

Practical skills online – how far can you go?

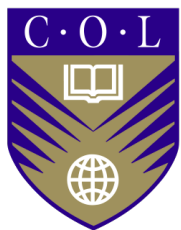
Terry Neal, COL

Dr (Engr) Ibraheem Adedotun Abdul, Yaba
College of Technology, Nigeria

Phyllis Kasonkomona, TEVETA, Zambia



COMMONWEALTH of LEARNING



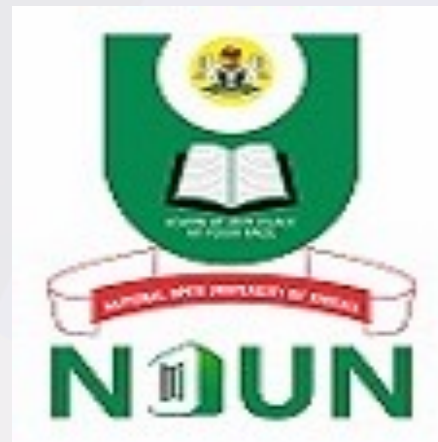
COMMONWEALTH *of* LEARNING



To help Commonwealth governments and institutions use distance and open learning for sustainable livelihoods



Distance learning: Increase access through flexibility and affordability



Open TVET?

Pre COVID 19



World Bank (2019) 'The World Employment Report 2019: Trends and Outlook for the Labour Market'.

World Bank (2019) 'The World Employment Report 2019: Trends and Outlook for the Labour Market'.

World Bank (2019) 'The World Employment Report 2019: Trends and Outlook for the Labour Market'.

