

# EDUCATION ALERT



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## BRIDGING THE ICT FACILITIES GAP IN GHANA'S PUBLIC BASIC EDUCATION SYSTEM: A FUNDAMENTAL STEP TOWARDS DIGITAL LITERACY

### The SDG 4 and Digital Literacy

The Sustainable Development Goal (SDG) 4 enjoins nations to work towards Universal Basic Education Completion with relevant learning outcomes. The target requires all children of basic school-going age to enrol and complete the full course of basic education with relevant learning outcomes in numeracy, literacy, critical thinking and most importantly, Digital Literacy (DL), a 21<sup>st</sup> Century skill.

At the basic level, DL equips children with the skills needed to interact with technology safely and responsibly, and prepares them to navigate the ever-evolving digital world, where communication, learning, and work, increasingly rely on technology. Digital Literacy is also critical in moulding global citizenship out of children, even as the world becomes rapidly technological. To wit, DL is not just a skill, but a foundation and facilitator of other 21<sup>st</sup> Century Skills.

### Operationalising DL in Ghana's basic schools

As Ghana pursues SDG 4, DL has been adopted as one of the Core Competencies in the current Standards Based Curriculum introduced in basic schools 5 years ago by the Ministry of Education through the National Council for Curriculum and Assessment (NaCCA). Ghana's basic education system comprises a 2-year Pre-Primary (Kindergarten 1-2), a 6-year Primary (Basic 1-6) and a 3-year Junior High School (JHS) referred to as Basic 7-9.

In pursuit of DL, in 2019, Computing was introduced as a compulsory subject from Basic 4 to 9 with the aim of helping learners to acquire basic ICT literacy; communicate effectively using Information Communication Technology (ICT) tools, develop interest and acquire skills in the use of the internet, develop basic ethics in using ICT tools, and acquire basic programming and database skill<sup>1,2</sup>. Dwelling from the aim of the Computing subject, teaching Computing effectively, invariably requires the availability of ICT facilities, especially a computer laboratory with internet, in every school.

<sup>1</sup> NaCCA, Ministry of Education (2019). Computing Curriculum for Primary Schools (Basic 4-6)

<sup>2</sup> NaCCA, Ministry of Education (2019). Computing Common Core Programme Curriculum

## State of ICT facilities

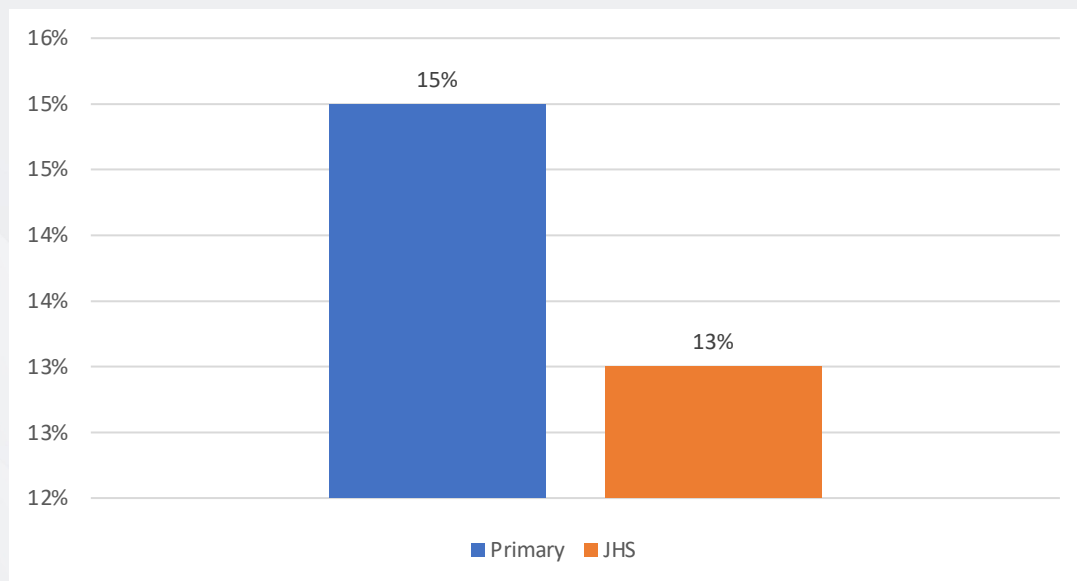
In the last two decades, the Government of Ghana has championed the use of ICT in education for improved educational outcomes. Past and current Education Strategic Plans [(2003-2015), (2010-2020), (2018-2030)] identify the need for ICT in education to help achieve the objectives of the Plan<sup>3</sup>. The current Strategic Plan (2018-2030) targets 60 per cent of primary schools to have computers and internet, with 80 per cent for JHS by 2030.

