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Title: Auchi Polytechnic/Commonwealth of Learning (COL) Skills-in-Demand Project: A Review of concept, objectives and strategies.

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Abstract

The Skills in Demand Project is an initiative of Commonwealth of Learning (COL) with Auchi Polytechnic, Auchi partnering with the Auchi Tailors Union. It is a formal curriculum for training fashion designers under the National Skills Qualification (NSQ) Framework using apprentices under different master-craft persons to upgrade and standardize their training, evaluate their competence and certify them while still under the master-craft persons. The knowledge component of the curriculum will be delivered by Auchi Polytechnic Team members headed by the Project Manager using Open and Distance Learning (ODL) method with AptusPi devices provided by Commonwealth of Learning which is pre-loaded with Moodlebox LMS. The practical component will be delivered in the workplace by master-craft persons, who would be given prior training on competency-based learning and use of formal curriculum. The apprentices would be assessed internally and externally and issued NSQ Level 2 Certificates if competent by National Business and Technical Examinations Board (NABTEB). This initiative is necessitated by the rising demand for knowledge, skilled and competent workforce in the Nigeria fashion and garment industry especially among the women and girls to deliver quality designs for fashion apparel, research fashion trends and similar design, create prototypes of design piece, collaborate with fabric manufacturers for materials and work with other designers and creators to build designs. The project is co-funded by Commonwealth of Learning to ensure girls and women are given better considerations and improve their employability, find decent employment and startup businesses in the nearest future as it concerns women. The benefits of this project will be in four-fold namely: learners will be acquiring new skills; acquainted with trainers who are specialist in various skills that might attract their interest to learn; increase livelihood and remote access to the training. The Auchi Polytechnic will improve on its standards and create a platform for its skills to be evaluated; the Internal Generation of Revenue (IGR) of the institution will also increase, then improve the institutional (production, achievements, women presence etc) ranking. The master-craft person (i.e. the project partners) will be more competent as they will be more exposed to the new skills and technology and the use of competency-based assessment. Lastly, the Commonwealth of Learning objectives of skills upscale and poverty reduction from partner countries would be achieved.

Keywords: Competency-based assessment, learners, master-crafts, skills upscaling, National Skills Qualification, livelihood.

Introduction

Through learning, the Commonwealth of Learning (COL) empowers people to achieve economic growth, social inclusion, and environmental protection. It is the only intergovernmental organization tasked with promoting open and distant education (ODL) (Neal and Kuppaswani, 2020).

COL acknowledged its transformation from an outputs-focused to an outcomes-focused organization in its 2015-2021 Strategy, as well as the need to balance broad coverage with in-depth interventions. In reality, this involves focusing more on fewer important tasks over time in order to accomplish desired objectives and impact. Providing learning opportunities alone will not suffice. Quality learning that leads to positive outcomes will be the focus of COL. That includes learning that leads to stable livelihoods and economic prospects, as well as improved harmony among all members of society.

The revised COL Strategy for 2021-2027 emphasizes COL's position as a catalyst for the transformation of education and training systems by establishing innovative models and fostering partnerships for greater impact.

As a result, COL is increasingly collaborating with partners to build novel sustainable development models based on ODL and technology, and then assisting partners in replicating, scaling up, and institutionalizing these models after they have been validated. Through evidence-based advocacy, COL also hopes to promote the use of ODL and technology-based techniques to help achieve Sustainable Development Goal 4 by promoting the use of ODL and technology-based approaches.

The Skills-in-Demand approach is part of COL's Skills-for-Work effort, which follows this strategic objective. The model addresses how ODL and technology might assist in addressing global labor market difficulties, while also acknowledging the importance of effective and efficient skill development. The methodology is based on successful models in Australasia, where practical skills are acquired in the workplace and theory is gained through on-the-job learning. The model was created in order to:

- increase access through:
 - removing barriers of time and place for learners
 - decreasing costs for education providers, which can then be passed on to learners, through using existing workplace infrastructure, and resource-based learning at scale
- assure quality and relevance through:
 - industry and educational provider partnerships
 - competency based learning and assessment
 - thoughtful use of technology to enhance learning and assessment (Neal and Kuppaswani, 2020).

