



Ushirika wa Maendeleo ya Elimu Barani Afrika
الرابطة لأجل تطوير التربية في إفريقيا
Association for the Development of Education in Africa
Association pour le développement de l'éducation en Afrique
Associação para o Desenvolvimento da Educação em África

STUDY REPORT

Preparedness for the
Vocationalization of
Secondary Education
in Africa

JUNE
2023

COMMISSIONED BY:

Association for the Development
of Education in Africa (ADEA)

Under the Inter-Country Quality Node
on Secondary Education (ICQN-SE)

Study Countries:

*Botswana
Kenya
Mauritius
Tunisia
Uganda*



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ADEA Inter-Country Quality Node
Secondary Education

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Executive Summary

Africa is currently the youngest continent full of potential. The growing young population positions Africa well to realise the benefits of its demographic dividend. Literature accounts that the economy grows concurrently as a country's human resources capacity grows. This means the secondary school education system that prepares youth with literacy, competency, and skills will be critical in unlocking Africa's potential. Secondary school education in Africa has witnessed reforms which led to an increase in the number of schools and learners and a review of the curriculum, which led to a change in the configuration of the subject, which includes the introduction of vocational subjects.

The Mastercard Foundation study (2020) also recommended integrating key skills relevant to labour market needs into secondary education curricula and pedagogy, among them strengthening foundational and STEM skills, expanding technical and vocational skills through TVET courses in general secondary education, and promoting entrepreneurship and work-readiness skills. The vocationalization of secondary school is described by some as the introduction of more vocational subjects in secondary school education (Oketch, 2014), while others describe it as a process of reviewing and repackaging the secondary school curriculum into a vocational model, which is competency and skill-specific (Pavlova & Maclean, 2013).

This project study investigated the preparedness of African countries for the vocationalization of secondary education. The study involved document review and semi-structured questionnaire administration. The study data was collected from national education policy documents and key stakeholders implementing vocational subjects (education managers, headteachers and vocational subject teachers) from five countries (Botswana, Kenya, Mauritius, Tunisia, and Uganda) through Google form semi-structured questionnaire.

There is a recorded increase in vocational subjects influenced by the introduction of emerging technologies like computer technology and basic electronics and concepts like business studies. The secondary education curriculum has been exposed to different forms of reviews, which involved repackaging the content to align with the teaching and learning models; countries like Kenya and Uganda, among others, adopted competency-based curricula to enhance the vocational subject content delivery, while countries like Mauritius are separating academic and vocational curricula. However, although the curriculum content is categorised as academic and vocational respectively, in some countries, there is no clear distinction between them. This situation calls for leadership decisions to separate or integrate academic and vocational curriculum content, or to vocationalize the entire secondary education curriculum, taking into account different country contexts.

There is a recorded increase in the number of secondary school learners in Africa and a substantial increase in the number of secondary schools; however, the number of learners accessing vocational subjects is still very low, ranging from 2 per cent to 10 per cent of secondary school learners (Oketch, 2014). It was noted from this study that among the many causes of access challenges to vocational education by learners at the secondary school level, the limited number of secondary schools offering vocational subjects is a major barrier in Africa. Therefore, there is a need to establish more vocational primary and secondary schools in respective education divisions/regions, even though the focus of this study is secondary education – the earlier the introduction of vocational education, the better.

The study records that vocational subjects in secondary school are offered at both junior and senior secondary school levels, with some offering only at senior secondary school. At the same time, countries like Mauritius, and Seychelles, among others, removed vocational subjects from secondary school to post-secondary institutions. Therefore, for the vocationalization of secondary school education to succeed, it is imperative to have a vocational education content structure applicable at all levels of education, primary, secondary, and post-secondary.

The capacity of an education system to provide quality and relevant training depends mainly on the quality of its teachers and trainers and, by extension, on the quality of its teacher training systems (ILO, 2015). The poor vocational subject teacher situation appears uniform across the continent of Africa, except for a few. The majority of respondents indicated a lack of qualified vocational subject teachers. It was further noted that except for Kenya and South Africa, most countries lack vocational subject teacher training and development policy and program. Therefore, there is a need for a secondary education vocational teacher training and development policy and strategy to guide the implementation.

School facilities and resources are fundamental constituents of quality education. Poor facilities may negatively affect the teaching and learning process and adversely affect the student's learning outcomes. The study revealed a lack of investment and provision of teaching and learning resources. Infrastructure to support vocational education in secondary school is deplorable, either unavailable or the absolute equipment and machines. However, it is evident that not all vocational subjects require serious capital investment; some subjects can operate using recycled materials and locally sourced teaching and learning materials. Therefore, a targeted financing and funding model should be devised. The other fund and financing proposed approach could be that, since most countries have technical and vocational education and training fund/levy, which has benefited mainstream TVET only, the vocational education wing at secondary school education should also be allowed to access TVET training fund/levy for investment and operation.

The vocationalization of secondary education in Africa has the potential to succeed and achieve the intended outcome because the current vocational education profile in Africa can be corrected. Many people know about vocational education but with limited understanding; consequently, it operates with limited human and material resources. The preparedness for the vocationalization of secondary school education is evident because the footprint of vocationalization of secondary school education is visible across the continent. However, to enhance the potential of preparedness, there is a need to improve the reputation of vocational education at secondary schools through familiarisation with the concept and its strategies. In addition, there is a need to see the fulfilment of the commitments made in public policy documents about vocational education. Finally, there is a need to align funding and investment strategies with the targeted vocational education priorities.

Acronyms

ACET	African Center for Economic Transformation
ADEA	Association for the Development of Education in Africa
BGCSE	Botswana General Certificate of Secondary Education
CBE	Competency-Based Education
CESA	Continental Education Strategy for Africa 2016-2025
EMIS	Education Management Information System
ICT	Information and Communication Technology
ICQN	Inter-Country Quality Node
ILO	International Labour Organisation
ITET	Institute of Technical Education and Technology
ISCED	International Standard Classification of Education
KTTC	Kenya Technical Trainers College
MITD	Mauritius Institute of Training and Development
MoES	Ministry of Education and Sports
OBE	Outcome-Based Education
SACMEQ	Southern African Consortium for Monitoring Education Quality
SADC	Southern African Development Community
SDG	Sustainable Development Goals
STEM	Science, Technology, Engineering and Mathematics
TIVET	Technical, Industrial, Vocational and Entrepreneurship Training
TVET	Technical and Vocational Education and Training
TEVET	Technical Entrepreneurial Vocational Education and Training
UNESCO	United National Education, Scientific and Cultural Organisation
VET	Vocational Education and Training

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1. Introduction

The growing eminence of Africa about the potential to be an economic giant and the focus of the African Union Agenda 2063, “the Africa we want,” is supposed to lead to long-term strategies in education and training, technological innovation and stratified human capital development. The strategic objectives of the Continental Education Strategy for Africa 2016-2025 (CESA 16-25),¹ the first ten-year implementation blueprint of Agenda 2063, include revitalizing the teaching profession, building and rehabilitating relevant infrastructure, harnessing the capacity of ICT, ensuring the acquisition of requisite knowledge and skills, strengthening STEM and expanding TVET opportunities.

Therefore, the benefit of vocationalization of secondary education must be balanced because different authors agree that the vocationalization of secondary education will provide learners with skills, knowledge, and aptitudes (Oketch, 2014, Pavlova & Maclean, 2013). This means investing in vocational education at the secondary school level can contribute to economic development and growth in Africa. Furthermore, Pavlova & Maclean (2013) argued that vocationalization of the curriculum is both desirable and appropriate and that secondary schools will be more accountable for meeting society's economic and labour force needs by placing a greater emphasis on skills development. They further indicated that integrating vocational subjects in secondary school needs to be considered, especially the degree of vocationalization of the curriculum. This means the share of the curriculum devoted to vocational subjects reflects the degree of vocationalization.

2. Background

Secondary education has become more closely and explicitly related to preparing young people for the world of work. Therefore, there is a dire need to reconsider the epistemology of vocational education to bridge the gap between academic and vocational streams. The study by the Mastercard Foundation in 2020 recommended integrating seven key skills relevant to labour market needs into secondary education curricula and pedagogy. They entail strengthening foundational and STEM skills, developing 21st-century and digital skills, expanding opportunities for relevant technical and vocational skills through offering TVET courses in general secondary education, promoting entrepreneurship and work-readiness skills, and aligning competency-based curriculum reforms with pedagogy and assessment systems.

This study will help reformulate the secondary education curriculum that provides learners with knowledge and skills to feed Africa's labour market needs concerns. The study will also contribute to addressing the gap viewed as lax on the part of secondary education providers in Africa to design and implement a vocationalised curriculum that provides knowledge and skills young people need for the world of work. This concept builds upon the various insights that various researchers in general education have provided to bridge the gap between academic and vocational streams.

¹ Together with the Continental TVET Strategy and the Science, Technology, and Innovation Strategy for Africa (STISA 2024).

The number of students attending secondary schools in Africa escalates yearly, and not all access tertiary education. In most African countries, young Africans who finish secondary school are often poorly skilled and, to some extent, without the requisite skills, knowledge and competencies needed by the African employment markets. Thus, there is a need for the vocationalization of secondary education to provide learners with essential knowledge and skills for the world of work. Lack of employment-related skills and competencies makes youth unable to compete in the global labour markets. The need for vocationalization of secondary education is underscored by Akram (2012), who stated that education could only become the foundation stone of a sustainable society if it imparts necessary life skills.

The background paper prepared by the African Center for Economic Transformation (ACET, 2018) for the Mastercard Foundation study proposes an improvement in curriculum design at the lower secondary level by including some practical elements linked to key economic sectors, such as agriculture, to reflect the reality that many young students will move directly into the labour force after lower secondary. The study notes that many African countries are integrating more general vocational and technical skills into secondary curriculum (lower and upper) to help maximize the potential for young people to become employed. Including vocational subjects in secondary education will strengthen the comparability and flexibility between secondary education and TVET, as students need good foundational skills to engage in the latter effectively.

Expanding the recruitment and training of teachers in Africa, while also improving their working conditions, is of utmost necessity. The gap to be filled in the continent is projected at 10.8 million secondary school teachers by 2030 (Mastercard Foundation, 2020). Key actions include investing in high-quality pre-service teacher training, developing stronger pathways for promotion and leadership, leveraging digital technology to implement certification programs for unqualified teachers, prioritizing digital skills development for all teachers, and investing in strengthening school leaders' capacity to provide instructional leadership.

Therefore, this study will identify salient factors that African secondary education providers can apply in leveraging vocationalised secondary education so that learners can gain a competitive edge in the global labour market.

3. Objectives

The study uses data collected from public schools at regional level and at the national level in five African countries: Botswana, Kenya, Mauritius, Tunisia, and Uganda.

The study was designed to achieve the following specific objectives:

- a) Examine the readiness and extent to which vocationalization can and has been implemented in education in Africa, focusing on financing and funding issues; curriculum review and reform; technical teacher development and training and infrastructure; and other related investments in vocational education in secondary schools.
- b) To determine the extent of access to public secondary education schools offering vocational subjects in Africa.

- c) Understanding the challenges/constraints towards implementing vocationalization of secondary education in Africa.
- d) Propose clear, actionable steps to enhance or boost the vocationalization of secondary education in the selected five countries.

4. Conceptual Framework

Vocationalisation of secondary education can take two forms. The first one may involve the introduction of vocational subjects. This has been done in countries such as Zimbabwe and Ghana. The second one may involve giving all subjects a “vocational orientation.” This entails reviewing all subjects to emphasise the skills that should be developed in those subjects, skills related to the world of work, such as 21st century skills and those related to the fast-evolving 4th Industrial Revolution (4IR). This is not an either/or situation, though. Often the two strategies run together. Botswana, for example, reviewed her secondary education in the late 1990s and came up with a curriculum blueprint that had a group of vocational and technical subjects from which a student was expected to choose. At the same time, it vocationalised all academic subjects through an objectives-based curriculum i.e., all syllabi were reviewed to give them a vocational orientation (ICQN-SE Strategic Framework, 2022).

Findings in related studies reveal that Africa has the challenges of high youth unemployment and limited higher education opportunities. Such a situation is the driving force behind the call to ensure that youth are taught the right mix of skills at the secondary school level that will help them carve a niche in the labour market (UNESCO, 2005; Silliman and Virtanen, 2022). In the last three decades, African governments have implemented reforms intended to transform secondary education to contribute to the development of skills and competencies for employment. Different countries have introduced vocational and technical education subjects to enhance young people’s opportunities to find paid work or get into self-employment after completing their secondary education.

