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Collaborative training and problem-based solving learning for institutions and industries for business education graduates employability

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Abstract
The study determined collaborative training and problem-based solving learning for institutions and industries for Business Education graduates employability after graduation. The research design adopted for the study was a survey research design. The population of the study consist population of this study consist of 352 final year of Business Education students in Rivers State University in Accounting, Management, Marketing and Office and Information Management options. No sampling technique was used for the research since the entire population was used. The researchers developed 8 item instrument titled collaborative training between the institutions and industries for Business Education graduates employability in Rivers State University, Port Harcourt (CTBIIBEGERS) which was used to collect data for the study. The study adopted a 4 point rating scale, span options of High Extent (4), Moderate Extent (3), Low Extent (2) and Very Low Extent (1). Two research purposes, questions and hypotheses were formulated guided the study. The research questions were answered using the weighted mean and standard deviation while the hypotheses were tested using variance Statistical tool to determine the relationship between institutions and industries for Business Education graduates employability after graduation. Item by item analysis was used to conclude that industry and institutions collaboration will enhance higher learning. The hypotheses were tested for one and two respectively, Ho tested shows that there is a significant relationship between institutions and industries collaboration will help business education students' skills acquisition for employability in Rivers State University, institution and industries collaboration will help in making of business education students self-reliant or self-employed, after graduation. It is recommended that universities co-ordinate and promotes academic activities; make proposals; make change, review their curriculum and other relevant academic matters with other stakeholders and affiliating with various industries, industries should adopt career development learning that has not always been as strongly represented in university education.

Keywords: Collaborative training, problem- based solving learning, industries, institution, employability

Introduction
The term collaboration is also known as partnering. The training of useful graduates cannot be left in the hand of only the higher institutions or industries, its required the combined effort of institutions and industries in making sure that graduates acquire the needed skills that will equip them for immediate employment. Institutions and industries collaboration goes beyond the school environment to the world of work. Ojokuku, Emeahara, Aboyade, & Chris-Israel, (2015) [12] is of the opinion that SIWES also bridges the existing gap between theory and practice and expose students to necessary skills for smooth transition from the classroom to the world of work. Collaboration training between industries and institution is very essential in our modern society. This gives room to both institution and industries to train students to suit a particular job area through theory and practical. Institutions, in return, benefit from additional funding provided, from access to industry equipment or from licensing or patenting income in the process of collaboration (Pitan & Adedeji, 2012) [13]. Industries collaboration with institution helps in making a positive contribution in the life of students, since it aid acquiring of appropriate skills in the students area of specialization. Collaborative training between the institutions and industries is to prepare people for the challenges of life, empower them to appreciate their environment, and take informed decisions for personal and societal benefits. It facilitates cultural transmission, adaptability; institutional building reduces uncertainty and ensures better material conditions (Arkhurst, 2011) [5]. The Nigerian National Policy on Education (2013) outlines the objectives of education as the acquisition of appropriate skills, multidimensional abilities and competencies for self-reliance and societal development.

Collaboration with industry has become an inevitable part of university funding and the funds from international organizations and business enterprises, to make sure that graduates are prepared for the real world of work, this is obtain in many countries, (OECD 2015).

Problems solving learning is the process that involves the students handling complex life challenges in their area of specialization to equip them for the real world of work. Problems solving learning helps develop inquiry skills among learners as they become researchers, seeking out and evaluating new information, collaborating with their peers to tackle problems, and revising existing knowledge (Facer, 2012) [8]. Problems solving based learning can also help to enhance learners' interest in learning, develop in them a strong knowledge base in the relevant disciplines, and strengthen their integrative learning and application of the essential skills and qualities required in the twenty-first century (Iwuanyanwu, 2020) [4].

