

Nigeria Industrial and University Education Entrepreneurial Experience

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Abstract: *This paper looks at the genesis of the government promotion of small and medium scales entrepreneurship development in Nigeria and examines the various types of such entrepreneurial instruments of government with brief features of industrial estate nurseries. Having thoroughly examined the above issues and since it has been acknowledged that skill acquisition is a determinant of entrepreneurship knowledge, hence, an entrepreneurship course curriculum based on twin approach (the practical content and the theoretical content) being put forward for an effective impartation of entrepreneurship knowledge to Nigeria university undergraduates. A typical entrepreneurship course, consists of equilateral triangle of a model approach for the impartation of entrepreneurship course programme (entrepreneurship curriculum course content tables also included). Gains by the students of entrepreneurship who undergone the industrial training programme of Joseph Ayo Babalola University in Nigeria were enumerated. In conclusion, some examples of skills acquisition imparted on to both our first and second sets of Joseph Ayo Babalola University the first University in Nigeria to run entrepreneurship BSc degree programme are highlighted in this paper.*

Keywords: Industrial, Entrepreneurship, Genesis, Curriculum.

1. Introduction

Developing countries believe that Research Institutions/University have ideas and need money while industry has money and need ideas, in a way the two need each other. Universities/Research Institutes carry out research that industry often transforms into products and processes. The scientific and financial gains on both sides can be spectacular.

The cooperation between the two will help transfer new knowledge more efficiently and will better train more people in critical disciplines. This cooperation has been achieved in the developed world through the establishment of Business Technology Centre, Industrial and accommodated for our tertiary institutions as it will constitute the engine room of productive sector in our economy. Hence it is time for the tertiary institutions to take up the challenge. Research Parks or Centers that provides various combinations of consulting services, including shared laboratories, expertise of faculty and researcher

2. Methodology

The paper also discussed these instruments fully and putting forward, especially instruments for a new and dynamic entrepreneurship curriculum and the development of the entrepreneurial centres. The paper suggests modality for the modification of the current curriculum (fig 1) the study adopts the desk research method in terms of information gathering. Which means that, part of the work is based on library research? In doing this the genesis and developments of entrepreneurship were sourced. The background information for this work were obtained from secondary sources which included texts, journals, magazines, newspapers, monographs etc. Desk research was also supplemented by an extensive field work from both the government parastatals and private sector industries and universities.

sat nearby university / government facility and manufacturing and office facilities.

In 1971, there were some 80 high-technology parks in U.S.A., while the number had risen to well over 150 by 1985, today the number is astronomical. It has been established that there are certain critical problems and challenges that have been identified at both our basic and tertiary levels of education. In Nigeria these include absence of vocational and technical skills to meet the need of labour market (i.e. more emphasis should be placed on practical training).

Now that government has recognized the small and medium scales enterprises sector as an area of future growth and potential in which new economic orders and opportunities could be created and new employment generated by the entrepreneurs through the entrepreneurship training. It is therefore imperative that there is an urgent need for curriculum review to be.

3. Literature

Let us now look at some industrial parks and research centres in more details, to drive home the point I am trying to make and to see how cooperative R and D ventures have been practiced and perfected by industrialized country, notably the U.S.A. and Malaysia.

3.1 Case Studies U.S.A

The beauty of R and D is exemplified by Bell Telephone Laboratory (BTL) established in 1925 at New Jersey, BTL, whose mission was to further the art of communications and has become the premier centre for industrial creativity, where dreams come true. It performs R and D to serve its two owners.

The American Telephone and Telegraph Company (AT & T) and Western Electric, the bell system's manufacturing arm.

For AT & T, it is to make a better Telephone network while Western Electric it is to design the phone equipment it supplies to the bell system.

The achievements of BTL belie the common belief in USA that product improvement and technological advances spring solely from spirited competition in a free market. It also proves, more practically, just how valuable a continuing investment in research can be to industry, despite the expense involved. For example, the use of plastic cable sheathing instead of lead alone saved the telephone operation companies more than \$2 billion since World War II. BTL has a total of over 22,000 people working in its 16 laboratories. This workforce includes more than 2,400 doctoral degree holders.

The duties of these wizards are to sit, think, read and develop new knowledge that in same way will benefit telephone communications. Over 20,000 patents have been attributed to its scientists, with at least eight of them as Noble Price Winners.

