry of Education and non-state actors in the education sector in Kenya. The NESSP outlines the policy priorities for the education sector:

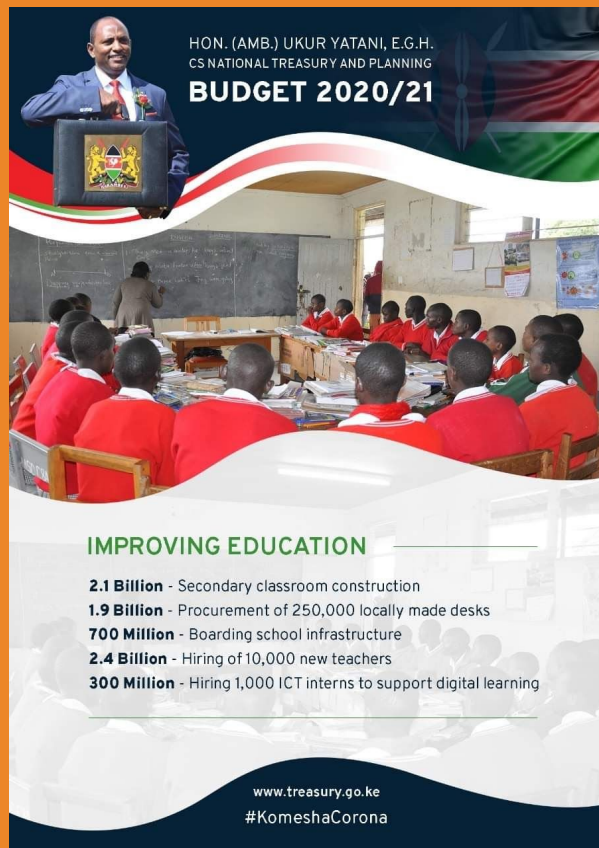
- to enhance access and equity;
- to provide quality and competency-based education, training and research;
- to strengthen management, governance and accountability;
- to enhance relevance and capacities for Science, Technology and Innovation (ST&I) in education, training and research for labour markets.

Figure 4. 2020 / 21 investments in education. (Source: The National Treasury and Planning, 2020)

On June 11, 2020, the Cabinet Secretary of the Ministry of Treasury and Planning released the government's budget for 2020 / 21. The budget calls for over seven

¹⁰ Ministry of Education, Kenya (2018a), as available at <https://www.education.go.ke/images/NESSP/NESSP-2018-2022.pdf>

billion Kenyan Shillings (approximately 70 million US dollars) to be invested in hiring teachers and improving school infrastructure.



4. EdTech policy and strategy

In this section, we describe Kenya's national ICT policy and include a brief look at the ICT in education policy.

4.1. National policy

The Constitution of 2010, the Basic Education Act of 2013, and the Vision 2030 Medium Term Plan 2018–2022¹¹ all lay the foundation for a national policy for education, including education powered by technology. In November 2019, the Ministry of Information, Communications and Technology (MoICT) released the National Information, Communications and Technology (ICT) Policy¹². The policy focuses on four key areas: Mobile First, Market, Skills and Innovation, and Public Service Delivery.

¹¹ The National Treasury and Planning (2018), as available at <http://vision2030.go.ke/inc/uploads/2019/01/THIRD-MEDIUM-TERM-PLAN-2018-2022.pdf>

¹² Ministry of Information, Communications and Technology, Kenya (2019), as available at <https://www.ict.go.ke/wp-content/uploads/2019/12/NATIONAL-ICT-POLICY-2019.pdf>

Under Skills and Innovation, Human Resource Development (6.3.4), the policy calls for every Kenyan to be “computer literate and able to profitably engage in the digital economy” (Ministry of Information, Communications and Technology, Kenya, 2019). The government commits to:

- integrating ICT at all levels of education;
- creating a nationwide e-Education system that supports schools;
- retraining and re-skilling of the current workforce on ICT;
- establishing educational networks for sharing educational resources and promoting e-learning;
- facilitating public-private partnerships to mobilise resources for e-learning initiatives.