There is empirical evidence that organizations such as UNESCO and African governments have often endorsed the vocationalisation of African secondary school curricula. Anticipating such diversification of the curriculum might motivate changes in attitudes towards self-employment, entrepreneurship, and further education, thus enhancing learners’ opportunities for the transition to work (Akyeampong, 2002; UNICEF, 2019). For this study, the intention is not to prescribe one-size-fits-all interventions for the different education systems but to come up with flexible recommendations, based on the findings, that the different countries can adapt to their contexts.

Examples of African countries that have had their secondary education curricula vocationalised are Ghana and Zimbabwe (Mavhunga, 2002; Akyeampong, 2014). These countries have done so based on their contexts, consistent with Akyeampong’s (2002) assertion that countries have used different approaches to vocationalise the general education curriculum. Lessons from Zimbabwe show how the vocationalised education system works, as recommended by the Presidential Commission of Inquiry in Education and Training Report of 1999 (Nziramashanga, 1999). A secondary school curriculum with a strong vocational thrust offers students an option to follow either general academic, business/commercial, or technical/vocational multiple pathways.

Developed countries with a long history of vocationalised secondary education curricula, such as Finland since the 1980s and Sweden, have had a structured and school-based vocational education as part of upper secondary education (Isopahkala-Bouret, 2010). Vocational education has been perceived as a potential answer to the challenges of the future of the European Union (EU) and its member countries (Fejes and Köpsén, 2014). Mishra (2019) states that in Germany, children can choose their trade at the age of 10 years, with an opportunity to switch between pure academics and vocational learning anytime they wish to do so. Imbedded in such a system is an apprenticeship scheme that is recognized globally as a vehicle for effective simultaneous learning. This, consequently, improves students' job prospects. Some systems that have vocationalised their secondary education curriculum still maintain an academic curriculum, with between 15 and 30 percent focusing on practical subjects that include agriculture, management, and entrepreneurship (UNESCO, 2005). In 2015, Botswana adopted a multiple pathway approach as recommended in her Education and Training Sector Strategic Plan (ETSSP), a strategy intended to give learners a wide choice of subjects offered based on a range of considerations, including career prospects and preference.

However, the experiences of many African countries show that efforts at developing employability skills have, for different reasons, not always produced the desired results (Lauglo, 2005; Akyeampong, 2014). Fredriksen and Fossberg (2021) list factors like lack of secondary schools, inadequately trained teachers, archaic curricula and equipment, and families' inability to pay school fees as having frustrated efforts to develop young people's skills in Africa. Similar challenges were noted in Zimbabwe's vocationalisation strategy (Mavhunga, 2002) and largely in Cameroon (Arrey-Ndip, 2004).

Based on these highlighted country experiences, the general trend has been to reorient the curriculum towards an emphasis on vocational and technical subjects. This is understandable, given the heightened importance of STEM subjects in driving innovation – the driving force behind economic growth – and the need to sensitize secondary school students to potential careers and preparing them to know and develop aptitudes for future careers. Additionally, emerging issues in technical fields, such as resistant pests and agritechnology, make vocational subjects relevant even for those who will further their education. Changing the curriculum to address the needs of the future of work is, therefore, at the centre of this study. However, most of secondary education challenges reflect the common issue of limited resources. It is also important to capture data on enrolments in vocational subjects to inform the tracking of career paths.

5. Methodology

The preparedness for the vocationalization of secondary education study involved document review and semi-structured questionnaire administration. The document review used a systematic approach to identify both published and unpublished materials related to vocational education in secondary schools, drawing from secondary data from Africa and beyond.

A semi-structured questionnaire consisting of multiple-choice questions and a five-point rating scale, ranging from agreeing to disagreeing, was administered. The thematic and detailed qualitative analyses were undertaken to shape knowledge and understanding.

The data collection questionnaire was administered to vocational secondary school stakeholders, education managers, headteachers and technical and vocational subject teachers from five sampled countries of Botswana, Kenya, Mauritius, Tunisia, and Uganda. The study respondents were sampled based on their involvement in technical and vocational education in secondary schools. The study's national focal points from respective countries helped to identify the study respondents.

Figure 1 below shows the distribution of respondents' categories of the targeted samples used in this study.

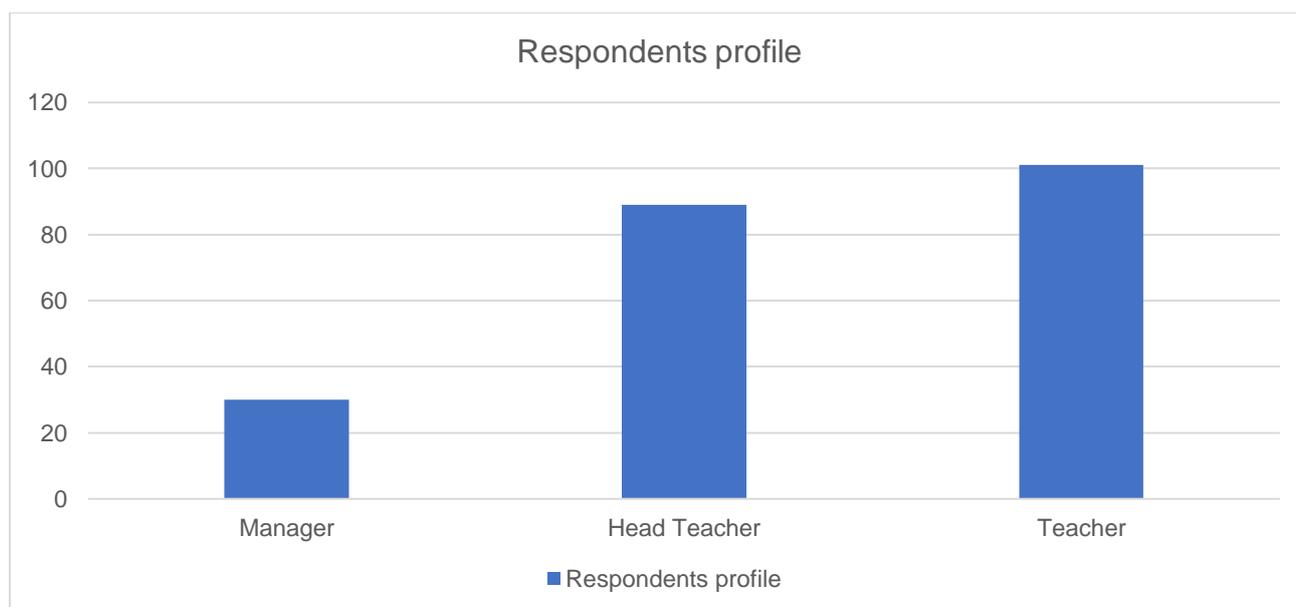


Figure 1: Category of respondents

6. Study Limitations

The preparedness for the vocationalization of secondary school education study needed extensive document review and analysis from Africa and sampled countries. Analysis of some of the scanned documents showed that they focussed more on general education than on vocational education. In some cases, there was a limited reference to vocational education in secondary school. However, despite the limitation on document focus and relevant document availability, the results from document analysis were substantial and were triangulated by the responses from the administered questionnaires.

The study objective clearly defined the nature of the information sought and ensured the respondents did not think it was an evaluation or comparative study. Therefore, the recommendations made in this report are not meant to be comparative; they are meant to support an effort to understand the vocationalization of education at secondary schools in Africa by documenting good practices and presenting the strategies related to implementing vocational education in secondary schools.

The definitions and descriptions associated with the “vocalization of secondary education” varied in different documents depending on the country’s focus on technical and vocational education. The differences in language or language proficiency (French or English) may also have impacted the definitions and descriptions. Therefore, due to variations in interpretation and to avoid getting bogged down in debates over terminology, the study concentrated on the preparedness for the vocalization of secondary education as the main focus.

7. Country Profiles

7.1. Botswana

When Botswana became independent, it was among the poorest African nations and the least developed in the world. However, due to the discovery of diamonds and its prudent management, Botswana has been one of the fastest-growing economies. It is currently rated as an upper-middle-income country by the World Bank (Donner, Hartmann, Schwarz, & Steinkamp, 2018).

Botswana has long-term national goals and values prescribed in the series of National Development Plans and the National Education Policy. These policies and plans set out the goals and strategies that Botswana will pursue to promote human, social, economic, and environmental development and illuminate pathways and choices that will define Botswana's society.

Botswana’s education system is divided into five stages comprising pre-primary, primary, secondary (junior and senior), vocational education and training, and tertiary education (ETSSP 2015-2020). The country invests in education, with around 22 per cent of the annual public budget, which represents the largest share of the total public budget (Koobonye, 2020).

Figure 2 below shows the structure of the country’s education system. Pre-primary education is largely provided by the private sector. Primary education is divided into Lower Primary (Standards 1 to 4) and Upper Primary (Standards 5 to 7). It is for a 7-year period for children aged 6 to 12 (although children up to 10 are allowed to start Primary school, especially for marginalized communities). All learners completing Lower Primary undertake a national assessment developed by Botswana Examination Council (BEC), while those Upper Primary are subjected to a national assessment called the Primary School Leaving Examination certificate (PSLE).

Secondary education consists of three years of junior secondary school followed by two years of senior secondary school. It prepares learners for the knowledge society. Government secondary schools are solely managed by Ministry of Education and Skills Development (MOESD), while the private schools are entities owned by individuals or companies and government aided schools are mission schools run by religious institutions (Roman Catholic Church and UCCSA) in partnership with Ministry of Education and Skills Development.

The Tertiary Education sub-sector has been growing (in structure, size, and shape, type of institutions, programme diversity and quality) even though access is still a challenge (Republic of Botswana, 2015).

In practice, two ministries have been responsible for delivering education services, namely (MOESD), and the Ministry of Local Government and Rural Development (MLGRD). A rearrangement in 2016 saw the splitting of the old Ministry of Education into two new ministries: Ministry of Basic Education (MOBE) and the Ministry of Tertiary Education, Research and Technology (MOTE). MOBE is now responsible for pre-primary, primary and secondary education while MOTER deals with vocational and technical education and teacher training, as well as other tertiary education and student bursaries (UNICEF, 2018).

BASIC EDUCATION				LABOUR MARKET	
Pre-primary Education	Primary Education	Secondary Education		Vocational Education & Training	Tertiary Education
Private Kindergartens	Public Primary schools	Community Junior Secondary Schools	Senior Secondary Schools	Brigades	Public & private universities
Pre-primary classes provided by NGOs	Private English Medium Primary Schools	Private English Medium Secondary Schools		Technical Colleges	Colleges of Education
		Botswana College of Distance and Open Learning			
Pre-primary classes provided by community based organisations	ABET Department of Non-Formal Education			Construction Industry Trust Fund	Technical and Vocational Education Colleges
	National Literacy Programme			Private VET providers	Botswana College of Agriculture
				Madirelo Training and Testing Centre	Botswana Accountancy College
				NGOs training providers	Institute of Health Sciences

Figure 2: Structure of education system.²

The Botswana General Certificate of Secondary Education (BGCSE) curriculum prepares pupils either for university or the world of work. The overall goal of secondary education in Botswana is to ensure equitable access for all eligible learners to quality secondary education that will adequately prepare them for further education and/or the world of work and contribute to a knowledge-based

² Republic of Botswana. (2015). Education & Training Sector Strategic Plan (ETSSP 2015-2020). Ministry of Basic Education. https://cms1.gov.bw/sites/default/files/2020-03/ETSSP%20Final%20Document_3.pdf

economy for Botswana. There are two pathways within General Education: Academic and Vocational; each pathway is two years long and designed to suit learners with different potentials and interests. These career pathways are offered mainly at senior secondary school. Vocational subjects are also offered at the junior secondary level; however, the content has a high proportion of general education content.

Botswana has teacher training colleges for general primary school teachers and secondary school subjects, and this means there is a need for more teacher training facilities, specifically for vocational subject teachers at all levels.

7.2. Kenya

As part of the ongoing reforms in its education sector, Kenya has shifted the focus to the provision of “a holistic, quality, and inclusive education and training for transformation to a knowledge economy, social cohesion, and sustainable development” (KICD, 2020). This has seen the change of the country’s education structure from 8-4-4 to 2-6-3-3 with the progressive implementation of a competence based curriculum framework.

Previously, the 8-4-4 system of education consisted of 8 years of primary school, 4 years of secondary school and 4 years of university education. Public primary education has been free and compulsory in Kenya since 2003, with the curriculum comprising languages, mathematics, history, geography, science, crafts and religious studies. The 8-4-4- system followed objective based curriculum, which lays emphasis on summative evaluation.

