ICT in Education in Ghana

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Source: *World Fact Book*[1]

Please note:

This short *Country Report*, a result of a larger *info*Dev-supported *Survey of ICT in Education in Africa*, provides a general overview of current activities and issues related to ICT use in education in the country. The data presented here should be regarded as illustrative rather than exhaustive. ICT use in education is at a particularly dynamic stage in Africa; new developments and announcements happening on a daily basis somewhere on the continent. Therefore, these reports should be seen as "snapshots" that were current at the time they were taken; it is expected that certain facts and figures presented may become dated very quickly.

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Overview

Ghana is in the process of finalising its ICTs in education policy, due to be ready by the end of the first quarter of 2007. Despite the unco-ordinated approach to policy in the past, significant progress has been made in increasing access to and usage of ICTs in the education sector. The tertiary sector is the most advanced in ICT deployment, followed by the secondary and primary/basic education sectors respectively. Overall there is much optimism for huge advances once the policy implementation begins.

Country Profile

Ghana has been a country of firsts. In 1957 it was the first country in sub-Saharan Africa to emerge from colonialism and—before an economic crisis in the late 1970s—experienced the highest GNP on the continent. Ghana also experienced the trauma of military takeovers long before others suffered similar fates, and it was among the first group of countries to subject itself to the African Peer Review Mechanism (APRM): an instrument voluntarily acceded to by member states of the African Union as a self-monitoring mechanism carried out by civil society and other stakeholders. Ghana's economy is mainly rural: cocoa, timber, and pineapples are the main export crops, and mining (mainly gold) has become one of the biggest sources of foreign exchange. The annual real GDP growth rate reached 5.8% in 2005, sustaining the growth rate observed in 2004.[2] Today Ghana runs a vibrant multi-party democracy, with a strong opposition in Parliament and an active civil society.

Table 1 provides some selected socio-economic indicators for the country.[2,3]

Table 1: Socio-economic Indicators: Ghana

Indicator	
Population	22.1 million
Languages	English
Adult literacy rate	57.9% (age 15 and over)
2005 economic activity (% of GDP)	Agriculture: 36.0 Industry: 25.0 Services: 38.6
Human Development Index	136 (out of 177 countries)
Human Poverty Index	58 (out of 102 countries)
Per capita gross national (US dollars)	$330 (2003); $380 (2004); $450 (2005)

The Educational System[4]

The new educational system consists of six years of primary school followed by three years of junior secondary and three years of senior secondary education at the end of which pupils sit for the senior secondary certificate examination (SSCE). The six years of primary education and the three years of junior secondary school (JSS) form nine years of

basic education, which is compulsory and free. Secondary education is not compulsory.

The system of higher education includes universities and university colleges, polytechnics, professional institutes, and pre-service training institutes. All public higher education institutions are under the National Council for Tertiary Education which forms an advisory and co-ordinating body at the national level. The Council is under the Minister of Education. Each higher institution has its own council and academic board (or their equivalents). The polytechnics, which are currently offering Higher National Diploma (HND) programmes, are now in the process of being upgraded to offer university-level courses. A new University of Development Studies has been opened in the north, and the University College of Education, Winneba, has become the University of Education, Winneba. Teacher-training colleges are to be upgraded to tertiary institution status.

Table 2 below provides a quantitative perspective of some selected system indicators.

Table 2: Selected Education Data[5]

Indicator	
Primary enrolment (% gross)*	80.5 (2003); 81.4 (2004)
Secondary enrolment (% gross)*	37.4 (2003); 41.8 (2004);
Primary completion rates (% of 6- to 12-year age group)	63.1 (2003); 65.4 (2004)
Tertiary enrolment (%gross)	2.8 (2003); 3.1 (2004)
Ratio of girls to boys in primary and secondary (%)**	0.9 (2003); 0.9 (2004)

*Percent of gross is the number enrolled as a percentage of the number in the eligible age group.
**Ratio of girls to boys is the percentage of girls to boys enrolled at primary and secondary levels in public and private schools.

