MANAGERS' RATING OF CURRICULUM STRATEGIES FOR IMPROVING SCHOOL-INDUSTRY LINKAGE IN VOCATIONAL EDUCATION IN TERTIARY INSTITUTIONS IN ANAMBRA STATE

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Abstract

This study was undertaken to determine managers' rating of curriculum strategies for improving school-industry linkage in vocational education in tertiary institutions in Anambra state. A research question and one hypothesis tested at 0.05 level of significance guided the study. Descriptive survey design was adopted for the study. The population of the study was 389 managers of industries located at Awka, Nnewi and Onitsha. There was no sampling because the population size was manageable. A 4-point scale validated questionnaire containing 10 items with reliability coefficient of 0.78 was used to collect data for the study. Mean ratings and standard deviation were used to answer the research question, while analysis of variance (ANOVA) was used to test the null hypothesis. Findings showed that managers of industries considered curriculum strategies important for improving school-industry linkage in vocational education in tertiary institutions. The researcher recommended among others that vocational institutions and curriculum designer should collaborate with industry in curriculum design for more quality content and effective program implementation.

Introduction

Vocational education is that phase of education that prepares its recipients with practical skills, abilities and knowledge needed for one to fit in properly in the labour market. According to Lucas, (2012) vocational education is the provision of materials, activities and teaching that is designed to prepare people to function, at a specified level in specific roles in the content of causally paid employment. Vocational education as an educational programme, is offered in institutions of higher learning such as universities and colleges of education. In colleges of education, vocational education programme lasts for three years leading to the award of the Nigeria Certificate in Education (NCE) while in the universities it lasts for three or four years, depending on the mode of entry, leading to the award of bachelors' degree (B.Sc.).

The objectives of vocational education is to equip its recipient with necessary skill needed for paid or self employment as a means of achieving poverty alleviation. Recognizing the importance of vocational education in industrial development, the Federal Government of

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Nigeria made concrete efforts to establish the Industrial Training Fund (ITF) for improving the programmes in Nigerian schools (Alagbe, 2007).

The Industrial Training Fund (ITF) was established by Decree No. 47 of 6th October, 1971, with the aim of "ensuring youth acquisition of skills that will meet the needs of industry and in general". In an attempt to achieve this aim, the ITF initiated Nigerian version of the linkage referred to as the Students Industrial Work Experience Scheme (SIWES) in 1973 (Okoro, 2000). SIWES as an aspect of school-industry linkage is a skill training programme designed to prepare and expose students of tertiary institutions to the industrial work situation they are likely to meet after graduation. According to the information and guidelines for SIWES 2002, duration of SIWES is four months in polytechnics at the end of National Diploma ND, four months in colleges of education at the end of NCE II and six months in the universities at the end of 300 or 400 levels depending on the discipline. Effective linkage therefore is very important in achieving graduate quality in Nigeria hence the need to have proper linkage between school and industry that will absorb graduate after schooling.

School/ industry linkage is about offering professional courses to respond to the particular skills and training needs of the industry. Schools engage industry and other productive sector representatives in course curriculum development to ensure that degree programmes can produce graduates with required knowledge and skills for the workforce (Homma and Attalase, 2008 cited in Ebuwufu, 2013). The linkage will force both industry and vocational education institutions to share the needs, problems, issues, strengths, weaknesses of vocational training and find the best way of training students for the modern labour market demands. Effective linkage will help both schools and industries that employ these graduates after schooling to carry out needs assessment, identify strength and weaknesses as well as the way forward in ensuring graduate quality. Amasa (1996) explained that the acquisition of skills expected from a particular training programme depends on the relevance of the course content to the skills required in industries.

According to Odu (2010), the relevance of effective school-industry linkage to vocational education includes:

1. To make training of the students more meaningful and relevant to the available jobs in the labour market.
2. To reduce the burden of career choice on the students, since proper career guidance and exposure to the different industries help them to identify careers that are in line with their interest and abilities
3. To expose students on the training environment which is a replica of actual work environment where they will work on graduation so as to eliminate the phobia associated with new work environment.
4. To give students first hand information in terms of techniques, processes and latest developments.

From the above, one can say that solution to the problem of poor quality of vocational graduates rests with forging closer links and cooperation between industry and vocational institutions. Perhaps, for students to be exposed to meaningful industrial work experience, appropriate curriculum content must be put in place. Offorma (2005) explained curriculum as a planned learning experience offered to the learner in the school. It is a continuous process of a series of activities undertaken by the school to improve upon this life of the individual or society. Offorma further explained that curriculum could be taken to be the instrument by means of which school seek to translate the hope of the society in which they function into concrete reality. The academic curricular between industry and vocational institutions therefore are important areas that require linkage between industries and these vocational institutions. Furthermore, the finding collaborate the view of Finch and Crunkliton (1999) maintains that curriculum must be responsive to community needs, maintaining that employers in the community are likewise obligated to indicate what the needs are and to assist the school in meeting these needs.

