



GHANA CODE CLUB

PROVIDING DIGITAL LITERACY SKILLS TO GIRLS
IN GHANA



Members of the Ghana Code Club. Photo credit: Ghana Code Club

EXECUTIVE SUMMARY

Ghana Code Club is an initiative started in 2015 by the not-for-profit organization Healthy Career Initiative to expose young people, especially girls, to computing and coding. In addition to basic information and communications technology (ICT) training, students learn skills such as games, animation, web design, and programming. The project was launched in underprivileged schools, but its long-term aim is for every school in Ghana to have a coding club.

Keywords: digital literacy, Ghana, youth

CONTEXT

Telecommunications is one of Ghana's key economic sectors with a high affordability barrier. According to a 2012 study by Research ICT Africa, 60 percent of the respondents answered that the high cost of access prevented them from using the Internet. The government's digital inclusion agenda seeks to provide affordable connectivity for all citizens by 2020.

The Ministry of Education has also emphasized the use of ICTs. Ghana's ICT for Accelerated Development (ICT4AD) policy issued in 2003 has enabled a great number of ICT projects and initiatives facilitated by the partnership between the public and private sectors. The National Communication Authority has recently embraced TV white space to extend Internet services to rural areas as well, hoping to improve teaching and learning of ICT in schools.

Civil society organizations in Ghana also play a role in promoting ICT in education. For instance, KEY for Life and Young at Heart Ghana aim to equip children and young adults to learn better using computers. Africa ICT Right, a nonprofit organization, has various projects related to equipping teachers with necessary skills to integrate ICT into their lessons, establishing computer centers in underserved communities, and distributing low-cost refurbished computers with open source educational software.

Ghana			
Population (UN, 2015)	26,984,328	Fixed broadband subscriptions (%) (ITU, 2016)	0.31
Population density (people per sq.km) (UN, 2015)	113.13	Mobile cellular subscriptions (%) (ITU, 2016)	139.13
Median household income (Gallup, 2006-2012)	US\$ 2,050	Individuals using the Internet (%) (ITU, 2016)	34.7
Education (Mean years of schooling) (UNDP, 2013)	Male: 8.1 Female: 5.9	Individuals using the Internet by Gender (%) (ITU, 2016)	N/A

PROJECT DESCRIPTION

Ghana Code Club is a not-for-profit organization that seeks to expose all elementary school kids, especially girls, to skills in using ICTs in Ghana. The project teaches children between the ages of 8 and 16 basic computing skills, and how to build simple games, animations, and websites. A team of educators moves from school-to-school to organize after school coding sessions. They also train interested teachers to continue the program in-house with club activities in the school. The project provides a project guide and the materials for each session. Club sessions are scheduled to run at least once a week and last one-to-two hours.

The clubs offer three modules, each of which takes an hour per week and lasts three months. The first is a basic module, followed by modules on the HTML and CSS programming languages.

The organization uses WhatsApp to communicate with teachers and volunteers to facilitate communication and provide support where necessary. The initiative covers 24 schools in Accra with students between the ages of 8 and 14. Users between the ages of 6 and 18 additionally receive services at community centers and libraries.

The project generates some income through summer programs held during the summer school break, but clubs generally operate through the year and are free to users. Thirty regular volunteers and a smaller force of rotating volunteers support the program, where much of the operating costs pay for transportation to send volunteers to help teachers and students. Thirty teachers are trained every three months, and the club maintains at least one ICT teacher per school.

Project details			
Technology	Computers, coding and web design	Training	Total of 3 modules, each module takes 1 hour per week for 3 months
Year program started	2015	Cost to users	Free
Geography	Urban	Total cost of program	Fixed cost: US\$ 15,000 Operational cost: Monthly cost US\$ 4,000 7 full-time workers; 30 regular volunteers
User profile	24 schools based in Accra; 30 ICT teachers; 8,000 students 8-18 years	Associated organizations	Africa Code Week, Code.org, Colorcoded, Leti Arts Ghana

PROGRESS AND RESULTS

The initiative serves 24 schools, all in the urban center of Accra. The project is trying to partner with the government to reach more communities with ICT centers.

The project has served more than 8,000 young people between the ages of 6 and 18. Schools reach youth between the ages of 8 and 14, and community centers and libraries serve users between the ages of 6 to 18. Of these 8,000, 2,500 youth have been directly instructed. The remaining 5,500 have been reached indirectly through teacher trainings in which teachers acquire skills and then return to their home institutions to teach their own students. Thirty teachers have been trained so far.

The organization reports that students who have completed the training program experience better learning and achievement outcomes – they get better grades on average and some have won a technology challenge award. Some students get recruited into paid positions within the

Ghana Code Club after graduation, while others join game design organizations such as Leti Arts and others.

The project hosts an annual inter-school competition to raise awareness and incentivize girls to pursue ICT careers. Twenty-two schools participated in this competition in 2016 for a laptop and projector. The project is beginning to scale up and expand nationwide to rural areas and is awaiting permissions from the government to expand further. A goal is to have a mobile computer lab that can move from school-to-school to provide ICT support and training.

CHALLENGES

Lack of access to devices– Eighty-five percent of Ghana’s schools lack sufficient facilities and computers, while 99 percent have no access to the Internet at all. Public schools are extremely under-resourced. Private schools perform better in ICT literacy simply because their students have more access to technology.

Community resistance – As the Ghana Code Club meets after hours, parents sometimes perceive it to be irrelevant since they already have ICT classes during the regular school hours as part of the standard curriculum. The club is voluntary, so many parents decide not to send their child or children.

GHANA CODE CLUB’S SUGGESTIONS FOR FUTURE PROJECTS

Creating communities such as code clubs are likely to sustain interest in ICT skills beyond training sessions and classes – Ghana code club’s experience has been that the experience of the community helps build critical skills outside of mere classes and learning sessions due to its unique pedagogical advantage and hands-on training.

Infrastructure remains a critical challenge for long-term sustainability – A number of schools do not have the infrastructure at present to sustain experiential learning in ICT skills. A mobile lab may be an effective stopgap measure, but it is not a long-term solution to an infrastructure problem. With a self-contained computer lab on wheels, you can cut costs on computers and other technology. The technology can move to where it is needed and potentially serve more people more quickly.

SOURCES

Appaiah, E. (2017, August 10) Personal Interview.
Project website: ghanacodeclub.org