Curriculum and Entrepreneurial Skills Acquisition through Technology Education and the Emerging Challenges in the Attainment of Millennium Development Goals.

By

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Abstract

Entrepreneurial skills development through technology education is an essential tool for job creation. The current technical school curriculum is lacking in entrepreneurship training in terms of contents and activities for both students and teachers. This results to production of technical school grandaunt that cannot compete favourably in the world of work as regards being self-reliant and self-employed. The paper was a descriptive survey which assessed technology teacher's competencies and availability of material resources for developing entrepreneurial skills. The study was carried out in Niger State. The sample consists of 6 technical schools with their principals, 72 technology teachers and 108 students. The instrument used was questionnaire. The data were analyzed using mean statistics for the research questions. The hypotheses were tested at 0.05 level of significance using the analysis of variance. The findings revealed lack of entrepreneurial skills competencies on the part of technology teachers and lack of material resources for developing the needed skills. The recommendations made among which was that technology teachers should be empowered to possess entrepreneurial skill for effective attainment of millennium development goals.

Introduction

Skills and knowledge are power house of economic growth and social development. By investing in human resource enterprises, individuals are able to sustain themselves, improve productivity world economics leading to better standard of living. Bata and Biu (2007) Oharis (2008) foresaw the necessity for entrepreneurial and technology teacher educators to engage students in activities that develop intellectual skills and understanding to equip students with knowledge about the ability to nurture communication, interpersonal and reasoning skills, and also to ensure that emerging teachers are able to integrate academic and entrepreneurial curricula. This will prepare the students with options for post secondary education. This will as well work to offer a broad base of knowledge and skills and pedagogy including ideas about constructivism, curriculum development and instruction, science and technology preparation, the interaction of academic and entrepreneurial contents. (Patrick 2009).

Curriculum is defined by Olaitan and Ali (1997) as all the planned instructional experiences provided by the school in a course of study, so as to assist the pupils in attaining the desired learning outcomes. Some curriculum experts and educators consider curriculum as all the experiences learners have in a programme of education with the purpose of achieving educational goals and related specific objectives. In the views of Onwuka (1981), Mkpa (1987), Offorma (1994), Olaitan and Ali (1997) the achievement of the objectives of the curriculum demands proper implementation of the curriculum. This imposes on schools, the task of translating the curriculum document into operating curriculum by the combined

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efforts of the teachers, students, schools, proprietors and society at large (Mkpa, 1987). Core curriculum is the curriculum which includes all the basic contents, skills and knowledge which must be imparted to the learner at some stage of a course of instruction (Olaitan and Ali, 1997; Offorma, 1994). It serves the needs of students and promotes relationship between life and learning. Curriculum contents that are regarded as core for junior secondary school students are Mathematics, English Language, Integrated Science and Social Studies (Federal Republic of Nigeria, 2006). It represents what the curriculum planners regard as essential for every child to study in school. It consists of a number of logically organised subjects or fields of knowledge which are correlated. Many core topics are organised around the personal needs of the students, and provisions for guidance are usually provided in the instructional scheme (Offorma, 1994). Core curriculum prepares the learner for successful and productive life in the wider society. This can only be achieved if the curriculum is well implemented. Thus, the goals of intended curriculum may remain unachieved when the curriculum implementation does not attempt to communicate the essential features of the educational proposals. Hence, curriculum implementation is the trying out stage of the curriculum plan. It is the practical or instructional phase of the process.

Entrepreneurship is the interest and ability to start and operate a business venture. It is the art and techniques of owning, operating and managing a business effectively and profitably. Anaekwe and Ozoigbo (2002) stated that Entrepreneurship is concerned with business initiative and management. It is the ability to function intelligently and actively in one's own business affairs, hence entrepreneurship ability in science and technology education.

- ❖ Equips individual with necessary skills and knowledge for self-reliance
- ❖ Reduces the problems of unemployment as more people that to be employed by entrepreneurs.
- ❖ Enhances technology and economic development, as more entrepreneurs contribute to the development through job creation in production, distribution and services.
- ❖ Enables individual appreciate the effect of entrepreneurs on the national economic development.
- ❖ Enhances the alleviation of poverty or the reduction of poverty in the society.

According to Omatseye (2000), entrepreneur in science and technology education is a need primarily dictated by political, social and economic exigencies of contemporary societies. Olibie and Obidike (2008) stated that science and technology is a tool that has the single purpose of a means in achieving an end to unemployment. It is noted that the massive unemployment has made entrepreneurship the only key to the survival of graduates of science and technology education in the present millennium.