Business education as a programme of instruction in the institution of higher learning is very important in our modern days society, since its aims and objectives is geared toward preparing the mind of the learner positively to meet up with the persistent trend and to exist independently despite the challenges in the world. It is a form of education, training or retraining which is directed towards developing the learner to become productive in a paid employment or self-employment in business (Azuka and Nwosu, 2018) [2]. Godpower, (2017) defined Business Education as a process of building skills, knowledge, ethics, values and attitude that will help an individual to be able to face life challenges around them and function effectively as an entrepreneur, professional teachers and function as operators in organizations such as: Accountants, Managers, marketers, secretaries etc. Business Educator as a matter of importance should evaluate the programme from time to time and also review the curriculum to meet up with the present technological trend, in order that graduates of business education accounting will be relevant in the labour market. More so, continuous innovation and practical skills that is related to modern technology should be carrying out in teaching especially the practical teaching of automated accounting software by so doing developing technological skills in accounting. Business Education is synonymous with Entrepreneurship education as (Okiridu, 2015) [11] asserts that business education can be presented with an acronym (TOS). Okiridu viewed business education as a tripartite programme of instruction which prepares the recipient or learner to be a teacher, an operator or to be self-reliant. The acronym TOS, T stands for teacher, O stands for operator and S stands for self-reliant. Since Business Education involves the process of building skills, knowledge, ethics, values and attitude that will help an individual to be able to face life challenges around them and function effectively as an entrepreneur. Business education equip its students with current skills and knowledge for managerial competency needed to adapt to changing and challenging economic system and skills that can make job creators instead of job seekers.

Amaewhule (2014) [1] said that some of the employability skills which students need for their future careers, because the schools are doing a poor job of helping the students to develop them, there is always a mismatch between the requirement of the world of work and school offerings. Also, the schools are expected to engage the students in entrepreneurship education in order to make them self-employed and creators of future employers for the economy. Okoye and Arimonu (2016) in Momoh (2012) [9] stated that technical vocational education and training is a form of education whose primary purpose is to prepare persons for employment in recognized occupation. Eze (2013) [7] also opined that technical, vocational education and training is that type of education that emphasizes the application of skills, knowledge and attitudes required for employment in a particular occupation or cluster of related occupations in any field of social and economic activity.

Statement of Problem

In recent time, it has been discovered by researchers that there is skills mismatch between the institutions and the industries, before now the training of a students to acquire the needed skills to take on the available job was in the hand of the institution, But the industries are still complaining of graduates not been competent to face the practical challenges in the labour market, graduates not having the employability skills and employing them and retraining them becomes a problem due to its financial involvement, equipment, tools, and the human element needed, this has led to the collaboration of the industries and the institutions to work together in making sure that students have the required skills to take on the available jobs after graduation. With the increase of Nigeria population, the intuitions try the implement of the collaboration through Students' Industrial Work Experience Scheme (SIWES). Many industries are not doing well in terms of this collaboration, whereby leaving the training mainly in the hand of the institution which many not have the required equipment and manpower to give the students the practical skills for employability while in school and after graduation.

Objectives of the Study

The general purpose of this study is to critically examine the collaborative training and problem-based solving learning for institutions and industries for Business Education graduates employability after graduation, while the specific purposes are as follows:

1. To ascertain the extent of institutions and industries collaboration towards business education students skills acquisition for employable after graduation
2. To ascertain how institutions and industries collaboration could make business education students self-reliant or self-employed, after graduation.

Research Questions

The following research questions were formulated to guide the study:

1 What is the extent of institutions and industries collaboration towards business education students' skills acquisition for employable after graduation?

2 What is the institution and industries collaboration toward making of business education students self-reliant or self-employed, after graduation?

Hypotheses

The following null hypotheses were raised for the study and tested at 0.05 level of significance:

Ho_1: There is no significant relationship between the extent of institutions and industries collaboration towards business education students' skills acquisition for employable after graduation

Ho_2: There is no significant relationship between institution and industries collaboration toward making of business education students self-reliant or self-employed, after graduation.