Post COVID 19



Open TVET

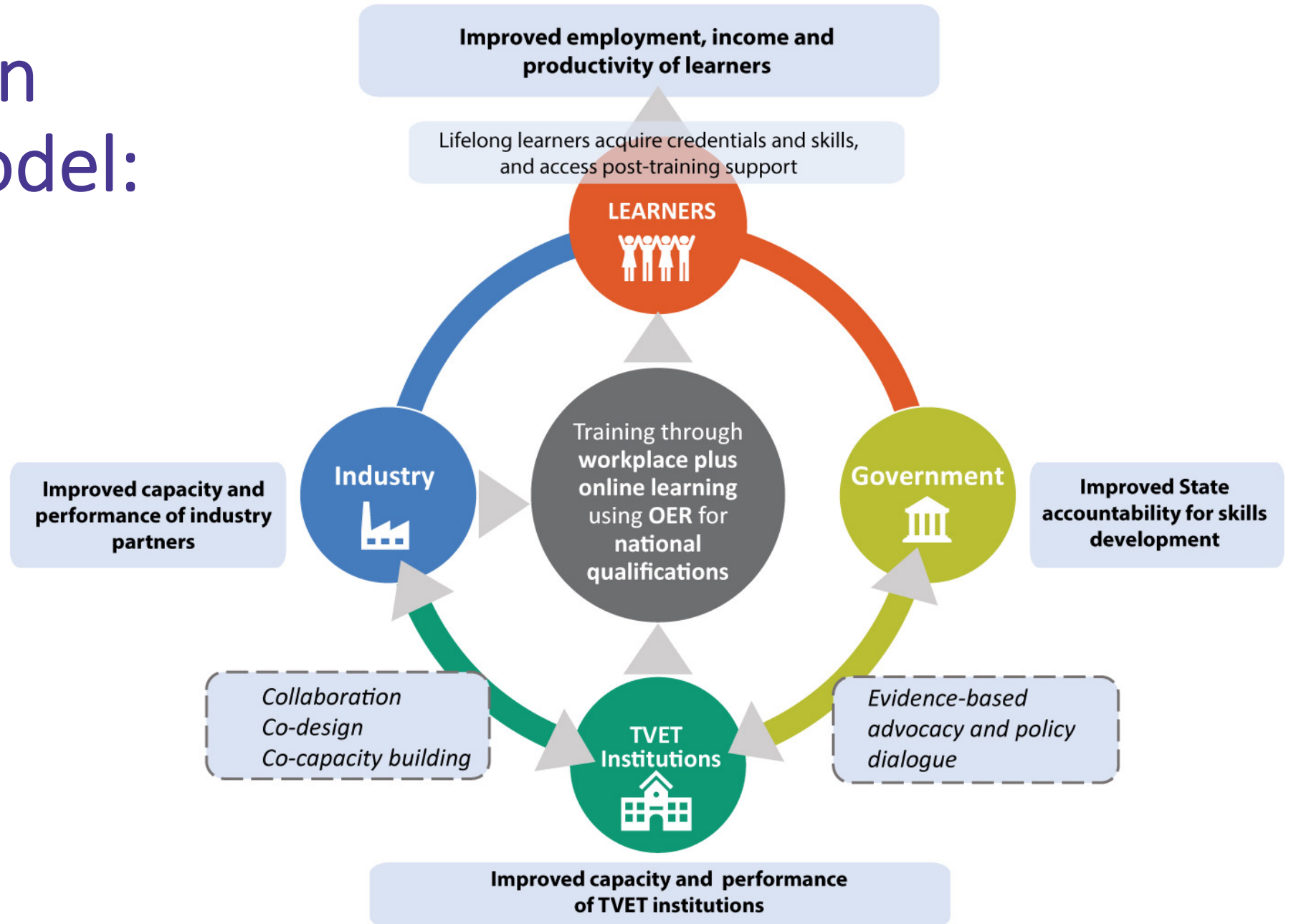


Open Polytechnic
KURATINI TUWHERA

BCITO
buildingpeople



COL's Skills in Demand model: Pathway of change



Country	Partners - TVET and industry	Skill in demand	From pilot to scale
Nigeria	<p>Yaba College of Technology</p> <p>Computer and Telecommunication Engineers Association of Nigeria (COMTEAN)</p>	<p>Computer and mobile phone repair, business skills</p> <p>Projected demand for ICT skills</p>	<p>Pilot 80MCs + 500 apprentices</p> <p>Scale 2022 – 1,200 + 12,000 2023 – 3,000 + 30,000 pa</p>
Zambia	<p>Luanshya Technical Business College</p> <p>Nakadoli - informal furniture co-operative</p> <p>Kubu Crafts - formal furniture making company</p>	<p>Carpentry and upholstery, business skills</p> <p>Furniture making industry - one of nine 'quick wins' for job creation</p>	<p>Pilot: 11 MCs, 50 apprentices</p> <p>Scale: > 1,000 co-operatives, 100,000 trained</p>
Tuvalu	<p>Tuvalu Atoll Science, Technology and Training Institute (NZ Building and Construction Industry Training Organisation)</p> <p>Public Works Department</p>	<p>Construction</p> <p>Build and maintain Tuvalu infrastructure, including post cyclone, emigration choices</p>	<p>Pilot: 60 unskilled construction workers Now extended to schools</p> <p>Scale: Higher level construction skills, other skills, other countries</p>

Co-design – workplace plus online learning

- Genuine partnership based on trust, developed over time
- Project design workshop
- Collaborative design and development of
 - High level design
 - Assessment process
 - Learning activities
 - Digital resources
- Agree support process and roles



Co-capacity building – COL, TVET, industry

- COL capacity building
 - Industry plus educator teams
 - Develop templates – SARA, storyboarding
 - Workplace plus online learning
 - How to videos
 - Virtual mentoring
 - Demonstrate, practice, ongoing feedback until competent
 - Moodle implementation course
 - Online courses in development
 - Technology support
 - Moodle development space
 - Moodle instance
- Workplace supervisor training



Practical skills pedagogy

- Move from difficult and conscious to innate
- Build muscle memory (cf sports training)
- Blend with
 - How to think – theory, experience, problem solving
 - How to be – attitude, craftsmanship
- Observation and imitation
- Practice – ‘feel the wood’ ‘read the dough’
- Importance of feedback



How far can you go online?

- Observation – videos
- Part imitation through simulations/VR with automated feedback
 - Step wise introduction to complex processes
 - Gamification
 - Options for diverse experiences
 - Require equipment as for workshops
- Online support resources
 - Checklists, processes, templates, manuals
- Online portfolio of evidence of competence
 - Videos, conversations, job sheets etc
- Only real materials offer the practice to
 - ‘feel the wood’ ‘read the dough’
 - Experience and problem solving, craftsmanship
 - Online works when the ‘real materials’ are digital



<https://awo.aws.org/2016/04/virtual-reality-is-revolutionizing-welding-education/>

No simulations, VR or AR?