Alagbe (2007) contend that schools are more effective when goals and curriculum are aligned. Based on this notion he recommended that the development of a programme of studies should be preceded by a complex and comprehensive need assessment, process and that curriculum specialist should then develop the programme of studies so that it responds directly and significantly to the needs identified. King (1994) asserts that drawing a course content of vocational subject is not the prerogative of the school only, but a joint effort of all relevant sectors that directly or indirectly benefit from the products of vocational education.

Proper linkage between vocational institutions and industrial establishments will bring about proper co-ordination of the industrial training programme so that students would have opportunity of being trained on modern facilities which are readily available in industries but not available in the schools. It is therefore, pertinent to ascertain managers' rating of curriculum strategies for improving school-industry linkage in vocational education in tertiary institutions in Anambra state.

Statement of the Problem

SIWES programme is a cooperative link between the industry and school and part of training plan for vocational education students, where the school and the industry cooperate together to prepare students for world of work. Despite the government effort in linking the school and the industry through SIWES for effective training of vocational education students it seems that effective linkage do not exist due to non involvement of industry that employ students in curriculum design for proper needs assessment of the labour market. Mbata (1990) observed that the scheme is not meeting the expectation as a result of poor coordination between industry and vocational education for one reason or the other. For example; the responsibility for placement has been shifted to students, who spend half of

their time canvassing for places that would suit selfish interest rather than their vocational development.

The problem of the study is that despite the introduction and participation of vocational education students in cooperative education, the outcome based on students interviewed, students were not exposed to training as required in the industry while some were posted in areas or offices not relevant to their areas of specialization. This shows that effective linkage do not exist between the school and industry. It is therefore, necessary to ascertain workable strategies that will improve this important relationship for the benefits of vocational students, industries, the Nigerian citizens and nation generally.

Purpose of the Study

The purpose of this study is to ascertain the managers' rating of curriculum strategies for improving school-industry linkage in vocational education in tertiary institutions.

Research Question

How important do managers rate different curriculum strategies for improving school-industry linkage in vocational education in tertiary institutions in Anambra state?

Hypothesis

The null hypothesis was tested at 0.05 level of significance

Respondents' qualifications have no significant influence on their mean rating of curriculum strategies for improving school-industry linkage in vocational education in tertiary institutions in Anambra state.

Method

The study employed the descriptive survey research design to ascertain managers rating of curriculum strategies for improving school-industry linkage in vocational education. The study was carried out in Anambra State of Nigeria and the population consisted of 389 managers of industries located at Awka, Nnewi and Onitsha. The instrument for data collection was structured questionnaire designed by the researcher. The questionnaire was validated by three experts and the internal consistency of the questionnaire items was 0.78. The questionnaire was administered with the help of two trained research assistants. Mean and standard deviation were used in analyzing data collected under research question while the analysis of variance (ANOVA) was used in testing the hypothesis at 0.05 level of significance. Any item with the mean rating of 2.50 and above was considered important item, any item with the mean rating of 1.50 to 2.49 was fairly important while any item with the mean score less than 1.50 was considered unimportant.

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Results

Research Question: How important do managers rate different curriculum strategies for improving school-industry linkage in vocational education in tertiary institutions in Anambra State?

To answer the research question, data were analyzed with the arithmetic mean and standard deviation and the result presented in Table 1

Table 1: Mean scores and standard deviation of respondents' opinions on curriculum strategies for improving school-industry linkage in vocational education

S/N	Curriculum Strategies for Improving School-Industry Linkage	Male	Female	X	SD	Remarks
1	Diagnosis of needs of the industry for curriculum review.	3.22	2.94	3.08	0.98	Important
2	Formation of curriculum objectives for vocational education based on manpower needs of the industry.	2.97	3.17	3.18	0.39	"
3	Linkage between school and industry in selection of curriculum for vocational education.	3.23	3.11	3.09	0.70	"
4	Selection of learning experience for vocational education programme based on industry demand.	3.06	3.11	3.04	0.60	"
5	Organization of learning experience for vocational education programme based on industry needs.	3.13	2.94	3.14	0.58	"
6	Periodic assessment of the vocational education curriculum by industrial establishment. 3.16	3.11	3.28		0.69	"
7	Contribution/input of industry in vocational education curriculum review.	3.19	3.06	3.13	0.36	Important
8	Allocation of adequate time to the curriculum development for effective practical workshop activities.	3.16	3.39	3.28	0.43	"
9	Involving representatives of industry in curriculum formulation.	3.02	2.94	2.98	0.62	"
10	Industries and vocational education institutions engages in conducting follow-up study for curriculum evaluation.	2.47	3.22	2.85	0.92	"
	Grand mean	**3.060**	**3.10**	**3.08**	**0.63**	

Data in Table 2 show the grand mean score of 3.08 and standard deviation of 0.63. This indicates that the respondents considered the listed curriculum strategies important for improving school-industry linkage in vocational education.

