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Full Length Research Paper

# Perceptions of entrepreneurship education by engineering students of Modibbo Adama University of Technology, Yola, Nigeria

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There has been emphasis on the study of entrepreneurship in tertiary institutions in Nigeria for both management and non-management students like those undergoing engineering programmes. While much work has been done to assess the relationship between the teaching of entrepreneurship and entrepreneurship intentions of recipients, very few studies have been carried out – especially in the Nigerian context – on the perceptions of technically-inclined students to the teaching of entrepreneurship. This study sought to find out the perceptions of engineering students of one university in Nigeria to the teaching of entrepreneurship education (EE). Perception of EE was defined in terms of perceived need for EE, Perceived relevance of curriculum, and Perceived competence of EE lecturers. A census was carried out on the 141 final year engineering students and data were descriptively analyzed using mean and standard deviation, and inferentially, using multiple regression analysis. The study shows that EE was positively perceived across all dimensions. The study further shows a strong positive relationship between perception of EE and entrepreneurial intentions. The study concluded that building a positive perception of EE among students is fundamental to achieving its primary objective

**Key words:** Entrepreneurship education, perceived curriculum, perceived competence of lecturers, perceived role of university, engineering students, entrepreneurial intentions.

#### INTRODUCTION

Faced with the increasing rate of unemployment among graduates and its attendant socioeconomic problems, the Federal Government of Nigeria, through the Federal Ministry of Education, in the mid-1980s, introduced entrepreneurial education into the curriculum of tertiary institutions in the country. It was the thinking of government that the teaching of entrepreneurship will

equip students with skills, attitude, and knowledge necessary for self-employment generation and management. Entrepreneurship Education (EE) has been defined as the type of education geared toward producing self-employed or self-reliant person (Onu, 2008). Diaz-Casero et al. (2012) defined entrepreneurial intention as "idea of creating a company, planning to have

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one's own business, dedication of time and energy." This is a state of mind that students wish to create a business of their own upon graduating from university.

In the Modibbo Adama University of Technology (MAUTECH), Yola, Nigeria, entrepreneurship education is thought as, "Entrepreneurship Development" (ED). Osemeka (2012: 256) defines entrepreneurship development as "...the process of enhancing entrepreneurial skills and knowledge through structural training and institutional building programme." In this paper, EE and ED shall be used interchangeably as they imply the same thing. At MAUTECH, ED is a compulsory course at the final level of the undergraduate programme, not only to business students but also to those in non-business and technical fields like engineering. The compulsory involvement of engineering students in EE is seen by educational policy makers as an effective strategy to harmonize their technical capabilities with strong business creation ability.

Despite the emphasis on EE for technically-biased students like engineering undergraduates, very few studies have been carried out - especially in the Nigerian context - to assess how the recipients perceive this programme, and also how these perceptions influence intentions to go into entrepreneurship on graduation. Previous researchers have focused on either the linkage between ED and entrepreneurial intention or on how specific traits like, locus of control, prior business experience, self-efficacy, creativity, etc., related to readiness to go into entrepreneurship. The statement of the problem can be stated thus; what are the perceptions of engineering students in MAUTECH to EE? objectives of the study are, therefore, to: (1) examine engineering students perceptions of EE with respect to its need, the relevance and adequacy of EE curriculum and course content, and competence of EE lecturers, and (2) Assess the relationship between perception of EE and entrepreneurial intentions of engineering students. Perception of EE is defined in terms of: (1) need for EE; (2) relevance and adequacy of curriculum and course contents; and, (3) competence of EE lecturers.

#### Research questions and hypotheses

#### Research questions

- 1. What are students' perception of EE with respect to EE its need in tertiary institutions?
- 2. What are engineering students' perceptions of EE curriculum and course content?
- 3. What are engineering students' perceptions of EE Lecturers?
- 4. What is the relationship between perceptions of EE and entrepreneurial intentions of engineering students?
- 5. How do socio-demographic variables moderate the relationship between perception of EE and entrepreneurial intentions of engineering students?

#### Research hypotheses

The two null hypotheses for this study were:

Hypothesis one: There is no significant relationship between engineering students' perception of EE and their entrepreneurial intentions

Hypothesis two: Socio-demographic factors do not significantly moderate the relationship between engineering students' perceptions of EE and their entrepreneurial intentions.

