

EFFECT OF PERSONALITY TRAITS ON CAREER GROWTH COMPETENCIES OF BUILDING CONSTRUCTION GRADUATES OF POLYTECHNICS IN SOUTH-EAST NIGERIAN

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ABSTRACT

The Polytechnic curriculum in Nigeria has been assessed to unduly emphasize the cognitive and psychomotor skills to the detriment of affective skills. This study aimed at assessing the extent to which building construction graduates possess such Career Growth competencies as resourcefulness, enthusiasm, initiative, ambition, efficiency, perseverance, decision making, independence, determination, accuracy, punctuality, creativity, devotion and interest. One research question was asked and one hypothesis formulated to guide the study while a 14 item questionnaire was used to answer and analyse them. The population of the study was 163 made up of 78 lecturers, 40 managers and 45 project supervisors. Using survey research design, stratified and purposive sampling techniques, data were obtained from the 3 polytechnics in Cross River, Akwa Ibom and Rivers states. Analysis of data using descriptive statistics and one way ANOVA revealed that career growth competencies, were highly needed by construction workers for effective performance. Furthermore, existing polytechnic graduates do not adequately possess the required career growth competencies. It was recommended among others, that conscious effort be made to develop curriculum materials that will help students acquire these identified career growth competencies and incorporate same into the current National Board for Technical Education (NBTE) curriculum.

INTRODUCTION

In an era when industries have become tremendously complex and rapid socio-technological changes bring enormous pressures on the workplace, Lester (1999) advised that, capable and intelligent workers so vital in the development of sustainable societies, economies and environments should be held in high estimable value. That these workers need competencies and knowledge for the contexts and situations they are working in cannot be argued. Combs (1982) makes a strong case for affective education by stating that unless the affective dimensions of learning are considered, education in the true sense of the word is unlikely. Nelson and Nies (1978) noted that young people need help in planning for their occupational future. According to the authors, the more informed young people are about needed job skills to maintain themselves in an occupation, the more likely they will be able to succeed in an occupation which best meets their individual aptitudes and interests.

Bandura (1986 and 1997) in his Social Career Theory (SCCT) asserts that among the affective characteristic factors of vocational aspiration, four (namely: verbal persuasion, vicarious learning, task performance and physiological arousal) are found to exert higher influence on workers' self-efficacy, and so job-satisfaction. Individuals choose to engage in or avoid specific tasks based on their self-judgement of their competency in accomplishing the task. Therefore, self-efficacy is task or domain-specific confidence, but which is usually excluded in the vocational guidance curriculum in vocational institutions. In corroboration of Bandura's (1986) SCCT model, Lent, Brown and Hackett (1994 and 2000) and quoted by Tang, Pan and Newmeyer (2008) proposed that career choice behaviour is shaped by outcome expectancies, career interest, and career self-efficacy, and that career self-efficacy plays a mediating role between one's background and interests and one's outcome expectancies. Moreover, career self-efficacy is influenced both by individual variants (predispositions, gender, race/ethnicity, health status) and by contextual factors such as family background and learning experiences.

The National Policy on Education emphasizes more on the cognitive and psychomotive aspects of human development without emphasis on the affective characteristics/traits. Yet, it is the affective domain of knowledge that controls career growth competencies. Bottoms (1973) revealed in his study, a concern by employers that vocational graduates were not meeting ethical job demands. The researcher suggested that while there was need to update the work competency curriculum, schools should also devise learning experiences designed to achieve specific objectives dealing with work attitudes and values. In corroboration of these views Tuckman (1973) argued that teachers should teach career development from an affective standpoint, requiring the exploration of feelings, motives and attitudes.

In an attempt to clarify the need to develop affective work competencies in students, Obasi (1985) observed that an engineer or any other professional requires much more than just his engineering or professional knowledge to operate effectively in his society. He emphasized that the practice of any technical or professional knowledge especially in a contemporary industrial and highly bureaucratized set up is unimaginable outside a social context, given the fact that professional situations also generate non-professional problems (social, economic or political) for which solutions may demand extra professional knowledge. Hence, relying always entirely on his professional knowledge alone to overcome the various problems of life is almost improbable. Okorie (2002) in his contribution described training as the development of an individual's knowledge, skills and attitudes for vocational purposes. Therefore, the training function proceeds from the assumption that the gap between the required and actual performance, which calls for a bridge via training and curriculum update, is the result of inadequacy of knowledge, skill and attitudes. Training in attitudes, he concluded, will help students to adjust to their working environments, and where there is need, to readjust occupational values and expectations.