In 2019, the MoE contributed to the creation of the Digital Economy Blueprint¹³, created by MoICT. The Blueprint identifies the five pillars of the digital economy:

1. Digital Government
2. Digital Business
3. Infrastructure
4. Innovation-Driven Entrepreneurship
5. Digital Skills and Values

Beyond digital literacy, the report argues for the development of intermediate and advanced technology skills for artificial intelligence, machine learning, robotics and big data among Kenyans. The report features case studies of leading technology education companies — Moringa School, AkiraChix, Andela and Tunapanda.

*Figure 5. Proposed draft value added tax (digital marketplace supply) regulations, 2020.
(Source: Kenya Revenue Authority, 2020)*

At the time of the writing of this brief (June 2020), the Kenya Ministry of Treasury and Planning has proposed a digital tax of 1.5% to be charged to all digital services, including any downloads of education content and online training. The digital community is resisting the idea, saying that it is counter to the country's digital and innovation agenda and will slow use of digital services. The EdTech community is similarly concerned. This tax would raise the cost to EdTech providers and impact the ability of consumers, especially those from low-income communities to access digital content.

¹³ Kenya Digital Economy (2019), as available at <https://www.ict.go.ke/wp-content/uploads/2019/05/Kenya-Digital-Economy-2019.pdf>

4.2. ICT in education policy

The MoE's current ICT in Education policy¹⁴ was created in 2006 and has yet to be updated. The strategy identifies strategic pillars for education sector ICT implementation:

- Establishment of a policy framework
- Digital equipment
- Connectivity and network infrastructure
- Technical support
- Harnessing emerging technologies
- Digital content development
- Integration of ICTs in education
- Training (capacity building including professional development)
- Research and development
- Partnerships and resource mobilisation
- Legal and regulatory framework
- Monitoring and evaluation

Even though the policy framework has not been updated, the government has continued to invest in and implement ICT integration programmes under the administration's Digital Learning Programme¹⁵ (DLP). An example is Digischool¹⁶, an initiative of MoE, MoICT and ICT Authority, which focuses on the integration of ICT into teaching and learning in primary schools. The expansion of Digischool for ICT integration into education is also referenced in the Vision 2030 Third Medium-Term Plan 2018–2022¹⁷.

Figure 6. ICT Authority 2020 innovation competition on digital solutions in education. (Source: ICT Authority, n.d.b)

The ICT Authority, together with partners, has released an open call for submissions for innovative solutions for areas addressed in the Digital Literacy Programme (DLP). The competition aims at encouraging local innovators to develop solutions for:

- Creation and sharing of additional content: cloud platforms
- Security of the devices and content

¹⁴ Ministry of Education, Kenya (2006b), as available at <http://nepadkenya.org/documents/MOE-ICT%20in%20Education.pdf>

¹⁵ Ministry of Education, Kenya (2006a), as available at <https://www.education.go.ke/index.php/programmes/digital-learning-programme>

¹⁶ ICT Authority (n.d.a), as available at <http://icta.go.ke/digischool/>

¹⁷ The National Treasury and Planning (2018), as available at <http://vision2030.go.ke/inc/uploads/2019/01/THIRD-MEDIUM-TERM-PLAN-2018-2022.pdf>

- Inclusivity in education — special needs education for learners and teachers
- Artificial Intelligence (AI) for learners and teachers

The winners of the Innovation Competition will be supported by the ICT Authority and its partners to develop their products for adoption by the DLP programme.