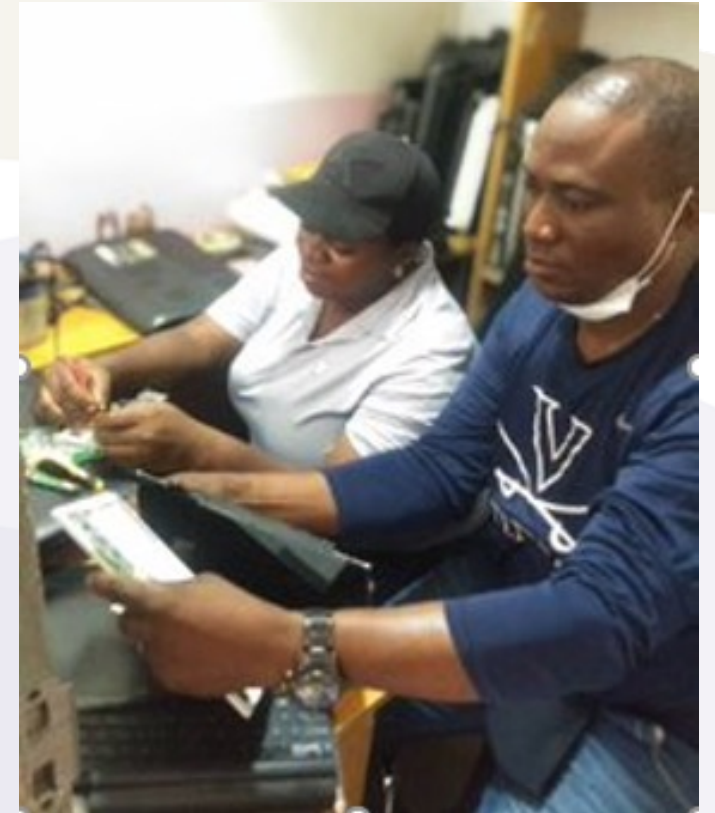
- Only take you so far, still imperfect
- Cost to license or develop, limited openly licensed options
- Cost to use – equipment, devices and data
- Workplace context enables affordable practice
- Long term - could be a wonderful supplement to COL's model



<https://pxhere.com/en/photo/1523905>

Develop digital resources – Zambia, Nigeria

- Practical skills development
 - Online video demonstration, resources, instructions, some support
 - Workplace imitation, practice, feedback, support
- Practical assessment of workplace activities
 - Portfolio of digital evidence of competence, naturally occurring where possible
- Theory
 - Online resources and support
 - Assessed online, professional conversations
- Openly licensed to achieve scale



5. → To troubleshoot a failing SATA cable in a desktop PC. Select the tools needed to fix the problem from the set of tools listed below. ¶





Correct: Screw driver, Multimeter, Static-strip watch, Cable tester ¶

Feedback: Correct! ¶

Feedback: Try again. ¶

¶

 Yabatech Mobile Repair Participants Badges Competencies Grades General Source Documents Occupational Health
and Safety in GSM and
Mobile Phones Repairs
and Maintenance Communication in GSM
and Mobile Phones
Repairs and
Maintenance

Replacing faulty mobile phone spare parts with new or fairly used?



