Students' Industrial Work Experience Scheme (SIWES) and the Incidence of Occupational Misfit in Nigeria

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Abstract

The incidence of occupational misfit among Nigerian graduates have taken a centre stage in the debate on the relevance and quality of higher education to national development. It is on this basis that studies tend to assess the trends in work-base study programmes with reference to skill acquisition and utilization. This study therefore examined the SIWES scheme and the incidence of occupational misfit in Nigeria. The ex-post facto research design was used for the study. The population was estimated at 2,242 comprised of students from four polytechnics (849), four monotechnics (550) and (542) Industrial Training Officials of SIWES in Science, Technology and Agriculture related courses selected through the purposive and stratify random sampling techniques. Data were collected using an expert validated questionnaire tagged: "Students Industrial Work Experience Scheme Skills Development and Utilization (SIWESSDUS) r = 0.89 complemented with relevant primary data from the Industrial Training Fund Office. Three hypotheses were tested, using Chi square (X^2), and multiple regression analysis at 0.05 alpha. Findings indicated that 61.9% (male) and 38.1% (female) participated in the study with a mean age of 32.5 years. SIWES has contributed to skill acquisition significant (78%) and skills utilization in industrial development (68%). SIWES significantly influenced the certification and accreditation of courses in the Monotechnic and Polytechnic Institutions (x^2 = 301. 317; df = 12, P< 0.05); and SIWES had also enhanced the extent of funding skills-acquisition programmes by the Federal Government (x^2 = 1287.692, df = 12 P<0.05). Meanwhile, SIWES also improved positively the level of skills utilization by employers of labour (x^2 = 324, 429; df = 15, P< 0.05). It is recommended that government should devote sufficient financial resources to all levels and aspects of education to sustain skill acquisition programme such as in SIWES.

Background to the Study

Students' Industrial Work Experience Scheme (SIWES) is a human capital formation programme through industrial attachment for which students are expected to have a practical experience on the basis of theories and principles acquired in the teaching-learning process. However, the prevalence of the inability of participants of SIWES to secure employment after the programme casts doubt on the continuing relevance of SIWES to the contemporary industrial development drive in Nigeria.

Human resource development constitutes the most critical factor in the development process and the quality must therefore be inherent in the productive capacity of people. Human societies in the quest for development have identified and developed institutional as well as structured training and educational programmes as major avenues for processing human beings to acquire the necessary skills and technical competence for their roles in the development of the society.

In this context, Ojeleye (1994) observed that, it is not only in advanced nations that science and technology are spreading, but that, they are increasingly valued whenever people value their nation's independence, prosperity, power and prestige, and also, where nations seek a high standard of living, improved health or better education. In most discussions on human resource management, training and development represents the most significant, Ashton and

Felslead (1995) regarded investment by organizations in the skill acquisition of employees as a 'Litmus test' for a change in the way they are managed.

Since independence, the issue that has attracted the interest of succeeding Governments in Nigeria has been that of human resource development. From the beginning of Nigeria's nationhood, it was imminent that the pace of national development through technological advancement devolved not so much on the availability of means or resources, rather, on the articulation and effective utilization of the vast human and material resources. It is on this basis that investment on training of the human factor becomes a serious challenge as science and technology related courses are requisite for national development (NISER, 2000)

Therefore, it is observed that, initial efforts aimed at achieving rapid national development were concentrated on the expansion of formal educational institutions, though these considerably increased in number, yet did not and were not expected to have acquired the skilled, knowledge and varied technological expertise required to meet the needs of special and vital sectors of the economy. However, the fundamental role of education in human resource development is a matter of priority for any developing country to evolve a functional education policy. This is necessary because, only through such priority can a country lay a solid foundation for a future, stable and result-oriented human resource development.

Thus, growth and development, which will result form effective organizational change, depend on a well-educated and adequately skilled human capital that is capable of applying vision, knowledge and creativity to their economic activities. Thus, industrial education which can be achieved through the formal or/and informal educational approach(es) attracted the attention of Government and individuals, in contemporary development environment.

Students' Industrial Work Experience Scheme (SIWES) is a programme designed to expose and prepare students of Universities, Polytechnics, Colleges of Technology, Colleges of Agriculture and Education for Industrial Work situation which they are likely to meet after graduation. It is a skills training programme which affords students the opportunity of familiarizing, acquiring and exposing themselves with the needed experience in handling industrial equipment and machinery that are not usually available in their institutions.

Usman (1983), then notes that the acquisition and development of knowledge, skills and capabilities can either be facilitated through the educational system or through other non-formal educational approaches. And it is also observed that, an effective industrialization policy is certainly difficult, if not impossible, without an effective human resources development policy (Olaiya, 1998). Considering all the facts of production, the human factor is the most important. Without skilled personnel in all facets of production, management,

distribution, marketing and supervision among others, the objectives for which industrial policy have been drawn become unachievable.