5. ICT infrastructure

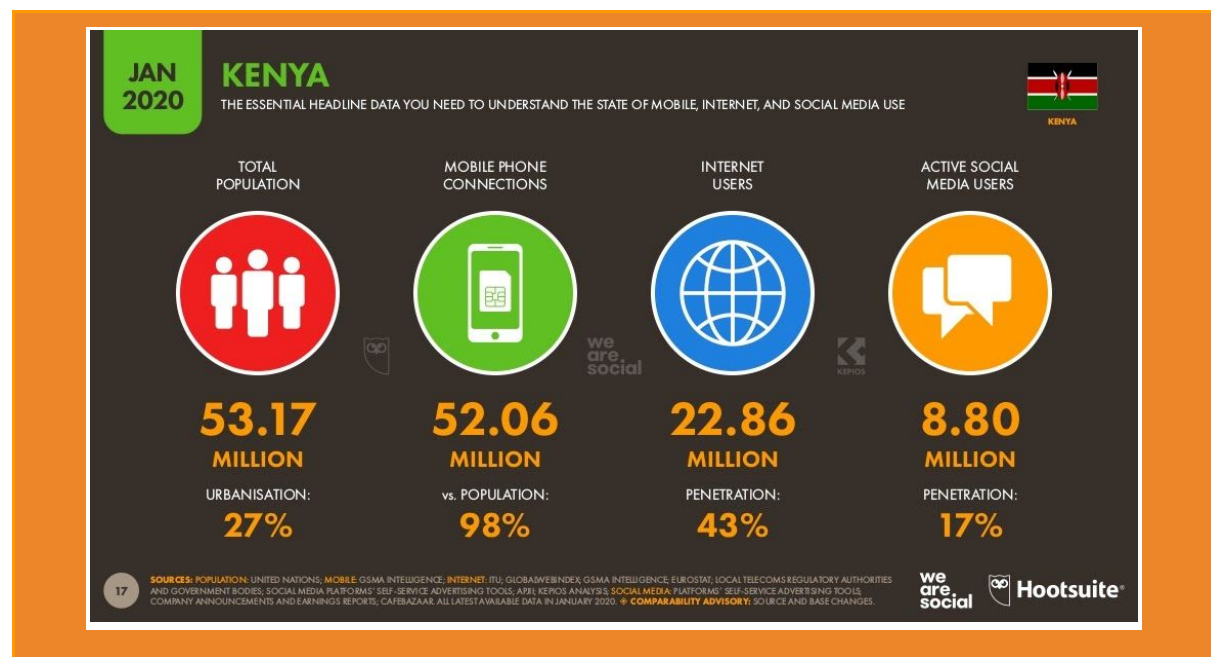
According to the Communications Authority of Kenya (2019), mobile penetration rates are high (98%) and continue to increase. In the last quarter of 2019, mobile subscriptions increased by 2.5%. Mobile money services are growing as well. The number of active, registered mobile money subscriptions stood at 28.9 million and the number of active, mobile money agents stood at 205,328.

Less than half of the population (43%) are using the internet from any device. The total International Internet bandwidth leased in the country increased by 16.1% and the total utilised bandwidth capacity increased by 80.3%.

Fixed telephone use is in decline in Kenya. In the last quarter of 2019, fixed telephone subscriptions reduced by 2.1% and fixed, voice-network traffic dropped by 4.9%.

Mobile services are expected to continue to increase as the government invests in closing the connectivity gaps.

Figure 7. Essential data on digital use in Kenya. (Source: DataReportal, 2020)



The Vision 2030 Third Medium Term Plan 2018–2022¹⁸ calls for the investment in infrastructure as an enabler of other sectors. It commits to the expansion of

¹⁸ The National Treasury and Planning (2018), as available at <http://vision2030.go.ke/inc/uploads/2019/01/THIRD-MEDIUM-TERM-PLAN-2018-2022.pdf>

infrastructure in road, rail, marine, air, energy and ICT. Specifically, it calls for increased power generation, last-mile connectivity, and the expansion of the National Optic Fibre Backbone Infrastructure to education centres at the sub-county level.

Additionally, the government of Kenya through Kenya Power (KPLC) is intent on ensuring electricity to all. The Last Mile Connectivity Programme, launched in 2015, targets universal access to electricity by 2020, including the electrification of all Public Primary Schools (Kenya Vision 2030, n.d.)

6. Key partners and initiatives in EdTech

This section looks at the work and roles and responsibilities of key partners with regard to EdTech in Kenya, including government and non-governmental agencies, as well as EdTech initiatives.

6.1. Government agencies and semi-autonomous government agencies (SAGAs)

In 2015, the Ministry of Education launched its flagship Digital Learning Programme, dubbed DigiSchool¹⁹. The purpose of DigiSchool is to align integrations of ICT into teaching and learning for primary school pupils. The components of the digital learning programme include:

- improvement of ICT infrastructure;
- development of digital content;
- capacity building of the teachers;
- procurement and assembly of ICT devices.