#### LITERATURE REVIEW

#### Perceived need for entrepreneurial education

Entrepreneurial education is offered at both the undergraduate and post-graduate levels in universities in Nigeria. The objectives at the undergraduate level are to create awareness among students and stimulate their interests in entrepreneurship (Abbas, 2013). The course is expected, among others, to make students appreciate the risks and rewards associated with business creation and ownership. It is hoped that the course will change students' mindsets and attitudes towards entrepreneurship as well as helping in "developing entrepreneurial traits...and provide the necessary networking support..." (Agbim et al., 2013: 37). Some studies show that students perceived EE as an important and relevant course (Akpan and Etor, 2013; Akinboye and Pihie, 2014; Ramlan and Ngah, 2012). Studies by Hosseini et al. (2011) and Abbas (2013) show that EE positively changed students' perceptions of and attitudes toward entrepreneurship.

## Perceived relevance of curriculum and course contents

The appropriateness of the curriculum and course contents is a challenging issue in EE, and the success of the programme lies on getting this aspect right. Zegeye (2013) argues that this problem arises owing to inability to harmonize the viewpoints of the major stakeholders in EE: educators, students, programmers, and evaluators. The students, for example, come from diverse educational background and orientations. What and how to teach them are fundamental questions that need to be asked and pragmatically answered if students interests and skills acquisition in entrepreneurship are to be met. Adejimola and Olufumilayo (2009), Ramlan and Ngah (2012) identified curriculum and course contents as critical to achieving the course outcomes. Ozaralli and Rivenburgh (2016) identified the theory-based approach to EE and the non-involvement of practical entrepreneurs as responsible for low interest and poor perception of entrepreneurship among university students in Malaysia.

**Table 1.** Reliability coefficients of variables measures.

S/n	Dimensions	No of items	No of cases	Cronbach's Alpha
1	Perceived need for Entrepreneurial education	10	99	.525
2	Perceived relevance of curriculum and course content	7	99	.656
3	Perceived competence of EE lecturer	6	99	.553
4	Perceived entrepreneurial intentions	6	99	.656

This finding was corroborated by other studies (Kontio, 2010; Ramlan and Ngah, 2012; Zegeye, 2013).

## Perceived competence of entrepreneurial education lecturers

Those who teach entrepreneurship in universities have significant role in influencing students' attitudes to and perceptions of EE (Gustafsson-Pesonen, 2008; Akinboye and Pihie, 2014). However, studies show that students have low perceptions of existing teaching methods in positively influencing their interests in entrepreneurship (Ramlan and Ngah, 2012). This has been blamed on the dysfunctional approach to EE by lecturers handling the course. This was the position of Yasin et al. (2011:200) observed that "lecturers lacked entrepreneurial skills, knowledge or training and teaching approaches were inappropriate." This finding was collaborated by later study (Abbas, 2013).

#### **Entrepreneurial intentions**

The goal of EE is to create entrepreneurial intentions among the recipients. Entrepreneurial intention refers to "an individual's personal desire to create a new firm or a new value driver within existing organizations" (Wu and Wu, 2008). Entrepreneurial intention is seen as the first step in new business creation. ED, it is argued, will develop students' interests in and create positive perception of entrepreneurship (Agbim et al., 2013). Students will be equipped with the skills to translate their interests into business formation at some stage after completion of their undergraduate programmes.

#### **METHODS**

#### Population of the study and census

EE is a compulsory course for all final year undergraduate students in MAUTECH, including those of the School of Engineering and Engineering Technology (SEET). The numbers of registered final year students in each of the engineering departments for the 2014/2015 academic session were as follows: Agricultural Engineering (19), Chemical Engineering (32), Civil Engineering (33), Electrical/ Electronic Engineering (54), and Mechanical Engineering (13). Given the relatively small size of the population – 141 – the researcher decided to carry out a census.

#### Instrumentation

The instrument for data collection in this study was an "Entrepreneurship Perception Questionnaire." The questionnaire consisted of five sections: A, B, C, D, and E. Section A which measured "Perceived Need for Entrepreneurship Education," was based on a previous study (Adediran and Onifade, 2013). The remaining sections were developed by the researcher. Section B measured "Perception of Curriculum and Course Contents," Section C measured "Perception of ED lecturers," Section D measured Perceived Entrepreneurial Intention," and Section E measured the socio-demographic characteristics of engineering students. Section A to Section D was based on a 5-point Likert Scale which ranged from 'Strongly Disagree (scaled as one point) to Strongly Agree (scaled as five points). Multiple choice questions were developed to measure socio-demographic factors.