Hypothesis

Respondents' qualifications have no significant influence on their rating of curriculum strategies for improving school-industry linkage in vocational education in tertiary institutions in Anambra state.

To establish the level of difference among the three groups the means were compared using ANOVA and yielded the calculated value of F to be f-cal = 0.67 at 0.05 level of significant and at df = 29. The result of the computation is shown in Table 2.

Table 2: ANOVA of difference in the mean scores of respondents on curriculum strategies for improving school industry-linkage based on educational qualification

Sources of variance	SS	DF	MS	F-cal	F-crit	a	Decision
Between groups	0.04	2	0.02				
				0.67	3.35	0.05	Accepted
Within groups	0.86	27	0.03				
Total	**0.90**	**29**	**0.05**				

Table 2 shows the degree of freedom of 2 and 27 at 0.05 level of significance with f-cal of 0.67, which is less than the f-critical of 3.35. This indicates that respondents' qualifications have no significant influence on their rating of curriculum strategies for improving school-industry linkage in vocational education in tertiary institutions in Anambra state. The hypothesis is, therefore, upheld.

Summary of Major Findings

The following major findings were made from the study based on data collected and analyzed relative to the research question and hypothesis.
1. Curriculum strategies considered in the study can improve school-industry linkage in vocational education
2. Respondents' qualifications have no significant influence on their rating of curriculum strategies for improving school-industry linkage.

Discussion of Findings

The analysis of curriculum strategies as shown in Table 1 revealed that diagnosis of needs, formulation of curriculum objectives, selection of learning experience and organization of learning experiences are all curriculum activities that could improve school industry linkage in vocational education. The finding is in line with the assertion of Amasa

(1996) who pointed out that since the acquisition of skills expected from a particular training programme depends on the relevance of the course content to the skills required in industries. The academic curricular between industry and vocational institutions therefore are important areas that require linkage between industries and these vocational institutions.

Furthermore, the finding collaborate the view of Finch and Crunkliton (1999) who pointed out that curriculum must be responsive to community needs, maintaining that employers in the community are likewise obligated to indicate what the needs are and to assist the school in meeting these needs. The assistance according to them might consist of employers serving on curriculum advisory committee.

The finding also revealed that representatives of industry should be involved in curriculum formulation, thereby strengthening the opinion of King (1994) that drawing a course content of vocational subject is not the prerogative of the school only, but a joint effort of all relevant sectors that directly or indirectly benefit from the products of vocational education. This has to be so since the vocational- oriented curriculum serves the needs of individual trainee as well as economic needs of the society. According to King, this implies that industry and private sector should be able to contribute to the curriculum development for vocational education since they are in a position to know exactly what should be included in the syllabus. The findings also revealed that vocational education curriculum should be assessed periodically. This is in line with Okon (2000) who stressed that curriculum of the school be constantly revised based on the advice of the curriculum evaluation result provided by the school and industries and employers of labour. Accordingly, Okon further noted that curriculum revision should involve changing the context of courses, deleting some topics and introducing others so that the course offering will fully meet current occupational requirements and the needs of the students. The study also shows that respondents' qualifications have no significant influence on the rating of curriculum strategies for improving school- industry linkage.

Conclusion

Curriculum development is a complex exercise as it involves integration of not only the current educational and training needs but also the anticipated needs due to fast changing national and international technological developments. For the content of what the school teacher the students to be relevant the industry that employs them need to make input in designing the curriculum to ensure that the content will meet the needs of the need of industries that employs them after graduation and the society at large. Involving them in curriculum design and reviews will draw them closer to the school. This will help to make school-industry linkage stronger.

Recommendations

The following recommendations were made based on the finding of this study-

1.   Vocational institutions and curriculum designers should collaborate with industry in curriculum design for quality content effective program implementation of vocational education programme.

2.   Lecturers should incorporate seminars, field trips and excursion to expose students to real working environment while still undergoing academic training

3.   There should be content review of the curriculum based on societal needs assessment. This will help in producing graduates that acquire requisite skills needed by the labour market and society in general.

4.   Vocational institutions should engage in follow-up study for curriculum evaluation using industries. This will help them to know the effectiveness of curriculum design and areas that need update or review.

5.   Constant curriculum review needs to be made based on needs assessment of the labour market by the institution.

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