3.2 Silicon Valley – Incubator of High Technology

Much of the impetus for technological progress in the microchip industry in the U.S.A. comes from one area of California (South of San Francisco) that has come to be known as Silicon Valley the name having been derived from the mineral element which is basic to the computer microchips which are manufactured there at silicon valley, has become, over the past several decades, the centre of U.S. high technology, electronics and computer industries and an area of spectacular economic growth and development.

Primarily an employer of white-collar, workers, the valley is composed of three related but, quite distinct industries:

Companies concerned primarily with the research, development, and manufacture of circuits of chips.

Companies which make business or consumer products with chips, and companies that are called garage-level users, that is – amateurs, hobbyists and computer professional devoting their spare time to fields of special interest.

3.3 Stanford Industrial Park

One of Stanford university's provosts, Frederick Terma after world War II encouraged the Union of academic research and Science-based industry. He loaned money to young, entrepreneurial engineers and made the university's facilities available to them. He procured government contracts for technical research, and permitted professional. Engineers to sit in classes

The increasing proximity of business and academic interests led to the creation of the Stanford industrial park, where University graduates could build their own companies. Among the young graduate engineers who bene-

fitied from this programme were William Hewlett and David Packard, who eventually founded Hewlett-Packard Company, now one of the world's largest electronic equipment manufacturers

3.4 Research Triangle Park

The Research Triangle Park in the 'Sunbelt' of North Carolina is a joint effort of three Universities – (University Of North Carolina, Chapel Hill, Duke University, Durham And North Carolina State University, Raleigh) they worked together to build a world-class research community.

The park was intended as a place where national industrial firms would carry out their research operations, which would then lead to development of manufacturing. It will be. Rewarding to examine more closely, the history of this Endeavour.

Through the mid – 1950s, the state's industrial base was, virtually all in the traditional labour – intensive, low wage areas of textiles, tobacco and furniture-making similar to what obtains in many African countries today. As a result, many educated citizens, including young graduates of the states universities, pursued careers outside the state leading to "brain-dram". Then an idea began to develop, why not plug the brain-drain with a research park? So the park came into existence modeled loosely on California's Stanford Research institute.

In short, the old textile and tobacco heartland was transformed into a centre of research education and culture. In 1983, the park had some 40 tenants with 20,000 employees and an annual pay roll of \$500 million. The tenants are in high-technology industries, life sciences and pharmaceuticals, and government research facilities of course; these are also support services such as banks, travel agencies, restaurants, post offices. Quest houses and the like.

3.5 Malaysia: Penang Skills Development Centre (PSDC) in Malaysia

PSDC is a public/private sector joint venture. Its membership includes industries, the Penang state government, the state-run universities in Malaysia, and standards and industrial research institute of Malaysia (SIRIM).

PSDC provides training, starting from 32 courses offered in 1989-90. It increased the number of conducted courses to 156, involving 2,137 participants and trainers in 1991-92 including part-time, and weekend courses. Trainers from around the world are hired on the basis of the courses offered.

It has forged alliances with other training institutes in Malaysia and has accreditation with Australian, British, and U.S.A institutes.

Three types of course are offered

Technical skills courses
Manufacturing processes and,

Management courses-but heaviest on the technical side. It has twinned with other institutes to offer degree and postgraduate Programmes.

Training courses are demand-driven. Companies required to indicate course that they 'must have' are good to have' and 'are nice to have' within a 2-week period. Based on this, courses are offered and companies 'buy into' the programme and make the necessary payments.

The PSDC was a concept that arose from discussions between the American Business Council, representing multinational enterprise (MNEs) involved mainly in electronics, and the Penang state government in Malaysia.

Realizing that the future of the state of Penang would be closely linked to the training and development of its workforce, the concept of industry, government and academia sharing resources to achieve common goals was set in motion in the late 1980s. It became a reality in 1989 as the first industry-led training institutions in Malaysia. Since its establishment as a non-profit organization, it has emerged as one of the leading training institution in the country, making it a model for other states to follow.

4. Genesis of Promoting Small and Medium Scales Entrepreneurship Development in Nigeria

The initial development of industrial estate in Nigeria appears to have been informed by governments' objectives of advancing the level of industrial activity in Nigeria, and stimulating entrepreneurship talent in particular.