One hundred and twenty four copies of questionnaire were distributed to final year engineering students of MAUTECH during an EE class and were to be returned the next day. Only 112 copies of the questionnaire were returned and of this number, 12 were wrongly completed and therefore discarded. The 99 correctly completed and usable copies of questionnaire represented a response rate of 88.39 percent.

#### Tools for data analysis

The socio-demographic variables of respondents were frequency and percentage. The first three research questions were analyzed using another descriptive statistical tool – mean and standard deviation. In analyzing these research questions, the decision cutoff mean was 2.50. Means scores above that the cut off mark were adjourned positively perceived (Agreed), while mean scores below were adjourned negatively perceived (Disagreed). The two hypotheses were tested using multiple regression analysis. In analyzing the research questions the decision cut-off mean was 2.50 (for a 5-point Likert Scale). Mean score above the cut-off were adjudged "Agree" and mean score below were adjudged "Disagree." The Scientific Package for Social Sciences (SPSS) version 14 was used in analyzing all data.

#### Reliability

The Alpha Cronbach coefficient  $(\alpha)$  was used to test the internal consistency of the items. A reliability of 0.50 was set as the criterion of acceptability for this study.

As shown in Table 1, the four variables ranged from 0.525 to 0.656, and the instrument is considered reliable as the Cronbach coefficients for each dimension was above the minimum criterion for acceptability.

#### **RESULTS**

The result of analysis of respondents' socio-demographic

**Table 2.** Socio-demographic characteristics of respondents.

Variable	Dimension	Frequency	Percentage
	Male	94	94.9
Gender	Female	5	5.1
Gerider	Total	99	100.0
	18-20	0	0.0
	21-23	9	9.1
	24-26	54	54.5
	27-29	27	27.3
	30-32	5	5.1
Age (year)	33+	4	4.0
	Total	99	100.0
	Single	92	92.9
	Married	7	7.1
	Separated/Divorced	0	0.0
Marital status	Widowed	0	0.0
	Total	99	100.0
	Agricultural Engineering (Ag, E.)	12	12.1
	Chemical Engineering (Ch. E.)	25	25.3
	Civil Engineering (Civ. E.)	13	13.1
Department	Electrical/Electronic Engineering (E/E E.)	41	41.4
•	Mechanical Engineering (Me. E.)	8	8.1
	Total	99	100.0
	Never been involved in business of my own	58	58.6
	Own/have owned a business of my own	54	41.4
Prior business experience	Total	99	100.0
	Parent(s)/Guardian(s) is(are) in business	54	54.5
Business background of parent/guardian	Parent(s)/Guardian(s) is(are) not in business	45	45.5
	Total	99	100.0

characteristics is presented in Table 2. The result of analysis of the first research question, "what are student perceptions of EE with respect to EE its need in tertiary institutions?" is presented in Table 3.

Table 3 shows that engineering students positively perceived the need for EE. They are generally of the view that EE promotes self-reliance and self-employment, equips graduates with innovative ideas and business creation skills among others. Among departments, Department of Agricultural Engineering had the highest cluster mean (4.025) while Department of Mechanical Engineering had the least (3.480). All the dimensions on which perceived need for EE was measured had mean ratings above the decision cut-off mean score of 2.500. The cluster mean is 3.929, which is above the benchmark or cut-off mean score. The result suggests that engineering student perceived the need for EE.

The results of analysis of the second research question, "What are engineering students perceptions of EE curriculum and course content?" is presented in Table 4.

Measured on a five-point Likert scale, Table 4 shows the mean scores of the first five questions on EE curriculum and course contents were all above 4.000 across the five departments. However, the sixth and seventh questions which were on students' exposure to relevant sources of funds, and students' practical field work respectively, each had mean score less than 4.000. Students' exposure to relevant sources of funds had the least mean score of 3.010. Comparing the cluster mean for each department, Agricultural Engineering had the least cluster mean (3.833) while Chemical Engineering had the highest (4.078). However, the cluster mean for

Table 3. Mean score of respondents on the perceived need for entrepreneurship education.