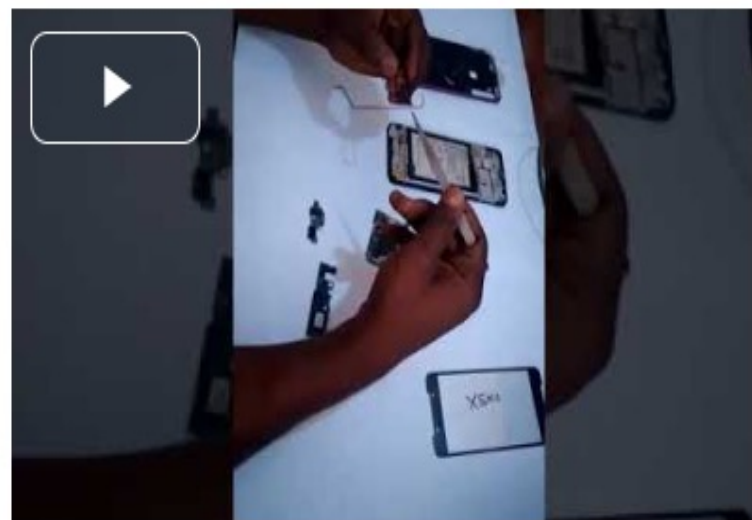
Preview

Edit

Reports

Grade essays

How to match the correct GSM and mobile phone parts



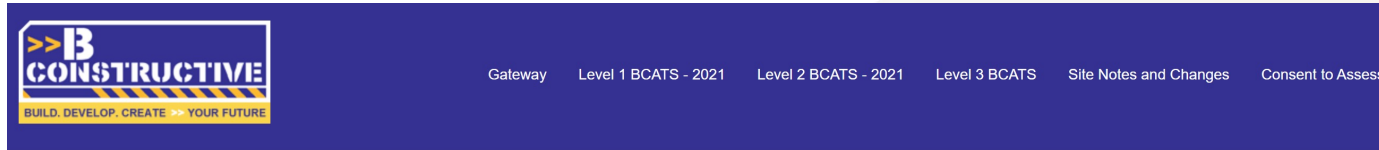
Lesson menu

- [Introduction](#)
- [Components Installation Guide](#)
- [Health and Safety Procedure Checklist for Component installation](#)
- [Mobile Phone Manuals](#)
- [Process and Techniques of Removing and Replacing damaged parts](#)
- [Removing damaged parts and replacing with new or fairly used Mobile Phone spare parts](#)
- [Step by step procedures of how to match mobile phone parts](#)
- [How to match the correct GSM and mobile phone parts](#)

Activate Windows

Go to Settings to activate Windows.

Existing materials - Tuvalu



[Home](#) / [Level 3 Unit Standards](#)

Level 3 Unit Standards

Welcome to Level 3 BCATS!!

Until 2017, the only building and construction-related unit standards and qualifications designed for secondary schools have been at Levels 1 and 2, with some Level 3 unit standards (intended for those undertaking apprenticeships) available for those doing Gateway.

There are eight Level 3 BCATS unit standards, which are:

- ▶ Flexible enough so that teachers/students can select their own projects in any of BCITO's 15 sectors providing they meet the Stage 3 BCATS project criteria.
- ▶ Able to be achieved by undertaking projects in any of BCITO's trades.
- ▶ Able to be achieved in school workshops, training establishments, outdoor areas, and/or in the workplace during industry placements ('work experience').
- ▶ Explicit that attaining commercial competence is not a requirement.
- ▶ Suitable for students to take as a subject as well as for those participating in 3+2, Gateway, or Youth Guarantee programmes.
- ▶ Responsive to the reality that some students will likely be enrolled for a full school year, whereas others may be able to

Select Unit

[Assessment Guidelines](#)

[Stage 3 BCATS Guide](#)

[L3 BCATS poster](#)

[Student Work Diary](#)

[29677 - Safety](#)

[29678 - Materials](#)

[29679 - Documentation](#)

[29680 - Communicate](#)

[29681 - Measure & calc](#)

[29682 - Tools, machinery](#)

[29683 - Other trades](#)

[29684 - Stage 3 project](#)



Online/offline design



Aptus

This mini-PC requires only battery power and can host up to 128GB of educational content and facilitate interactive, virtual learning anywhere.

Watch on  YouTube



Working within national TVET systems

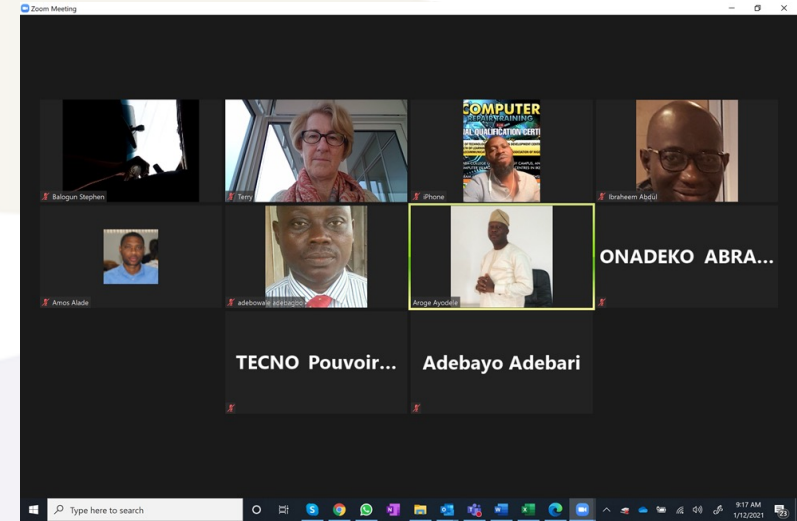
Quality assurance processes

- Registration of workplaces to meet standards
- Assessor training
- Assessment of competency
- Practical skills - competency important, not how it was achieved
 - High stakes examination (Nigeria, Zambia)
 - Validated online portfolio (NZ)
 - Moves to online portfolios increase flexibility and affordability