Statement of the Problem

Students industrial work experience scheme (SIWES) is a laudable skills acquisition programme which is geared towards technological development of the nation. However, the scheme cannot be said to have achieved the desired objectives due to many factors ranging from the structural causes of performance problems that have plagued the system, but also increasing number of students and institutions which place undue pressure on the few surviving industrial organizations and most students on attachment in places of convenience without giving considerations to the relevance of the workplace to their course of studies. The study is therefore to determine the influence of SIWES on skills development, utilization and the incidence of graduate occupational misfit in Nigeria.

Objectives of the Study

The specific objectives are to:

i) find out the contributions of SIWES to human resources development through certification and accreditation of technology-based courses;

ii) establish the correlation between the needs of employers of labour and the skill potentials of SIWES participants; and

iii) determine the level of supervision and funding by collaborating institutions.

The study then hypothesized that:

Methodology

The study adopted the ex-post facto research design. From an estimated population of 2,242 SWIES participants in monotechnics, polytechnics, industrial training fund officials, SWIES co-ordinators, a sample size of 1,518 was selected through the multi-stage sampling procedure of stratification, and proportionate. Experts validated structured 35 items questionnaire tagged "Students Industrial Work Experience Skill Development And Utilization (SIWEDU)" with a reliability value of 0.89 determined through Kuder Richardson formula K-R21 after pilot test was used for data collection. Data were analyzed using simple percentage counts, chi-square (X^2) and multiple regression statistic at 0.05 alpha.

Results And Discussion

Results from the study indicated that there were 61.9% male and 38.1% female that participated in the study. The mean age of participants was 32.5 years. Most of the participant and officials (72.8%) attested to SIWES

programmes as consistent with national industrial development policy through the acquisition of relevant skills and effective utilization.

$H0_1$: SIWES does not significantly influence the certification and accreditation of technology-based courses for human resource development in monotechnics and polytechnics.

$H0_2$: SIWES does not sufficiently predict the extent of funding of skills acquisition programmes by government and other employers of labour.

$H0_3$: There is no significant correlation between the skill needs of the labour market and potentials of SIWES participant.

Table 1: (a) X^2 Contingency Analysis on the Influence of SIWES on the Certification and Accreditation of Courses in the Monotechnic and Polytechnic Institutions.

S/N		D	SD	A	SA
1.	The number of accredited courses for SIWES is not adequate to meet the nation's man-power requirement	365 24.0%	225 14.8%	585 38.5%	343 22.6%
2.	Government has no clear cut policy on job specifications that are relevant to various courses during student's industrial attachment	250 16.5%	172 11.3%	650 43.8%	446 29.4%
3.	The economic growth of the nation is a function of the contents of courses offered in higher institutions especially those that are technically oriented.	116 7.6%	126 8.3%	645 42.5%	631 41.6%
4.	Non-accreditation of most courses in these institutions pose serious constraints on the SIWES exercise.	281 18.5%	193 12.7%	657 43.3%	387 25.5%
5.	Courses, which are relevant to SIWES, are those accredited in the technical higher institution.	351 23.1%	162 10.7%	535 35.2%	470 31.0%
	Total	1363 18.9%	878 11.6%	3072 40.5%	2277 30.0%

Table 1a. Summary of X^2 contingency table 1

HO	X^2 calculated	Df	X^2 critical	P	Remark
3	301.317	12	21.026	*<0.05	S

* Significant@ $P<0.05, X^2$ cal=301,317; X^2 crit. = 21.026

The result presented on table 1(a and b) above shows that, SIWES programmes significantly influence the certification and accreditation of courses in Monotechnic and Polytechnic institutions (X^2 cal=301, 317>21.026; $P<0.05$). Thus, the null hypothesis above is rejected as an alternative hypothesis is upheld, one SIWES of courses in programmes serves as predictor or determinant of accreditation and certification Monotechic and Polytechnic Institutions for human resource development through skill acquisition and utilization.

By implications, the result is valid as it further lays credence to the findings of Towe (1988) a quoted by Enemail (2004), that, as part of the efforts of the National Board. For Technical Education (NBTE), the curricular of Technical Colleges and Polytechnics had been revised and updated, new ones have been developed based on the modular and behavioural objectives. Besides, the finding further lay credence to government's commitment to education as a way of expanding the avenues in which the nation can meet up with the level of development in the current global technological advancement. However, the integration of training programmes will significantly affect positively, the level of certification and accreditation of courses in the teaching institutions (Yesufu, 1997). In this wise, the institutions of SIWES and its factors at its formation must be provided with the requisite skills through technical capacity

building. Besides, the skills so acquired will not only add to the individual social valuation in terms of degree of competence and relevance to the national development, but it will also contribute strategically to the social status of the expertise in terms of the income that accrue to the individual and the attendant contribution to the gross national product (Yesufu, 1982; 2000).

H02: SIWES does not significantly predict the level of funding of skills acquisition programme by the Federal Government and other employers of labour.

Table 2a: X^2 Contingency Analysis on the Effect of SIWES on Funding of Skill Acquisition Programme by Federal Government and other Employer of Labour.