The new competence based structure of education consists of 2 years of pre-primary (for ages 4-5); 3 years of lower primary and 3 years of upper primary (for ages 6-11); and 3 years of junior secondary as well as 3 years of senior secondary (for ages 12-17 years). The system follows a Competence Based Curriculum, which seeks to nurture every learner’s potential by ensuring all learners acquire the core competencies. The Competence Based Curriculum emphasizes on formative rather than summative evaluations. The government is progressively rolling out the new system and hopes to completely phase out the old curriculum by 2026. Figure 3 below provides more details on the structure.

Learners in lower secondary will undergo a rigorous career guidance programme and be exposed to the related subjects to enable them to make informed choices as they transition to senior school. The subjects in lower secondary are in two categories: core and optional subjects. The 12 core subjects include pre-technical and pre-career education. The optional subjects include visual Arts, performing arts, home science, and computer science. Senior School comprises three years of education targeted at learners aged 15 to 17 years and lays the foundation for further education and training at the tertiary level and the world of work. For learners with special needs, the special needs education curriculum model is available.

The Kenyan government believes that providing quality secondary education is vital in generating opportunities and benefits for social and economic development. In Kenya, secondary education begins around the age of fourteen and lasts for four years. Public secondary schools are subsidised by the government, with the government paying tuition fees. Vocationalization of Secondary

Education in Kenya has been ongoing, with activities leading to curriculum reviews and reforms impacting vocationalization through subjects offered.

Restructuring the education system in Kenya introduced a vocational curriculum at the primary and secondary levels, mainly to equip the youth with pre-employment vocational skills. Regarding the curriculum content, the vocational subjects comprised core vocational subjects and industrial subjects. As indicated earlier, Kenya adopted a competency-based curriculum to enhance the vocationalization of secondary education. In secondary school, all technical subjects are offered as optional. Therefore, a student chooses among the subjects being offered in a particular school.

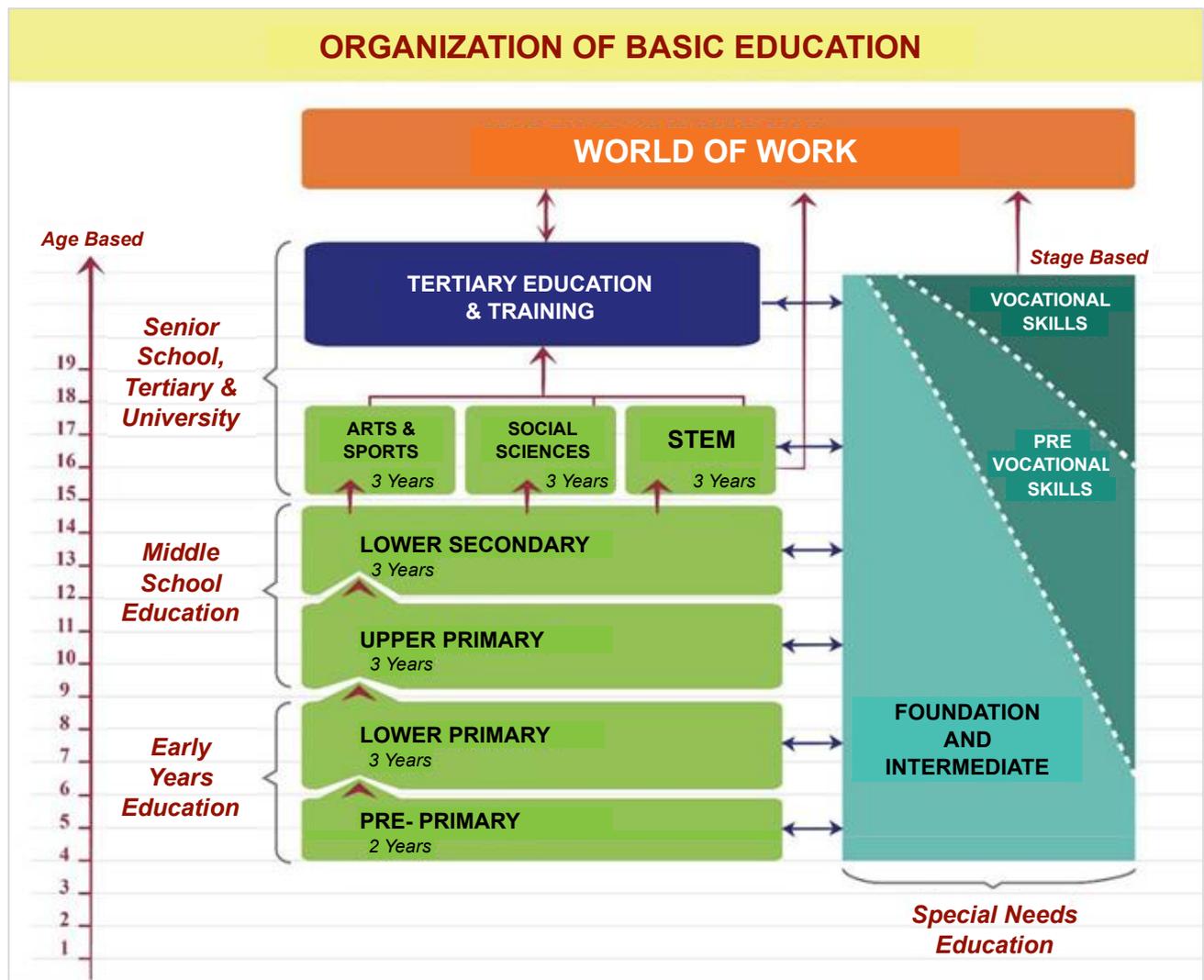


Figure 3: Organization of basic education under 2-6-6-3 education system.³

Through the Ministry of Education, Directorate of Technical Vocational Education and Training (TVET), the Government of Kenya introduced The Kenya Technical Trainers College (KTTC). KTTC was established with the primary objective of training technically skilled personnel to teach in Technical Institutions. It also aims to train Technical Trainers to teach in secondary schools and tertiary institutions.

³ Source: Kenya Institute of Curriculum Development, Strategic Plan 2020-2025. <https://kicd.ac.ke/wp-content/uploads/2022/09/KICD-STRATEGIC-PLAN-2020-2025.pdf>

In Kenya, TVET trainers and instructors are required to have various qualifications, depending on the level of TVET taught. At the secondary education level, trainers are required to have a Diploma or Craft Certificate (ISCED 5). At the tertiary education level, trainers are required to have a Higher Diploma or a Bachelor of Technology (ISCED 6).

7.3. Mauritius

Since its independence in 1968, Mauritius has invested considerably in the education sector, and impressive progress has been realised. The total government budgetary education funding in financial years 2019/2020 and 2020/2021 is estimated at 9.3 per cent and 9.2 per cent. Slightly above 50 per cent of government education funding goes to secondary school.

The Ministry of Education, Tertiary Education, Science and Technology, supervises and monitors all actions related to the support to be provided to education. The education system in Mauritius is categorised into pre-primary, primary, secondary, and tertiary with the primary and secondary level being free and compulsory for all students.

The Mauritian schooling system comprises three broad differentiated governance structures and ownership: state schools (or government schools in the primary sector of education); primary and secondary level schools privately owned and managed but mainly financed by the state (private confessional schools sometimes referred to as religious schools, and schools under the jurisdiction of the Private Secondary School Authority (PSSA)); and privately owned, managed, and financed schools that offer alternative international curricula. Education in Mauritius is compulsory from age five up to age sixteen.

The pre-primary education and primary education levels consists of 3 years and 6 years of compulsory schooling, respectively. Secondary education falls into mainstream education (academic stream) and pre-vocational or extended stream for those who are not successful at the end of primary schooling. The academic stream draws learners into the secondary school system (called colleges).

Secondary schooling spans 7 years and comprises 3 years of compulsory lower secondary schooling (Forms I to III), 2 years of optional upper secondary schooling (Forms IV and V), and 2 years of optional further secondary schooling (Lower VI and Upper VI) or opting for vocational or technical education programmes (Samuel and Mariaye, 2020). The Higher Education sector comprises a wide range of public and private tertiary educational institutions.

In Mauritius, pre-vocational education was reported as unsuccessful and phased out of secondary schools. Vocational Education in Mauritius is designed to address the need for a skilled workforce in both existing and emerging economic sectors to compete globally.

Vocational courses are mainly provided by the Mauritius Institute of Training and Development (MITD), which is under the Ministry of Labour, Human Resource Development and Training. In addition, some vocational courses are offered at the Institute of Technical Education and Technology (ITET) and are being reviewed per the country's needs.

Through the reform agenda in Secondary education, there is a proposal to introduce the Technology Education stream in Grades 10 and 11. This is an alternative pathway for students to opt for the Technical and Technology Education Stream at the secondary level.

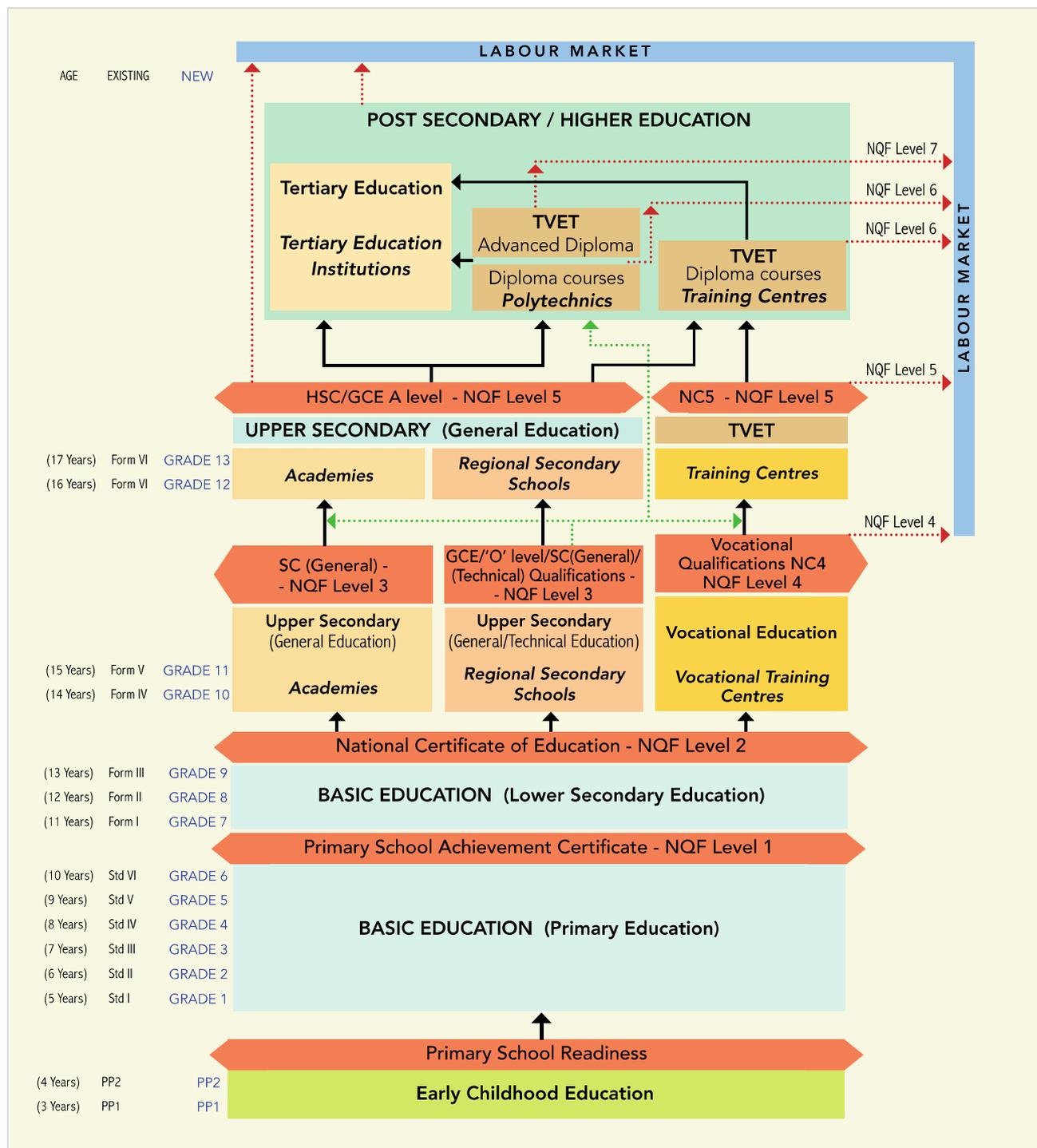


Figure 4: Change in formal education in Mauritius.⁴

⁴ Source: Samuel, M. A. and Mariaye, H. (2020). Schooling Education in Mauritius: Negotiated Connectivities. Springer Nature Singapore Pte Ltd. <https://docplayer.net/189012753-Schooling-education-in-mauritius.html>

7.4. Tunisia

The Tunisian educational system is based upon the “Napoleonic model” developed by the French colonizer during the protectorate. Education is free in all its stages and compulsory for children aged 6 to 15 (primary education and lower secondary education). Language of instruction is Arabic and French for primary and secondary education) and Arabic, French and English for higher education. Figure 5 below shows the current structure for basic education.