Influencing policies for TVET

- Initial government support
- Government agency involvement in advisory groups
- Events
 - Webinars
 - Launch events
- Monitoring and evaluation



Conclusions

Online development of practical skills is not yet possible (except for digital skills)

Online assessment of practical skills developed at a distance is possible through online portfolios of digital evidence

Distance TVET is possible using online for theory, learner support and as a repository for resources (learning and evidence of competence), and workplace infrastructure and people to practice and assess practical skills

Workplace plus online learning models require significant up-front investment in capacity building and resources development, but offer the promise of increasing access through affordability and flexibility, while maintaining quality and relevance when embedded in national TVET systems

For disadvantaged learners, openly licensed simulations and VR could support online development of the first steps towards practical skills

Thank you

tneal@col.org





YABA COLLEGE OF TECHNOLOGY

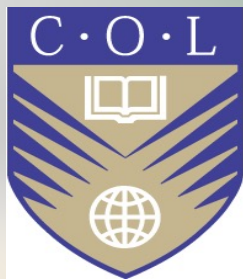
SKILLS IN DEMAND

PROJECT



**A project for Teaching Practical Skills
in Nigeria ICT Industry based on
demand-driven, competency-based,
workplace plus online learning**

PARTNERS:



Brief About Yaba College of Technology

- ❖ Nigeria's first Technical Institute established in **October 1947**
- ❖ Currently the nation's premier higher institution with 8 schools, 34 academic departments & 70 accredited programmes, across ND,HND and Post-HND levels.
- ❖ One of ten institutions chosen by UNESCO-UNEVOC as **innovation Hub based on her proven experience and commitment to innovation in particular in the fields of entrepreneurship, digitalization and/or greening**
- ❖ **Established Flexible Skills Development Centre in 2016** in line with its partnership with COL



❑ The Flexible Skills Development Centre delivers skills training using a blended mode (Online plus face to face teaching).
A Learning Management System is usually combined with social media platform for effective engagement of learners

YCT E-Learning Portal: All cour

Password Manager

Inbox (13,175) - dotun.abdul@


+

← → ↻ 🏠



🔒 <https://lms.yctfscd.org/course/index.php?categoryid=4>


110% ⋮ 📄 📷


☰


 YCT E-Learning Portal


Courses ▾ FSDC Site ▾ Yabatech Site ▾


 Ibrahim Abdul 


 Dashboard


 Site home


 Calendar


 Private files

 Content bank

 Site administration

 Add a block

 Snail Rearing





Facilitator: Olubunmi Olaitan Adetayo

Facilitator: Abdulrasheed Adebola Afolabi

Facilitator: Amos Alade

Facilitator: Fatai Omoyeni Jimoh

 Vegetable Production



Facilitator : Saidat AbdulAzeez


Facilitator : Hamed Olamiji Rosulu

Facilitator : Olawale Samson Selesi

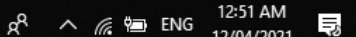
Facilitator : Abiodun Toku

🔍 It looks like you haven't started Firefox in a while. Do you want to clean it up for a fresh, like-new experience? And by the way, welcome back!


Refresh Firefox...



🔍 ⬆ 📶 ENG 12:51 AM 12/04/2021



A snapshot from training provided during COVID-19 Lockdown in Nigeria



YCT Print Media Enter...

838 members, 16 online


Pinned poll

OPINION POLL You are expected to select one...

IS

Thank you for the lecture Sir.

5:06 PM



Oluwaseyi Olatunji

Sir what the full meaning of cmyk

5:06 PM

HO

Hassan Jumoke Oluwanishola

Thanks sir

5:06 PM

DF

Deborah Fiade

Thanks for the lecture sir


5:06 PM

GG

Gbadebo10(lagos) Prince Gbadebo

Thanks for the lecture sir.

5:06 PM




Oluwaseyi Olatunji

Amos Alade

You have the floor

Thanks for the lecture sir

5:06 PM



Victory Balogun

Thanks for the lecture sir


5:06 PM

00


Oke Luke Oluwafemi

Thanks sir for the lecture

5:06 PM



Eazy Olamide



YCT Snail Rearing Trai...

547 members, 3 online

Pinned Message


OPINION POLL You are expected to select on...

OlayemiSnail

admin


HOUSING REQUIREMENT OF SNAILS: 1. High fenced pen . This is used mainly for commercial rearing as it can take more snails. 2. Low fenced pen which can accommodate fewer snails than the high fenced. 3. Used tyres/ drum for personal consumptions. 4. hutches .