Methodology

The design used for this study was a descriptive survey research design, because the study involves collection of data without manipulating the information from the respondents. The study was carried out in Rivers State University. The population of this study consist of 352 final year students of Business Education in Rivers State University in Accounting, Management, Marketing and Office and Information Management technology options, the choice of final year students stems in the fact that they have been introduced to courses like teaching practice, Students Industrial Work Experience Scheme (SIWES) which involve collaboration between the institutions and industries. No sampling technique was used for the research since the entire population was used as the sample size. The questionnaire is tagged the collaborative training between the institutions and industries for Business Education graduates employability in Rivers State University, Port Harcourt (CTBIIBEGERS). The questionnaire will consist of two sections A and B, Section A is for demographic information of the respondents while section B is to elicit answers for the research questions posed in chapter one. The questionnaire will be structured in a four point rating scale of High Extent, Moderate Extent, Low Extent and Very Low Extent. The instrument was validated by three experts in the field of education, three from Business Education department and one measurement and evaluation expert, all from Rivers State University, Port Harcourt. The validators were given statement of the problem, purpose of the study, research questions and hypotheses including the instrument for face and content validity. Corrections and inputs made by the validators were taken into consideration before the final copy of the instrument was produced. The instrument was test, retest using Pearson product moment correlation coefficient (PPMCC) and reliability quotients of 0.74 were obtained meaning the instrument is reliable. This was done by administering the instrument to 30 Business Education students who were not part of the population and sample. The instrument was administered to the respondents in Rivers State University and 250 were retrieved out of 352 questionnaire. The researcher retrieved it immediately after administering the questionnaire. Mean and Standard Deviation was used for analyzing the research question while variance was used to test the hypotheses. Decision for the hypotheses was made based on the calculated f-ratiovalue. If the calculated f-value is greater than the f-table value, the hypotheses was not accepted, otherwise, it was accepted

Results

The results from the study were presented below:

Research Question 1

What is the extent of institutions and industries collaboration towards business education students' skills acquisition for employable in Rivers State University?

Table 1: Mean and Standard Deviation Analysis on extent of institutions and industries collaboration towards business education students' skills acquisition for employable after graduation

S/N.	Item	HE 4	ME 3	LE 2	VLE 1	Total	$\overline{X}$	SD	Remark
1	collaboration help in special skills acquisition for immediate employment	113	73	41	23	776	3.10	0.99	HE
		452	219	82	23				
2	Collaboration leads to employable skills.	122	81	34	13	813	3.25	0.88	HE
		488	243	68	13				
3	institutions and industries collaboration lead to Skills acquisition is the process of acquiring or gaining effective and ready knowledge in developing good attitude among students for employment	143	78	26	3	861	3.44	0.73	HE
		572	234	52	3				
4	institutions and industries collaboration leads to quick job opportunity after graduation Grand mean/SD	106	94	44	6	802	3.20 3.00	0.81 0.85	HE HE
		424	284	88	6				

Source: Field Survey 2021

The results of table 1 show that all the items on the table indicate a positive response as they are above (2.50) the cut-off point. They are item 1, 2, 3 and 4 with mean scores of (3.10), (3.25), (3.44) and (3.21) respectively. A grand mean of 3.00 and standard deviation of 0.85 was generated above the cut-off points which indicate a positive response that institutions and industries collaboration towards business education students' skills acquisition for employability after graduation.

Research Question 2

What is the institution and industries collaboration toward making of business education students self-reliant or self-employed, after graduation?

Table 2: Mean and Standard Deviation Analysis on the extent of institution and industries collaboration toward making of business education students self-reliant or self-employed, after graduation

S/N.	Item	HE 4	ME 3	LE 2	VLE 1	Total	$\overline{X}$	SD	Remark
5	Skills acquired through Collaboration can make a graduate self-employed.	108	97	39	6	807	3.23	0.79	Accepted
		432	291	78	6				
6	Collaboration leads to job creation for others.	96	105	35	14	783	3.13	0.85	Accepted
		384	315	70	14				
7	Collaboration programme gives room to students to acquire practical skills in their area of specialization.	115	77	51	7	800	3.20	0.86	Accepted
		460	231	102	7				
8	Collaboration makes Students serious when it comes learning a skill that will make them self-reliant Grand mean/SD	183	48	16	3	911	3.64	0.66	Accepted
		732	144	32	3		3.30	0.79	Accepted

***Source*:** Field Survey 2021

The results of table 4.2 shows that all items are positive as they are items 1, 2, 3 and 4 with mean scores of (3.23), (3.13), (3.08) and (3.64) respectively. A total mean of (13.20) was derived above the cut-off point. Thus indicating a positive response on institution and industries collaboration toward making of business education students self-reliant or self-employed, after graduation with the average mean of (3.30) and a grand SD of 0.79

Testing of hypotheses

Null Hypothesis 1

There is no significant relationship in the mean responses of institutions and industries on the extent of collaboration towards Business Education students' skills acquisition for employability after graduation.

Table 3: Variance relationship between institutions and industries on the extent of collaboration towards Business Education students' skills acquisition for employability after graduation.