Accordingly, one of the earliest estates Apapa Industrial Estate established in 1953 by the Federal Ministry of Commerce and Industry was an Industrial nursery, equipped with standard industrial sheds, provided with infrastructural facilities, and designed to offer such common facilities and services and a central maintenance workshop, canteen and book-keeping services to the tenants.

Similarly, the same concept was the Yaba Industrial Estate, established in 1958. The Ikeja Industrial Estate established in 1961/1962 by the Western region government, Trans-Amadi industrial layout in Port-Harcourt established 1961 by the Eastern region government.

Eastern Industrial Estate Layouts at Uwani, Enugu, established in 1963 for medium-large enterprises and were the pioneers. For the purpose of this paper reference is made of the industrial nurseries, e.g. business incubator, industrial Development Centre etc., which are part of the in-

struments that federal government has invested so much money, facilities, that are very much useful and needed in the development of a new and dynamic tertiary institution's curriculum for the undergraduate programmes.

In 1987, President EI Hadj Omar Bongo of Gabon and the assistant administrator and director Mr. Pierre-Claver Damiba of United Nations Development Programme (UNDP) met and initiated a pilot programme of incubator that would stimulate entrepreneurship and promote commercialization of research results from national institutions of four African countries namely Gabon, Coted' Lvoire, Zimbabwe and Nigeria, using United Nations Funds for Science and Technology Development (UNFSTD).

The incubator programme was initiated for the purpose of promoting technological innovation and entrepreneurship development in Nigeria at that time.

In June 1988, the UNDP through its fund for Science and Technology Development approved a budget \$1.4 million to conduct detailed feasibility studies and other related works.

The feasibility studies were designed to cover three major phases. Survey of entrepreneurial environment and investigation of a viable incubator option. Location and modalities of the incubator and business planning, finance and training. The planning research and statistics department in the Federal Ministry of Science and technology in an open bid in February 1989, invited local consultants to submit proposals to carry out feasibility studies for the establishment of incubator centre in Nigeria. Consultants are:

Nigerian Institute of Social & Economic Research (NIS-ER) Ibadan,
Centre for Industrial Research & Development, Obafemi Awolowo University Ile-Ife.
Enterprises consulting group ltd, Lagos.

From the survey, three TIC options were postulated:

R & D Institute – based TIC which would seek to commercialize technologies (Technology Transfer) developed in Nigeria. This is in tandem with the objectives of FIIRO.

A corporate-based TIC which would concentrate on encouraging spin-off from large undertaking and An industrial estate-based TIC aimed at maximizing the growth potentials of start-ups and existing innovation small firms- an example is the Agege incubator centre.

Table 1: List of Parastatals in the Ministry of Science & Technology

S/N	NAMES OF PARASTATAL	NAMES OF DG/CEO
1.	National Biotechn Development Agency (NABDA), Abuja	Prof. Bamidele O. Solomon
2.	National Space Research and Development Agency (NASRDA), Abuja	Dr. Saidu O. Mohammed
3.	National Institute For Trypanosomiasis Research (NITR), Kaduna State	Prof. Mohammed Mamman
4.	Nigeria Natural Medicine Development Agency (NNMDA), Lagos	Mr. Frank T. Okujaju
5.	Sheda Science And Technology Complex (SHESTCO), Kwali-Abuja	Prof. Sunday A. Thomas
6.	National Agency For Science And Engineering Infrastructure (NASeni) Abuja	Prof. Olusegun O. Adewoye, FAS
7.	Raw Materials Research and Development Council (RMRDC), Abuja	Prof. (Engr.) Azikwe Peter Onwualu,
8.	National Board for Technology Incubation (NBTI), Abuja	Prof. (Mrs.) Gambo Laraba Abdullahi
9.	Project Development Institute (PRODA), Enugu	Prof. Goddy N. Onuoha
10.	National Office for Technology Acquisition and Promotion (NOTAP), Abuja	Engr. UMAR Buba Bindir (ph.d)
11.	Federal Institute Of Industrial Research Oshodi (FIIRO), Lagos	Dr. (MRS.) Gloria Nwakaego Elemo.
12.	Nigerian Building And Road Research Institute (NBRRI), Abuja.	Prof. Danladi Slim Matawal
13.	Nigerian Institute of Science Laboratory Technology (NISLT), Ibadan Oyo State	Dr. Ighpdalo Folorunsho Ijagbone
14.	National Centre for Technology Management (NACETEM), Ile-Ife, Osun State	Dr. Willie O.Siyanbola
15.	National Research Institute For Chemical Technology (NARICT), Zaria, Kaduna State	Prof. Idris M. Bugaje
16.	Energy commission of Nigeria (ECN), Abuja	Prof. Abubakar S. Sambo, OON
17.	Nigeria Institute Of Leather And Science Technology (NILEST), Zaria Kaduna	Dr. Isuwa K. Adamu

