



# Education

## Africa's future education requirements: Vocational education

Enoch Randy Aikins and Jakkie Cilliers

Last updated 06 June 2024 using IFs 7.84

## Africa's future education requirements: Vocational education

Future job requirements differ from country to country and defy easy generalisation. The modern trend appears to be towards broader sectoral training, which includes a set of generic business and life skills rather than preparing an individual for a specific job such as being an accountant, welder, carpenter or chef. This allows the individual to move from an entry-level job to a longer-term career more readily. A report from the Global Commission on the Future of Work confirms this analysis and refers to 'a universal entitlement to lifelong learning that enables people to acquire skills and to reskill and [upskill](#).'

A study from the African Development Bank found three main factors that constrain rapid job creation in Africa. First, job creation has not kept pace with the number of graduates from secondary and tertiary institutions. Also, those who finish school are not equipped with the skills required by the available jobs. Finally, young people generally lack the soft skills, social networks and [professional experience](#) to compete with older job applicants. The African Center for Economic Transformation specifically also noted that there is too little emphasis on relevant training in science, technology, engineering and maths, on technical and vocational education and training, and on higher-order cognitive and analytical skills. This leads to a considerable mismatch between job seekers' actual skills and those that employers require.<sup>[1]</sup>

In 2019, only 8.5% of upper secondary school students were enrolled in vocational programmes in sub-Saharan Africa. This is less than one-quarter of North Africa's average and less than half of the world's average and South America's. Angola has performed well in this regard with more than half of upper secondary students enrolled in vocational programmes. Additionally, other countries had at least 30% of upper secondary school students enrolled in vocational programmes in 2019. However, countries such as Comoros, Kenya, Tanzania, Equatorial Guinea, Sudan and Mauritania all had less than 3% of upper secondary students enrolled in vocational programmes.

At the tertiary level, in 2019 merely 14.2% of tertiary graduates in sub-Saharan Africa had a science and engineering background, which is considered key to the future of work. Although this is a little close to the averages in North Africa (16.7%) and South America (16.1%), it lags behind South Asia's average of 24.3% in the same period. Djibouti has the highest share of science and engineering graduates, constituting close to 40% of total graduates, followed by Eritrea, Algeria, Sudan and Tunisia, respectively, with shares close to 30%. Uganda, The Gambia, Sierra Leone and Eswatini are the worst performers with less than 5% of graduates with backgrounds in science and engineering.

In the light of this evidence, African educators should balance the need for academic education with vocational and technical training. Education in Africa needs to respond to the demand for expanding small-holder farming and agribusinesses (see the theme on agriculture), allowing countries to enter low-end manufacturing (see the theme on manufacturing). This will prepare for the rapid expanded use of modern systems and technologies (see the theme on leapfrogging) as digitisation and the Fourth Industrial Revolution present new opportunities and risks for the future. The trend is away from low-skilled, and even semi-skilled, labour towards skilled labour.

In addition to advocating for technical and vocational training as a parallel education stream from secondary school onwards, the [World Bank](#) advocates for workplace training and short-term job training programmes. It finds that informal apprenticeships are most common in sub-Saharan Africa, supported by examples in Benin, Cameroon, Côte d'Ivoire and Senegal where these programmes account for almost 90% of the training that prepares workers for crafts jobs and [employment](#) in some trades.

Valuable examples of technical teaching innovation come from modern Germany. One of the most widely acclaimed German practices is its vocational training system at secondary level schooling and the partnership that has been

established, in law, between publicly funded vocational schools and small and medium-sized companies. The system culminates in providing a student with a certificate issued by a competent body (e.g. a chamber of industry and commerce or a chamber of crafts and trades) in around 330 occupations requiring formal training in [Germany](#).

However, what works in a highly formalised and developed economy such as Germany will not work in most of Africa. In addition to many other challenges, the low quality of education in most sub-Saharan countries means that students may not have fully mastered the foundational skills of reading, writing, numeracy, critical thinking and problem-solving that are required for entering the vocational training stream. The [World Bank](#) refers to this as 'not just a lack of trained workers; it is a lack of readily trainable workers.' Regardless of the continent's preparedness, digitisation and the Fourth Industrial Revolution will require a large cadre of technical skills, and the poor quality of general schooling in Africa implies that great care must be taken to ensure that students who do choose this vocational line of education have sufficient grounding.

## Endnotes

1. African Center for Economic Transformation, *The future of work in Africa — The impact of the Fourth Industrial Revolution on job creation and skill development in Africa*, Accra: African Center for Economic Transformation, 2018, 2.

## Donors and sponsors



### Reuse our work

- All visualizations, data, and text produced by African Futures are completely open access under the [Creative Commons BY license](#). You have the permission to use, distribute, and reproduce these in any medium, provided the source and authors are credited.
- The data produced by third parties and made available by African Futures is subject to the license terms from the original third-party authors. We will always indicate the original source of the data in our documentation, so you should always check the license of any such third-party data before use and redistribution.
- All of our charts can be embedded in any site.

### Cite this research

Enoch Randy Aikins and Jakkie Cilliers (2025) Education. Published online at [futures.issafrica.org](https://futures.issafrica.org). Retrieved from <https://futures.issafrica.org/thematic/06-education/> [Online Resource] Updated 06 June 2024.

## About the authors

Mr Enoch Randy Aikins joined the AFI in May 2021 as a Researcher. Before that, Enoch was a research and programmes officer at the Institute for Democratic Governance in Accra in charge of local governance reforms, poverty and inequality and public sector reforms. He also worked as a research assistant (economic division) with the Institute for Statistical Social and Economic Research at the University of Ghana. Enoch's interests include African politics and governance, economic development, public sector reform, poverty and inequality. Enoch is a Young African Fellow at the School of Transnational Governance, European University Institute in Florence and has an MPhil in economics from the University of Ghana, Legon.

Dr Jakkie Cilliers is the ISS's founder and former executive director. He currently serves as chair of the ISS Board of Trustees, head of the African Futures and Innovation (AFI) programme at the Pretoria office of the Institute, and is an extraordinary professor at the University of Pretoria. His 2017 best-seller *Fate of the Nation* addresses South Africa's futures from political, economic and social perspectives. His three most recent books, *Africa First! Igniting a Growth Revolution* (March 2020), *The Future of Africa: Challenges and Opportunities* (April 2021), and *Africa Tomorrow: Pathways to Prosperity* (June 2022) take a rigorous look at the continent as a whole.

## About African Futures & Innovation

Scenarios and forecasting can help Africa identify and respond to opportunities and threats. The work of the African Futures & Innovation (AFI) program at the Institute for Security Studies aims to understand and address a widening gap between indices of wellbeing in Africa and elsewhere in the world. The AFI helps stakeholders understand likely future developments. Research findings and their policy implications are widely disseminated, often in collaboration with in-country partners. Forecasting tools inspire debate and provide insights into possible trajectories that inform planning, prioritisation and effective resource allocation. Africa's future depends on today's choices and actions by governments and their non-governmental and international partners. The AFI provides empirical data that informs short- and medium-term decisions with long-term implications. The AFI enhances Africa's capacity to prepare for and respond to future challenges. The program is headed by Dr Jakkie Cilliers.