Source of variance	Ss	Df	ms	F	P<0.05
Between groups	28395.50	2	9,465.25	4.34	0.05
Within groups	244414.50	250	20367.26		

***Source*:** Field Survey 2021

The data in table 3 showed the f-calculated value (f) = 4.34 at 250 degree of freedom and 0.05 level of significance while the f-critical value is 3.04. Since the calculated f-value of 4.34 is higher than the f-critical vale of 3.04, the null hypothesis was not accepted. This implies that there is significant relationship in the mean responses of institutions and industries on the extent of collaboration towards Business Education students' skills acquisition for employability after graduation.

Null Hypothesis 2

There is no significant relationship between institution and industries collaboration toward making of Business Education students self-reliant or self-employed, after graduation.

Table 4: Variance relationship between institutions and industries on the extent of collaboration toward Business Education students self-reliant or self-employed after graduation.

Source of variance	Ss	Df	Ms	F	P<0.05
Between groups	32,278.25	2	10,759.42	19.29	0.05
Within groups	6694.75	250	557.90		

***Source*:** Field Survey 2021

The data in table 3 showed the f-calculated value (f) = 19.25 at 250 degree of freedom and 0.05 level of significance while the f-critical value is 3.04. Since the calculated f-value of 19.25 is higher than the f-critical vale of 3.04, the null hypothesis was not accepted. This implies that there is significant relationship in the mean responses of institutions and industries on the extent of collaboration toward Business Education students self-reliant or self-employed, after graduation

Discussion of Findings

The discussion of the study was done according to each research question posed in the study. The result of research question one shows that extent of institutions and industries collaboration towards business education students' skills acquisition for employability after graduation is to a high extent. This finding is in agreement with the views of Zulita (2019) who stated that by infusing industry-based skills into education, it would ensure students gain the practical know-how to match theories, and graduate with a holistic view of the specialisations and stand out among their peers when entering the workplace. Also Tiaye & Modupe (2020). Supported that institution-industries collaboration will provide professional development that will equip the stakeholders' with skills needed to design new curricula, teach integrated occupational and academic course work, and better track student progress and employer needs. It will promote mutual understanding between institution-industry and contribute to shared resources for sustainability of educational programme over time as well as create a

foundation for co-investing in facilities and equipment. The hypothesis tested shows that there is significant relationship in the mean responses of institutions and industries on the extent of collaboration towards Business Education students' skills acquisition for employability after graduation.

The result of research question two shows extent of institution and industries collaboration toward making of business education students self-reliant or self-employed, after graduation is to a high extent. This finding is in agreement with the views of Ihberaharha (2018) tertiary institution education system has an important role of making graduates sustainable and also achieving long term self-reliant. Ezenwanne (2019) [6] ability or degree to which an education conforms to established and appropriateness in making sure that the students have the required skills to face the labour market. The finding is supported by the findings of Udegbnam, Igomu, Enenchukwu and Igbinoghodua (2018), Rufai *et al* (2015) and Atepor (2018) in Okeke-Ezeanyanwu & Oguejiofor (2020) [10] who found out that cooperation of industries in supervision of SIWES programme, donation of equipment, tools and instrument, appointment of school-industry liaison officers, regular organization of workshops and seminars with industry experts as speakers, assistance to projects, planning of work-visits/excursions, training and retraining of business education lecturers on modern practices, etc are strategies identified for improving school-industry collaboration for quality business education programme.

The hypothesis tested shows that there is significant relationship in the mean responses of institutions and industries on the extent of collaboration toward Business Education students self-reliant or self-employed, after graduation**.**

Conclusion

Based on the findings of the study, the researcher concluded that it is very important for institution to maintain a closed collaboration with the industries that will help many students to acquire the required skills needed by employers and also make them self-reliant for those that have acquired technical skills.

Recommendations

Based on the findings of the study, the following recommendations were made:

1. 1 Collaboration between tertiary institutions offering business education programme and the industries should be encouraged to enable Business Education acquire the required skills to function effectively and efficiently after graduation.
2. Government and non-governmental organization should provide adequate funding to tertiary institutions offering business education programme to enable the institutions purchased the required equipment for students to learn the skills needed for employment and self-employment.
3. Tertiary institutions should create a mutual relationship that will her students secure a placement during the period of practical skills acquisition, this will help to marry the gap of theory and practical in Business Education.

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