Source: Federal Ministry of Science and Technology

There are at present IDC offices in 22 states, (see table below)

When fully – functional the Objective of the IDCsis to help business start-ups:

- To prepare business plan
- To install their machinery and fabricate small spare-parts and
- To assist small business with staff training, etc. is based on this option-similar in nature to industrial nursery

Table 2: List of State Coordinators of Industrial Development Centres in the Country

1	Adamawa State	The state coordinator, I D C ICM 10, Numa road, opposite timber shed of federal secretant. PMB 2009, Yola.	Mr. Ishaya	08059672844
2	Akwa Ibon State	State coordinator IDC, Aka road opposite Champion Breweries PMB 1187, Uyo	Mr. udoh	08029580120
3	Bauchi State	State coordinator, IDC, zango village, After low cost estate PMB 251 Bauchi	Okusote	08057700034
4	Benue State	S/c, IDC, 5 court (behind hudco quarters) North bank PMB 102018, Makurdi	Temang	07030363796
5	Borno State	S/c, IDC, Pompomari housing estate, of fed. sec. building PMB 1624 Maiduguri	Damter	08023736167
6	Cross River State	S/c, IDC, Moniys road, off Katsina Alf hyhway PMB 1215, Ogoja.	Adebudo	08034712616
7	Edo State	S/C, Eubuotubu road, off Ekenwan Rd PMB 1640, Benin city	Nwanko	07039011419
8	Enugu State	S/C, IDC, Emene industrial layout off fed. Sec. RM 239C PMB 1409. Enugu	Mr. Chukwuezi	08063949235
9	Imo State	S/c IDC, shell camp PMB 1013, Oweri	Mrs. Nwachukwu Chibuzo	07035030117
10	Kaduna State	S/c, IDC, opposite a b I gate, Samani, Zaria.	St Sitmang	08028199485
11	Kano State	S/c, IDC, figa, near bagauda lake restaurant PMB 3347, Kano	Agada	08054356704
12	Katsina State	S/c, IDC, Dustin Ma road, behind Katsina flour mills. PMB 2147, Katsina	Mrs. Achilam	08059672913 or 08133201184
13	Kwara State	S/C, IDC, Ganmo, Ilorin Afan Rd PMB 1517 Ilorin.	Mrs. Alibi	08036130982
14	Lagos State	S/c IDC, Ikpakodo, off ibeshe rd, opposite voice of NY. (VON) P O. BOX 708, Ikorodu.	Mrs. Nwoke	08164363797
15	Niger State	s/c IDC, Western by-pass (minnia-zunery rd) near police command sec. sch. PMB 44, Minna	Mr. Nwachukrou Fedinade	08034084876
16	Ogun State	S/c, IDC, Onijangun Janjan industrial estate off lagos Abeokuta exp.road PMB 2221, Abeokuta.	Ajao	08035839774
17	Ondo State	S/c, IDC, Oba-ile(Near NTA Station) PMB 811 Akure.	Victor Akpom	08034502708
18	Osun State	S/c, IDC, Km 5,Osogbo-ilesa roof (opposite st. Uorles)	Adedeji	08034310050
19	Platcau State	S/c, IDC, Musta Ali village km 10, Zaire road PMB 2037, Jos	Usman	08035765954
20	Rivres State	S/c, IDC, Ozueba, Port Harount.	Mr. Okereke	08035470228 or 08090783221
21	Sokoto	S/c, IDC, Kalambaina road (opposite. new fertilizer plant) PMB 2232 Sokoto	Adebola, Mr Sesan or Ask Ojmusa	08029003302 or 08060259656
22	Fct	S/c, IDC, Idu industrial layout, (Near Julius Berger Asphalt Plant) Idu, Abuja.	Enemali R.A.N	

Source: Federal Ministry of Trade and Investment

Each IDC is expected to have fully-equipped workshops, and each workshop is expected to specialize in at least three areas out of the following:

- (i) automobile engineering and spares
- (ii) leatherworks
- (iii) woodworks
- (iv) electronics/electrical engineering and
- (v) textile technology

5. Discussion

In this country it has been observed in the recent past that without a core of graduates with entrepreneurial mind-set as well as skills in innovation and creativity, there can be no appreciable social-economic development in Nigeria i.e. for us to develop; there is a need for development in our educational system otherwise graduate unemployment will continue to rise, no matter the palliative.