4:34 PM



trench

Message



YCT Vegetable Produc...

283 members, 3 online

Pinned Message

OPINION POLL You are expected to select on...

Photo from AbdulAzeez Saidat Adeola

3:02 PM




Photo from AbdulAzeez Saidat Adeola

3:02 PM




Photo from AbdulAzeez Saidat Adeola

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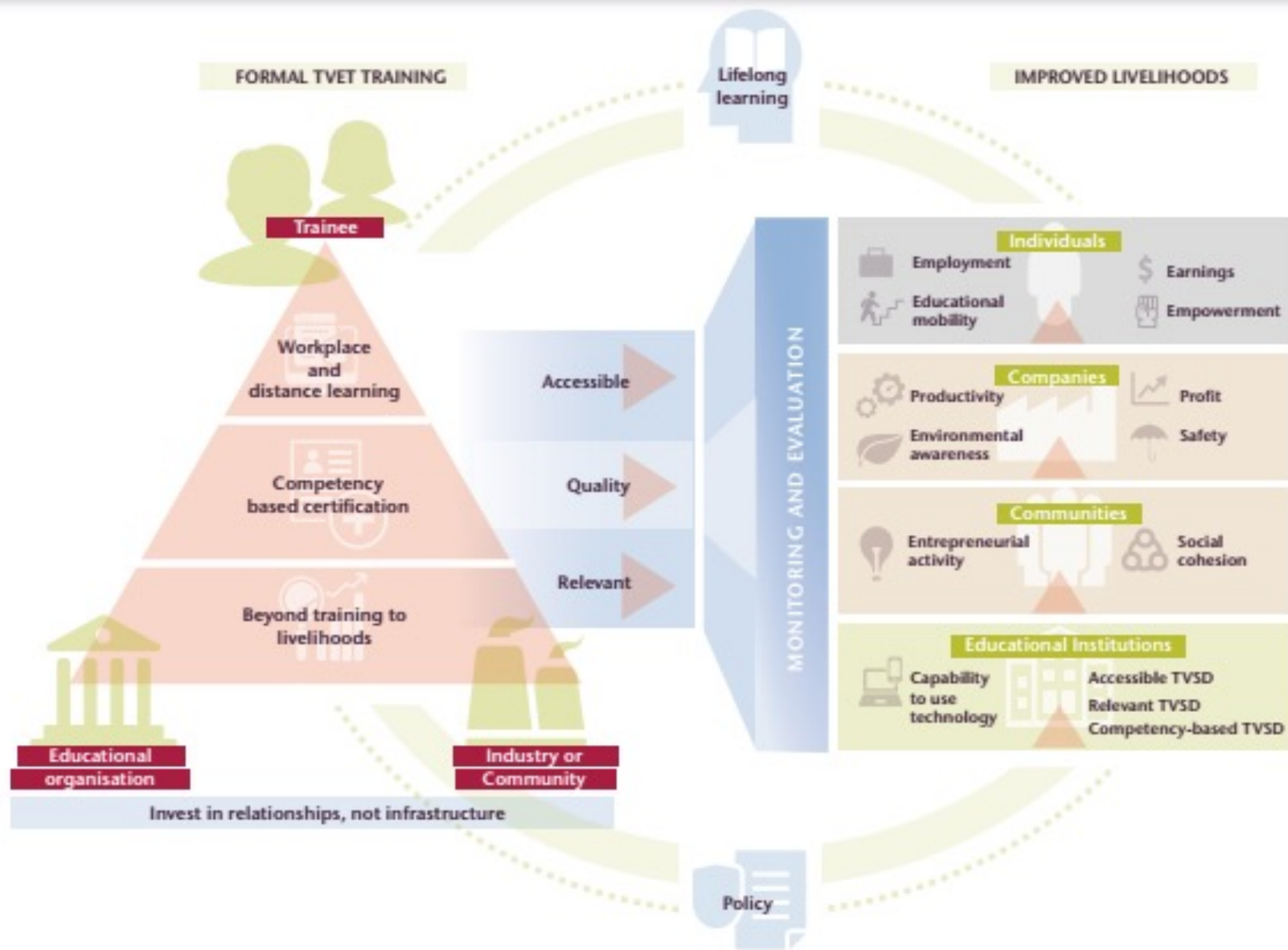
Asmaa