Table 2 describes the contributions of government ministries and semi-autonomous government ministries and agencies to the Digital Learning Programme through policy, content or teacher-training initiatives.

Table 2. Government agencies and SAGAs impacting EdTech in Kenya

Ministry / Agency	Roles and responsibilities in EdTech
Kenya Institute for Curriculum Development²⁰ (KICD)	<ul style="list-style-type: none"> • Responsible for the approval of curriculum for all learners in pre-primary, primary and secondary public education, including any private EdTech products or tools to be used by public schools. • Leading remote-learning efforts during Covid-19 school closures, including interventions via radio, TV and online.
Teacher Service Commission	<ul style="list-style-type: none"> • Independent constitutional commission that regulates

¹⁹ ICT Authority (n.d.), as available at <http://icta.go.ke/digischool/>

²⁰ Kenya Institute of Curriculum Development (2020), as available at <https://kicd.ac.ke/>

²¹ (TSC)	<p>the teaching service in Kenya.</p> <ul style="list-style-type: none"> • In partnership with the Ministry of ICT, TSC designed the online Elimika²² ICT integration course for teachers, • as part of the Kenya Education Cloud.
Kenya National Examination Council²³ (KNEC)	<ul style="list-style-type: none"> • Develops national examinations: Kenya Certificate of Primary Education (KCPE) and Kenya Certificate of Secondary Education (KCSE) levels, as well as teacher examinations. • Contributes to national policy and Covid-19 response plans on assessment of skills for digital literacy and distance learning.
Kenya Education Management Institute²⁴ (KEMI)	<ul style="list-style-type: none"> • Develops the management capacity of all personnel involved in education management and training. • Provides courses on ICT integration for education managers.
Kenya Institute of Special Education²⁵ (KISE)	<ul style="list-style-type: none"> • Facilitates service provision for persons with special needs through human capital development, research, functional assessment, rehabilitation, inclusive education practices, technology and production of learning and assistive materials. • Trains teachers on digital and remote learning for learners with special needs.
Centre for Mathematics, Science and Technology Education in Africa²⁶ (CEMASTEa)	<ul style="list-style-type: none"> • Provides continuous professional development of teachers in STEM education. • In-service training for teachers on technology education.
Ministry of ICT²⁷	<ul style="list-style-type: none"> • MoE will work with the Ministry of ICT to establish new partnerships with faith-based, community and privately owned TV providers to include EDU TV in their

²¹ Teachers Service Commission (2020), as available at <https://www.tsc.go.ke/>

²² Kenya Education Cloud (2019), as available at <https://elimika.kec.ac.ke/>

²³ Kenya National Examination Council (2018), as available at <https://www.knec.ac.ke/>

²⁴ Kenya Education Management Institute (n.d.), as available at <https://kemi.ac.ke/>

²⁵ Kenya Institute of Special Education (2020), as available at <https://www.kise.ac.ke/>

²⁶ Centre for Mathematics, Science and Technology Education in Africa (2020), as available at <https://www.cemastea.ac.ke/index.php>

²⁷ Ministry of Information, Communications and Technology, Innovation and Youth Affairs (2019), as available at <https://ict.go.ke/>

	subscription packages.
Information and Communication Technology Authority²⁸ (ICTA)	<ul style="list-style-type: none"> • Works in partnership with the Teacher Service Commission (TSC) to train teachers. • During and beyond Covid-19, ICTA and TSC will review the existing training content to expand it to reflect new roles for the teachers in supporting remote learning (online and distance learning) (Ministry of Education, Kenya, 2020).
Kenya Broadcasting Corporation²⁹ (KBC)	<ul style="list-style-type: none"> • KBC is the state-run media organisation in Kenya. • During Covid-19, KBC is broadcasting KICD's approved content for learners at primary and secondary levels.

Figure 8. Challenges of the Digital Learning Programme. (Source: Kenya Open Data³⁰, 2020)

The Digital Learning Programme (DLP) is designed to bring devices, content and new pedagogical approaches to public primary schools across Kenya. Each student is issued a Windows-based tablet loaded with KICD-approved content, and the teacher receives a laptop to control the classroom devices. Through DLP, nearly 20,000 schools have received over one million devices (ICT Authority, n.d.). However, the implementation has been fraught with challenges. Adoption by teachers has been slow and materials are not being utilised.