With entrepreneurship in technology education, a graduate with a very low level of commencement can establish a business centre, auto-mechanic shop, carpentry and joinery workshop, a cabinet making workshop, poultry farm, eatery or a fast food shop etc. Hence entrepreneurial development in science and technology education viewed as a vehicle for national development that enables the nation to meet with nest of the world in the context of globalization. Thus Nigeria cannot afford to be left behind on the track of the right type of entrepreneurship which can put her on the right pedestal for the attainment of Millennium Development Goals (MDGs) in Nigeria:

i. To what extent does the technology teachers in the technical schools possess the competencies for the development of entrepreneurial skills in the student?
ii. What is the level of availability of technological and infrastructural facilities for developing entrepreneurial skills in technology education?
iii. What are the strategies that would be adopted by science and technology teachers in developing the entrepreneurial skills for effective teaching and learning of technology education?

The following null hypothesis guided the study

- There is no significance difference in the mean rating of principals, technology teachers and students on the competencies possessed by science and technology teachers in developing entrepreneurial skills.
- The mean ratings of principals, and technology teachers and students on the availability of technological and infrastructural facilities for the development of entrepreneurial skills will not differ significantly.

Methodology

The design adopted for the study was descriptive survey. According to Anaskwe and Ozoigbo (2000), this involved collection of data, often using questionnaire, for the purpose of describing and interpreting existing conditions or qualities about a given population.

The target population consisted of all the principals (6) technology teachers (72) and 108 TC II students were selected in the three (3) educational zones. Niger State has 6 technical schools sampling techniques.

Sampling Techniques

All the 6 technical schools were used for this study. Also 4 science teachers 8 technology teachers and 18 students were selected from each of the 6 technical schools giving a total of 48 technology teachers 24 science teachers and 48 selected were those with teaching qualification while 108 TC II students selection was based on school register. 18 TC II students were selected from each school. Therefore, 6 technical schools with their principals, 72 technology teachers and 108 students formed the sample for the study.

The instrument used was a questionnaire which was titled. Curriculum entrepreneurial skills acquisition through technology education and, the emerging challenges in the attainment of millennium development goals (CESATTE) the CESATTE was validated by 2 technology experts from Federal University of Technology, Minna.

The research questions were answered using means statistics. The hypothesis were tested at 0.05 level of significance using the analysis of variance (ANOVA). The acceptable level of mean score was 2.50 and above, while 2.49 and below was not accepted.

This technique was deemed adequate because the hypothesis involved more than two group comparison of mean scores.

Results

The results of this study were presented in line with the research questions and the hypothesis in table 1, 2, 3, 4 and 5.

Table 1: Mean rating of principals, teachers and students on competencies possessed by technology teachers.

S/No	Items on the competencies possessed by technology teachers	Principals mean	Technology Teachers Mean	Students Mean	Decision
	The technology teachers in your school possess the following entrepreneurial skills				
1	Mental Alertness	2.53	2.61	2.81	A
2	Love for hand-on-activities, i.e. practical experiment	3.60	3.81	3.70	A
3	Interest in problem solving	2.51	2.50	2.11	D
4	Income generation and self empowerment creative thinking skills which enable them to:	3.81	3.14	3.66	A
5	Generate ideas, produce goods and services	1.26	2.33	1.09	D
6	Reward creative ideas and products and take sensible risks	2.21	2.26	2.23	D
7	Life coping skills like raising of crops	1.01	1.86	1.45	D
8	Food production and preservation	2.20	2.48	1.11	D
9	Self reliance	2.02	1.64	1.42	D
10	Job competence by showing the above skills	1.08	2.23	1.21	D

Data in table 1 revealed that the respondents, principals, and technology teachers, and students agreed to item in number 1, 2 and 4 but disagreed to items in number 3 and those in 5-10. This indicated that technology teachers are not competent in most of the entrepreneurial skills.

Table 2: Mean ratings of principal and technology teachers, and students on availability of technological and infrastructural facilities.

S/No	Items on the availability of technological and infrastructural facilities	Principals mean	Technology Teachers Mean	Students Mean	Decision
	Your school has the following				
1	Equipped technology laboratory	2.31	1.00	1.31	NAV
2	Essential amenities like water	1.11	0.61	1.11	NAV
3	Constant electricity	2.51	2.64	2.56	NAV
4	Classroom blocks for students at UNESCO ratio of 30 students per class	1.22	1.46	1.77	NAV
5	Furnished staff offices	2.31	1.09	2.01	NAV
6	Well equipped library	1.20	2.14	2.00	NAV
7	Computers with internet connectivity	0.00	0.00	0.00	NAV
8	Automatic generators	0.00	0.00	0.00	NAV
9	Well equipped and protected computer laboratory	1.61	1.03	1.16	NAV
10	Well equipped workshop for practical works	2.00	1.33	1.41	NAV
11	Functional farm land	2.01	1.61	1.13	NAV
12	Fridges for food preservation	0.00	0.00	0.00	NAV

Data in table 2 revealed vividly that all the listed technological and infrastructural facilities were not available in the technical schools for developing entrepreneurial skills. This was

revealed by the fact that the entire item scored below the acceptable mean of 2.50 and above.