AbdulAzeezVegetable

Message



SKILLS IN DEMAND MODEL



Qualification in focus	Phase 1:	Phase 2:	Phase 3:
<p>Formalising informal apprenticeships to meet Level 2 of National Occupation Standards in either of</p> <p>i. Mobile Phone Repairs and Maintenance</p> <p>ii. Computer Hardware Repairs and Maintenance</p>	<p>Develop and test the Skills in Demand model with 80 Master Craftsperson training a total of 500 apprentices to achieve Level 2 of the National Occupational Standards (NOS) Certificate in either Mobile phone Repair or Computer Hardware Repair</p>	<p>Prove the model through the existing partnership with 1200 Master Craftsperson each training two batches of 5 apprentices (i.e. 12,000 in one year).</p>	<p>Roll out the programme nationally, with 3000 Master Craftsperson each training two batches of 5 apprentices.</p> <p>Making a total of 30,000 learners per annum</p>



- ADVOCACY FOR IMPROVED PARTICIPATION OF ALL STAKEHOLDERS AND NATIONWIDE ADOPTION OF THE MODEL THROUGH WEBINAR SERIES



**FLEXIBLE SKILLS DEVELOPMENT CENTRE
YABA COLLEGE OF TECHNOLOGY,
YABA, LAGOS, NIGERIA**



IN COLLABORATION WITH



**COMMONWEALTH OF
LEARNING**

AND



**COMPUTER TELECOMMUNICATION
ENGINEERING ASSOCIATION OF
NIGERIA**

PRESENTS

FORMALISING INFORMAL APPRENTICESHIP IN NIGERIA (F.I.A.N.) WEBINAR SERIES 2.0

THEME:

**DEVELOPING SUSTAINABLE QUALITY
APPRENTICESHIP IN NIGERIA: The Role of
the Government and Organized Private
Sector.**



YABA COLLEGE OF TECHNOLOGY

FLEXIBLE SKILLS DEVELOPMENT CENTRE



in collaboration with

**COMMONWEALTH OF LEARNING
AND**

**COMPUTER TELECOMMUNICATION ENGINEERING
ASSOCIATION OF NIGERIA (COMTEAN)**



PRESENTS

FORMALISING INFORMAL APPRENTICESHIP IN NIGERIA (F.I.A.N) WEBINAR SERIES (1.0)

THEME:

FORMALISING INFORMAL APPRENTICESHIP IN NIGERIA'S ICT SECTOR: STAKEHOLDERS ON CALL



10TH, SEPTEMBER 2020

3.30PM

zoom

Webinar ID: 818 7811 3526

Register at

<https://yctfstdc.org/webinar-registration/>



<https://m.facebook.com/fsdcyabatech/>

SPEAKERS:



DR. TERSEER NYULAKU
Skills Adviser,
British High Commission



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MS TERRY NEAL
Education Specialist,
TVSD, COL

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ABDUL**
Director,
FSDC-YABATECH

RSVP:

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Benefits of the SID Project so far

- IMPROVED CAPACITY TO DELIVER SKILLS TRAINING THROUGH DIVERSE METHODS
- COLLABORATION WITH INDUSTRY IN:
 - CURRICULUM DEVELOPMENT
 - RESOURCE DEVELOPMENT
 - IMPLEMENTATION
- SCALING UP TO INCLUDE OTHER WORKPLACES AND SKILL AREAS



Yct Free Skills/empowerment Training For Youths

By Admin COLLEGE Jul 12, 2020 10:26 am

Yaba College of Technology is offering FREE Skills Development training for youths in the following Courses: 1. Vegetable Production 2.



THANK YOU



TEVETA's Perspective
on
The Workplace plus Online Training
Model

By

PHYLLIS C L KASONKOMONA

Director - Development


TEVETA

13 April 2021

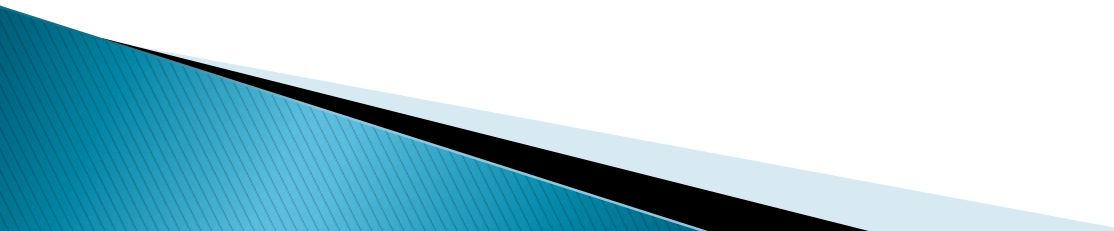
ABOUT TEVETA

- ▶ Established in 1998, TEVETA is the statutory body overseeing Technical and Vocational Education Training (TVET) implementation in Zambia.