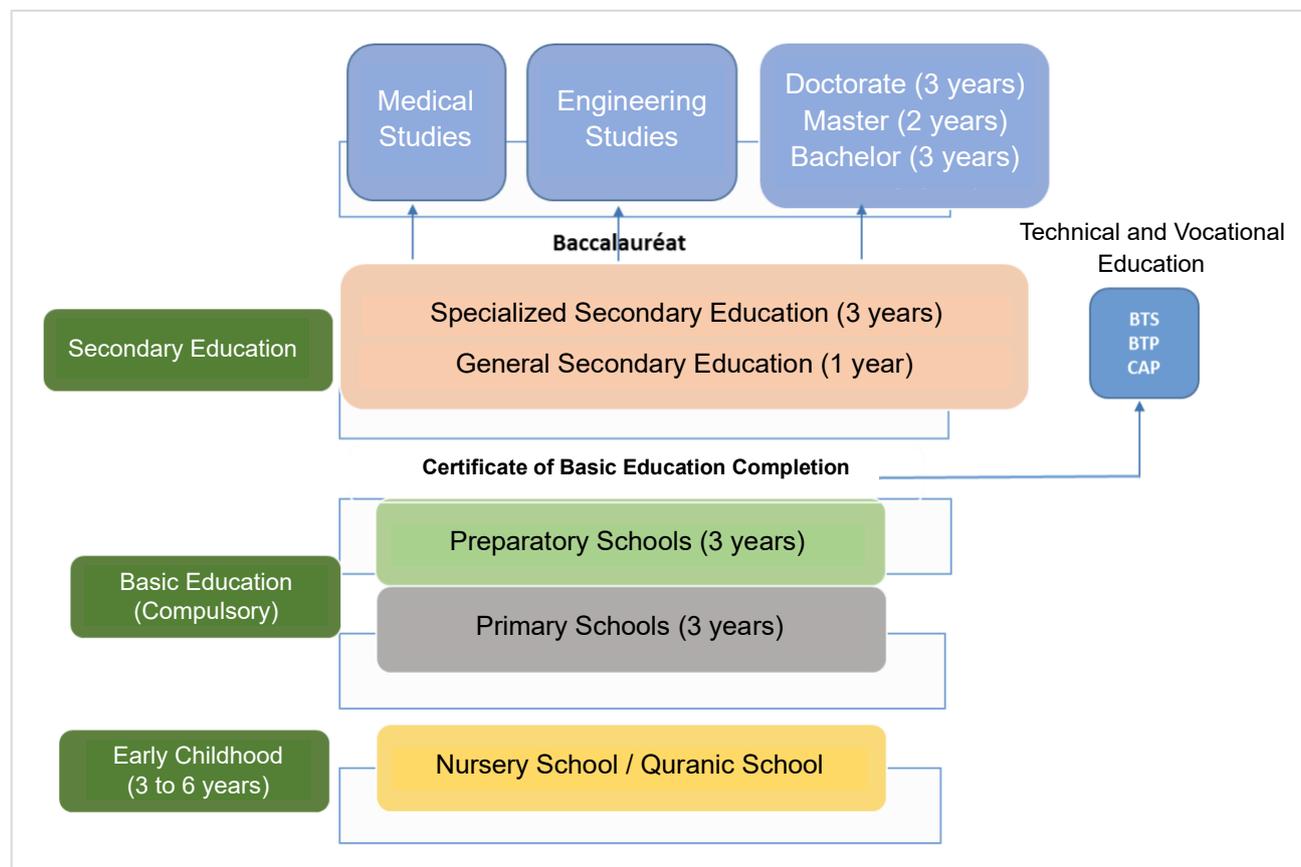


Figure 5: Tunisia's basic education system.⁵

Basic education lasts a total of 9 years and is divided into two levels: primary education (after nursery school and covers the first 6 years of schooling (from 6 up to 12 years old)); and lower secondary education that includes the subsequent 3 years of compulsory basic education (from 12 up to 15 years old) in preparatory or prep schools or collèges.

Secondary education covers the final 4 years of pre-university schooling in secondary schools “lycées”. All students follow a common core curriculum in their first year in secondary schools, then each student selects one particular pathway: science, arts, economics and management, computer science or sports. The science pathway is later subdivided into three pathways: science, mathematics or technical studies. The Ministry of Vocational Training and Employment is responsible for the vocational training (MERIC-Net, 2019).

⁵ MERIC-Net. (2019). The Higher Education system in Tunisia. National Report. http://www.meric-net.eu/files/fileusers/275_Tunisia_National%20Report%20template_MERIC-Net.pdf

The Tunisian government enacted new education legislation, which among other things, made basic education free and compulsory for ages 6 to 16. This enabled the country to make significant progress in terms of enrolment rates. As a result, Tunisia has higher enrolment at primary and secondary schools, 90% to 100%. The educational system in Tunisia is divided into three basic levels that include basic education (nine years), secondary education (4years), and higher education (four years). Basic education consists of two phases: primary education (six years) and preparatory education (three years). Secondary education comprises general instruction (two years) and specialised instruction (two years).

Tunisia's vocational education subjects start from junior secondary to senior secondary. Vocational subjects are offered parallel to the general curriculum. Some vocational subjects offered at junior secondary are considered prevocational and offered in specialised schools known as Craft schools.

Tunisia introduced a series of reforms as part of the Strategic Plan for the Education Sector. The strategic plans are designed to improve quality standards through improved teacher training, upgraded curricula and infrastructure, and an enhanced framework for education partnerships. (Mbuva and Muli, 2021)

7.5. Uganda

Uganda's education system was designed with various courses to equip learners with basic skills to facilitate individual development and transition to subsequent levels such as primary education, secondary education, vocational education, and tertiary education (MoES, 2019). After primary education, learners proceed to secondary school and some learners are admitted to polytechnics to pursue TVET opportunities such as tailoring, carpentry, bricklaying and concrete practice, electrical and mechanical engineering, and agriculture. The primary education curriculum offers the foundation for the vocationalization of secondary education in that learners are exposed to practical teaching and learning at an early age. (National Curriculum Development Centre, 2020).

Uganda's education system has been in place since the early 1960's. It consists of 7 years of primary education, 6 years of secondary education (divided into 4 years of lower secondary and 2 years of upper secondary school), and 3 to 5 years of post-secondary education.

Although the pre-primary level is not mentioned, some primary schools especially those in urban setting only admit children who have undergone 1-3 years of education at this level and the Ministry of Education and Sports is also beginning to regulate this level by standardizing its curriculum. Primary education, however, is still considered the first level of formal education in which pupils follow a common basic curriculum.

After upper secondary education, students proceed to university education for three to five years – depending on the duration of the course offered; join a two-year course leading to ordinary diploma in teacher education, technical education or business studies; or join departmental programmes.

Uganda reviewed the secondary school curriculum to emphasise knowledge, application, and behavioural change; and focuses on four “key learning outcomes” of self-assured individuals,

responsible and patriotic citizens, lifelong learners, and positive contributors to society (National Curriculum Development Centre 2020).

The government prioritises developing and implementing programmes that link primary and secondary schools to science-intensive universities to enhance Ugandans' skilling through teaching and learning. Figure 6 below depicts the current education system.

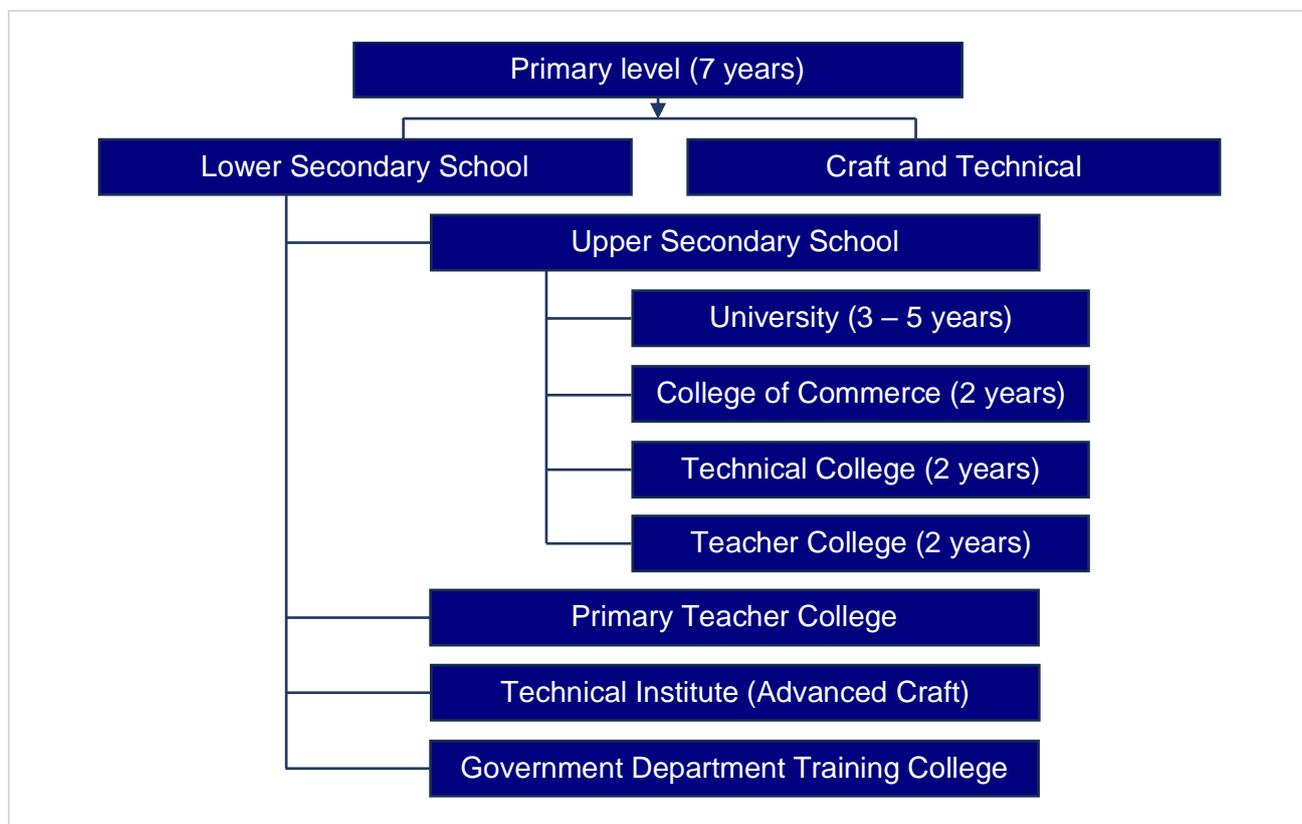


Figure 6: Education system in Uganda.⁶

To promote the vocationalization of secondary education, the new curriculum is competency-based. It focuses on values and generic skills a learner must acquire at the end of the secondary education cycle. In addition, the new secondary school curriculum has eight practical (pre-vocational) elective subjects in years three and four, specifically designed to prepare learners to join the world of work and gainful employment in Uganda (Katya, 2010).

The integration of vocational subjects into secondary education in Uganda is yet to reach its full potential. To address the challenges associated with vocational and technical education and to support the development of the needed employable skills and competencies relevant to the national transformation of the labour market, MoES developed the Technical and Vocational Education and Training (TVET) policy (MoES, 2019). Guided by this policy, MoES is committing additional resources to improve school infrastructure, facilities, and human resources.

⁶ https://www.ugandainvest.go.ug/uia/images/Download_Center/SECTOR_PROFILE/Education_Sector_profile.pdf

8. Study Findings

8.1. Vocational education

The vocationalization of secondary has received different remarks due to the diversity in conceptualisation and implementation. However, the study report shows that many countries in Africa have continued introducing or increasing vocational subjects in their secondary education. Several authors and policy documents from different countries account that vocational education and skills development has increasingly become an important policy issue in developing countries (King, 2009; Palmer, 2009). This shows that, as the footprint for vocational education expands in Africa, there is a steady transition from a predominantly general education curriculum model to vocationalise secondary education curricula.