A major portion of any vocational course of study concerns with the instructional content to be taught. But a good programme of vocational training should also aid students in developing a set of attitudes and a system of values about themselves and their work that will help them become competent and satisfied occupational workers. Olaitan et al (1999) observed that what students of vocational technical education should learn is that which must help them become useful in work needed in their society. A student can be seen as having acquired a holistic education should it emphasize affective, manipulative as well as cognitive learning. The school in addition to providing training in knowledge and skills needed in occupational life needs to train individuals to adjust their attitudes to life and work (Okorie, 1988). While vocational educators are aware of the essential job skills that should be taught in schools, Nelson and Nies (1978) observed that the curriculum in many vocational education programmes does not reflect this major concern. Vocational curriculum has continued to emphasize the cognitive and psychomotor content. Usoro (1980) opined that the reason for lack of emphasis on affective competencies is either that the affective education has been treated with levity or has been sacrificed on the altar of cognitive and psychomotor domains of work. He therefore suggested that, to facilitate the workers' achievement of job success, education for work should go beyond the acquisition of psychomotor and cognitive skills.

Educators from the top levels of government to the classroom and laboratory are concerned that the goal of education should be to prepare youth for the world of work. Miller and Rose (1975) shared the above view when they commented that educators are beginning to realize that the identification and development of behaviour in the affective domain (feelings, values and attitudes) must be given greater attention. In other words, they must be identified more precisely and developed through carefully planned learning strategies just as it has been done for other forms of behaviour, knowing and doing. This statement implies that there should be a harmonizing relationship between affective, cognitive and psychomotor objectives of instruction.

- Writing on the application of enterprise skills in the workplace, Tate and Thompson (1994) emphasized that one of the key functions of higher education should be the development of students' intellectual and imaginative powers; their understanding and judgment; their problem solving skills; their ability to see relationship within what they have learned and to perceive their field of study in a broader perspective.

Although a fair amount of learning relevant to the employers expectations actually takes place as a by-product of students' experiences in higher education, there is need for a more systematic approach to curriculum planning. As observed by Ubale (1997), vocational technical educators can identify performance objectives for their programmes based on the job requirements of the occupation for which they prepare students. Thus, the employer establishes occupational skills or job requirements for his employees, while technical education planners must examine the desire and needs of the ultimate consumer before designing a product. These desire and needs can be referred to as competencies.

In consonance with the above observation, Fagbemi (1988) suggested that colleges of technology and polytechnics should frequently organize regional workshops in collaboration with industries. This will enhance the review of the training content area with the aim of designing effective curricula that is purely related to industrial human resource needs and national development. This participation by the industrial sector will be able to influence the instructional programme to meet their needs. In agreement with the above suggestion, Igwe (1992) recommended that schools and employers of labour should be involved in vocational technical education planning and curriculum development. In a study titled affective work competency needs for the building construction programmes of polytechnics in Nigeria, Edu (2007) identified the following career growth competencies: resourcefulness, enthusiasm, initiative, ambition, efficiency, perseverance,

decision making, independence, determination, accuracy, punctuality, creativity, devotion and interest as competencies that must be possessed by construction workers. It is intended in this paper to assess the extent to which construction workers possess these competencies.

Statement of the problem

The quest for technological transformation of Nigeria led to the establishment of Science and Technical Colleges in the late 1980s in all parts of the country. One of the aims was to give students introductory professional studies in engineering and other technologies. Since the take-off of these schools and the consequent production of graduates in these professions, the envisaged tempo of advancement in engineering and technology in the country is still below expectations. Several reasons have been advanced to explain this snail speed in technological advancements. Some researchers point at lack of adequate funding; mismanagement of available lean funds; lack of necessary equipment and facilities to promote advancement in these technical courses; and most importantly, lack of human resource development in these fields, plus a lack of renovation/updating technical education curriculum for these courses (Mgbekem, 2007; Ayang 2009 and Mbang 2008. This study observes that adequate emphasis has not been placed on practical experience on the job as part of the training. Thus, the average Nigerian graduate seems to have a negative attitude to work and may be reluctant to identify himself with jobs that require the exhibition of career growth competencies. This was amplified by Okorie (2000) who observed that the training of technicians in polytechnics is very theoretical. He went on to explain that polytechnic graduates shy away from taking up employment where they might be called upon to demonstrate their acquired skills. This, he said, is due to the fact that the trainees have not been adequately exposed to practical conditions during the training. This study was therefore designed to assess the extent to which construction workers possess the career growth competencies needed for success in the construction industry and make appropriate suggestions towards generating a pool of highly competent workforce to ensure constant and continuous supply of basic human resources needed in the right quantity and quality.