ICT Policies

The Government of Ghana has placed a strong emphasis on the role of ICT in contributing to the country's economy. The country's medium-term development plan captured in the Ghana Poverty Reduction Strategy Paper (GPRS I&II) and the Education Strategic Plan 2003-2015 all suggest the use of ICT as a means of reaching out to the poor in Ghana.

National

In 2004 Parliament passed into law Ghana's ICT for Accelerated Development (ICT4AD) policy, which is currently at various stages of implementation. This policy represents the vision of Ghana in the information age and addresses 14 priority focus areas or pillars:[6]

- Accelerating human resource development
- Promoting ICTs in education – the deployment and exploitation of ICTs in education
- Facilitating government administration and service delivery
- Facilitating the development of the private sector
- Developing an export-oriented ICT products and services industry
- Modernising agriculture and developing an agro-business industry
- Developing a globally competitive value-added services sector – a regional business service and ICT hub
- Deploying and spreading ICTs in the community
- Promoting national health
- Rapidly developing ICT and enabling physical infrastructure
- Developing R&D, scientific, and industrial research capacity
- Providing legal, regulatory, and institutional frameworks
- Promoting foreign and local direct investment drive in ICTs
- Facilitating national security and law and order

At the national level, a proposed National Information Technology Agency (currently under the name of Ghana ICT Directorate) has been formed and a bill is awaiting parliamentary approval. A government interoperability framework has also been finalised and several ministries, departments, and agencies are at various stages of implementation.

Education sector

The ICT in education policy for Ghana had a long gestation period. An attempt at policy development for the sector predates the national ICT policy. A committee set up by the Ministry of Education, Youth and Sports outlined an ICT in education policy framework and produced a document that remained untouched for a long time. The objectives of the policy[7] were to:

- Ensure that students have ICT literacy skills before coming out of each level of education
- Provide guidelines for integrating ICT tools in all levels of education
- Provide means of standardising ICT resources for all schools
- Facilitate training of teachers and students in ICT
- Determine the type and level of ICT needed by schools for teaching and administration purposes.
- Promote ICT as a learning tool in the school curriculum at all levels

Through the help of various agencies, including Global e-Schools and Communities Initiative (GeSCI), a final ICTs in education policy document has been finalised and it is set to be released by the end of the first quarter of 2007.

Infrastructure

National

As one of the first African countries to liberalise its telecommunication sector, Ghana has made tremendous progress in ICT infrastructure deployment. But like many parts of Africa, the ICT revolution in Ghana has left behind the Internet and computing. There are also significant differences in urban and rural access to ICTs. Table 3 below provides some statistics on ICT infrastructure and usage in Ghana.

Table 3: ICT in Ghana

Indicators	Quantity
Fixed-line operators	2
Ghana Telecom	328,000
Westel	3,000
Total fixed-line telephone subscribers	331,000
Cellular mobile operators	4
Areeba	1,600,000
Tigo	530,000
One Touch	450,000
Kasapa	75,000
Total cellular mobile subscribers	2,655,000
Pay phones	
Ghana Telecom	10,872
Westel	165
Total pay phones	11,037
Internet data service providers	29
VSAT data operators	57
Public/corporate data operators	25
Internet users (2004)	368,000
Internet users per 100 inhabitants (2004)	1.72
Personal computers per 100 inhabitants (2004)	0.52
International voice gateways licence	4
International data gateways licence	29

Sources: National Communications Authority, and ITU Basic Statistics, 2005[8]

Education

The Ghanaian tertiary education sector is the most advanced in the deployment and use of ICTs in the country. All the country's major universities have their own separate ICT policy, which includes an ICT levy for students. This enables students to have access to 24-hour computer labs with broadband connection. However not all tertiary institutions in

the country are equally endowed and there are instances where the computer facilities are run purely by the private sector as cyber cafés on campuses.

In the basic and secondary education sector, a project to set up computer laboratories in all science schools in the country has lead to a significant number of computers being installed across the country. A computer levy of ¢30,000 (USD$3.20) is allowed to be in most secondary schools. There is, however, a great disparity between public and private schools as well as between urban and rural areas in access to ICTs.

