



CAEL Series for Entrepreneurship and Leadership Development in Africa

**A Report by the Centre for African Entrepreneurship and Leadership, University of
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“Entrepreneurship education in multi-disciplinary contexts: exploring opportunities for collaborator curriculum design and delivery”

Executive Summary

Developing countries, including Nigeria are increasingly recognising the need to move away from a paradigm of development policy based on international aid to that of empowerment through entrepreneurship development. In furtherance of this new approach the Nigerian government initiated a new policy to make entrepreneurship education compulsory for all undergraduates. In order for this new initiative to be successful, institutions need to build capacity for effective curriculum design and delivery. This training, organised in response to this need, focuses on the importance of multi-disciplinary curriculum in a project-based approach to facilitate action learning of students.

Drawing from the template used by the University of Wolverhampton, and other best practices exemplified by institutions in the United States and other European countries, the workshop highlighted examples where students from various disciplines were organised into project-based teams, supported by academic and industry mentors. In this environment, students are able to situate their subject-specific expertise in a wider perspective of a multi-disciplinary. In addition to developing their team working skills, this approach enables students to see how the different skills and expertise- technical, business planning, marketing research, etc- fit together in a comprehensive business strategy. In this way, they can be better managers of their own firms, overseeing the contributions of other employees.

The workshop also highlighted the value of co-opting alumni and industry practitioners to sponsor project-based modules, as well as participate in delivery of sessions. Furthermore, institutions need to collaborate, share good practices, and mobilise stakeholders to improve existing national policies on entrepreneurship education.

This report provides recommendations on how to develop inter and multi-faculty degrees, say in Business and Engineering, to provide students with a range of opportunities to engage more widely and deeply across disciplines as a way to enhance their employability skills.



CAEL Series for Entrepreneurship and Leadership Development in Africa

Introduction

This training, which held between 22nd and 27th February 2016, was organised in response to the need for a robust, multi-disciplinary approach to provision of entrepreneurship education in Nigeria and Africa in general. The Federal Government of Nigeria recently launched a new initiative to make entrepreneurship education compulsory for all undergraduates in Nigerian universities. However, there is growing awareness and recognition by stakeholders that it is not enough to make entrepreneurship education compulsory, but more important to provide entrepreneurship programmes of sufficiently good quality to enable the creation of dynamic new ventures that can contribute to the goals of job creation and poverty alleviation. Such programmes must produce graduates who are versatile, equipped with all-round, multi-disciplinary knowledge required for more productive entrepreneurial activities and oversight of new businesses.

This Knowledge Transfer Programme is part of CAEL's ongoing intervention in the areas of capacity building for entrepreneurship education and enterprise development in Africa. Within the past five years, the centre has run training programmes focusing on entrepreneurship education and curriculum development, and leadership training workshops. More than 150 executives of higher institutions in Africa, including vice chancellors, provosts, and directors of centres, have participated in the training programmes. They represent more than 40 institutions of higher education, mostly from Nigeria.

Multi-disciplinary approaches to entrepreneurship education: reflections on good practices

In its 2006 "Oslo Agenda for Entrepreneurship Education in Europe", the European Commission highlighted the need to take a multi-disciplinary approach to the design and delivery of entrepreneurship education curriculum:

"Higher education establishments should integrate entrepreneurship across different subjects of their study programmes, as it may add value to all degree courses (e.g. technical and scientific studies, but also humanities and creative studies). All faculties/disciplines should develop opportunities for students at every level to experience entrepreneurship" (European Commission, 2006, pp. 3)

In the early days of entrepreneurship education, entrepreneurship courses were usually offered within the business schools. Today, many institutions offer entrepreneurship courses outside the business schools for engineering, science, humanities and arts students. A good number of institutions have independent entrepreneurship centres comprising of



CAEL Series for Entrepreneurship and Leadership Development in Africa

multidisciplinary staff, and whose responsibility is to design and oversee the delivery of entrepreneurship modules for students across all faculties (Frank, 2005).

The agenda for entrepreneurship education is cast within the broad perspectives of meeting various needs and different aspirations of students (Quality Assurance Agency for Higher Education, 2012). In other words, entrepreneurship education need not focus on the production of new venture owners, but also include promotion of entrepreneurial awareness and the cultivation of entrepreneurial mindset that will be relevant both in the context of formal employment and self-employment, as well as for future employers of labour.

Considering that entrepreneurship education is relevant and useful for all categories of students and not just students undertaking business degrees, a number of institutions have explored different strategies to deliver multi-disciplinary entrepreneurship education. For example, in recognition of the multi-disciplinary nature of entrepreneurship endeavours, Lehigh University launched a series of academic programmes in Integrated Product Development (IPD), Integrated Business and Engineering (IBE), and Integrated Design Arts (IDA) with students from the Engineering, Business and Arts faculties. The course curricula took a project format, with sponsors drawn from both the private and public sectors. The key aim of the programme, for which it has had significant success, was to create entrepreneurial teams of students working with industry mentors and faculty staff to create new products and market them (Ochs, Watkins and Boothe, 2001).