6.2. Non-governmental organisations

Private sector companies, especially telecommunication and technology companies, make important contributions to the EdTech space in Kenya. Additionally, there are a number of key initiatives supported by non-governmental organisations that contribute to greater connectivity and the acceleration of EdTech products being used in schools and homes.

Table 3. Non-governmental partners enhancing EdTech in Kenya

Organisation	Details
Safaricom³¹	<ul style="list-style-type: none"> • Provides subsidised access to Eneza's SMS revision content. • During Covid-19, partnered with Eneza Education,

²⁸ ICT Authority (n.d.), as available at <http://icta.go.ke/>

²⁹ Kenya Broadcasting Corporation (2017), as available at <https://www.kbc.co.ke/>

³⁰ ICT Authority (n.d.), as available at <http://www.opendata.go.ke/pages/digischool>

³¹ Safaricom (n.d.), as available at <https://www.safaricom.co.ke/>

	Longhorn Publishers and Viusasa to provide free access to educational content for primary and secondary school students studying from home.
Liquid Telecom Kenya³²	<ul style="list-style-type: none"> Supports a number of initiatives to connect schools to the internet, and to train teachers on the use of technology in learning.
Telkom Kenya³³ & Loon³⁴	<ul style="list-style-type: none"> Telkom Kenya, Kenya's first telecommunications provider, and Loon, a subsidiary of Alphabet (Google's parent company) launched high-altitude broadband connectivity balloons in Kenya in April 2020 following approval by the Kenyan government (Buckholtz, 2020).
Microsoft³⁵	<ul style="list-style-type: none"> Supported the development of Kenya's Education Cloud.
Kenya Publishers Association³⁶ (KPA)	<ul style="list-style-type: none"> The Government has partnered with KPA to make available free electronic copies of core textbooks on the Kenya Education Cloud for all students.
The Mastercard Foundation Centre for Innovative Teaching and Learning in ICT³⁷	<ul style="list-style-type: none"> Although based in Rwanda, the Centre launched a fellowship in February 2020 that supports EdTech entrepreneurs from across the African continent who are based in or expanding into East Africa. Four of the 12 inaugural fellows are Kenyan EdTech companies.
World Bank Kenya Off-Grid Solar Access Project³⁸ (KOSAP)	<ul style="list-style-type: none"> KOSAP is targeting school facilities not served by the national grid to provide mini-grids and stand-alone solar systems. Under the digital learning programme (DLP) the Government aims to connect all primary schools with electricity (approximately 200 schools).

³² Liquid Telecom Kenya (2020), as available at

<https://www.liquidtelecom.com/local-offices/country/kenya>

³³ Telkom Kenya Limited (2019), as available at <https://telkom.co.ke/>

³⁴ Loon (2020), as available at <https://loon.com/>

³⁵ Microsoft (2020), as available at <https://www.microsoft.com/>

³⁶ Kenya Publishers Association (2019), as available at <https://kenyapublishers.org/>

³⁷ Mastercard Foundation (2019), as available at <https://mastercardfdn.org/our-approach/>

³⁸ World Bank (2020b), as available at <https://projects.worldbank.org/en/projects-operations/project-detail/P160009>

6.3. EdTech initiatives

Kenya's EdTech ecosystem is one of the most vibrant in Africa. There are numerous initiatives being led by local and global organisations. The initiatives featured below are a subset that specifically target primary- and secondary-level learners, and have already achieved large-scale impact.