In schools where ICTs exist, a number of teachers use the Internet for research. Smart boards and projectors are also available in such schools. The school curriculum, however, is not yet on CD, even though it has been a policy issue for many years.

Current ICT Initiatives and Projects

Table 4 summarises the current and recent ICT initiatives in Ghana.

Table 4: ICT Initiatives and Projects

Project: GeSCI – to expand the deployment of ICTs in schools in Ghana and to promote the effective use of these ICTs to achieve Ghana's educational and community development objectives. • *Organisation(s):* Ministry of Education, Youth and Sports • *Funding sources:* UNICT Task Force • *Contact:* www.gesci.org/gesci/publisher/index.jsp?aID=229&nID=111&pID=107
Project: Nepad E-Schools – supporting six schools in six regions with ICT infrastructure • *Organisation(s):* Ministry of Education • *Funding sources:* HP, Microsoft, Oracle, and Cisco • *Contact:* www.hp.com/hpinfo/newsroom/press_kits/2005/wsis/ov_nepad.pdf
Project: Intel-Elearning Centre (Accra girls) – pilot project to establish Africa's first WiMAX connected school • *Organisation(s):* Accra Girls' Secondary School • *Funding sources:* Intel • *Contact:* www.intel.com/pressroom/kits/worldahead/wa_backgrounder.pdf
Project: Presidential Special Initiative on Distance Learning – TV show on mathematics, science and English broadcast nationwide and sold on CDs • *Organisation(s):* Ministry of Education • *Funding sources:* Government of Ghana • *Contact:* www.iicd.org/photos/iconnect/Articles/iconnectarticles.2005-05-09.7326350124
Project: HP Digital Community Centre (KNUST) – high-speed ICT infrastructure at KNUST and for community learning and technology centers (CLTCs) • *Organisation(s):* KNUST • *Funding sources:* HP • *Contact:* http://h41111.www4.hp.com/globalcitizenship/uk/en/e-

inclusion/project/project_kumasi.html
Project: Research and Educational Network (REN) – to facilitate the interactions and collaboration between researchers in institutions and the world • *Organisation(s):* University of Ghana • *Funding sources:* Word Bank/InfoDev • *Contact:* www.ejds.org/meeting2003/ictp/papers/Intsiful.pdf
Project: GIMPA Distance Learning Centre – connecting policy and decision makers, managers, academics, politicians, professionals, development partners and donors, etc. to a global knowledge exchange • *Organisation(s):* GIMPA • *Funding sources:* Word Bank • *Contact:* www.gimpa.edu.gh/home/gimpa/index.php?option=com_content&task=view&id=35&Itemid=141
Project: APSnet) – has twinned with many schools abroad, including Denmark, Great Britain, Mexico, and the US, facilitating exchanges among teachers and students • *Organisation(s):* UNESCO • *Funding sources:* UNESCO • *Contact:* http://portal.unesco.org/ci/en/ev.php-URL_ID=20753&URL_DO=DO_TOPIC&URL_SECTION=201.html
Project: Microsoft Partners in Learning programme – supporting schools with technology and training • *Organisation(s):* Ministry of Education • *Funding sources:* Microsoft/Government of Ghana • *Contact:* www.edughana.net/partners_in_learning.htm
Project: Global Teenage Project – using the Internet and especially e-mail as a catalyst to structure exchanges between schools and teachers • *Organisation(s):* Rescue Mission Ghana • *Funding sources:* SchoolNet South Africa and International Institute for Communication and Development (IICD) • *Contact:* www.globalteenager.org.gh/
Project: Innovative Best Teacher Award – awarding teachers who excel in using ICTs in education • *Organisation(s):* Ghana Education Service • *Funding sources:* Government of Ghana • *Contact:* Ministry of Education
Project: Catch IT – fostering the development of ICT clubs throughout Ghana helps to prepare the youth for ICT related jobs • *Organisation(s):* African Youth Initiative (AYF)/One Village Foundation (OVF) • *Funding sources:* University of Education, Winneba, AYF partners, International Young Professionals Foundation • *Contact:* www.onevillagefoundation.org/ovf/projects.html
Project: Expanding Education Networking – involves 50 schools in Accra, Kumasi, Cape Coast, Tema and other areas • *Organisation(s):* iEARN /SchoolNet Ghana • *Funding sources:* SchoolNet Africa • *Contact:* www.iearn.org/globe/globe_Africa.html
Project: e-Education package for schools – offers affordable financing at competitive rates for qualifying educational institutions towards broadband Internet access via VSAT anywhere in