S/N	Variables	D	SD	A	SA
1.	There is no funding commitment borne by most organizations to SIWES	192 12.6%	144 9.5%	691 45.5%	491 32.3%
2.	Organizations spend less to train employees who had benefited from SIWES than their colleagues who had no exposure to the scheme	172 11.3%	194 12.8%	633 41.7%	519 34.2%
3.	SIWES can be better administered with funding inputs form the collaborating institutions.	160 10.5%	108 7.1%	758 49.9%	493 32.4%
4.	SIWES does not require counter-part funding from outside government financing.	513 33.8%	461 30.4%	376 24.8%	168 11.1%
5.	There is no significant financial commitment borne by government in supervising SIWES.	447 29.4%	428 28.2%	398 26.2%	245 16.1%
	Total	1484 19.6%	1335 17.6%	2856 37.6%	1915 25.2%

Summary of X^2 contingency table 4. 11(b)

H0	X^2	Df	X2 critical	P	Remarks
5	1287.692	12	21.026	*<0.05	S

* Significant result @ <0.05;X^2 cal = 1287.692> X^2 crit= 21.026.

The result presented on the X^2 contingency table 2 (=ab) above shows the prediction of SIWES on funding of skills acquisition programmes by Federal Government and other employers of labour. The result is significant (X2 cal=1287.692> 21.026; P<0.05). thus the null hypothesis 2, above is rejected and an alternative hypothesis is upheld. That is SIWES significantly affected the funding of skills acquisition programmes by the Federal Government and other employers of labour.

Writing on the funding issue, Yoloye (1998), and Yabani (2002) stated that, the funding of skills acquisition programmes by Federal Government is a function of many variables such as utilization rate, relevance and adaptation to contemporary national needs for industrialization and the building of technical know-how, for which SIWES is fully involved. Therefore, the stakeholders must reinforce the efforts of the institutions by continuous-feed backs on job requirements and how best the institutions could prepare their students to meet these requirements. Industries need more of technologists, scientists and engineers than white colar workers, this could be achieved through SIWES to give the would-be employees the grooming required to make them efficient and productive.

In support of the above Dikko (1978) states that it is because of the increasing need for functional manpower that the government has to continually spend a large proportion of her annual budget on education and training. He further

explains that Nigeria has made a considerable progress in industrial development and institutions are trained programmes to be effective. In other words, every stakeholder should see training as a tool for growth and development.

$H0_3$: There is significant correlation between the skills needs of the labour market and SIWES skills development and utilization among beneficiaries.

Table 3(a): Summary of Anova on SIWES Correlation with Skills Development and Utilization and Labour Market Needs

Variations	SS	Df	MS	SE.D	F. ratio	S
Regression	6.848	8	.856	1.60002	33.43619	.000
Residual	:385	.503	2.5.6064			
Total	7.233	1511				

* Significant @ P<0.05. F (3.343) F crit = 1.96

Table 3 (b)

(ii) Regression summary of students industrial work experience scheme explaining skills development/ utilization and labour market expertations

Multiple R	Multiple R^2	Adjusted	SD Error	F. Ratio	Sig.
0.973	0.974	0.947	1.60002	3.343	.000

* Significant @ P<. 0.05, F = (3.343). F critical = 1.96

The result presented on table 3 shows that SIWES predictors on the level of skills development and utilization by

beneficiaries of the programme as relevant to labour market demands. This combination yielded a multiple regression co-efficient R of 0.973 and multiple regression square (R^2) of 0.947 with skills development and utilization. The combination of the predictors on skills development and utilization is explained by 94.7 percent of the variance of skills development and utilization process as shown by coefficient of determination (R2 = 0.973). The F-value of 33;43619. (P>0.05) shows that the value of the multiple correlation obtained could not have occurred by chance. This means that, by nature, types and processes involved in SIWES, there is significant correlation with the process of skill development, acquisition and utilization as demanded by the labour market.

The finding collaborates the earlier findings of Oduaran (1986), Shadare (1991), and Yesufu (1997) who all established that the more opportunities trainees have to use and rehearse the skills acquired on the job, the greater the probability that the skills acquired will be utilized and maintained. This suffices that, the more the process of SIWES is improved upon and maintained the more the beneficiaries will increase their level of skills acquisition and utilization.

Conclusion and Recommendations

The Federal Government's efforts at improving the nation's technical know-how and increasing the efficiency of middle level manpower are not restricted to the industries alone.

Efforts were made to involve institutions of higher learning and hence the birth of. Based on the findings of this study, it is evident that skills development and utilization cannot be achieved in isolation, rather, the relevant stakeholders must be committed to the course and be fully involved, which means students and teachers form institutions of higher learning, corporate industries and commercial bodies, and Federal Government must be involved. This cooperative machinery between industrial and institutions of higher learning will produce effective results under the supervision and control of the Industrial Training Fund (ITF). It is recommended that: Government should devote sufficient financial resources to all levels and aspects of education to enhance effective running of educational programmes especially SIWES. The Polytechnics should be encouraged to establish technological development centres to translate innovations from staff and students to goods and services. This will enable them fulfill their basic social.

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