The study also revealed that some vocational education stakeholders still hold an old assumption of viewing vocational education as only practical skills. This viewpoint limits the potential of vocational education. It is imperative that vocational education should focus on primary and fundamental literacy of society and the industry. The findings indicate that the conceptualisation of the vocationalization of secondary education is being discussed with positive views and great expectations. However, the concept of vocationalization of secondary education is used and presented differently in African countries as pre-vocational, vocational, technical, and technology education, among others. This trend is familiar in the Technical and vocational education and training sector, as the term Vocational Education and Training (VET) is used interchangeably with Technical Vocational Education and Training (TVET). Most countries in Africa use TVET, as described by UNESCO. In Kenya, it is Technical, Industrial, Vocational and Entrepreneurship Training (TIVET), while in Malawi and Zambia, it is Technical Entrepreneurial Vocational Education and Training (TEVET). The Southern African Development Community (SADC) adopted the nomenclature for TVET, considering the international standards and context of TVET (SADC, 2018).

8.2. Vocational education access

Vocational subjects are offered in secondary education using different models. The study revealed that vocational subjects are offered at secondary education level, but there is variation regarding the level. In Botswana, these subjects are offered at senior secondary level while Kenya, Tunisia, and Uganda offer vocational subjects at junior and senior secondary levels. Learners in Mauritius, on the other, access vocational subjects in post-secondary institutions. These variations may have an impact on the degree of access to vocational subjects at secondary school.

Figure 7 below shows the status of learner access to vocational subjects in Africa. In the majority of the countries (over 40 per cent), access to vocational subjects by learners is less than five per cent, while slightly above 10 per cent of learners access these subjects in nine per cent of the countries. Among the five countries sampled in this study, only Tunisia appears in the above 10 per cent vocational subject access category; while Mauritius falls in a different category because vocational subjects are offered at post-secondary institutions. This means access to vocational subjects in secondary schools in Africa is still a primary challenge. This situation may be orchestrated by different factors such as poor perception, poor learning environment and availability. This also shows that despite the efforts to encourage technical and vocational literacy, it is challenging for many African

students as very few students are enrolled. This situation has a direct impact on the preparedness for the vocationalization of secondary education.

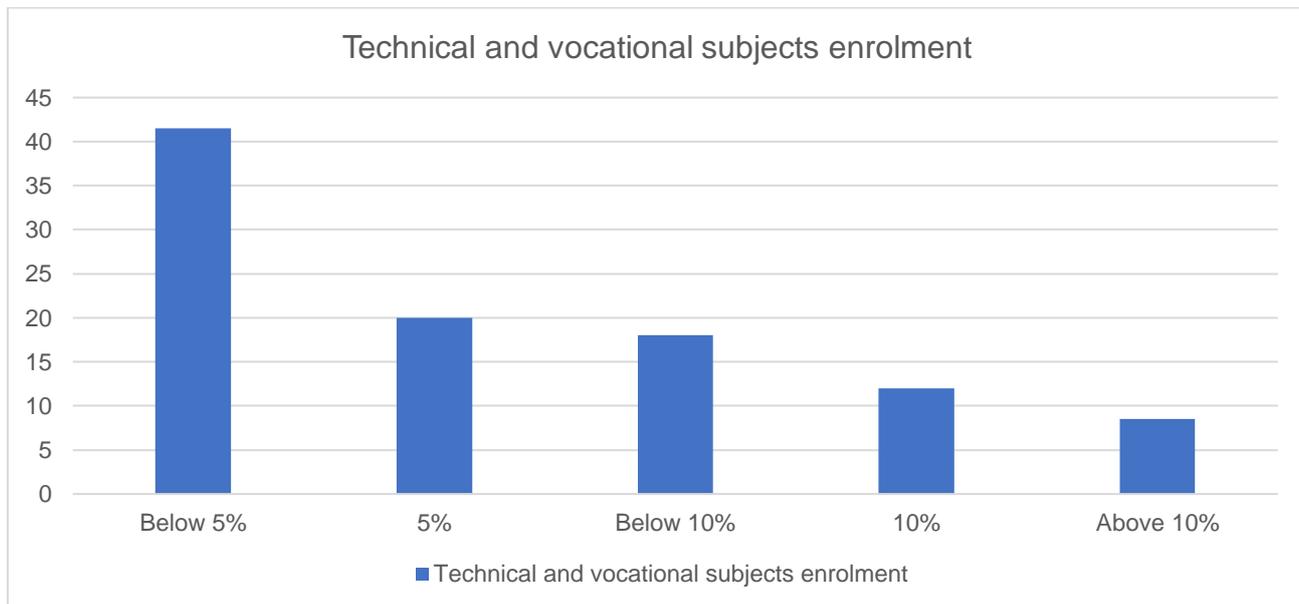


Figure 7: Technical and vocational subject enrolment.⁷

8.3. Use of local teaching and learning materials in vocational education

The use of local materials in the teaching and learning has become a tool to motivate learners to enrol in schools but it also makes the teaching and learning cheaper. Figure 8 shows the perception towards use of local and locally sourced teaching and learning materials.

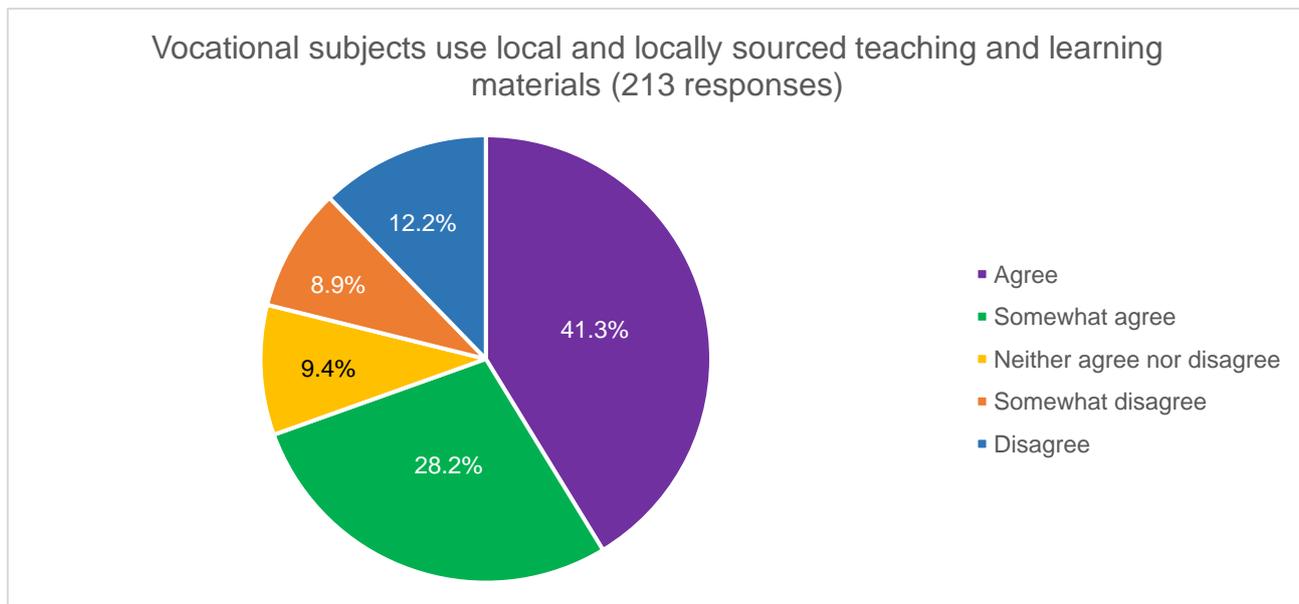


Figure 8: Use of local materials for teaching and learning

⁷ Source: Global Education Digest 2007 and Oketch 2014

The results show that, overall, close to 70 per cent agree on using local teaching and learning materials to motivate learners. Therefore, using local materials in teaching vocational subjects would be critical for the success of the vocationalization of secondary education. Apart from locally sourced teaching and learning materials, more need to be done to influence access to vocational subjects.

The document analysis during the study accounts for the need for guiding policies to encourage learners to enrol on vocational subjects. Furthermore, the current situation favours learners privileged to access information on their own or with pre-exposure to vocational subjects or those living close to vocational secondary schools. The limited number of secondary schools offering vocational subjects also contributes to this situation. In order to change the trend, strategies and tools should be devised to promote and avail vocational education to deserving learners.

8.4. Vocational education subjects offered in secondary schools

The study countries have taken different policy approaches regarding introducing vocational subjects in secondary education. In the case of Kenya, all technical subjects are offered as optional in secondary schools and the ongoing reforms with the competence-based curriculum will enhance vocationalization of secondary education. This promotion of vocationalization of secondary education through a competence-based curriculum is also seen in Uganda, where the government rolled out the revised lower secondary school curriculum in 2021, emphasizing knowledge, application and behavioural change. On the other hand, Mauritius has taken a different policy approach by removing pre-vocational education and introducing technology education stream at Grades 10 and 11 from 2024 to have a more knowledgeable workforce with higher order skills. Figure 9 shows the composition of vocational subjects being offered at various secondary schools.

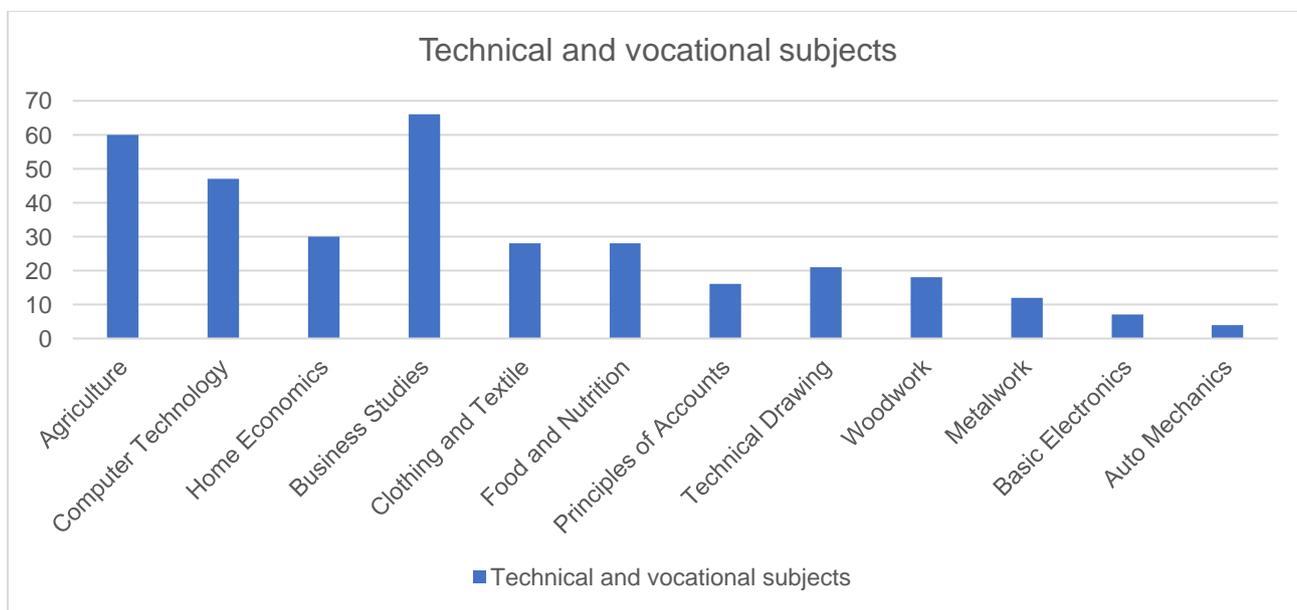


Figure 9: Vocational subjects in secondary schools

The trend shows an increase from the traditional subjects of technical drawing, metalwork, woodwork, and home economics to more than 12 subjects, with business studies, agriculture, computer technology, and home economics being offered in a greater number of secondary schools, respectively.

Uganda has, for example, eight practical elective subjects in secondary school specifically aimed at preparing its learners to join the world of work and for gainful employment in the country through vocational qualification. They include fine art, performing arts (music, dance, and drama), technology and design, nutrition and food technology, ICT, entrepreneurship, and agriculture. This positive development will have an influence on the preparedness and success of the vocationalization of secondary education.

According to the Principal Education Officer in the Kenya Ministry of Education, Dr Simon Ndung'u, curriculum reviews and reforms have had impacts on vocationalization through the subjects offered. He observes that a coordinated multisectoral approach towards assessing vocationalization of education, designing interventions to enhance vocationalization and implementation of the strategies will yield better results.

The study also recorded a mixed understanding of vocational and academic subjects in the five countries, with some of the respondents being able to differentiate the characteristics of the two while other see them as similar. Figure 10 below shows the state of understanding of the characteristics of vocational and academic subjects.