C/m	Overtion	Mean so	core for ea	Group	Std.			
S/n	Question	Ag. E.	Ch. E.	Civ. E	E./E. E.	Me. E.	mean	dev.
1	Entrepreneurship education is suitable for Nigeria	4.416	4.077	3.960	4.220	3.625	4.111	.946
2	Entrepreneurship education is a discipline that can promote self-reliance	4.333	4.153	4.360	4.220	4.375	4.273	.767
3	Entrepreneurship education promote self-employment among people	3.583	3.231	3.280	3.317	3.375	3.333	.845
4	Entrepreneurial education decreases unemployment among the youths	4.166	4.077	3.880	4.170	3.375	4.020	.869
5	Entrepreneurship education enhances creative and innovative ideas	4.417	4.154	4.240	4.195	4.000	4.212	.883
6	Entrepreneurship education can facilitates development of commence in rural communities	3.917	3.923	4.320	4.024	3.875	4.061	.988
7	Entrepreneurship education helps in reducing numbers of failed businesses	3.667	3.954	3.560	3.585	3.500	3.525	.993
8	Entrepreneurship education reduces poverty	3.167	3.923	3.800	3.854	3.500	3.737	.932
9	Entrepreneurship education equip graduate with business creation skills	4.250	4.385	4.320	4.244	4.375	4.293	.732
10	Entrepreneurship education helps in harnessing local resources	4.333	4.308	3.320	3.780	4.175	3.828	1.040
	Cluster	4.025	4.019	3.904	3.961	3.480	3.929	0.900

the group is 4.002 which is above the benchmark or cutoff mean score (2.500). The result suggests that engineering student positively perceived the curriculum and content of EE as being relevant and adequate.

The result of analysis of the third question "What are engineering students' perceptions of EE Lecturers?" is presented in Table 5.

Table 5 shows that the mean scores are generally high. The highest group mean score (4.748) was for the statement, "The lecturer shows much interest in teaching the course," while the least group mean score (3.980) was for the "The lecturer addressed the questions I had concerning entrepreneurship." Among the five departments, Department of Chemical Engineering had the highest cluster mean (4.398), while Department of Agricultural Engineering had the least (4.226). The group cluster mean was 4.323 which is above the benchmark or cut-off mean score (2.500). The result suggests that engineering student perceived EE lecturers to be competent.

#### Test of hypothesis one

Table 6 shows that the analysis of the influence of perceived need of EE on entrepreneurial intentions of engineering students of MAUTECH yielded an adjusted R-square multiple regression coefficient of 0.142. The result also shows that Analysis of Variance for the multiple regression data produced an F-ratio of 6.412 which is greater than the critical F-value of 2.68 and was significant at .05 level [F-statistic (3, 96) = 6.412 compared to  $F_0$  .05 (3, 96) = 2.68]. Ho:  $\mu = \mu_0$  was rejected and Ho:  $\mu \neq \mu$ o was accepted. Therefore, there is a significant relationship between engineering students' perceived EE and their entrepreneurial intentions. Ee in terms of the three variables explained 14.2 per cent of the variation in entrepreneurial intention. To find out the relative contribution of the individual variables to the prediction of the dependent variable, a test of regression weight was carried out. The result shows that the standardized regression weights (Beta) ranged from

Table 4. Mean score for respondents on the perceived relevance and adequacy of curriculum and course contents.

C/m	Ougation	Mean	Group	Std.				
S/n	Question	Ag. E.	Ch. E.	Civ. E	E./E. E.	M. E.	mean	dev.
1	The time allocated for the course in the time table is adequate	4.250	4.462	4.600	4.390	4.500	4.444	.519
2	The course covers basic skills required for entrepreneurship	4.166	4.230	3.840	4.317	4.000	4.141	.742
3	The course covers how business opportunities can be identified	4.000	4.230	4.040	4.220	4.125	4.141	.821
4	Preparation of feasibility studies is contained in the course outline	4.250	4.615	4.400	4.465	4.5	4.444	.642
5	The programme encourages students to meet and share business ideas	4.250	3.846	4.200	4.073	4.125	4.101	.801
6	The course exposes students to relevant sources of funds	2.750	3.240	2.600	3.700	3.500	3.010	1.035
7	Students are encouraged to have practical experience in entrepreneurship through filed work and interaction with practicing entrepreneurs	3.167	3.923	3.800	3.854	3.500	3.737	.932
	Cluster	3.833	4.078	3.297	4.146	3.536	4.002	0.785

Table 5. Mean score for respondents on the perceived competence of entrepreneurship education lecturers.