Research question/hypothesis

The research question and hypothesis that came to bear with the above problem statement are: RQ: Do graduates of construction programmes in polytechnics adequately possess Career Growth competencies needed for success in the construction industry? Ho: There is no significant difference between the mean ratings of lecturers, managers and project supervisors on the extent to which polytechnic graduates possess career growth competencies.

Methodology

The study used the survey research design. It covered six states (Anambra, Cross River, Ebonyi, Enugu, Imo and Rivers) in the South-East of Nigeria as area of study. The population and sample for the study consisted of 163 respondents (comprising 78 lecturers, 40 managers and 45 project supervisors). A questionnaire was used as instrument to gather data for the study. It was face-validated by three university academics in the field of Technical Education and three experts in the Building Industry. The Crombach Alpha method was used to determine the reliability of the instrument which coefficient was 0.68. Means (\bar{x}) and standard deviations (SDs) were used to answer the research questions, while one way analysis of variance (ANOVA) was used to test the hypothesis. The population and sample of the study were restricted to building construction lecturers in the polytechnics, project managers and supervisors in 36 construction companies located in the study area. The competencies under study were limited to 14 career growth vis-a-vis: resourcefulness, enthusiasm, initiative, ambition, efficiency, perseverance, decision making, independence, determination, accuracy, punctuality, creativity, devotion and interest. The respondents' demographic variables were also limited to their positions as lecturers, managers and supervisors.

Data analysis

Research question

Do graduates of construction programmes in polytechnics adequately possess Career Growth competencies needed for success in the construction industry?

To answer the above research question, the 14 career competencies were identified and used as questionnaire items. The means and standard deviations of the respondents on the items are presented in Table 1:

Data presented in Table 1 on the extent to which building construction graduates possess affective work competencies needed for career growth revealed that all 14 items obtained mean values below the average mean value of 3.50 from the three groups of respondents. These low mean values were indicative that building construction graduates do not adequately possess them.

The findings imply that all respondents perceived that building construction graduates do not adequately possess all the identified career growth competencies used in this study.

Hypothesis

There is no significant variation in the mean ratings of lecturers, managers and project supervisors on the extent to which polytechnic graduates possess career growth competencies. To test the hypothesis, one-way analysis of variance (ANOVA) statistics procedure was applied to determine the effect of position on the rating for the extent to which construction workers possess career growth competencies. The results were computed and presented in Tables 2.

From table 2, the calculated F-ratios of 7.94*, 5.00*, 6.60*, 3.77*, 5.16*, 3.61*, 6.04* and 4.30* were all found to be greater than the critical F-value of 3.002 needed for significance at $p \leq .05$ with 2 and 147 degrees of freedom. On the other hand, the calculated F-ratios of 2.517, 1.267, 0.69, 1.64, 2.89 and 0.796 were found to be lower than the critical F-ratio of 3.006 needed for significance at $p \leq .05$, with 2 and 147 degrees of freedom. With these results, the null hypothesis was rejected in respect of 8 groups and retained for 6 groups. This means that: there is significant difference in the mean ratings of lecturers, managers and project supervisors on the extent to which polytechnic graduates possess career growth competencies (only with respect to ambition, perseverance, decision-making, independence, accuracy, punctuality, creativity and interest). On the other hand, there is no significant difference in the mean ratings of lecturers, managers and project supervisors on the extent to which polytechnic graduates possess such career growth competencies as: resourcefulness, enthusiasm, initiative, efficiency, determination and devotion to work.