Skills-in-Demand Model

The Commonwealth of Learning (COL) is an intergovernmental organization founded in 1987 by Commonwealth Heads of Government to support the creation and exchange of knowledge, resources, and technology related to open learning and remote education. Through open, distance, and technology-enabled learning, COL aims to give Commonwealth people more access to high-quality education and training. The assumption is that this will lead to improved livelihoods, greater gender equity, and overall economic, social, and cultural growth, all of which will lead to long-term development (Speir, 2013).

COL has collaborated with open universities and open schools to promote educational access while lowering prices and maintaining quality. The prevailing open and distance learning model for education, on the other hand, can only be applied to the theory component of TVET programs, which can be as low as 20%. Experience in on-campus workshops or the workplace is required for the development of practical skills. COL is collaborating with national TVET organizations to help TVET institutions establish blended learning models that maximize the quality and relevance of distant and technology-enhanced learning. Most of these learning methods, however, do not dramatically enhance access because learners still need to attend campuses for a large portion of the time, and the costs of supplying physical infrastructure in campus-based workshops remain expensive (ILO, 2021).

The Skills-in-Demand approach builds on COL's general capacity-building efforts in distance and technology-enhanced learning for national TVET systems. COL assists TVET institutions that have already developed the competence to conduct projects aimed at disadvantaged workers. The focus is on increasing access for these disadvantaged learners through decreasing costs and increasing flexibility (Neal and Kuppuswani, 2020).

The Theory of Change for COL's Skills in Demand model is based on the fundamental logic that:

- formal qualifications in technical and vocational skills selected because of potential demand can provide access to labour markets that, in turn, lead to improved incomes and security;
- workplace plus distant and online learning can increase access to such formal qualifications by increasing affordability and flexibility, while enhancing relevance and the ability to achieve and demonstrate competence (quality).

The model is also guided by the principle of substantive equality in terms of opportunities and results to ensure that people from disadvantaged backgrounds- women, youth and persons with disabilities - are engaged and remain in sustainable and productive employment.

The specific changes expected from implementing a Skills-in-Demand model are:

- a. significant reduction in the level of unemployment - particularly by increasing the proportion of youth in employment, education or training, of women in science, technology, engineering and mathematics (STEM)-related employment, and of PWD in employment;
- b. improved income and empowerment for those already in employment;
- c. improved quality of jobs that are appropriate to individuals' skills and enable them to achieve their full productive potential.
- d. the measurement of results will include employment and better jobs for individuals and the positive ripple effect of these changes among their families and communities through improved standards of living. This would be reflected in their enhanced educational attainment, better health status and reduced vulnerabilities. The model will also look for 'transformative changes' within the social structures that deprived individuals of access to quality skills training and denied them equal opportunities for economic growth. This involves improved performance of TVET institutions in fulfilling their social responsibility and addressing the current inequality and discrimination in skills development (Neal and Kuppuswani, 2020).

The predicted outcomes of the Skills-in-Demand model are generally in line with Sustainable Development Goals (SDG) 4 and 8. This pertains to ensuring that the most vulnerable, such as women, youth, and people with disabilities, have equal access to cheap, high-quality technical and vocational education, as well as increasing their relevant job skills (4.3 - 4.6). Goal 8 refers to establishing full and productive employment for all women and men, including young people and people with disabilities, through policies that encourage constructive activities, job creation, and entrepreneurship (8.3, 8.5-8.6). The results expected from Skills-in-Demand projects and COL's corporate long-term outcomes (LTO) for its Strategic Plan 2021-2027 are likewise compatible.

- LTO1 - Improved effectiveness of government in leveraging open and distance learning
- LTO2 – improved institutional effectiveness in leveraging open and distance learning
- LTO3 - Increased, equitable and inclusive access to quality learning opportunities, especially for women, girls and PWD.