Core Functions of TEVETA include:

- ▶ Quality Assurance of TEVET
 - ▶ Curriculum and Training Systems Development
 - ▶ Examinations, Assessment and Certification
- 

Training Models

- ▶ Through its Development Division, TEVETA oversees four training models namely :
 - ❑ Institutional-based training;
 - ❑ Workplace –based training
 - ❑ TVET Learnership scheme
 - ❑ Open, Distance and Flexible Training
- 

PROVISION OF TVET

The Dominant mode of providing TVET in Zambia is still through traditional face-to-face which is institutional based training.



Challenges in using other existing training models

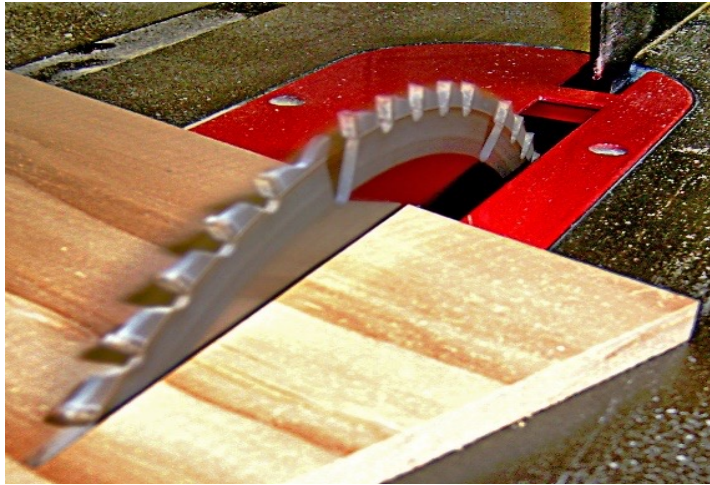
The Challenges brought by COVID -19 have provided an opportunity for the entire TEVET to enhance provision of TVET through other models that include e-learning.

However, some of the challenges associated with implementing TEVET through the other training models include:

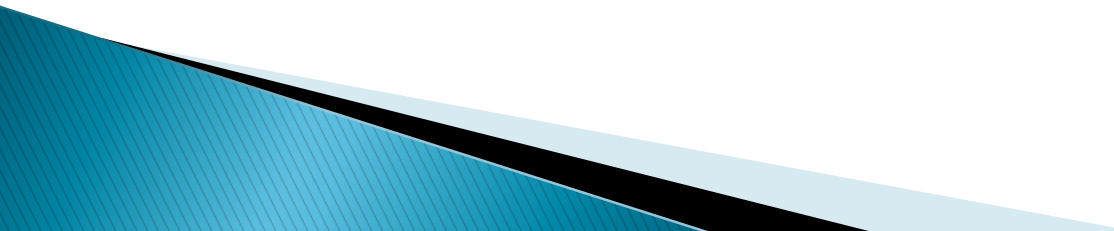
- Practical nature of TVET programmes
- Lack of online facilitation skills for most TEVET trainers
- Lack of suitable interactive learning materials for practical courses
- Lack of ICT infrastructure including e-learning platforms
- Industry linkages
- Only 7.5 % of institutions have adopted to ODFL with only 7.8% learners (2019, TEVETA Annual Report)

The Workplace plus Online Training Model

- Started before the COVID-19 Pandemic through a Pilot Project at LTBC, a TEVETA registered institution, in Zambia.
- Programme of training is in Joinery Skills



Achievements Recorded

- Partnership with Industry
 - Capacity building of college staff in learning and media design key for OER development.
 - Materials developed will be shared on the recently centralized Moodle Platform for TEVETA
 - The capacitated staff will contribute significantly to the development of OERs across other practical TVET programmes
 - Moodle Implementation Course offered to staff.
- 

Practical skills – How far can we go?

The Workplace plus Online Training Model could be a Game Changer to address challenges of teaching practical skills online:

- ▶ Teach theory online
- ▶ Video demonstrations for practical skills
- ▶ Workplace mentors connected online to the TVET institution
- ▶ Collect evidence of practical skills online
- ▶ Existing formal assessment from TEVETA – change in the future?



The End

Thank you for
Listening!