Given the significant F-values obtained above, Fishers Least Significant Difference (LSD) multiple comparison test was employed to further determine exactly which group of respondents differed more significantly from the other in terms of their assessment of the extent to which construction workers possess career growth, interpersonal relationship and confidence building competencies. The result is presented in Tables 3. The result showed that the variation in the managers' and lecturers' (means = 4.95) and between managers' and project supervisors' (means = 5.84), both exceeded the LSD values of 2.63 and 2.95 respectively. On the other hand, the variation in the lecturers' and projects supervisors' means of 0.89 did not exceed the LSD value of 2.54. The findings showed that managers varied significantly from both lecturers and supervisors in their assessment of the extent to which construction workers possess career growth competencies while lecturers and supervisors did not vary significantly in their assessment.

Findings

From the statistical analysis of the research question and hypothesis the following results were obtained:

1. All respondents generally agreed that the graduates of Polytechnics building programmes working in the building industry do not adequately possess the above identified Career Growth competencies.
2. Managers varied significantly from both lecturers and project supervisors in the assessment of the extent to which construction workers possess the identified Career Growth competencies while lecturers and project supervisors portrayed no significant variation.

Discussion of findings

Do graduates of construction programmes in polytechnics adequately possess Career Growth competencies needed for success in the construction industry? The statistical analyses of the respondents' reaction to the question whether graduates of construction programmes in Polytechnic adequately possess career growth competencies needed for success in the construction industry showed that the observed means ranging from 1.65 to 2.64 were lower than the expected mean of 3.50 in all career growth competencies. This implies that all three groups of respondents agreed that the extent to which construction workers possess career growth competencies is inadequate. This is in line with Rees (1992) who revealed that among school-leavers and other young people, a great many failed to get jobs because of a complete lack of basic manners on the part of applicants. Ubale (1993) observed that technical education programmes in Nigeria have not produced the required skilled personnel for industrial consumption. According to him, the average Nigerian graduate has a negative attitude to work. Nelson and Nies (1978) had earlier observed that the curriculum in many vocational education programmes does not reflect the affective content but has continued to emphasize the cognitive and psychomotor content. The hypothesis stated that there is no significant difference between the mean ratings of lecturers, managers and project supervisors on the extent to which employees in the construction industry possess career growth competencies. One way analysis of variance (ANOVA) was computed to test the hypothesis. The results showed significant difference in 8 out of 14 Career Growth competencies identified for the study. The null hypothesis was thus rejected.

Fisher's LSD multiple comparison test showed that managers differed more significantly from both lecturers and project supervisors in their rating of the extent to which construction workers possess the competencies that showed significant difference. Bottoms (1973) revealed a concern by employers that vocational graduates were not meeting ethical job demands. Miller and Rose (1975) also observed that educators are coming more and more to realize that the identification and development of behaviour in the affective domain (feelings, values and attitudes) must be given greater attention.

Recommendations

Based on the findings of the study, the following recommendations are hereby made:

1. Students of construction programmes in polytechnics should be provided, through industrial visits and attachments, with opportunities to understand the behaviour expected of them by employers in the workplace.
2. There should be a conscious effort by curriculum planners to develop curriculum materials, that will help students acquire career growth competencies and incorporate same into the current NBTE curriculum.
3. Career Growth competencies should be compiled into a training improvement package by employers in the building construction industry and used for retraining of their staff.
4. The Federal and State governments should create a forum for educational planners and employers of labour to meet regularly for the purpose of improving curriculum content to meet up with modern industrial trends.
5. Workshops and seminars should be organized in conjunction with employers for construction technology lecturers to sensitize them on the importance of Career Growth competencies and the need to emphasize them in their teaching.

Conclusion

The need for affective work competencies in the work place cannot be over emphasized. As observed by Donovan (1999), a person may become qualified to do a job by virtue of the knowledge and skill he possesses but attitudes play a major role in his job success. Commenting on the importance of social competencies in the workplace, Duncan (2002) also stated that workers who have adequate social competencies that measure up to the demand of the changing manpower market would achieve the greatest success and personal satisfaction. Building construction graduates need to possess these identified career growth competencies if they are to gain employment and advance in their occupations. It is therefore necessary to emphasize the acquisition of the identified career growth competencies in our polytechnic construction programmes.