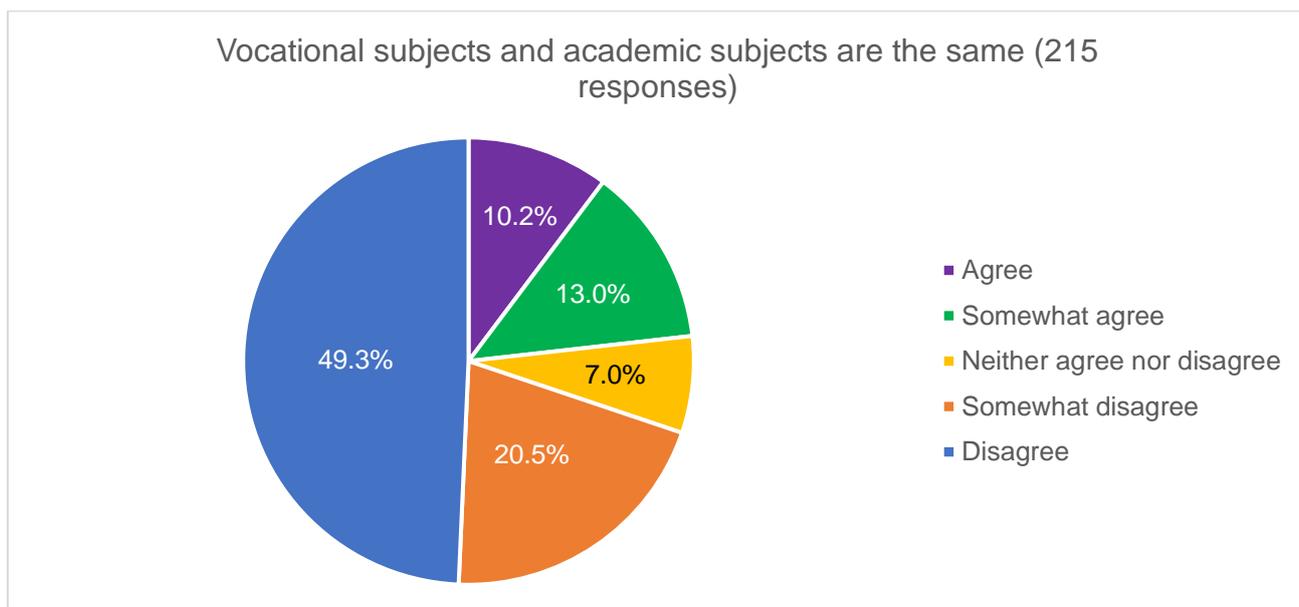


Figure 10: Academic and vocational subject similarity

The findings show that nearly half of the respondents clearly understand that academic and vocational subjects are different and should be treated as such. Another 20 per cent also support this view. However, slightly more than one tenth of the respondents see academic and vocational subjects as similar. This calls for familiarisation with the concept and its strategies.

The report shows that more than 80 per cent of the respondents from all the categories agreed that the vocational subject would impact on secondary education curriculum; they believed vocational subjects would make secondary curriculum more relevant.

Figure 11 below shows the understanding of the impact of the vocational subject on secondary education curriculum.

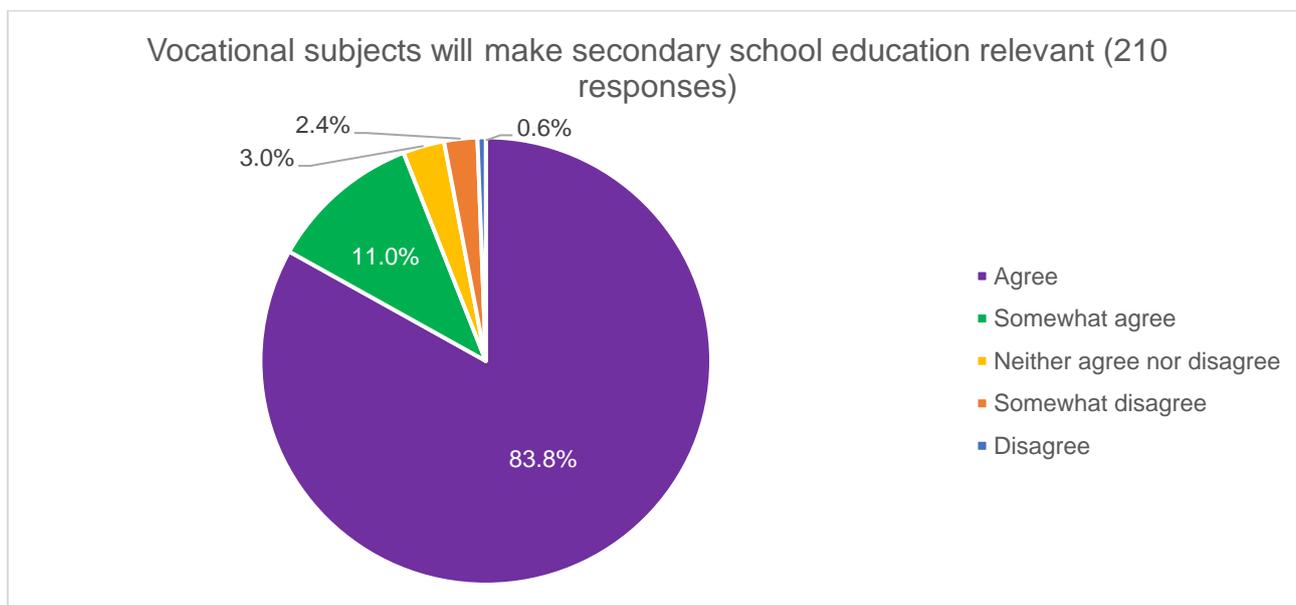


Figure 11: Vocational subjects make the curriculum relevant

The document analysis from the sampled countries accounts that relevance of the curriculum has been one of the motivating factors for respective curriculum reviews enacted in these countries. For example, the vocationalization of secondary education in Uganda aims to support the creation of needed employable skills and competencies relevant to the national transformational labour. This positive perspective of the impact of vocational subjects can influence the preparedness level to vocationalise secondary education.

8.5. Teaching and learning vocational subjects resource challenges

Full vocationalization of secondary education is yet to be realized due to the prevailing strong headwinds that include inadequate resource provision. This is demonstrated by factors around the lack, or inadequacy, of quality trained personnel, infrastructure and equipment, and insufficient financing.

The findings show that 65 per cent of the respondents agree on the teaching and learning resource challenges being experienced in the study countries. Close to 20 per cent of the respondents somehow agree that the situation exists.

This situation may be due to a lack of teaching and learning resources orchestrated by limited funding or the poor management of the limited resources due to a lack of understanding of the characteristics and behaviour of such resources. This directly impacts the quality of vocational subjects' teaching and learning, which will eventually impact the preparedness for the vocationalization of secondary education.

Figure 12 hereinafter shows the teaching and learning availability situation.

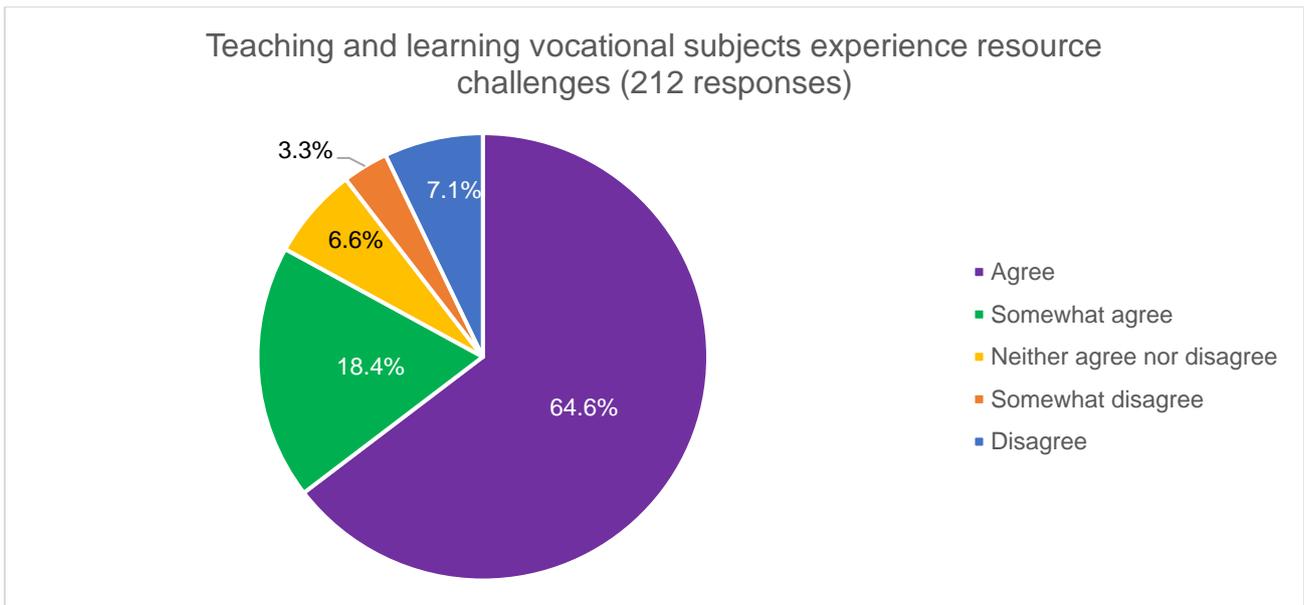


Figure 12: Teaching and learning resource challenges

Another challenge relates to the prudent management of the available resources that support the teaching and learning of vocational subjects in secondary schools, as expressed by the respondents below in Figure 13 shows the teaching and learning resource management situation.

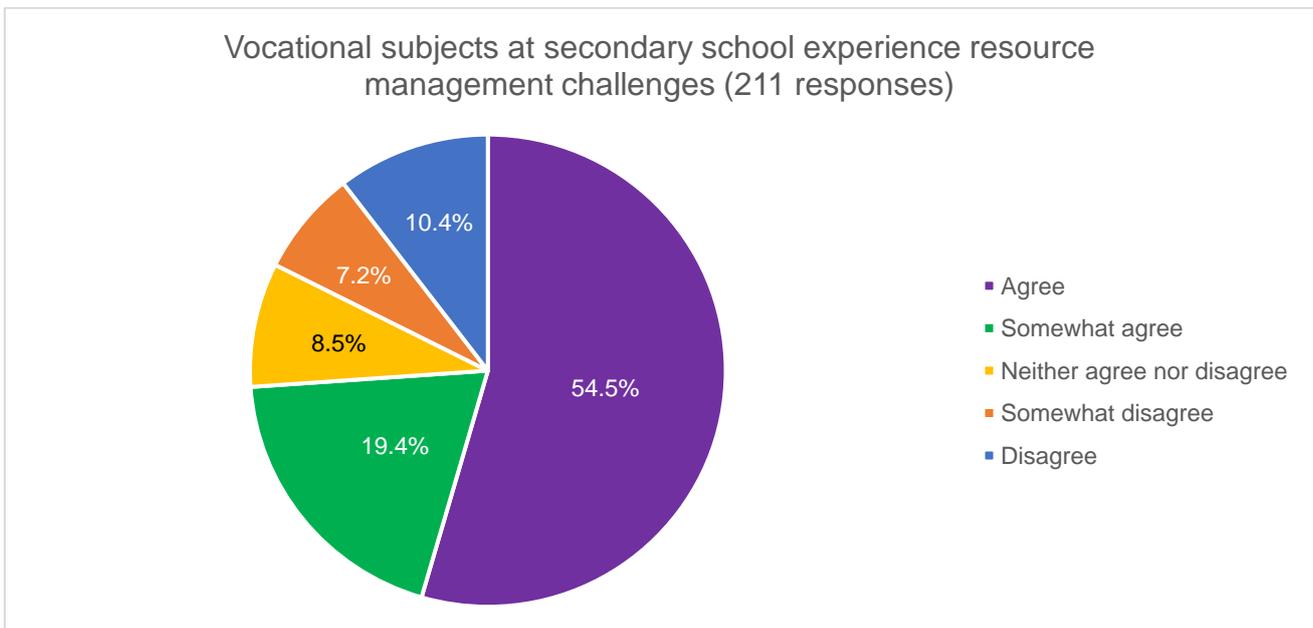


Figure 13: Teaching and learning resource management challenges

The study shows that more than 70 per cent of the respondents indicated that there are challenges in the way vocational subject resources are managed. The management of resources refers to utilising available resources fully and fully supporting the system. The situation requires intervention through capacity building. Understanding the characteristics of vocational education teaching and learning materials will help improve the required resources management.

The study also sought to determine the position of the respondents in the five study countries regarding the challenges specifically related to funding and finance of vocational education at the secondary school level. Figure 14 below shows the situation on the funding and financing of secondary school vocational subjects.