Auchi Polytechnic Skills-in-Demand Project

Auchi Polytechnic, Auchi on 8th October, 2021 entered into an agreement with Commonwealth of Learning (COL) for its support to build upon the partnership that Auchi Polytechnic and Fashion Designers Union (also known as Auchi Tailors Union) had planned. COL is supporting the project with 44,000CAD. Fashion Designers Union is an umbrella association for master-craft persons that specialize in researching fashion trends, planning design for fashion apparel and accessories, creating prototypes of design pieces,

collaborating with fabric manufacturers for materials and production of fashion in Nigeria. The master-craft persons have private businesses (companies) that will provide the appropriate workplace and industry-based environment for workplace learning. There is growing recognition of the value of workplace training to prepare young people for employment and entrepreneurship (Plan International, 2010). The ILO has demonstrated its ability to formalize the informal apprenticeship system in order to increase the skills and employment possibilities of marginalized individual (ILO, 2012).

The formal curriculum for training the fashion designer under the National Skills Qualification (NSQ) Framework will be used for apprentices under different master-craft persons to upgrade and standardise their training, evaluate their competence and certify them while still under the master-craft persons. The knowledge component of the curriculum will be delivered by Auchi Polytechnic Team using Open and Distance Learning (ODL) method. The practical component of the will be delivered in the workplace by the master-craft persons, who would be given prior training by us and NBTE on Competence-Based Learning and use of formal curriculum. The apprentices will be assessed internally and externally and will be issued NSQ Level 2 certificates if competent. The apprentices after acquiring formal certificates would have the opportunity to be mobile within the industry and be recognised and have proper placement. In testing the skills-in-demand model, 150 master-craft persons will be used and 450 apprentices will be trained at the first cohort then to achieve the training 10,000 apprentice in the next 5 years as signed in the Memorandum of Understanding (MOU) with the partner. 75% of the targeted learners are women and girls. The below diagram depicts the Skills-in-Demand model used by Auchi Polytechnic.

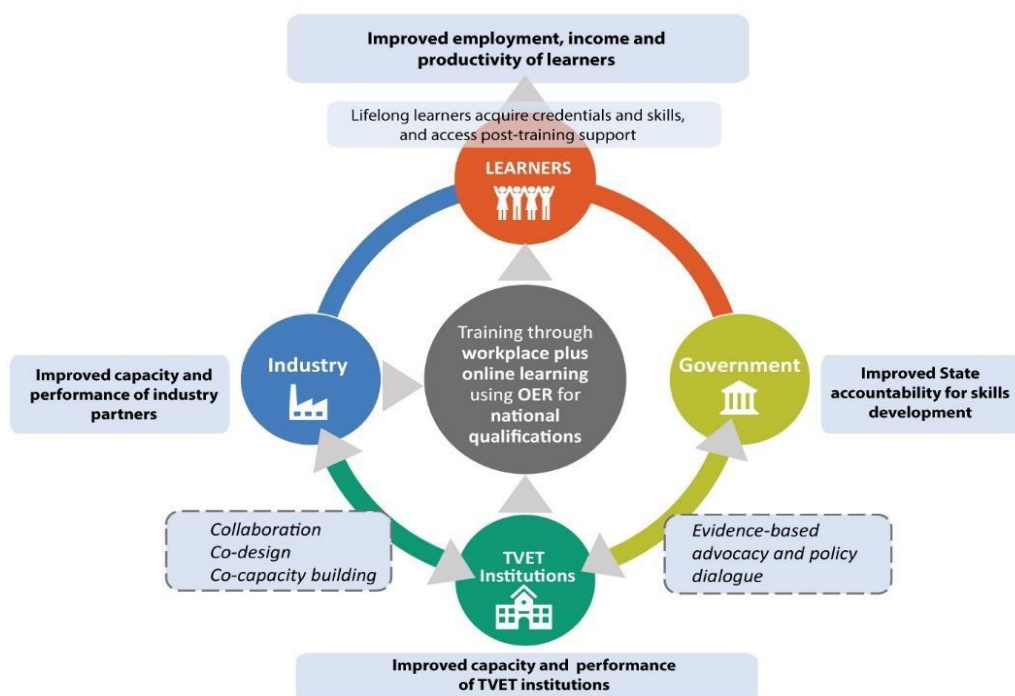


Fig 1 : The Skills-in-Demand Model

Objectives of the Auchi Polytechnic Skills-in-Demand Project

The Auchi Polytechnic Skills-in-Demand project has a four-fold partnership as proposed by Commonwealth of Learning, namely, the learners; the training institution; the master-craft persons and society.