In the medium-term, the Plan targets to, by 2026, provide 50 per cent of primary schools and 70 per cent of JHS with ICT and internet facilities. While the targets are too low and inequitable, suggesting it is excusable for up to 40 per cent of public basic school children to be denied access to ICT facilities with internet by 2030, thereby excluding them from the global DL agenda, even reaching these low targets, has been challenging for the government.

By the end of the 2022/2023 academic year, only 15 per cent of the 15,368 primary schools in the public sector, and 13 per cent of the 11,735 public JHS had functioning ICT facilities<sup>4</sup>, as presented in Figure 1. Positioning Ghana's basic education system to deliver DL to all, regardless of geographical location requires providing direct access to ICT facilities for about 13,000 primary schools and 10,000 more JHS.

Digital Literacy at the basic education level was one of the challenging education indicators for Ghana in the recently published Global Youth Development Index, which Ghana reportedly ranked 125 out of 183 countries<sup>5</sup>, with the lack of functioning ICT facilities in most of its public basic schools being a causative factor.

Figure 1: Percentages of public Primary and JHS with functioning ICT facilities



Source: Ministry of Education, 2023.

<sup>4</sup> EMIS 2022/23, Ministry of Education

<sup>5</sup> Global Youth Development Index Update Report 2023 | Commonwealth (thecommonwealth.org)

## Why is the ICT facilities gap so wide?

While policies like the ICT for Accelerated Development (2003), the ICT in Education Policy (2012), among other interventions to supply laptops to basic schools, and train teachers in ICT were introduced, poor implementation, has today, culminated in majority of public basic schools not having ICT facilities.

ICT facilities do not spring up in a vacuum without the requisite school infrastructure. Traditionally, the design of Primary and JHS do not include ICT laboratories. They are either 6-Unit classroom blocks or 3-Unit JHS blocks with head teachers' office or a teacher's common room. Exclusive physical spaces for ICT facilities is therefore an exception than the norm in public basic school infrastructure architecture.

Besides the lack of ICT integration in the design of existing basic school infrastructure, there are many schools without school buildings. These include the 5,403 basic schools under trees, sheds and dilapidated structures which after mapping in 2017, the Ministry of Education undertook to eliminate, in partnership with the Volta Aluminium Company (VALCO) Trust Fund by 2025. Till date, less than 100 have been constructed under the partnership. Until all 5,403 schools under trees, sheds and dilapidated structures are given befitting concrete buildings, it would be pre-mature and risky to provide permanent ICT facilities.

Reliable and stable energy is critical for powering ICT facilities. Even though national electricity coverage exceeds 80 per cent in Ghana, only 44 per cent of primary schools and 63.9 per cent of JHS had access to electricity by 2020<sup>6</sup>. The situation is worse in deprived districts and better in urban and peri-urban areas. For instance, the average rate of electricity access by basic schools in endowed districts is 89 per cent, while that of deprived districts is 47 per cent<sup>7</sup>.

There is the case of some schools existing in communities with electricity connectivity, yet not connected to the national grid. This is either because connectivity was not part of the contract for the construction of the school, or the school was built before electricity access was extended to the community. All these feed into the slow annual growth in electricity access in public basic schools, which has averaged one percent between 2017 and 2020; a rate too slow to advance the attainment of the government's DL agenda by 2030.

Even for some schools with electricity connectivity in urban and peri-urban areas, fund for the procurement of pre-paid electricity credits is an issue due to the delayed disbursement of the Capitation Grant. School heads, subject to the availability of funds, personally pre-financed electricity bills. Where school heads are unable to pre-finance electricity bills, access to power supply was zero even with connectivity<sup>8</sup>.

The Capitation Grant used in running basic schools, apart from being in arrears spanning two academic years, has remained at GHC 10 per pupil since 2018, losing over 190 per cent of its value to inflation over the period 2018-2024. Beyond procurement of ICT facilities, there is the need to build systems to operationalize ICT facilities; and this includes adequate and timely disbursement of the Capitation Grant.

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<sup>6</sup> EMIS 2019/2020, Ministry of Education

<sup>7</sup> CDD (2022). Review of the Education Sector Medium Term Development Plan (ESMTDP) 2018-2021

<sup>8</sup> Review of the Education Sector Medium Term Development Plan (ESMTDP) 2018-2021 (Field notes from Ledzekuku Municipal, Greater Accra Region.

Maintenance and security systems are essential to the sustainability of ICT facilities and investments in basic schools. The poor maintenance culture in Ghana's basic schools, is underpinned by the lack of maintenance benchmarks in school management and supervision. Often, external supervision of basic schools is restricted to teaching and learning practices rather than extending it to the maintenance of Teaching and Learning Resources (TLRs), including ICT facilities. Related to this, is the lack of maintenance budget lines to service broken down facilities.