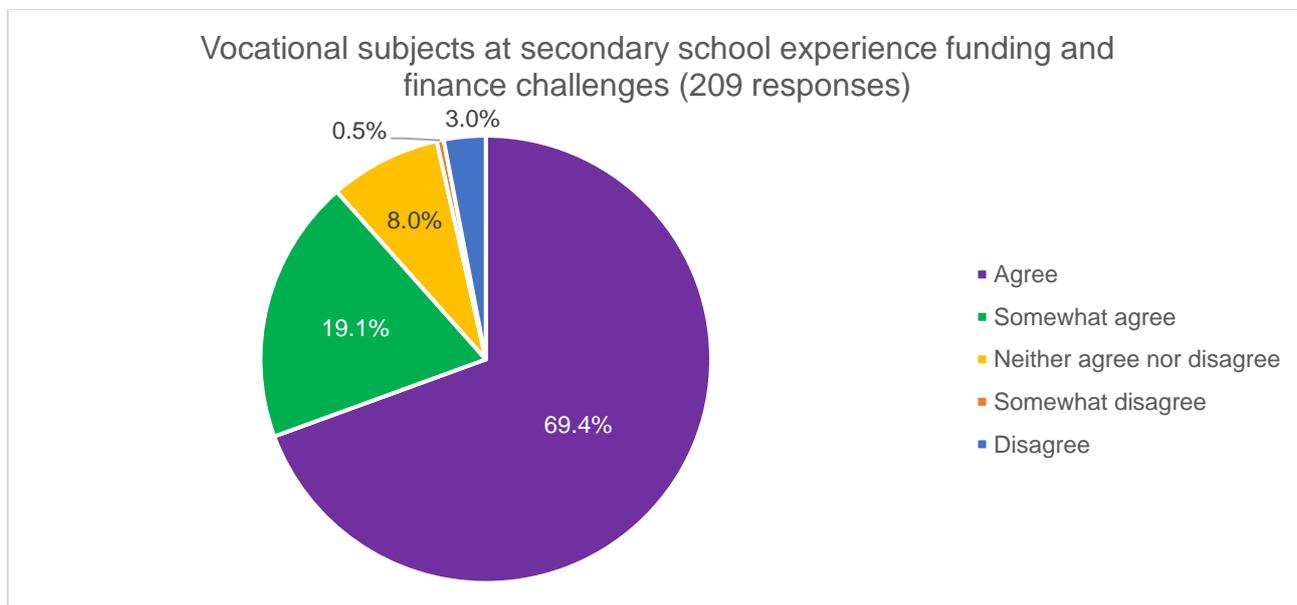


Figure 14: Funding and financing challenges

On average, nine out of every 10 respondents agree that vocational education in secondary schools from the study countries is experiencing funding and financing challenges. This experience is reported despite records of some countries like Botswana and Mauritius, among others, with increased funding for education in general and secondary education in particular. This situation calls for actionable interventions on funding model because funding and financing challenges directly impact preparedness for vocationalization of secondary education.

8.6. Vocational education subject teachers

The existing teacher training institutions in the study countries prepare teachers and trainers for the various subjects, but the numbers specifically trained and qualified to teach vocational subjects at the secondary level remain very low. It is necessary to expand recruitment, training and deployment while improving working conditions to fill the teacher and trainers gap in Africa. The Mastercard Foundation study (2020) estimates to be 10.8 million secondary school teachers by 2030. Key actions include investing in high-quality pre-service teacher training, developing stronger pathways for promotion and leadership, and leveraging digital technology to implement certification programs for unqualified teachers. There is also a need to prioritize digital skills development for all teachers, and to invest in strengthening school leaders' capacity to provide instructional leadership.

Figure 15 shows the status of the availability of vocational subject teachers in secondary schools. The study shows that 75 per cent of the respondents generally have the view that there is a need for more vocational subject teachers at the secondary school level. The respondents did not only indicate insufficient vocational subject teachers but also indicated a need for qualified vocational subject teachers. This directly impacts the quality of vocational education in secondary schools. The situation

may be orchestrated by many factors, such as the limited availability of vocational subject teacher training programs or lack of interest for potential vocational subject teachers.

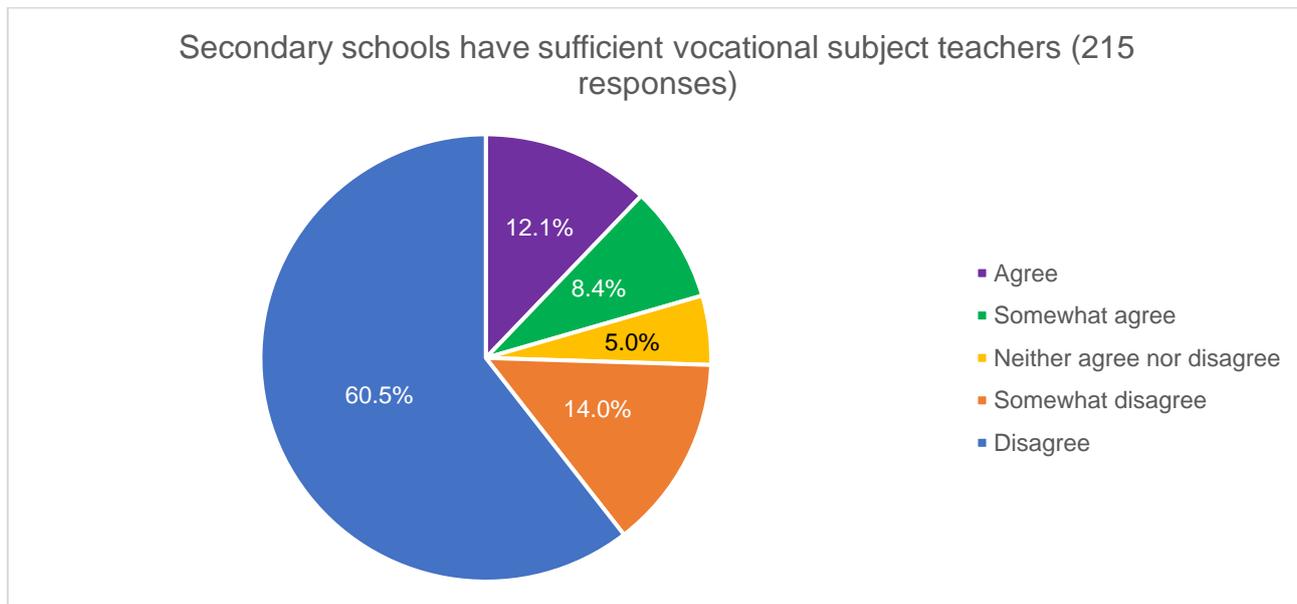


Figure 15: Sufficiency of technical and vocational teachers

However, document analysis accounts that countries are enacting different initiatives to improve the situation. For example, Tunisia introduced a series of reforms through strategic plans designed to improve quality standards through improved teacher training. The vocational subject teacher shortage calls for intervention because it directly impacts the degree of preparedness to vocationalise secondary education.

8.7. Level of school preparedness to implement Vocational education subjects

The contextual issues related to country preparedness informs the degree of preparedness to implement vocational subjects in secondary schools. As mentioned earlier, factors such as infrastructure, personnel, teaching and learning resources, and financing, among others, will influence the situation. This then shapes the perception of whether the secondary schools have adequate capacity to implement vocational education subjects. Figure 16 hereinafter shows such perceptions from the respondents in the five study countries.

The findings show respondents' divided perceptions about secondary schools' capacity to implement vocational subjects. The divided perception may be influenced by the situations such as limited teaching and learning material, limited funding and insufficient qualified vocational subject teacher.

However, the document analysis during the study accounts that vocational subjects are being implemented at different degrees. This means different countries have different capacity levels. The divided perceptions and capacity levels directly impacts the preparedness to vocationalise secondary education.

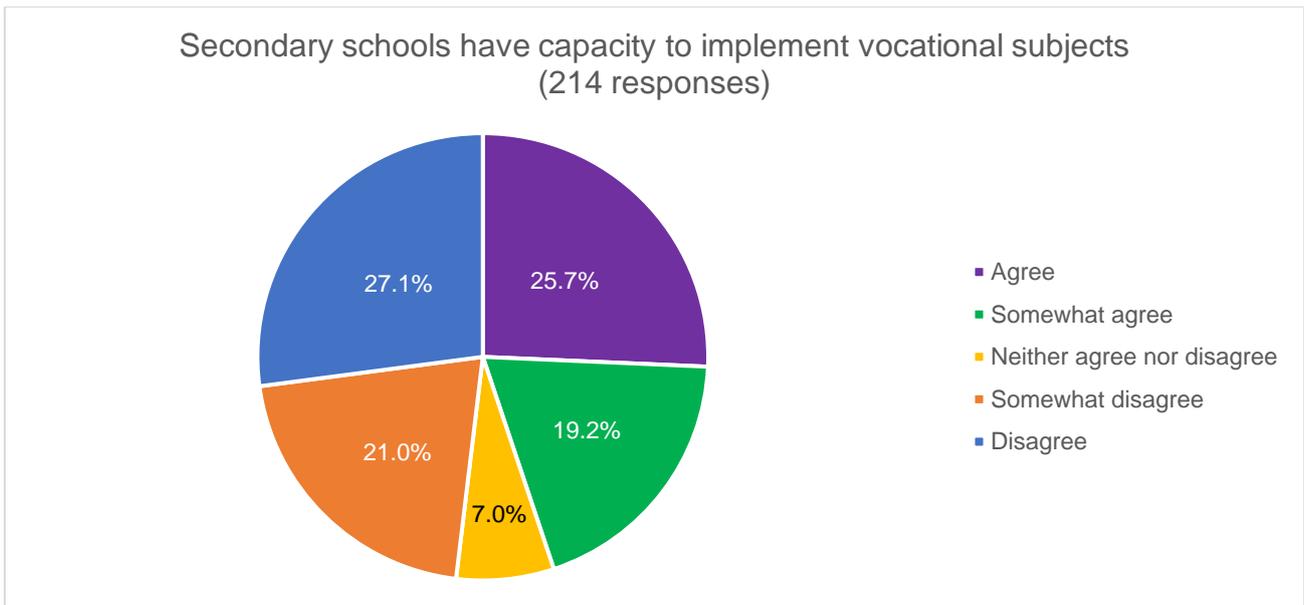


Figure 16: Secondary school capacity to implement vocational subjects

Beyond the perception of capacity is the issue of commitment to the implementation, which the study also sought to determine. Figure 17 below shows respondents' perception on the degree of commitment to implement vocational subjects at the secondary education level.

Slightly above 50 per cent of the respondents agree and somewhat agree that secondary schools are committed to seeing vocational subjects being implemented. The commitment is expressed or demonstrated in different ways, such as in speeches by leaders, availing resources and policy statements and direction. The current document analysis from the five countries accounts that there is a significant commitment through policy documents and commitment expressed through the political will of government leadership.

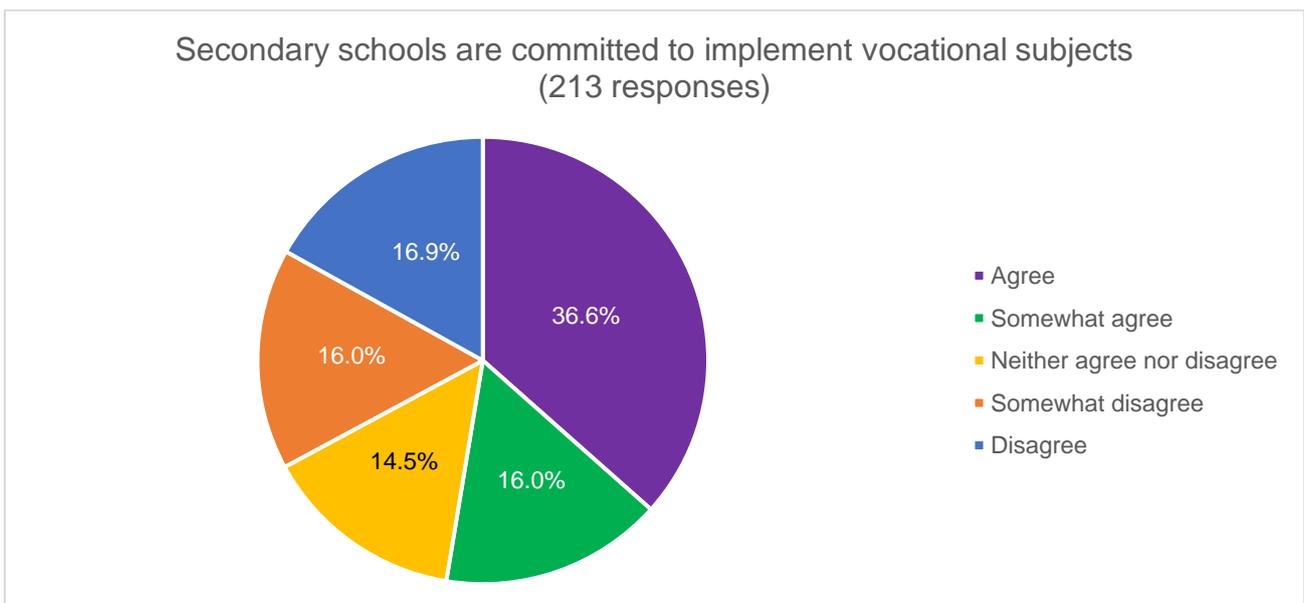


Figure 17: Secondary school commitment to implement vocational subjects

9. Conclusion

Vocationalization of secondary education has been recorded as a worthwhile strategy for empowering youth in Africa. Most African countries recognise that developing technical and vocational education is fundamental. This shows that the vocationalization of secondary education in Africa has the potential to succeed and achieve the intended outcome. However, there is a need to reflect on governance structures, which should include coordinating vocational education activities and establishing the interrelation of vocational curricula within and between different levels of the education and training sector.