- Learners
 - Installs confidence in their abilities
 - Gives a sense of motivation and achievement
 - Gain a recognized qualification for existing skills without having to attend college
 - Provides evidence of competency in a skill base, which could attract promotion or greater responsibility

- Recognised by employers as a measure of skills and abilities (competence)
- Allows him/her to be assessed at work while doing the job
- Training is highly flexible, one can choose to do a full NSQ or units of it
- Lifelong learners including women, youth and persons with disability, accessing workplace and community-based learning services to acquire skills in sustainable livelihoods.
- Trained learners receiving career counselling and post-training support services (NBTE, 2019).
- Master-craft persons
 - Assure quality and performance-links to national standard to operations of companies
 - The master-craft persons will be able to offer more quality training in future due to the training and experiences acquired.
 - Help employers to recruit apprentices with required competencies
 - Improved productivity and increased income achieved by industry partners (NBTE, 2019).
- TVET institution
 - TVET institutions established collaborative partnerships with communities industry (formal and informal) partners to recruit learners for training, co-design and deliver workplace learning, and to support them in post-training employment.
 - Relevant, quality, accessible (affordable and flexible) and up-to-date skills development courses are developed and offered to trainees (NBTE, 2019).
- Society
 - It improves the economy through well trained fashion designer workforce
 - Helps to reduce unemployment
 - community/neighbourhood members become aware of gender stereotypes in skills training as well as in livelihoods
 - More community/neighbourhood members become aware of the prospects of skills development and on the inadequacy of policies and budgets to TVET
 - Also help in providing trained workforce for export (NBTE, 2019).

Strategies for Auchu Polytechnic Skills-in-Demand Project

For this project to follow the right pathway to achieve its outcomes, the various strategies adopted will be discussed in this session.

➤ **Project Design Plan**

For the project to kick off, a 2-day full residential workshop was conducted to design the template that will support the partners to develop a plan to assure COL the project is likely to succeed and inform contribution agreements. The highlight of the project design plan was to bring out the evidence of the demand; the viability (assessing the strengths and weakness of the project against the following criteria namely relevance, practicality, and impact). It was deduced from the total ratings that the project was very viable. The impact and sustainability of the project was assessed from angles of the learners, for Auchu Polytechnic, for the staff involved and other benefits.

The monitoring and evaluation aspects were also looked at by providing data to analyse and measure the success rate for industry partner, learners/trainees, educational institution and government.

Date by	Stage	Key tasks	Who	Milestone/deliverable
	Plan and setup project (team, resourcing, promotion)			

	Plan any skill development for team <i>This will usually be a role COL is happy to play</i>			
	Source and evaluate available content, internal, external, free, commercial			
	Design program (model, content, learning activities, assessment) <i>(See also learner journey doc)</i>			
	Write/edit learning materials and screens			
	Produce media (audio, video)			
	Complete LMS shell			
	Arrange learner support services			
	Finalise (launch)			

Table 1: Action Plan

➤ **Curriculum Adaptations to National Skills Qualification Framework**

The Nigerian Skills Qualification Framework (NSQF), formerly known as the National Vocational Qualification Framework (NVQF), is a framework for the development, classification, and recognition of skills, knowledge, and competences gained by individuals, regardless of where or how they were learned. Whether the learning takes place in a classroom, on the job, or in a less formal setting, the system provides a clear explanation of what the learner must know or be able to perform. The framework shows how different qualifications can be compared and how one might proceed from one level to the next. The National Skills Qualifications framework is the framework that the National Skills Qualification System (NSQS) functions within.

The framework's goals are to:

- i. encourage lifelong learning;
- ii. Provide quality assurance and recognition (NBTE, 2019).

Therefore, this project adopted the Garment Making Level 2 which has the following course units

- a. Outline the history of clothing
- b. Health, safety and the environment

- c. Garment illustration
- d. Body measurements
- e. Cutting of fabric
- f. Construct garment
- g. Garment quality control
- h. Garment business and entrepreneurship
- i. Machine routine maintenance and services
- j. Communication in the work environment
- k. Embellishment

The curriculum embedded learning outcomes (LOs) and performance criteria in which are requirements a learner must achieve to demonstrate that a learning outcome has been met.