Table 4. EdTech Initiatives in Kenya

Initiative	Details
Content and Training Providers	
Tusome National Tablets Program ³⁹	<p>Overview: Tusome Early Grade Reading Activity is designed to dramatically improve primary literacy outcomes for Kenyan children in grades 1–3 through enhancing teachers' capacity to effectively deliver classroom instruction. The National Tablets Program is integrated into the Tusome activity by providing tablets to instructional coaches to use when they visit teachers. Tablets include classroom observation and instructional coaching tools.</p> <p>Target group: Instructional coaches of primary school teachers.</p> <p>Technology: Tablets</p> <p>Reach / scale: 1200+ instructional coaches; 3.4m children per year, 7+ million children total.</p> <p>Implementing organisations: RTI, WERK, Worldreader, Dalberg-Global Development Advisors, with funding from USAID and DFID.</p> <p>Government partners: Ministry of Education</p> <p>Status of implementation: Ongoing</p>
Eneza Education ⁴⁰	<p>Overview: Eneza offers a feature-phone based learning platform that allows users to access lesson programmes and ask teachers clarifying questions through SMS.</p> <p>Target group: Students and teachers living in rural and marginalised communities where it can be a challenge to access teaching and learning resources that are aligned with the national curriculum.</p> <p>Technology: Eneza delivers supplementary learning and revision</p>

³⁹ RTI International (2016), as available at <https://www.rti.org/impact/tusome-early-grade-reading-activity>

⁴⁰ Eneza Education (2019), as available at <https://enezaeducation.com/>

	<p>materials to students via feature phones.</p> <p>Reach / scale: Over five million learners are accessing Eneza Education in Kenya.</p> <p>Implementing organisations: Eneza Education in partnership with Safaricom.</p> <p>Government partners: n/a</p> <p>Status of implementation: Ongoing</p>
Ubongo⁴¹	<p>Overview: Ubongo creates localised and multi-platform educational media.</p> <p>Target group: Early childhood, pre-primary, primary learners.</p> <p>Technology: TV, radio, YouTube, mobile app, ebook, interactive voice response (IVR).</p> <p>Reach / scale: Over two million learners on TV and over two million learners on YouTube.</p> <p>Implementing organisations: Ubongo in partnership with Inooro TV, Pillar TV, Switch TV, NTV Kenya, K24, Kirk TV.</p> <p>Government partners: KICD (integrated into EDU TV channel).</p> <p>Status of implementation: Ongoing</p>
e-Limu⁴²	<p>Overview: Mobile-app based learning with videos and games to support literacy development. e-Limu also provides teacher training.</p> <p>Target group: Primary school learners and refugees.</p> <p>Technology: Mobile app</p> <p>Reach/scale: For KCPE revision, 420,000 users in 2019 (500,000 projected for 2020) with an average of 4,000 users per day; 51,000 users on English and Kiswahili literacy apps.</p> <p>Implementing organisations: e-Limu</p> <p>Government partners: n/a</p> <p>Status of implementation: Ongoing</p>
eKitabu⁴³	<p>Overview: eKitabu creates low-cost, accessible, quality digital content.</p> <p>Target group: Primary and secondary learners, students with</p>

⁴¹ Ubongo (n.d.), as available at <https://www.ubongo.org/>

⁴² eLimu (2020), as available at <https://e-limu.org/>

⁴³ eKitabu (n.d.), as available at <https://www.ekitabu.com/>

	<p>special needs.</p> <p>Technology: Designed for mobile or web apps, and runs on all major platforms including Android, Windows, Mac, and Linux.</p> <p>Reach / scale: Over 1,500 schools across all 47 counties of Kenya.</p> <p>Implementing organisations: eKitabu</p> <p>Government partners: Provided digital content for GoK's Digischool.</p> <p>Status of implementation: Ongoing</p>
Kukua⁴⁴	<p>Overview: Kukua creates educational mobile games to teach literacy and maths skills to primary-school-aged learners.</p> <p>Target group: Primary school learners</p> <p>Technology: Mobile and web app, YouTube, TV</p> <p>Reach / scale: ~200,000 users on apps and YouTube</p> <p>Implementing organisations: Kukua</p> <p>Government partners: n/a</p> <p>Status of implementation: Ongoing</p>
Kytabu⁴⁵	<p>Overview: Kytabu offers a complete Education suite that includes a school management system tied to a teachers', parents' and students' mobile application.</p> <p>Target group: Primary and secondary schools</p> <p>Technology: Software, mobile app, web app</p> <p>Reach / scale: Over 22,000 students in 57 schools, and 14,000+ parents.</p> <p>Implementing organisations: Kytabu, in partnership with schools, publishers, Kenya Private Sector Association.</p> <p>Government partners: n/a</p> <p>Status of implementation: Ongoing since 2012</p>
Longhorn Publishers⁴⁶ e-Learning Platform	<p>Overview: The e-Learning platform is uniquely developed to deliver personalised e-Learning items in various digital formats to the schooling generation.</p>