Furthermore, Africa's current vocational education profile needs to be corrected. Many people know about vocational education, but with limited understanding. Consequently, vocational education implementers failed to take advantage of the political will vocational education enjoys. Furthermore, they also failed to benefit from the comparative advantage that vocational education has over academic education. Eventually, vocational education is operating with limited human and material resources.

However, despite the misunderstanding and misconceptions about vocational education's meaning and conceptualisation strategies, the poor perceptions towards vocational education are changing through increasing vocational subjects and introducing vocational curricula at the earliest stages of education systems.

Therefore, the preparedness for the vocationalization of secondary education is evident because the footprint of vocational subjects is visible across the continent. To enhance the potential of preparedness, there is a need to focus on improving the reputation of vocational education through awareness and familiarisation with the concept and its strategies. Further, there is a need to see the fulfilment of the commitments made in policy documents. Also, to improve the management of facilities and resources, there is a need to build the capacity among stakeholders to enhance the understanding of the characteristics of vocational education teaching and learning facilities and materials. Finally, there is a need to align funding and investment strategies with the targeted vocational education priorities.

10. Recommendations

10.1. Strategy to enhance vocationalization of secondary school

The vocationalization of secondary school education requires strategies to be applied to lift the education sector's capacity. The introduction of vocational education subjects to secondary education means more work for teachers and leaders, hence the need for vocational education facilities and resource management capacity building in secondary schools. Understanding the characteristics of technical and vocational education teaching and learning materials will help improve the resources management knowledge deficit. It is evident that not all vocational subjects require serious capital investment; some can operate using recycled materials and locally sourced teaching and learning

materials. Therefore capacity building should focus on an individual basis and institutional or group basis. The capacity building may include the following management principles.

Management principles:

- a) Planning - focuses on setting goals/objectives and developing strategies and control measures for vocational subjects teaching and learning at secondary school level.
- b) Organising - focuses on developing the internal structures for vocational subjects teaching and learning at secondary school level.
- c) Implementation - involves implementing the technical and vocational teaching and learning plans.
- d) Control - involves evaluating actual performance against established standards and taking corrective action where necessary.

10.2. Strategy to enhance access to vocational subjects

Despite the increase in the number of learners attending secondary education orchestrated by free and compulsory primary education, the profile of learners' access to vocational subjects remains very low. The access challenges are orchestrated by factors such as perception and availability. Therefore, various strategies are required to respond to access challenges.

The following are some of the strategies.

- a) Increase the number of vocational subjects at secondary school levels.
- b) Introduce vocational subjects at primary school levels.
- c) Enhance inclusivity in access to vocational subjects.
- d) Use qualified vocational subject teachers in secondary schools.
- e) Promote the use of local materials for teaching technical and vocational subjects.
- f) Attach a National Qualification Framework (NQF) level qualification to vocational subjects in secondary school content.
- g) Establish more secondary schools offering vocational subjects.
- h) Use career talks and career mentors to motivate learners and follow up on their career paths.
- i) Incorporate in the insitutional EMIS, where absent, collection of enrolment data for vocational subjects.

10.3. Strategy to enhance technical and vocational subject curriculum

For vocational education to play its part effectively in the changing global environment, it is imperative to vocationalise curriculums and make it flexible, contemporary, relevant, and inclusive. This means there is a need for comprehensive knowledge and understanding of vocational education across a suite of education and training sectors.

The curriculum at secondary schools has been exposed to different forms of reviews, which involved repackaging the content to align with the teaching and learning models. However, although the curriculum content is categorised as academic and vocational, in some countries, there is no clear distinction between them at junior and senior secondary school levels. This situation requires a detailed understanding of the merits of separating academic from vocational, integrating academic and vocational curricula or making a stand-alone vocational curriculum model. Since the critics of technical and vocational education argue that the curriculums fail to address the holistic human development needs; therefore, it is critical to repackage the composition and proportion of subjects so that it should not only focus on specific disciplines but employability skills as well which cover a broad range of knowledge, skills, attitudes, and values.

10.4. Strategy to enhance the quality of teaching technical and vocational education subjects

The quality of the technical and vocational subject teachers is critical in Africa. Few countries have a primary school vocational teacher training program or a secondary school technical teacher training programme; some have secondary school vocational teacher training programs offered at a university, which is mostly theoretical. Therefore, there is a need for the development of a comprehensive vocational teacher training and development system. The development of vocational teacher training program should be guided by the appropriate policy. The policy should create direct and indirect communication routes among different groups engaged in vocational education teacher training and teaching and learning at different levels of the education and training sector. This will eventually lead to establishing technical and vocational education teacher training programs and colleges.

10.5. Strategy to enhance funding, financing and investment

The vocationalization of secondary school funding, financing and investment profile demonstrates a limitation in funding, financing, and investment strategies. The current situation is prompted by factors such as a lack of common understanding and a lack of capacity. The following approaches are proposed:

- a) Clarifying the overgeneralised myth that vocational education subjects are expensive.
- b) Bring an understanding that not all vocational subjects require capital investment.
- c) Operate using locally sourced teaching and learning materials.
- d) Operate using recycled teaching and learning materials.
- e) Develop a teaching and learning resource management model.
- f) Devised targeted funding model.
- g) Develop diverse funding sources.
- h) Funding and investment collaboration and partnership
- i) Use funding from technical and vocational education and training fund/levy.

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Appendix 1: Preparedness for vocationalization of secondary school education. [Questionnaire](#)

1. Country

- Botswana
- Kenya
- Mauritius
- Tunisia
- Uganda
- Other:

2. Respondent profile

- Manager
- Headteacher
- Teacher
- Other:

3. Vocational subjects at secondary school

- Agriculture
- Computer technology
- Home economic
- Business studies
- Clothing and textile
- Food and nutrition
- Principles of accounts
- Technical drawing
- Woodwork
- Metal work
- Basic electronic
- Auto mechanics
- Other:

4. The number of vocational subjects has increased.

- Agree
- Somewhat agree
- Neither agree or disagree
- Somewhat disagree.
- Disagree

5. The number of vocational subjects has decreased

- Agree
- Somewhat agree
- Neither agree or disagree
- Somewhat disagree.
- Disagree

6. Vocational subject with high enrolment

- Agriculture
- Computer technology
- Home economic
- Business studies
- Clothing and textile
- Food and nutrition
- Principles of accounts
- Technical drawing
- Woodwork
- Metal work
- Basic electronic
- Auto mechanics
- Other:

7. Vocational subject with lower enrolment

- Agriculture
- Computer technology
- Home economic
- Business studies
- Clothing and textile
- Food and nutrition
- Principles of accounts
- Technical drawing
- Woodwork
- Metal work
- Basic electronic
- Auto mechanics
- Other:

8. Vocational subjects broaden and enrich secondary school curriculum.

- Agree
- Somewhat agree
- Neither agree or disagree
- Somewhat disagree.
- Disagree

9. Vocational subjects increase attractiveness of secondary school curriculum.

- Agree
- Somewhat agree
- Neither agree or disagree
- Somewhat disagree.
- Disagree

10. Vocational subjects increase access to secondary school curriculum

- Agree
- Somewhat agree
- Neither agree or disagree
- Somewhat disagree.
- Disagree

11. Vocational subjects will make secondary school education relevant.

- Agree
- Somewhat agree
- Neither agree or disagree
- Somewhat disagree.
- Disagree

12. Vocational subjects and academic subjects are the same.

- Agree
- Somewhat agree
- Neither agree or disagree
- Somewhat disagree.
- Disagree

13. There are enough strategies to motivate learners to enrol on vocational subjects.

- Agree
- Somewhat agree
- Neither agree or disagree
- Somewhat disagree.
- Disagree

14. Vocational subjects are taught the same way as academic subjects.

- Agree
- Somewhat agree
- Neither agree or disagree
- Somewhat disagree.
- Disagree

15. Secondary school admission policy recognizes the peculiar characteristics of vocational subjects

- Agree
- Somewhat agree
- Neither agree or disagree
- Somewhat disagree.
- Disagree

16. Secondary school funding policy recognizes peculiar characteristics of vocational subjects.

- Agree
- Somewhat agree
- Neither agree or disagree
- Somewhat disagree.
- Disagree

17. Vocational subject funding has improved.

- Agree
- Somewhat agree
- Neither agree or disagree
- Somewhat disagree.
- Disagree

18. Secondary school resource disbursement recognizes the peculiar characteristic of vocational subjects.

- Agree
- Somewhat agree
- Neither agree or disagree
- Somewhat disagree.
- Disagree

19. Vocational subjects resources disbursement has improved

- Agree
- Somewhat agree
- Neither agree or disagree
- Somewhat disagree.
- Disagree

20. Vocational subjects uses local and locally sourced teaching materials

- Agree
- Somewhat agree
- Neither agree or disagree
- Somewhat disagree.
- Disagree

21. Secondary school infrastructure investment recognizes the peculiar characteristics of vocational subjects

- Agree
- Somewhat agree
- Neither agree or disagree
- Somewhat disagree.
- Disagree

22. Vocational subjects infrastructure has improved

- Agree
- Somewhat agree
- Neither agree or disagree
- Somewhat disagree.
- Disagree

23. Secondary school has sufficient vocational subject teachers

- agree
- somewhat agree
- neither agree or disagree
- somewhat disagree
- disagree

24. All vocational subjects have teachers

- Agree
- Somewhat agree
- Neither agree or disagree
- Somewhat disagree.
- Disagree

25. Secondary school vocational teachers are well trained to teach vocational subjects

- agree
- somewhat agree
- neither agree or disagree
- somewhat disagree
- Disagree

26. Secondary schools are committed to implement vocational subjects

- Agree
- Somewhat agree
- Neither agree or disagree
- Somewhat disagree.
- Disagree

27. The secondary schools have capacity to implement vocational subjects

- Agree
- Somewhat agree
- Neither agree or disagree
- Somewhat disagree.
- Disagree

28. Secondary schools are prepared to implement vocational subjects

- Agree
- Somewhat agree
- Neither agree or disagree
- Somewhat disagree.
- Disagree

29. Teaching and learning vocational subjects experience resource challenges

- Agree
- Somewhat agree
- Neither agree or disagree
- Somewhat disagree.
- Disagree

30. Vocational subjects at secondary school experience funding and finance challenges

- Agree
- Somewhat agree
- Neither agree or disagree
- Somewhat disagree.
- Disagree

31. Vocational subjects at secondary school experience resource management challenges

- Agree
- Somewhat agree
- Neither agree or disagree
- Somewhat disagree.
- Disagree

Appendix 2: List of Study Country Focal Persons

ICQN on Secondary Education:



Dr. Ramatlala Mogomotsi, Coordinator & Senior Education Officer, Ministry of Education and Skills Development, Botswana

Resource Person:



Prof. Noel Kufaine, Technical Vocational Education Department, Namibia University of Science and Technology, Malawi

Country Expert Focal Points:



Dr. Shadreck Majwabe, Deputy Director, Department of Curriculum Development and Evaluation, Ministry of Basic Education, Botswana



Simon Ndung'u Gachigua, Technical Officer, Directorate of Secondary Education, Ministry of Education, Kenya



Deoraj Doma / Yugesh Panday, Ag. Director (e-Education & Scholarship), Ministry of Education, Tertiary Education, Science & Technology, Mauritius



Mme Nadia Agrebi, Directrice Générale du cycle Préparatoire et de l'enseignement Secondaire, Tunisia



Dr. Cleophus Mugenyi, Commissioner, Ministry of Education and Sports, Uganda



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