

Code word for the future

 By [Alta Greeff](#)

27 May 2015

Almost every child comes into contact everyday with some form of the digitised world, whether it is watching their parents swipe their credit card for a purchase in the supermarket or even watching them on their cellphones.



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Digitisation - the "adoption of smart and connected information and communication technologies (ICT) by consumers, businesses, and governments" - dominates our world, and because emerging markets in Africa tend to "leapfrog" through technological advances (witness the enormous advances in mobile banking and agricultural apps in East Africa that surpassed anything being done in the developed world) we need to ensure our children are up to speed.

Broadband access

Five years ago this would have meant that learners need to be computer literate, by which it was meant they needed to know how to use a computer. The fast pace of digitisation means that this is no longer sufficient. Learners need to know how computers work. They need to be taught how to write computer code.

South African schools face enormous challenges in this regard. According to a report compiled by educational publishers Via Afrika, the Department of Basic Education admitted that in 2014 less than 6,000 schools out of the country's 25 870 schools were ICT-ready. That's less than 24%. In addition, only 32% of all teachers had been trained in basic computer skills.

Digitalisation in education, while recognised as the best possible channel through which to spread education, remains hampered in South Africa by broadband access. The innovative social platform Mxit was utilised by Nokia to launch MoMath, an accessible mathematic teaching programme that includes educational publishers and the Department of Education. And in Rwanda, the education department partnered with mobile phone manufacturer Ericsson to launch Connect to Learn to provide content-rich media to remote schools.

Skills mismatch

Enrolment in schools has increased across sub-Saharan Africa. According to the African Economic Outlook (AEO) "59% of 20-24 year olds - 137-million youths - will have secondary education in 2030, compared to 42% today". This is the good news. The bad news is that educational curricula are not equipping them for the world of work. This skills mismatch, said AEO, is the biggest challenge that the youth face in the labour market: more than 54% of those surveyed across 36 African nations said that the "mismatch of skills between what job seekers have to offer and what employers require to be a major obstacle".

Far too much focus has been placed on simply improving access to the internet. Digitisation means more than this. According to a report by research company Strategy& entitled *Maximising the Impact of Digitisation*, "digitisation multiplies the benefits of connectivity, as it generates three times more economic benefit than broadband alone".

The report points out that in 2011 "digitisation provided a US\$193-billion boost to world economic output and created six-million jobs globally".

If we wish to create jobs and become competitive, we need to better prepare our learners for the digital world in which they find themselves.

Google for Education

Already, corporations and non-profit organisations (NPOs) are stepping in to fill the gaps. Google for Education, for example, funds the Google RISE Awards that provides grants for organisations that promote Computer Science (CS) education.

A recent recipient was Africa Teen Geeks (ATG), an African NPO that provides computer science training in schools and in underserved communities. ATG believes that by teaching coding skills, children will be encouraged to innovate and perhaps become the developers of the next Facebook or Twitter.

At the World Economic Forum on Africa, to be held in Cape Town June, Africa Code Week will be launched. This is a "one-of-kind educational initiative" taking place in October 2015 that will span 11 countries, include 20,000 learners, and which seeks to "empower African youth with the coding skills they need to thrive in their career and become key actors of Africa's economic development".

In June, the Cape Town Science Centre will host a pilot event (for free) of Africa Code Week to train teachers interested in hosting coding workshops. South African children aged 8-11 will be among the first to engage in this continent-wide, historical initiative, a joint initiative of software giant SAP, Simplon, Galway Education Center, and the Cape Town Science Centre.

At our Curro schools, we recognise the importance of addressing the educational needs of the 21st century learner. The Curro Centre for Educational Excellence (CCEE) is constantly interrogating the methodology of teaching and learning in the fields of literacy, mathematics, science, technology and robotics.

The CCEE supports the African Code week and will encourage our learners to participate. The challenge remains to include the coding skills in curricula so that work like this can be sustained. We are working to train and provide support for our teachers to effect the mind shift necessary to become aligned with the international thinking that coding skill must become part of basic literacy in the near future.

We started the CCEE programme in 2011 and have added coding skills into our formal curriculum from Grade 2 (eight year olds) to Grade 6 (11 year olds) in the form of Robotics. In Grades 7 to 9 we teach data logging and we have established Robotics clubs to accommodate learner interest. In 2014 we have added coding skills to our IT curriculum for

Grade 1 to 9. We also offer IT in grades 10 to 12 and encourage more learners to take this subject.

CCEE, apart from monitoring the quality of academic standards and ensure standardisation across campuses, identifies and develops curricula and master educators, further centres, and standards of excellence.

South Africa will need to create millions of jobs over the next ten to 20 years if it expects the growing population of youngsters to play a significant role in the economy. As we have seen, digitisation stimulates job creation. The Strategy& report claims that an "increase of 10% in digitisation reduces a nation's unemployment rate by 0.84%".

According to the PricewaterhouseCoopers Entertainment and Media Outlook 2014-2018, the number of mobile Internet subscribers will rise from 15-million in 2013 to 35.2-million in 2018.

Digitisations disruptive power requires that companies must now have what PwC identify as a "strong digital IQ and where digital must be an 'enterprise capability' woven throughout the business".

As an educational institute, we will fail in our endeavours to help build a prosperous nation if we do not provide a curriculum that fosters this digital IQ, and that must begin with teaching computer coding in schools.

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