Similarly, University of La Laguna, Spain implemented a similar programme comprising of interdisciplinary teams of students from Computer, Engineering and Business departments. The idea is that the students from science and engineering background would contribute more technical and operational perspective to the project-based module, while the business students will take the lead in financial analysis, market research and overall business conceptualisation. The team platform with support from their professors and project staff provides students to gain a deeper appreciation, through action learning, of the multi-disciplinary character of entrepreneurial endeavour, and while they need to develop good understanding of technical and business component, in order to be able to provide competent oversight as future firm owners (García-Rodríguez, 2012).

This approach of multi-disciplinary entrepreneurship education is especially relevant in Africa, where there is a less developed awareness and less understanding of multi-disciplinary nature of new venture management. Such an approach can also integrate industry and business stakeholders into the process of curriculum design and delivery, in the overarching bid to develop entrepreneurial skills and enhance the learning experience of students.



CAEL Series for Entrepreneurship and Leadership Development in Africa

Training review

The workshop covered the following topics:

- Financing SMEs
- Stimulating Vocational Skills amongst students
- Near market rural enterprises
- Modern Automotive Maintenance
- Construction & Building Technology

The delegates explored the experiential learning model developed at the University of Wolverhampton for teaching enterprise. This approach, preferred to the traditional transmission model of curriculum delivery, enables students to investigate real problems and opportunities as they work in project-based teams. Alumni, practitioners and entrepreneurs were co-opted to contribute to the students' learning experience. Furthermore, students are able to develop their judgement by exploring conditions of risk and uncertainties in the learning and assessment process.

In addition to undergoing classroom-style sessions anchored by internationally established experts drawn from the university, the training participants went on a tour of a number of university facilities. At the School of Arts, they explored Illustration and Graphics, Reprographics, Fashion & Textiles, and Glass Blowing. They also visited the School of Media, where they experienced the Virtual Reality Suite & Motion Capture facilities. At the University's Faculty of Technology, as well as Telford College of Arts and Science, the delegates looked at welding and fabrication, foundry casting, forging, mechatronics and other aspects of metal work and wood work.

The trainees also went on tours outside the university. First they visited a modern British garage, Eurofit AutoCentre, where they saw demonstrations of modern vehicle servicing, on-board diagnostics, and wheel alignment and balancing. They also went on a tour of the new engine factory of Jaguar Land Rover, where they saw first-hand the state of the art technology and the processes that go into the making of modern Jaguar land Rover engines.

The participants affirmed that the training had changed their perceptions on curriculum approach, entrepreneurship, team work, and income generating opportunities for their institution, among other things. Dr Mohammed Chado, who is a Chief Lecturer in Metal Work and a former Deputy Provost of the College, stated that the training had changed his views about innovative approach to curriculum delivery, as well as working effectively in multi-disciplinary teams. The tours were for him the highlight. He said "...I really like the



CAEL Series for Entrepreneurship and Leadership Development in Africa

excursions, the trips we took out to see places, to see engineering activities, especially the engine company we visited, the Jaguar engine. That was very good. I really enjoyed seeing how the robots were working in the production line.” He added that things will change for him with respect to “team work” and taking on innovative approaches to teaching. Dr Ruth Galadima, who is the Deputy Provost and chief liaison officer for the college, said: “the idea that I and my colleagues have about involving students in entrepreneurship has changed. For example, before now we never saw it necessary to expose students outside their department or outside the college, but from what we saw during the training at Wolverhampton, we discovered that companies can be invited, and students can showcase their works. As a result of the training, we are also looking now at extending our provision on entrepreneurship education beyond the four walls of the college to non-students who can benefit from our programmes. Moreover, we now realise there is a lot of untapped opportunities in our agriculture programme, especially with respect to value addition and marketing of our fish farm products and other agricultural produce. This will bolster internal revenue for the college.”

Recommendations

Based on the workshop, the following recommendations were made to participating institutions:

1. Adoption of project-based approach to entrepreneurship curriculum design and delivery, to facilitate experiential, action-learning.
2. Adoption of “student-teams” strategies to learning and assessment for entrepreneurship modules. In addition to helping students to develop their team working skills, this enables entrepreneurial students to learn how to position their expertise in multi-disciplinary contexts. It also provides individual team member to contribute, and gain from others, towards the development of the project.
3. Active support for multi-disciplinary, inter-faculty collaboration among staff responsible for delivering entrepreneurship modules.
4. Incorporation of alumni and industry stake-holders towards the sponsor of student projects, as well as the design and delivery of sessions in the entrepreneurship modules.
5. Active collaboration with other institutions within and outside the immediate region where the institution is located for continuous improvement in pedagogy.
6. Adoption of combined, multi-faculty degrees. For example, a B.Sc. Engineering and Business, where students can major in one and minor in the other. This will enable



CAEL Series for Entrepreneurship and Leadership Development in Africa

students to gain wider and deeper understanding that will help them to be more effective entrepreneurial managers.

7. Mobilisation of other institutions and stakeholders for national support in terms of policy reform/improvement and funding for this new model of entrepreneurship education.
8. Support for students to develop their marketing skills by exploring opportunities for marketing their goods domestically and internationally. This is a key part of entrepreneurial skills that should be incorporated into students' skills and experiences.
9. Provision of opportunities for students to visit sites of major manufacturing and services firms to experience first-hand how industrial production and services work on a large scale. It is also an opportunity for students to engage with senior managers of big firms.

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