



United Nations
Educational, Scientific and
Cultural Organization



International Centre
for Technical and Vocational
Education and Training



Yaba College of Technology: Preparing learners for real-world problems

i-hubs Innovative Practice

Context

Addressing real-world problems

One of the main goals at Nigeria's Yaba College of Technology (YCT) is to utilize its role as a TVET institution to meet the needs of the community and to help solve some of the most pressing issues at the regional and national level. These include improved food security, a reduction in unemployment and a decrease in environmental pollution. Projects at YCT are guided by market research demands, giving students experience in addressing real-world problems and a sense of the wider impact of their TVET experience.

Demand-driven research

Since the introduction of the YCT Applied Research and Technology Innovation (ARTI) Centre in 2006, demand-driven research has shaped the curriculum and laid the foundation for a series of projects that provide students with professional training in a real-world setting.

Within this environment, YCT researchers and students have worked on research projects, products and services that directly impact the local market. These have included forays into mushroom cultivation that helped establish a new food crop in Nigeria, to works of art made with recycled glass bottles that stimulated students' entrepreneurial creativity.

Far-reaching impact on the national level

One of the earliest successes of the ARTI Centre was a project that began with four students in the department of biological sciences. In 2011, a World Bank innovation initiative awarded the students a grant to domesticate, cultivate and market edible mushrooms. The project would turn out to have a wide-reaching positive impact on the entire country.

Initially, a lack of skilled farmers meant that local species of mushrooms were not being cultivated in Nigeria. By the end of the project, two species were being cultivated for consumption and mushrooms became a crop recognized by the Federal Ministry of Commerce and Industry. Another grant awarded to the students' supervisor by Lagos State Research Council led to the domestic cultivation of medicinal mushrooms and research that confirmed their positive effect on breast cancer cells.

Enablers of institutional innovation

The following four dimensions of institutional operation represent the evaluation lens that was applied in the selection of this initiative as an Innovative Practice:

Products and Services: A focus on demand-driven research and development (R&D), designed to directly impact community needs, helps to foster interdisciplinary skills and enables quick integration into the business sector.

Ecosystem Relationship Management: Emphasis on R&D creates two-way incentives and benefits for close collaboration with industry stakeholders.

Strategy and Management: The management decision to focus on R&D has been embedded across the board at the institution, with special emphasis on TVET's contribution to national policy issues.

Teaching and Learning: Teachers and students collaborate on research projects based on specific market needs. These projects are an opportunity for learners to put innovative tools, lesson content and skills to use in solving specific market-based problems.

Institutional Overview

Yaba College of Technology (YCT), Lagos, Nigeria

Established: 1947

Student body: 28,201 (2019)

Teachers and trainers: 844 (2019)

The YCT mandate is to provide full-time and part-time courses of instruction and training in technology, applied science, commerce, management and other fields of applied learning that are relevant to the changing technical, vocational and industrial needs of Nigeria.

Mission statement: "To produce knowledgeable and innovative graduates, worthy in skill and character through effective teaching, learning and research, for the technological advancement of Nigeria."

Mechanisms for identifying public and private sector demands, and converting them into non-traditional Products and Services represent an innovation best practice.

At YCT, some initiatives have drawn on the institution's broader TVET skills, such as combining art and design with recycling techniques for the redeployment of used glass bottles. These products have also provided the opportunity to expand the curriculum and teach students about registering patents and intellectual property rights.

YCT encourages staff and students to apply for research grants and other sources of funding, and provides institutional support during the application process. Such grants contain a certain built-in framework that helps keep research projects focused and services relevant to a specific industry challenge or developmental need. The same applies for direct collaboration with a company or an industry; a set of research parameters or specific scope to a project is laid out from the very beginning.

The focus on research and innovation at YCT has led to strong developments in its Ecosystem Relationship Management.

Mutually-beneficial partnerships with leading actors in the local ecosystem are regularly revisited and renewed, ensuring that partnerships with key stakeholders from priority public and private sectors continue to lead to opportunities for innovation and skills development.

At YCT, external stakeholders are invited to structured seminars to brief institutional leaders and faculty members on current and future skills in demand in their sector. In return, YCT research and innovation activities provide opportunities for developing ideas and approaches that could be applied in the industry setting. Work-based learning schemes also ensure learners are gaining relevant technical skills and businesses can access employees with in-demand skills.

In providing clients with high quality laboratory and consultancy services, YCT is simultaneously serving two sets of stakeholders: students are given opportunities to learn and apply their skills to co-develop solutions, while companies and organizations receive the support of competent researchers and innovators in coming up with viable solutions.

