11. Technical and Vocational Education and Training (TVET) for Sustainable Skills for the Fourth Industrial Revolution (4IR): Snapshot at Some TVET Colleges in South Africa (Moses Makgato)

Technological advancement is a major driver of the economic growth and has raised living standards enormously (though unevenly) across the globe. Digital technologies radically transform the structure of organisations and employment models, including teaching and learning. Youth and people who lack high level technological and interpersonal skills, are becoming vulnerable due to digital automated jobs. There is a need for targeted and strategic skills and Technical and Vocational Education and Training (TVET), which responds to the changing technological world. The digital revolution and an increasing demand for designing and manufacturing are driving the growth of the creative sector, which extends from arts to science and technology, and involves cultural creativity and innovation.

Science, Technology, Engineering and Mathematics (STEM) students should be equipped with designing and making skills for the 21st century jobs. There is growing polarisation of labour-market opportunities between high- and low-skill jobs, unemployment and underemployment especially among young people. Globally, almost 75 million youth are officially unemployed.

This paper presents the driving forces for new jobs and skills for the future. The paper also outlines the contribution of TVET knowledge and skills for digital literacy from basics to an advance level. The implication of digital literacy for the Fourth Industrial Revolution (4IR) is highlighted. The empirical part of this paper present results, based on the investigation done on the vocational educational and training practices at three TVET Colleges in one province in South Africa. The study focused on vocational pedagogic and didactic practices; workshop material and equipment for practical training; Work Integrated Learning (WIL); and integration of theory and practice in vocational subjects. This investigation is a case study to gauge the extent of readiness of some TVET Colleges for the 4IR. The methodology for collecting data included questionnaires, interviews and observation. The participants for the study were students and lecturers. On the basis of the data, the paper determines the extent of readiness of TVET as well as Community Education and Training (CET) Colleges in
the country for 4IR. The paper recommends measures to position the TVET and CET Colleges for the 4IR.

The full paper is available on the following link:

http://cdn.lgseta.co.za/resources/research_and_reports/4IR%20Resources/TVET%20for%20sustainable%20skills%20for%20the%204IR_Snapshot%20at%20some%20TVET%20Colleges%20in%20SA_Moses%20Makgato_TUT.pdf

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