➤ **Monitoring and Evaluation of Online Training Course for Team Members**

The course introduces the team members to key concepts of monitoring and evaluation, to enable them to better understand, participate in, and contribute to the M & E processes of the Commonwealth of Learning. It was a self-directed course that could be taken individually or as part of a team. The course offers flexibility with options for learning the content from reading, videos, discussions with other participants, practical activities, and short quizzes with certification for those who complete the quizzes for all units.

The course contents were:

1. Monitoring and evaluation overview
2. Results-based monitoring and evaluation
3. Theory of change
4. Logical frameworks
5. Indicators and means of verification
6. Developing an M & E strategy
7. Data collection methods
8. Overview of quantitative methods
9. Overview of qualitative methods
10. Overview of participatory method and approaches to M & E

At the end of the course, the team members understood key terms and concepts related to monitoring evaluation; they will be able to critically engage with and participate in core monitoring and evaluation processes including contributing to an interrogation of theories of change, logframes, indicators and means of verification, M & E strategies and data collection.

➤ **Outcome, Assessment, Resources, Activities and Support (OARAS) Online Training Course for Team Members to Develop the OARAS Documents**

The Commonwealth of Learning developed this course to build the capacity of TVET educators within its Skills-in-demand model. The model aims to increase access to TVET for marginalized people across the Commonwealth. The OARAS learning design framework was introduced to support the design of quality distance and workplace learning to achieve national qualifications and to scale TVET without needing to build new institutions and thus be more affordable thus giving choice to marginalized learners by taking learning to where they are already working and fitting around their life and work commitment.

The OARAS (Outcome, Assessment, Resources, Activities and Support) learning design framework helps in the following areas -

Outcome- this will help us to analyse the outcomes of our module or unit to develop clear performance criteria

Assessment- this will assist in the design of the competency-based assessments for online and workplace learning environment.

Resources- this will help in identifying the types of resources that will meet the needs of our learners and provide us with access to a range of instructional videos about creating such resources.

Activities- this will assist to identify and design authentic and engaging activities to meet the need of our learner

Support- this covers the skills and knowledge required to identify elements of learning support to be considered for the intended cohort as part of planning and design.

At the end of the training the template below was used to develop the OARAS Documents for the 11 course modules for Fashion Design programme.

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§ **OARAS: Learning design template**
To guide the planning, design, development and creation of a learning resources and activities to meet the occupational standards of a unit /module, relevant to a specific skill set.

§ **Qualification, Unit / Skills:** (name of qualification unit/ skills)
Learning outcome (list learning outcomes from qualification document)
Range (specify the range of contexts and conditions to which the performance criteria apply)

Outcome	Assessment	Resources	Activities	Support
§ (occupational standard, knowledge, skills, attitudes, competencies, learning outcomes)	(learner meeting the outcome by assessment or naturally occurring evidence at the workplace)	(resources like video, readings, presentations, etc. needed for the learner to work with and learn)	(description of activity(s) learner is engaged in including learning hours)	§ (learning support with the subject, concepts, or numeracy, literacy, ICT and/or study skills)

Edit with WPS Office

Fig II: Sample of OARAS Document Template (Source: COL OARAS Online Course)

➤ **AptusPi Deployment for the Learning Management System of the Project**

Auchi Polytechnic received 4 AptusPi from Commonwealth of Learning for implementation. Aptus is a low-cost device that connects educators and students to digital learning platforms and material without requiring grid electricity or internet connectivity. The mini-PC runs on battery power, which can be recharged using either grid power or a solar charger. It can store 64GB of educational digital content and enable interactive, virtual learning everywhere – whether in a small town or a large university or polytechnic campus. The result is a "Classroom Without Walls" that takes minutes to set up and can be accessed by any learner with a laptop, tablet, or smartphone. Within a 40-kilometer radius of its position, the gadget can accommodate up to 40 students (Obaebor, 2022). The newest version of the COL AptusPi is based on the Raspberry Pi. The collection comprises the following items:

- The Commonwealth of Learning has a number of creative commons licensed publications (including learning materials from Open Schooling, Teacher Education, and VUSSC Initiatives)
- Wikipedia for Schools and Simple English Wikipedia have almost 100,000 Creative Commons licensed articles.
- Khan Academy has over 1,000 Creative Commons-licensed educational films.
- PhET Interactive Simulations has over 80 HTML5 simulations in Biology, Physics, Chemistry, and Math.
- OpenStreetMap, an open source project, was used to create this world map.
- AptusPi comes with the following apps and tools, which may be accessed through the homepage page.
- Moodle is a free and open-source learning management system (LMS) that may be used to host entire courses on AptusPi.
- Kiwix is a Wikipedia offline reader.
- OwnCloud is a file-sharing program that may be used to upload and share material with other AptusPi users.