⁴⁴ Kukua Education (n.d.), as available at <https://www.kukua.me>

⁴⁵ Kytabu Company Ltd (2020), as available at <https://kytabu.africa/>

⁴⁶ Longhorn Publishers PLC (n.d.), as available at <https://elearning.longhornpublishers.com/>

	<p>Target group: Primary and secondary school learners</p> <p>Technology: Web app, mobile app, SMS, YouTube channel</p> <p>Reach / scale: 200,000 learners and 250+ schools</p> <p>Implementing organisations: Longhorn Publishers, with zero rating support from Safaricom.</p> <p>Government partners: n/a</p> <p>Status of implementation: Ongoing</p>
M-Shule⁴⁷	<p>Overview: M-Shule is the first adaptive, mobile learning management platform designed to improve performance for millions of primary school students across Kenya and sub-Saharan Africa.</p> <p>Target group: Primary school learners</p> <p>Technology: Feature phones / SMS interface</p> <p>Reach/scale: 6000+ users, 1000 monthly</p> <p>Implementing organisations: M-Shule in partnership with schools and CBOs.</p> <p>Government partners: n/a</p> <p>Status of implementation: Ongoing</p>
Worldreader	<p>⁴⁸Overview: Worldreader works with partners to address this crisis by bringing digital books to millions of children and youth.</p> <p>Target group: Students in underserved communities and from marginalised backgrounds, including learners in informal settlements, refugee camps, disadvantaged women and girls, and students with special needs.</p> <p>Technology: e-reader, mobile phones</p> <p>Reach/scale: Over 90,000 mobile and e-book readers in Kenya.</p> <p>Implementing organisations: Worldreader Kenya works in partnership with schools, children's homes, libraries, refugee camps and community organisations.</p> <p>Government partners: n/a</p> <p>Status of implementation: Ongoing</p>

⁴⁷ M-Schule LTd (2018), as available at www.m-shule.com

⁴⁸ Worldreader (2020), as available at <http://www.worldreader.org/>

Arifu ⁴⁹	<p>Overview: Arifu is a chatbot platform for engaging, training and capturing insights on important and hard-to-reach audiences.</p> <p>Target group: Learners and families without access to the internet.</p> <p>Technology: Feature and smartphones</p> <p>Reach/scale: 850,000+ users on the platform</p> <p>Implementing organisations: During Covid-19, Arifu is working with Metis to reach households without internet to provide home learning guides via feature phone; works with additional corporate and NGO partners.</p> <p>Government partners: n/a</p> <p>Status of implementation: Ongoing</p>
onebillion ⁵⁰	<p>Overview: onebillion combines onetab, a durable tablet that can be solar-powered, with onecourse, educational software proven to increase literacy and numeracy.</p> <p>Target group: Rural communities and schools</p> <p>Technology: Tablet and software</p> <p>Reach/scale: 500 learners in Kenya, over 1.6 million worldwide.</p> <p>Implementing organisations: Vibrant Village Foundation</p> <p>Government partners: n/a</p> <p>Status of implementation: Initial project ran from 2018–2019; no current projects in Kenya.</p>
Tunapanda ⁵¹	<p>Overview: Tunapanda works to bridge digital divides. TunapandaNET is a low-cost community wireless network whose goal is to build a digital ecosystem in education, health and business. Tech Dada is a programme of the Tunapanda Institute which aims to promote digital inclusion for young women in Kenya.</p> <p>Target group: Low-income communities and girls</p> <p>Technology: Hardware, software</p> <p>Reach/scale: 20 partners, 9 partner schools, over 600 students.</p> <p>Implementing organisations: Tunapanda, with three open-source license replications.</p>