S/n	Question	Mean	score for	Group mean	Std. dev.			
		Ag. E.	Ch. E	Civ. E	E./E. E.	M. E.		
1	The lecturer shows much interests in teaching the course	4.583	4.615	4.840	4.805	4.625	4.748	.437
2	The lecturer encourages students to participate in entrepreneurship-related activities	4.335	4.462	4.680	4.463	4.000	4.465	.577
3	Students are encouraged to consider starting their own business	4.000	4.462	4.280	4.098	4.500	4.212	836
4	The course lecturer has stimulated my interest in becoming an entrepreneur	4.333	4.462	3.880	4.366	4.250	4.242	.882
5	The lecturer makes the course relevant to the real world	4.250	4.385	4.320	4.244	4.375	4.293	.731
6	The lecturer addressed the questions I had concerning entrepreneurship	3.853	4.000	4.040	3.976	4.000	3.980	.795
	Cluster	4.226	4.398	4.340	4.325	4.291	4.323	0.709

<sup>-.028</sup> to .338 and the t-ratio from .130 to 3.047 to 6.909. The Beta weight of perceived need for EE was significant at 0.05 level, while that of Perceived relevance of Curriculum and contents and perceived competence of

EE lecturers were insignificant. The result shows that perceived need for EE made the greatest contribution (3.047) to explaining the entrepreneurial intentions of engineering students.

Table 6. The multiple regression analysis of perceived EE on entrepreneurial intentions of engineering students (N=99).

Model	Unstandardized coefficients		Standardized coefficients	т	Sig.	F	Adjusted
	В	Std. Error	Beta		_		R square
(Constant)	13549	3.346		4.049	.000	6.412	.142
ENTREPRE. EDUCATION	.227	.075	.338	3.047	.003		
CURRICUL. & CONTENT	029	.108	028	267	.790		
LECTURER	.135	117	.130	.130	.251		

a Dependent variable: ENTREPRENEURIAL INTENTIONS; Sig. at .05 level.

**Table 7.** The moderating effect of socio-demographic variables on the relationship between perceived EE and entrepreneurial intentions of engineering students (N=99).

Model	Unstandardized coefficients		Standardized coefficients	Т	Sig.	F	Adjusted
	В	Std. error	Beta				R Square
(Constant)	13.413	4.111		3.263	0.002	3.200	0.168
ENTREPRE. EDUCATION	0.207	0.078	0.308	2.646	0.010		
CURRICULU.&CONTENT	-0.008	0.110	-0.008	-0.073	0.942		
LECTURER	0.155	0.124	0.150	1.251	0.214		
GENDER	-0.473	1.246	-0.037	-0.380	0.705		
AGE	-0.572	0.344	-0.181	-1.661	0.100		
MARITAL STATUS	-0.661	1.185	-0.061	-0.558	0.578		
DEPARTMENT	0.167	0.233	0.069	0.718	0.475		
BUSINESS EXPERINCE	1.426	0.580	0.254	2.459	0.016		
PARENT'BACKGROUND	0.288	0.552	0.052	0.522	0.603		

a Dependent variable: ENTREPRENEURIAL INTENTIONS; Sig. at .05 level.

#### Test of hypothesis two

Table 7 shows that the analysis of perceived EE (in terms of perceived need for EE, perceived relevance of curriculum and contents, and perceived competence of EE lecturers) and socio-demographic variables (in terms of gender, age, marital status, department, business experience, and parent background) on entrepreneurial intentions of engineering students of, yielded an adjusted R-square multiple regression coefficient of .168. The Analysis of Variance for the multiple regression data produced an F-ratio of 3.200 which is greater than the critical F-value of 1.96 and was significant at .05 level [Fstatistic (9, 90) = 3.200 compared to  $F_0$  .05 (9, 90) = 1.96]. Ho:  $\mu = \mu o$  was rejected and Ho:  $\mu \neq \mu o$  was accepted. Therefore, socio-demographic factors significantly moderate the relationship between engineering students' perceptions of EE and their entrepreneurial intentions. To find out the relative contribution of the individual variables to the prediction of the dependent variable, a test of regression weight was carried out. The result shows that the standardized regression weights (Beta) ranged from -.008 to .308 and the t-ratio from -.073to 3.263. The Beta weights of two variables – perceived need for EE and prior business experience - were significant at .05 level while the other seven variables were not significant.