Auchi Polytechnic team members and master-craftspeople were trained on how to assemble and utilize the AptusPi to access the Moodlebox (which is a Moodle platform on Raspberry with no internet needed, no cabled or wireless network needed and no infrastructure needed). The AptusPi will be installed in the workplace to allow master-craftspeople and learners to have seamless access to the LMS without the need for an internet connection.

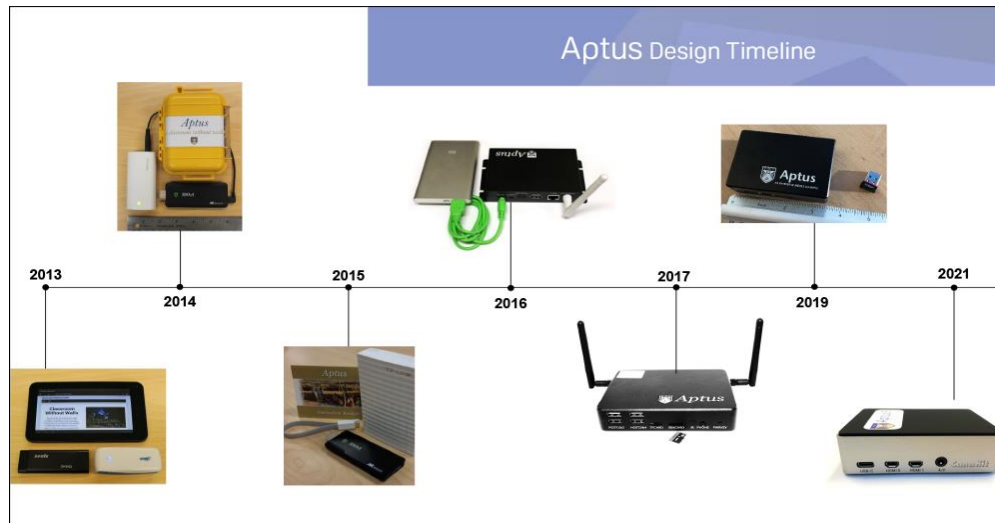


Fig III: Aptus Design Timeline (Source: COL's Open Access Repository)

➤ **Development and Deployment of the Open Educational Resources for the Project**

Access to high-quality educational resources is essential for accomplishing Sustainable Development Goal 4 (SDG4), which aims to "provide inclusive and equitable quality education for all" and "promote lifelong learning opportunities for all." UNESCO (2002) defined open educational resources (OER) as "the open distribution of educational resources for consultation, use, and adaptation by a community of users for non-commercial purposes, enabled by information and communication technologies." Subject matter experts (SMEs) are generating OERs for the 11 course modules based on the OARAS documents created for each one for this project. The COL Moodle platform server will be utilized to host the LMS built, which will contain the OERs, and learners will have smooth access to it thanks to the four AptusPi that will be donated to workplaces.

Conclusion

The Auchi Polytechnic Skills-in-Demand project is a commendable Commonwealth of Learning effort that arose from seven pilot initiatives with Kenyan, Nauruan, Papua New Guinean, Tuvaluan, Zambian, and Nigerian institutions. The project had some teething problems, but with all hands on deck, the following will be accomplished: Effective labor skilling to boost individual and company production and growth, lowering poverty and inequality in the long run; large numbers of marginalized people will be reached by focusing on informal apprenticeships; Increased program efficacy by focusing on people from disadvantaged backgrounds, such as women, youth, and people with disabilities. Developing job-specific skills and gaining industry or community-related work experience aids in the formation of stronger linkages with the labor market, matching to available employment, and enhancing job performance.

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