Hence, there is a need for the government to put forward through the federal ministry of education a policy that will fashion out especially new undergraduate curriculum, that should be designed in such a way that university undergraduate students be trained to acquire practical skills along with theoretical pedagogy of entrepreneur-

ship in order to make them relevant, competent, self-reliant and efficient employers of labor and so add value to our national economy.

In pursuance of the above proposal, there would be a need for some Nigeria universities, to establish department of entrepreneurship with a 5-year programme, (federal universities of technology have some of these instrument already on ground) embedded with industrial core courses to impart the skills acquisition knowledge to our students. And the relevant skills acquisition courses concerned could be arranged as follows:

I will like to represent what might be regarded as an undergraduate entrepreneurship programme of Joseph Ayo Babalola university Nigeria by a three dimensional equilateral triangle as bellow:

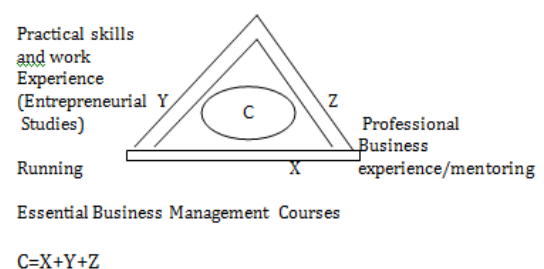


Figure 1: Equilateral Triangle Model Summation

It is a common believe that an essential feature of the training of an entrepreneur should be a blending of academic studies, industrial training work experience. In addition to this theoretical training, students need a sound academic knowledge as well as in-service training relevant to his/her areas of interest.

Such knowledge which is normally acquired either through industrial experience or training in professional practice, in the university and in the industries. The normal pattern is however for a student to be seconded to a firm for commercial or industrial training as proposed above (Fig 1).

5.1 Sandwich Industrial Training

It was for the whole session. The students wrote reports, presented papers in seminars they were scored, and then they came back for the five hundred level courses before they graduated.

Curriculum Contribution to the 5 years BSC, Entrepreneurship Design Programme

5.2 Theoretical Content (in Brief)

Course distribution for the 5 years Entrepreneurship Programme

S/N	LEVEL	1 st & 2nd Semester	Units
1	100	“	43
2	200	“	43
3	300	“	43
4	400	“	32
5	500	“	33
		Total units =	194

Looking at the overall course content in Nigeria tertiary institution (table not included), it shown that the 4 years programme is between 157-190 units while 5 years programme is between 188-204 units and since entrepreneurship programme is also 5 years, an appropriate course units could be between 194 and 195.

In this case we have:

- i. core courses which is to build the capacity of the students to attain professional competence in her/his future entrepreneurial career = 125 units
- ii. required courses, that is, institution courses = 62 units
- iii. elective course, to make up the minimum number of credits = 7 units

Total = 194 units

4th year industrial placement = 32 units

Ind. Visit/workshop training = 4 units

Skill acquisition = 4 units

Role model/Mentoring = 4 units

Total = 44 units

Units of practice allocated therefore being in the percentage of 22.7% while for other essential business courses is 77.3.% (in operation between 2006/2007 and 2011/2012 at Jabu).

It was to be reviewed as at when necessary.

6. Entrepreneurship Course Tables

6.1 100 Level

First Semester

Course Code	Course Title	Duration Hour	Units	Status	L/T
ENT 111	Business Innovation and Growth Management	2	2	C	2
ENT 112	Introduction to Business	2	2	C	2
ECO 113	Mathematics for Social Scientists	3	2	C	3
BUS113	Elements of Management	2	2	C	2
ECO 111	Introductory Economics (1)	3	2	C	3
ACC 113	Introductory Accounting (1)	3	2	C	3
GNS 111	Use of English	2	2	R	2
GNS 112	Philosophy and logic	2	2	R	2
CSC111	Introduction to Computer Science	3	2	R	3
	Total	22	22	R	22