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Table 1: Means and Standard Deviations computed on the extent to which construction workers possess affective work competencies needed for career growth (N = 148)

S/n	Career Growth Competencies	Lecturers		Managers		Project Supervisors		Remarks
		X	SD	X	SD	X	SD	
1.	Resourcefulness	2.25	.85	2.64	1.09	2.60	1.15	
2	Enthusiasm	2.21	.93	2.33	.96	2.00	.91	
3	Initiative	2.01	.70	2.19	.98	2.03	.73	
4	Ambition	1.96	.62	2.53	1.06	1.90	.74	
5	Efficiency	2.03	.71	2.33	.89	2.18	.98	
6	Perseverance	2.13	.63	2.36	1.05	1.83	.59	
7	Decision making	1.93	.59	2.47	1.08	1.93	.76	
8	Independence	2.06	.60	2.25	.87	1.80	.76	
9	Determination	1.99	.72	2.33	1.04	1.90	.84	
10	Accuracy	1.96	.54	2.47	1.08	1.98	.97	
11	Punctuality	2.01	.81	2.50	1.13	2.03	.98	
12	Creativity	1.89	.52	2.39	1.08	1.85	.83	
13	Devotion	2.07	.66	2.08	.87	1.90	.78	
14	Interest	2.00	.77	2.11	.85	1.65	.53	

Note: cut-off point for competencies needed for career growth is

$$\bar{X} = 3.50 \text{ and above}$$

Table 2: Summary of ANOVA calculations for testing null hypothesis IV (items 1 -14)

S/N	Competencies	Source of variance	Sum of Squares	Degree of Freedom	Mean Square	F	Sig.
1.	Resourcefulness	Between Group	5.047	2	2.524	2.517	.084
		Within Group	145.406	145	1.003		
		Total	150.453	147			
2.	Enthusiasm	Between Group	2.199	2	1.100	1.267	.285
		Within Group	125.875	145	.868		
		Total	128.074	147			
3.	Initiative	Between Group	.853	2	.426	.690	.503
		Within Group	89.600	145	.618		
		Total	90.453	147			
4.	Ambition	Between Group	9.580	2	4.790	7.942	.001*
		Within Group	87.447	145	.603		
		Total	97.027	147			
5.	Efficiency	Between Group	2.301	2	1.150	1.640	.198
		Within Group	101.719	145	.702		
		Total	104.020	147			
6.	Perseverance	Between Group	5.524	2	2.762	5.009	.008*
		Within Group	79.956	145	.551		
		Total	84.480	147			
7.	Decision Making	Between Group	8.053	2	4.026	6.604	.002*
		Within Group	88.400	145	.610		
		Total	96.453	147			
8.	Independence	Between Group	3.903	2	1.952	3.777	.025*
		Within Group	74.928	145	.517		
		Total	78.831	147			
9.	Determination	Between Group	4.083	2	2.041	2.885	.059
		Within Group	102.586	145	.707		
		Total	106.669	147			
10.	Accuracy	Between Group	7.036	2	3.518	5.162	.007*
		Within Group	98.822	145	.682		
		Total	105.858	147			
11.	Punctuality	Between Group	6.336	2	3.168	3.618	.029*
		Within Group	126.961	145	.876		
		Total	133.297	147			
12.	Creativity	Between Group	7.233	2	3.617	6.044	.003*
		Within Group	86.767	145	.598		
		Total	94.000	147			
13.	Devotion	Between Group	.889	2	.445	.796	.453
		Within Group	81.003	145	.559		
		Total	81.892	147			
14.	Interest	Between Group	4.669	2	2.334	4.303	.015*
		Within Group	78.656	145	.542		
		Total	83.324	147			
	Total	Between Group	775.442	2	387.721	9.204	.000*
		Within Group	6108.233	145	42.126		
		Total	6883.676	147			

Significant at .05 level; df = 2, 145

Table 3: Fisher’s (LSD) Multiple Comparison test of influence of position on respondents’ rating of the extent of possession of affective work competencies needed for career growth of construction workers.

Position	Lecturers (n = 72)	Managers (n = 36)	Supervisors (n = 40)
Lecturers	28.44 ^a	4.95*	0.89
Managers	2.63 ^c	33.39	5.84*
Supervisors	2.54	2.95	27.55
MSW = 42.13			

* Significant

- a. Sample means are on the diagonal
- b. Difference between group means are above the diagonal
- c. Fishers LSD values are below the diagonal