Beyond the one-year manufacturer's warranty, the Ghana Education Service (GES) has not demonstrated any capacity to provide school level funding to service or maintain ICT equipment and other TLRs, making maintenance a mirage. Until maintenance of TLRs, including ICT equipment is budgeted for, mainstreamed into school management policies, and made a Key Performance Indicator (KPI) for school managers, regularly appraised by School Improvement and Support Officers (SISO), otherwise known as Circuit Supervisors, with relevant administrative sanctions and rewards, ICT facilities, even when procured will never last.

The issue of security is of equal relevance to the sustainability of ICT investments in basic schools. Unlike secondary schools, where there are security staff, basic schools have no system for engaging security staff. In rare instances, security men are engaged either by local community or the founding religious body of the school. Without security in basic schools, miscreants in the community and without, knowing the value of ICT facilities will make schools targets for burglary activities. The examples of laptops and textbooks stolen from the stores of public basic schools is trite knowledge.

## **Recent developments**

In response to the challenges, the Ministry of Education has proposed a cluster-based approach in providing access to ICT facilities to deliver DL, where it is piloting the construction of 21<sup>st</sup> Century JHS with ultramodern ICT facilities to accommodate a cluster of JHSs in an area. While the full operational details are yet to be published by the Ministry and analysed for effectiveness, it only appears to try solving the problem at the JHS level, without addressing the ICT facilities gap in primary schools.

In otherwards, how will Computing be effectively taught and learnt in public primary schools without ICT facilities, and what would be the implications on widening education inequality between the public and private schools, as almost every private school boasts of an ICT facility?

## **Conclusion**

Ghana's recognition of DL as a vital cog in the wheel for producing globally competitive skills for the 4th Industrial Revolution is in order, manifesting in the introduction of Computing as a subject in Primary and JHS, as part of the new Standards Based Curriculum. However, the lack of ICT facilities with internet in over 85 per cent of public basic schools means no effective teaching and learning in Computing can take place, a situation that continues to widen the already existing quality gap between deprived and endowed public basic schools on the one hand, and public versus private basic schools on the other hand.

The targets to provide ICT facilities in 50 per cent of primary schools and 70 per cent of JHS by 2026; increasing to 60 per cent of primary schools and 80 per cent of JHS by 2030 are likely to be missed, inhibiting Ghana's DL agenda, if radical efforts are not deployed in the next six (6) years to ensure all basic schools have access to ICT facilities, including reliable internet.

## Way forward

**Political party manifestos for election 2024:** As election 2024 beckons, the political parties must take note of the ICT facilities deficit in their strategies for 2025-2028. In doing so, strategies should aim to provide security, maintenance budgets and systems, and ICT facilities at the primary and JHS level.

**Provide ICT facilities in all existing basic schools:** While it is cost-efficient to have a common ICT laboratory for the primary and JHS, in the 4,000 primary schools without JHS, ensure all have ICT facilities. The provision of ICT facilities should be complemented with reliable internet procured directly from major internet service providers, with clear KPIs on quality service delivery for accountability.

**GES to introduce maintenance and security budgets for basic schools:** The GES, as part of preparations for the piloting of the 21<sup>st</sup> Century Schools must provide security and maintenance budgets for schools and mainstream the management of ICT facilities into the KPIs of school heads, while ensuring annual ICT audits are undertaken by the District Education Office for the necessary action. The above recommendation, which requires an increase in the Capitation Grant, should be anchored on an ICT facility management policy for schools.

**GES and local governments to collaborate on electricity access to basic schools:** The GES should provide funds through the Capitation Grant for the payment of electricity bills of basic schools. For existing schools in communities with electricity access, local governments should work with the local communities to extend electricity connectivity to the schools.

**Ministry of Education to construct decent schools to replace schools under trees:** The construction of decent school infrastructure to replace the over 5,000 schools under trees, sheds and dilapidated structures is crucial to the provision of ICT facilities and the advancement of DL to every Ghanaian child in basic school. VALCO Trust Fund has since 2021 showed financial incapacity to fund the construction of the schools under trees. There is the need for prioritised Ghana Education Trust Fund allocations by the government to ensure that by the end of the medium term 2022-2025, majority of these deprived primary and JHS have decent infrastructure to accommodate ICT facilities.

**Ministry of Education to re-design and enforce basic school architecture:** The Ministry of Education must adopt a basic school design which integrates ICT rooms at the primary and JHS level and ensure every basic school infrastructure procurement entity adopts the design. This should be done in close collaboration with the local governments, development authorities and the non-state corporate actors in the infrastructure space.



**Government to facilitate the establishment of a local ICT equipment assembly plant:** ICT facilities are usually imported, putting pressure on the local currency, amid high unsustainable cost. It is recommended that the Ministries of Education and Communications collaborate with the private sector to facilitate the establishment of an ICT assembly plant to serve the education sector and beyond.

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