Table 3: Mean ratings on the strategies that would be adopted for empowering technology teachers in developing entrepreneurial skills.

S/No	Items on strategies for empowering technology teachers	Principals Mean	Technology Teachers Mean	Students Mean	Decision
	Staff development which can take the following forms:				
1	In-serving training	3.01	3.86	3.66	Agree
2	Sponsoring teachers for national conferences	2.98	3.33	3.41	Agree
3	International conferences	2.94	3.00	3.46	Agree
4	Workshop seminars for entrepreneurial skills	2.84	3.01	3.26	Agree
5	Oversea training on developing entrepreneurial skills	3.04	3.16	3.00	Agree
6	Payment of allowances	3.94	3.45	3.82	Agree
7	Provision of adequate technological and infrastructural facilities	2.86	2.77	3.31	Agree
8	Well equipped offices	4.00	4.31	3.64	Agree

Data in table 3 showed that the respondents agreed that all the listed items would be adopted for empowering technology teachers in developing entrepreneurial skills for teaching and learning. This was revealed by the fact that all the items scored above the acceptable mean of 2.50 and above.

Table 4: ANOVA table on the mean rating of principal and technology teachers and students on the availability of material resources.

Source of Var.	DF	SS	MS	F-Cal	F-tab
Treatment	2	0.003	0.003	0.004	3.31
Error 33	24.44	0.66			
Total 37	24.31				

Decision: Not significant at P<0.05

Table 5: ANOVA table on the mean rating of principals and technology teachers and students in developing entrepreneurial skills.

Source of Var.	DF	SS	MS	F-Cal	F-tab
Treatment	3	3.41	1.21	2.98	3.47
Error 27	12.33	0.41			
Total 29	14.11				

Discussion/Conclusion

The results of this study have indicated that technology teachers lacked competencies in developing entrepreneurial skills as shown in table 1. The ANOVA test of hypothesis 1, showed no significant differences in the ratings of principals, science and technology teachers and students. This complemented the view of Asogwa (2000) Rychen and

Salganik (2003) who noted that mastering basic skills and concept in ones area of specialization are becoming part of core of Technology education. This means that science and technology teachers should first be developed in entrepreneurial skills so as to effectively develop same in the students.

The study also showed serious lack of material resources including technological equipments. The ANOVA test in table, also confirmed that the view of the respondents were unanimous on the lack of technological and infrastructural facilities. The finding is in agreement with Olangungi (2003) Umeh (2006) and Yusuf (2010) who found non availability and low-level utilization of ICT facilities in Nigerian schools. There has to be adequate provision of resources for successful development of entrepreneurial skills for both teachers and students.

The study also reveals that certain strategies would be adopted for empowering technology teachers in developing entrepreneurial skills as shown by the ratings of the respondents. This study supported that of Okeke (2007) who reported that teachers need help in several areas of their teaching task and recommended capacity building strategies as a way of providing the teachers with the needed skills, as well as to enable the students to find job satisfaction in the labour force of the complex and dynamic economy.

The implementation of the above findings is the need for the implementers (teachers) of educational policies to be competent in the task expected of them. Teachers are at the hub of any educational system. For upon their number, their quality, their devotion an their effectiveness depend on the success of the system and no education system can be stronger than its teachers.

In conclusion, one need to acknowledge that technology plays significant role in study of entrepreneurial. Technology teachers therefore need to be groomed on the requisite skills need for effective development of entrepreneurial skills through technology education. Teachers need to develop these skills in technical schools for effective study of technology. Emphasis on these skill would go along way in boosting the students' interest, enthusiasm and participation in the study of science and technology. Subsequently, learners who are productive in the society, will be produced and the gap between the content taught in school and the application in the work place will be bridged.

Recommendations

- Teachers should emphasize functionalism in their instructions rather than certificate
- Technology teachers should be granted in-service training in the skills of entrepreneurship
- Technology teacher should always be sponsored for national and international conferences for entrepreneurial skills.
- All stakeholders should join hands together in providing adequate resources for successful development of entrepreneurial skills.

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