Ghana
- *Organisation(s):* Accelon, Standard Trust Bank, ICT Education Support Africa Foundation
- *Funding sources:* Accelon
- *Contact:* www.accelonafrica.com/ghana/aboutus.html

Implementing ICT in Education: What Helps and What Hinders?

Generally the commitment to improving the quality of education through ICTs is high both at the presidential and ministerial levels. Progress has been made on several fronts, but several other inhibiting factors exist including the following:

- Access to ICTs still remains highly inadequate and unevenly distributed through Ghana, with an urban bias.
- The capacity of teachers and educators to deliver policy still remains low with many averse to adopting ICTs in the classroom or with inadequate skills
- There is a lack of adequate collaboration between the Ministry of Education and Ghana Education service or other implementation agencies such as ministries, departments, and agencies.
- There are inadequate partnerships and collaboration between the ministry and the private sector.

Table 5 below provides a framework for understanding the core factors that help and hinder the development of ICTs in education in Ghana.

Table 5: Factors Influencing ICT Adoption

Factors	Enabling Features	Constraints
Policy framework and implementation plans	Both the national and the proposed education sector polices provide clear strategies for achieving significant growth in ICTs and education.	Co-ordination among the various implementing agencies has not been as good and consolidation of activity is needed.
Advocacy leadership	The president has placed human resource development as part of his key objects and this is advocated by all sector ministries and departments within the education sector.	There is need for adequate resource to match the talk.
Gender equity	Both national and education policy focus on promoting gender equity.	The perception that science courses are for boys can hinder policy objectives.
Infrastructure and access	Progress has been made in these areas with many tertiary and secondary schools equipped with computer	Primary sector is still behind in access to infrastructure, especially in rural areas.

	laboratories.	
Collaborating mechanisms	With increasing support by major donors and the private sector, there is hope for meeting policy objectives.	Sustainability remains an issue.
Human resource capacity	A large pool of ICT training institutions is able to provide the training needs of teachers.	
Fiscal resources	Education continues to receive the highest percentage of the national budget	
Learning content		No structured ICT in school content is available.
Procurement regulations	Policy that encourages the setting up and sourcing of ICT equipment on the local market is emphasised.	
Attitudes	Positive attitudes with high levels of government.	Lower expectations of ICT at the school level among administrators.
Sustainability		Inability of certain schools to charge the mandatory ICT levy.

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Notes

1. The World Factbook 2007. https://cia.gov/cia//publications/factbook/geos/gh.html
2. Country Brief: Ghana. World Bank. 2007. http://web.worldbank.org/WBSITE/EXTERNAL/COUNTRIES/AFRICAEXT/GHANAEXTN/0,,menuPK:351962~pagePK:141132~piPK:141107~theSitePK:351952,00.html
3. "Beyond Scarcity: Power, Poverty, and the Global Water Crisis." *Human Development Report 2006.* 2006. UNDP. http://hdr.undp.org/hdr2006/
4. Ghana-Education System. IAU, World Higher Education Database. n.d. www.unesco.org/iau/onlinedatabases/systems_data/gh.rtf
5. Summary Education Profile: Ghana. n.d. World Bank. http://devdata.worldbank.org/edstats/SummaryEducationProfiles/CountryData/GetShowData.asp?sCtry=GHA,Ghana
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7. http://www.edughana.net/ict_policy.htm
8. *Towards an African e-Index: SME e-Access and Usage.* 2006. www.researchictafrica.net/images/upload/SME_book-Web.pdf

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