Second Semester

Course Code	Course Title	Duration Hour	Units	Status	L/T
ENT 121	Starting New Venture	2	2	C	2
ENT 122	Product Development and Management	2	2	C	2
ENT 123	Business Regulations and Control	2	2	C	2
ENT124	Industrial Visit/ Workshop Training/ industrial Relations	4	2	R	2
ECO 121	Elements of Economic Theory and Principles	2	2	C	2
ECO 123	Mathematics for Social Scientists (2)	3	3	C	3
ACC 121	Introduction to Accounting (2)	2	2	R	2
ACC 122	Introduction to Money and Banking	2	2	R	2
GNS 122	History and Culture	2	2	R	2
GNS 123	History and Philosophy of Science	2	2	R	2
		61	21	R	21

One unit of industrial visit is 3 hours tutorial.

6.2 200 Level

First Semester

Course Code	Course Title	Duration Hour	Units	Status	L/T
ENT 211	Historical Development of Entrepreneurship	2	2	C	2
ENT 212	Production Management	2	2	C	3
ENT 215	Introduction to Entrepreneurship (1)	2	2	C	2
ENT 216	Elements of Marketing	2	2	C	2
ENT 217	Industrial Visit/Workshop Training/ Industrial Relations	42	2	C	2
ACC 212	Introduction to Cost Accounting (1)	3	2	R	3
ECO 214	Statistical Method and Sources	3	3	R	3
CSC 216	Element of Programming	3	3	R	3
BUS 217	Fundamental of Business Management (1)	3	3	R	2
	Total	62	22	R	22

One Unit of Industrial Visit Is 3 Hour Tutorial

Second Semester

Course Code	Course Title	Duration Hour	Units	Status	L/T
ENT 221	Business management	2	2	C	2
ENT 222	Production Management (2)	2	2	C	2
ENT 223	Introduction Entrepreneurship (2)	2	2	C	2
ENT 224	Entrepreneurship Development	2	2	C	2
ENT 225	Business Law	2	2	C	2
ENT226	Strategic Management	2	2	C	2
ENT 227	Practical Acquisition	2	2	C	2
ENT 228	Company Law	2	2	C	2
ENT 229	Entrepreneurial Finance and Business Plan	2	2	C	2
ECO224	Structure of Nigeria Economy	2	3	C	3
	Total	21	21	C	21

6.3 300 Level

First Semester

Course Code	Course Title	Duration Hour	Units	Status	L/T
ENT 311	Safety Management	2	2	C	2
ENT 312	Entrepreneurial & Intrapreneurial mind 2 unit	2	2	C	2
ENT 313	Marketing Research	2	2	C	2
ENT 314	Investment Decision	2	2	C	2
ENT 315	Role model and mentoring	2	2	C	2
ENT 316	Human Resources management and organization behavior (1)	2	2	C	2
ENT 317	Practical Skills Acquisition (2)	2	2	C	2
ENT 318	Research Methodology	2	2	C	2
ENT 319	Managerial Economics	3	3	C	3
ECO 311	Microeconomics Theory (1)	3	3	C	3
	Total	22	22	C	22

One unit of skills acquisition is 3 hours practical

Second Semester

Course Code	Course Title	Duration Hour	Units	Status	L/T
ENT321	Human Resources Management and Organization Behaviour (2)	2	2	C	2
ENT 322	Marketing Management	2	2	C	2
ENT 323	Personal Selling	2	2	C	2
ENT 324	Role model and mentoring (2)	2	2	C	2
ENT 325	Investment Decision (2)	2	2	C	2
ENT 326	Case Study/Comparative analysis	2	22	C	2
ENT 327	Small Business Management	2	2	C	2
ENT 328	Operation Research and Management	2	2	C	2
ENT 329	Advertising/Franchising	2	2	C	2
ECO 321	Microeconomic Theory	3	3	R	3
	Total	21	21		21

6.4 400 Level

First Semester

Course Code	Course Title	Duration Hour	Units	Status	L/T
	Industrial Training		-	-	-
ENT 411	University supervision		6	C	6
ENT	Site Work		6	C	4

412	supervision				
ENT 413	Report		6	C	6
	Total	1, 000 hrs	16		16

Second Semester

Course Code	Course Title	Duration Hour	Units	Status	L/T
ENT 421	Industrial Training		-	C	6
ENT 422	University Supervision		6	C	4
ENT 423	Site Work supervision		6	C	6
	Report		6	C	16
	Total	1, 000 hrs	16		

One unit University supervision is two hours tutorial, one unit site work supervision is two hours tutorial also one unit of student’s report is two hours tutorial.