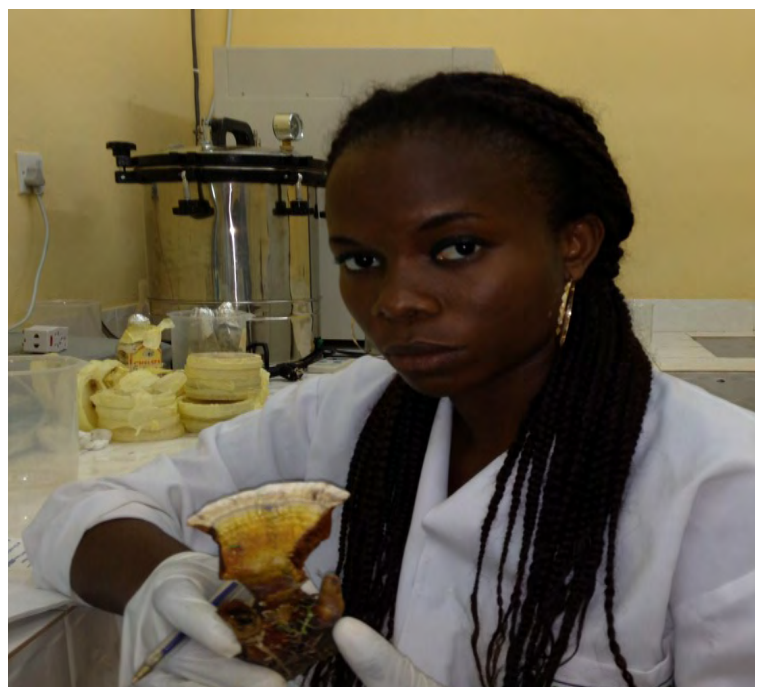
YCT's Strategy and Management approach focuses on the link between TVET research, innovation and economic development.

The Strategic Plan for 2018-2023 focuses on research and innovation, and aligns the institution, its faculty and learners with the most pressing issues on the national policy agenda.

Since 2006, YCT management has invested resources to build up intellectual and technical capacities, and equip laboratories for research and innovation projects. As projects are launched, specific processes ensure clear criteria and transparent decision-making. Meanwhile, efforts are made to attract co-investors. Throughout the process, internal communication is prioritized, providing all faculty and learners with regular updates on activities and progress.

New YCT's clear and documented strategic approach is supported by a complementary innovation dynamic in Teaching and Learning that motivates teachers with a range of opportunities for professional development.

YCT established a Flexible Skills Development Centre to regularly organize professional development seminars for teachers and instructors. These create an awareness of innovative pedagogy and new techniques, such as problem-based learning, open education resources and flexible and blended techniques. Departmental champions are appointed from the teaching staff of each department to promote the ideals of innovative teaching and support their colleagues. The institution has also aligned the teacher performance evaluation process to support and encourage innovative pedagogy.



Insights

Create a learning environment of discovery and innovation

Whether it is technical innovation in mushroom cultivation or finding sustainable ways to make products and art using upcycling, YCT is committed to using non-traditional TVET services to benefit wider society. The result is a learning environment of discovery and innovation. The lines between traditional classroom lessons, lab-based problem solving and work-like environments intersect, and graduates leave YCT with experiences and skills tailored to Nigeria's labour market and developmental challenges. YCT is actively engaged in innovating its products, curriculum, and teaching and learning methods. In its Strategy 2018-2023, these efforts are focused on new horizons: sustainability, opportunities for growth and diversification, and creating career-ready graduates.

Build on existing momentum

YCT's experience has shown that individual projects often lead to new innovations, discoveries, and research opportunities. With this in mind, YCT is always on the lookout for ways to build on existing momentum by scaling-up production to reach new audiences. One such example is the commercialization of mushroom juice, which involved seeking out food industry partners and investors. The institution is also exploring the possibility of new industry partners for its sustainable energy and environmental solutions.

UNESCO-UNEVOC Innovative Practice

In focusing on applied research that is based on the demands and circumstance of its ecosystem, YCT has made a significant pivot from traditional TVET instruction. The skills taught are dynamic and adaptable in response to the complex and quickly evolving challenges of YCT's environment. This shift is occurring in TVET throughout the world, and YCT provides a strong example of how other UNEVOC Centres can implement a similar change.

Learn more

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Skills for Innovation Hubs (i-hubs) is a global initiative led by UNESCO-UNEVOC and supported by the Beijing Caofeidian International Vocational Education City (BCEC), with contributions from the German Federal Ministry of Education and Research (BMBF) and the Federal Ministry for Economic Cooperation and Development (BMZ).

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