#### DISCUSSION

The three research questions - the perceived need for EE, the perceived relevance and adequacy of curriculum and course contents, and, the perceived competence of EE tutors - were measured on a five-point scale. The perceived need for EE was measured using 10 statements. Six of the statement each had group mean score above 4.000. These statements include: EE can promote self-reliance; EE can enhance creativity and innovative ideas; and, EE decreases unemployment among youths. The remaining four statements, which include: EE helps in reducing the number failed businesses; and, EE reduces poverty, each had group mean of less than 4.000. Of the five departments involved in the study, Agricultural Engineering had the highest cluster mean of 4.025, while Mechanical

engineering had the lowest with 3.480. The perceived relevance and adequacy of curriculum and course contents was measured using seven statements. Each of the five statements had a group mean above 4.000. The statements include: The course covers basic skills required for entrepreneurship; and, the course covers the preparation of feasibility studies. The two statements whose means were less than 4.000, were: The course exposes students to relevant sources of fund; and, students are involved in practical field work and interactions with practicing entrepreneurs. Of the five departments, Electrical/Electronic Engineering had the highest cluster mean of 4.146, while Agricultural Engineering had the lowest (3.833). The perceived competence of EE lecturers was measured using six statements. Five of the statements each had group mean score of above 4.000. These statements include: The lecturer shows much interests in teaching the course; the lecturer has stimulated my interests in entrepreneurship; and, the lecturer makes the course relevant to the real world. Of the five departments, Chemical Engineering had the highest cluster mean of 4.398, while Agricultural Engineering had the lowest (3.480).

The test of the first research question shows that engineering students of MAUTECH Yola, perceived the need for EE. This means that engineering students see EE as being an important aspect of their degree programme. It is the view of these students that EE will equip them with business creation skills, enable them to identify and create employment for themselves and others thereby reducing the unemployment problem in Nigeria and enhancing the country social and economic development. This finding is in consonance with previous studies (Akpan and Etor, 2013; Akinboye and Phile, 2014; Pulka et al., 2015) that students positively perceived Entrepreneurial studies for independence and business success. The study also revealed that engineering students of MAUTECH positively perceived the relevance of the curriculum and course contents. The students are of the view that the provisions in the curriculum for EE is such that will enable to acquire the basic skills and knowledge necessary not only for business opportunity identification for the ability to start and manage the business with a high probability of success. Many studies (Adejimola and Olufumilayo, 2009; Ramlan and Ngah, 2012; Adediran and Onifade, 2013) have shown that the curriculum and course contents are critical the successful implementation of EE at all level of education. A number studies have reported that EE education at the tertiary level of education help students to acquire entrepreneurial skills, which agrees with the finding of this study. There are, however some studies which reported a negative association between EE and entrepreneurial skill acquisition by students. This was blamed on the theory based-approach to the teaching of entrepreneurship income tertiary institutions. Lecturers handling EE were perceived as competent. The availability of tutors who have both the experience in

teaching EE and practical business experience have been identified as essentials in enhancing students' understanding and stimulating their interests in entrepreneurship (Abbas, 2013).

Another finding of this study was that engineering student' perceptions of EE significantly influence their entrepreneurial intentions. That is to say, the more students positively perceived the need for EE, the relevance of EE curriculum and course contents, and the competence of lecturers handling the course, the more the tendency to go into business creation upon graduation. EE help in removing grey areas which impede business creations amongst youths. The finding provides some support for the belief that attitude and interest can be influenced and positive attitude toward and interest in vocation can make one to go into that vocation. This assertion with regard to entrepreneurship is in line with the findings of Duval-Couetil et al. (2011). This finding was, however, at variance with the work of Abbas (2013) whose findings show low entrepreneurial intentions among non-business and technically inclined students. When moderated with socio-demographic variables, perceived EE also significantly influenced entrepreneurial intentions of engineering students.

#### CONCLUSION

Premised on the findings of this research work, the study concludes that engineering student positively perceived EE as important to graduate self-employment. They perceived the need for EE in universities in the sense that it will promote self-reliance and self-employment, equip graduates with innovative ideas and business creation skills among others. The relevance and adequacy of EE curriculum, and the quality of lecturers handling EE are strategically important to the success of the programme and were positively perceived. These enhance students' interests in EE and increase their intentions to go into self-employment after graduation.

#### **Conflict of interests**

The authors have not declared any conflict of interests.

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