6.5 500 Level

First Semester

Course code	Course Title	Duration Hour	Units	Status	L/T
ENT 512	Purchasing and Supply	2	2	C	2
ENT 513	Feasibility Study (1)	2	2	C	3
ENT 514	Industrial Training Seminar	2	2	C	2
ENT 515	Research Project (1)	2	3	C	3
ENT 516	Electronic Marketing	2	2	C	2
ACC 517	Financial Management (1)	3	3	C	3
ECO 516	Theory of International Trade	2	2	C	2
	Total	15	15	C	15

500 Level

Second Semester

Course Code	Course Title	Duration hour	Units	Status	L/T
ENT 523	Promotion and marketing communication	2	2	C	2
ENT 524	Global business (globalization) market	2	2	C	2
ENT 525	Business ethics and Socio-Responsibilities	2	2	C	2
ENT 526	Business and marketing Environment	3	3	C	2
ENT 527	Feasibility Study (II)	2	2	C	2
ENT 528	Consumer Behaviour	2	2	CC	2
ENT 529	Research project (II)	2	2	C	2
	Graduate Semi-	3	3	C	3

	nar/Business Plan				
	Total	18	18	C	18

7. Students Gains

The Students of B. Sc / B. Tech entrepreneurship who follow the skills courses as embedded with the curriculum of five year programme expects to gain from the following:

On average making learning visits to government agencies, private small scales companies and industrial private sector associations

- (a) With the government agencies they will be imparted with the agencies’, visions and mandate.
- (b) They will receive first hand information on important areas that could assist them on business set up.

Apart from this information, they may receive some copies of journals, articles, magazines, bulletins etc. that were edited or published to promote industrial development in the country from these agenda.

© Any students on the core courses and chose to be trained by Fiuro will know how to produce products such as:

- (i) instant pounded yam flour
- (ii) fruit juice production
- (iii) Production of soap and detergent etc. and many more etc.

7.1 Practical skills acquisition laboratory/centre

Entrepreneurship centre for practical training is now in place, and the university is now in partnership with some businessmen in the area of entrepreneurial training on many skill programmes for the students at the centre.

7.2 Mentoring

The number of mentors that may be invited by the university to come and talk to the students in the areas of their businesses, could be as many as possible

7.3 Sandwich (industrial placement) period between the planned curriculums

Students are to be seconded to some industries that are collaborating with graduate work experience training for what is termed sandwich training course of twelve months just as it is being practiced by the University of Bradford in UK. Here in Nigeria Joseph Ayo Babalola University has produced two sets of entrepreneurship graduates that followed the above course programme

8. Conclusion

It is believed that the learning of some activities is best carried out on the job because the more practice, the more the student is opened to more knowledge and the more he/she becomes more experienced and skilful.

It has been discovered that learning from other people, using eyes, ears and hands constantly in the course of production and services is essential while on the job.

McMahon (1972) is right when he described meeting the needs of students as one of the major challenges in curriculum development; he said "curriculum must be developed to meet the needs of the students rather than desires of the developer".

Generally, how valid is this ascertainment in the issue of curriculum development in Nigeria educational arrangement/system?

Today the curriculums we have in our universities are the desires of the developer and have totally failed to meet the needs of the students.

From my own point of view, I believe that the university undergraduate needs can be met by the provision of appropriate study of entrepreneurial activity that will increase his option in life thereby improving his understanding and creativity in his job.

If our youths in the universities are given orientation and proper entrepreneurial training, not only that they will be accounted for contributing their own quotas to the economic growth of this country, also they will be quick in discovering new methods of operation in whatever areas of specialization they find themselves, because of the level of their education. It is also my belief that the higher the education with the appropriate skill acquisition imparted at the tertiary institution, the higher the propensity to fall back to the skills already acquired after graduation or post NYSC.

Benefits that may accrue to students from the above programmes if properly executed/ followed include:

1. Certificates of business names.
2. Skills training certificates of competence from FiRO
3. One year of working experience/ professional experience certificate of service
4. 12 months of work experience.

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Author Profile



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