⁴⁹ Arifu (n.d.), as available at <http://www.arifu.com/>

⁵⁰ Onebillion (n.d.), as available at <https://onebillion.org/>

⁵¹ Tunapanda (n.d.), as available at <https://tunapanda.org/>

	<p>Government partners: n/a</p> <p>Status of implementation: Ongoing</p>
Intermediaries	
Metis Collective ⁵²	<p>Overview: Metis runs a fellowship for local education leaders, including EdTech entrepreneurs.</p> <p>Target group: Entrepreneurs and Intrapreneurs</p> <p>Technology: In-person and online programmes, Whatsapp groups.</p> <p>Reach / scale: Metis has run intensive learning programmes for three cohorts of leaders (approximately 65 individuals, representing over 40 organisations in East Africa).</p> <p>Implementing organisations: Metis</p> <p>Government partners: n/a</p> <p>Status of implementation: Ongoing; embracing digital learning for cohort 4.</p>
EdTech East Africa ⁵³	<p>Overview: Based in Nairobi, EdTech East Africa is a network of EdTech entrepreneurs, teachers, students, parents, school leaders, researchers, policymakers, funders and technologists</p> <p>Target group: EdTech community.</p> <p>Technology: In-person and online meetups and programmes (Zoom, Meetup.com, Whatsapp).</p> <p>Reach / scale: Over 3,300 members across the region, with the majority being based in Kenya.</p> <p>Implementing organisations: EdTech East Africa, in partnership with Education Design Unlimited and Mastercard Foundation (hosting monthly #EdTechMondaysKE conversations).</p> <p>Government partners: n/a</p> <p>Status of implementation: Ongoing</p>

⁵² Metis (n.d.), as available at <https://metiscollective.org/>

⁵³ EdTech East Africa (2017), as available at <http://edtecheastafrica.com/>

7. The Government of Kenya education sector response to Covid-19

On March 16, 2020, the Government of Kenya announced the closure of all schools, colleges, and universities to prevent any further spread of Covid-19 following the identification of the country's first positive cases. The shutdown has affected approximately 18 million learners in pre-primary, primary and secondary, including 150,000 refugees.

In May 2020, the MoE State Department of Early Learning and Basic Education issued the Kenya Basic Education COVID-19 Response Plan⁵⁴ to provide guidance for continuity of learning during school closures and the transition back to school after the pandemic has subsided. The plan aims to:

- provide access to quality, equitable and inclusive education to learners during and after the crisis to ensure continued learning
- to facilitate the production of online teaching and learning materials, and to expand existing distance learning programmes
- train teachers to effectively support distance learning, including monitoring and assessment
- develop, and implement intervention programmes targeting the marginalised and most vulnerable learners especially the girls and learners with special needs
- to provide psychosocial support to learners, teachers, education officials and other stakeholders.

KICD has been leading the learning continuity efforts with radio, TV and digital interventions for students and teachers. They are partnering with several private EdTech providers like Ubongo to provide additional content where gaps exist.

However, questions remain about whether learning is really happening through these efforts. According to UWEZO (2020), 2 out of 10 parents were not aware that their children should continue learning remotely from home. It is widely accepted that schools and teachers are not yet equipped with the skills needed to effectively execute distance learning, especially at the pre-primary and primary level.

On June 6, 2020, the President announced that schools will reopen on September 1, 2020. The Ministry of Education is charged with ensuring schools are ready to reopen with appropriate safety measures and that plans exist to close learning gaps. On June 18, 2020, the Education Cabinet Secretary George Magoha communicated that KCSE and KCPE exams will be conducted in April 2021 if schools are reopened by September. However, with Covid-19 cases and deaths on the rise, the government is unsure if the reopening will happen in September as originally planned.

⁵⁴ State Department of Early Learning and Basic Education, Kenya (2020), as available at https://www.education.go.ke/images/Kenya_basic_Education_COVID-19_Emergency_Response_Plan-compressed.pdf

8. Looking Ahead

Kenya has an opportunity to build upon lessons learnt during the Covid-19 to build a stronger, more resilient education system that is powered by technology. With continued investments in infrastructure and last-mile connectivity, more students, parents, teachers and school leaders will be able to access high-quality, tech-enabled learning experiences. Through creative multi-sectoral partnerships, Kenya can remove the barriers to accessing EdTech resources and decrease the digital divide. There is an opportunity for the government to engage with the private EdTech community to support teacher capacity building for both pre- and in-service teachers.

9. Further Reading

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