



EFFECT OF COGNITIVE CRAFTING ON GRADUATION RATE OF STUDENTS IN FEDERAL UNIVERSITIES, SOUTH EAST, NIGERIA

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Abstract:

The study investigated the effect of cognitive crafting on the graduation rate of students in Federal Universities, South East, Nigeria. The study is anchored on Elgar's Performance Theory of organizations. The survey research method was adopted for the study, making use of structured questionnaire as instruments for data collection. Data were collected from both primary and secondary sources. Hypotheses were tested using the simple linear regression. The study found that cognitive crafting had significant positive effect on the graduation rate of students in Federal Universities, South East, Nigeria ($r = 0.803$; $P < 0.05$). It was therefore, concluded that cognitive capabilities which promote students' graduation rate enhances the overall performance of Universities in South East, Nigeria. The study recommended that Universities should be properly funded to encourage the employment and retention of professionals with cognitive capabilities that would enhance students' graduation rate and overall performance of the Universities.

JEL: B10; A02; C06

Keywords: cognitive crafting, performance of universities, students' graduation rate, intelligence test

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1. Introduction

Cognitive job crafting which is a component of job crafting design, is the acquisition of general intellectual or mental competencies and skills necessary to excel in a given curriculum and attain expected goals. In recent years, the nature of jobs and their performances in the Universities has changed due to transformations in the work place occasioned by developments, global competition, advancement of information technologies, innovations and transition from manufacturing economies to service and knowledge economies (Shekeela, Waist and Rasheed, 2012).

Through job design, employees are hired by the Universities to perform specific duties of which they gradually change the job in such a way that it better fits their abilities and preferences. In other words, employees modify their jobs to suit their individual needs, preferences and convenience (Berg, Dutton and Wrzesniewski, 2008) instead of performing the job as created by the organization. In this situation, employees are seen as being responsible for their work results.

Berg (2010) notes that business and service organizations progressively expect their employees to respond to unexpected conditions by proactively identifying opportunities, showing initiative, seek out challenging situations, construe work roles more broadly and restructure jobs for new goals. As employee working conditions get unpredictable and unclear, it becomes necessary to encourage team-work and support creative employees that can favorably job-craft, interdependency and synergy in today's organizations. These changes of working life influences the application of job design or job crafting theory in business organizations (Cullinane, 2013).

Traditionally, researches and job design theories have focused on the top down approach which shows that managers need to design jobs for employees. However, for the last decades, it has been noted that the proactive efforts of employees and their roles have to be considered while designing their jobs (Berg, Wrzesniewski and Dutton, 2010). Job crafting, therefore, is the process through which an employee changes or redesigns his job task through creative manipulations for optimum performance and satisfaction.

Considering the intangibility of services provided by the Universities, employee behavior, ability to job craft, efficiency, commitment and students' graduation rate forms the basis for evaluating their performance (Wang, 2016). The behaviour of employees in the Universities actually become part of the service and consequently influences overall perception about the university.

2. Statement of Problem

Nigerian Universities are facing serious challenges of poor funding, infrastructural decay, capacity underutilization, downsizing, globalizations, technological advancements, diversity and how to motivate in the face of limited resources. Nigerian university teachers nowadays are confronted with increased workloads with significant pressure from teaching, research, publishing academic papers and professional status

evaluations. These factors mount serious pressure on the cognitive traits of the lecturers with direct impact on the graduation rate of students.

2.1 Objective of the Study

The main objective of the study was to ascertain the effect of employee cognitive crafting on graduation rate of students in Federal Universities, South East, Nigeria.

2.2 Research Question

- What is the effect of employee cognitive crafting on the graduation rate of students in Federal Universities, South East, Nigeria?

3. Methodology

The study adopted the survey research method, making use of structured questionnaire as instrument for data collection. Data were collected from primary and secondary sources. From the total population of 7,135, we derived a sample size of 554 using the Cochran statistical formula suitable for finite population. The sample size comprised all senior academic staff of the five Federal Universities in South East Nigeria. The Universities consist of Nnamdi Azikiwe University, Awka, Anambra State; Federal University of Technology, Owerri, Imo State; University of Nigeria, Nsukka, Enugu State; Alex Ekwueme Federal University, Ndufu Alike, Ebonyi State and Michael Okpara University of Agriculture, Umuahia, Abia State. Data were presented in tables and analyzed in percentages. Hypotheses were tested using Pearson Product Moment Correlation Coefficient and the simple linear regression.

4. Theoretical Review

4.1 Performance Theory of Organizations

The theory of performance by Elgar (2007) was initiated to form a framework that can be used to explain performance improvements. The theory states that for organizations to perform, is to produce valued results. In line with the theory, a performer can be individual or group of people engaging in a collaborative effort. Organization that craves for improved performance must first seek information and generate competitive intelligence on those organization variables that are rationally related to performance. By implication, the performance of a university is determined by its ability to effectively utilize the cognitive behaviours of both staff and students to effectively improve on their graduation rate.

5. Literature Review

5.1 Cognitive Crafting

Cognitive crafting implies the mental or psychological modification of work. Wrzesniewski and Dutton (2010) state that cognitive crafting is an individual's ability to perform various mental activities most closely related to learning and problem solving. Cognitive crafting includes verbal, spatial, psychomotor, and processing-speed ability. It refers to an individual's ability to process (thoughts) that should not diminish on a large scale in healthy individuals.

Cognitive abilities are a set of mental abilities required in carrying out a task. They are determined through different intelligence tests and strong relationship between students' academic feat and mental abilities (Margus, Olev, and Gerli, 2015). Cognitive ability reflects what a person is able to complete mentally.

Cognitive ability is an important factor in showing individual differences in school success, as well as in health and work outcomes (Furnham, 2008). Variations in cognitive skills alone are not enough to fully explain why an individual succeeds or fails in school (Heckman and Rubinstein, 2001). Cognitive crafting development is the acquisition of general intellectual or mental competencies and skills, which if they are not so directly tied to a particular job, curriculum or course of study, may negatively affect outcomes of work performance (Pascarella and Terenzini, 2005).

Thus, cognitive crafting has many names: critical thinking, reflective judgment, epistemological development, and so on. Moreover, cognitive crafting development includes myriads of approaches such as intelligence, scientific problem-solving, motivation to learn, and learning styles (King, 2009). While each of those terms differs slightly in concept and application, it seems clear that cognitive skills development is among important job crafting results due to its applicability and utility across a wide range of content areas (Pascarella & Terenzini, 2005). Zhao, Kuh and Carini (2005) note that relating cognitive crafting to the students' activities in universities, home students participate in more campus activities and seek a psychological sense of belonging to improve their cognitive skills development and personal growth.

In contrast, finding an affinity group is elusive for many international students, which discourage them from participating in campus activities or events. This social disconnection interferes with the degree of cognitive skills development among international students in universities. Zhao (2005) found that academic achievement is a coping mechanism for international students to manage the stress associated with their university experiences.

5.2 Students' Graduation Rate

The rate at which universities are able to graduate students annually is one of the key performance indicators in determining its level of performance. The performance measure of higher education in the United States and other developing nations centers on graduation rates of undergraduate students and consider these students to be the main

output of schools. It is recognized that such ratings are often a marketing measure, used to advertise the rating firm's services, as well as the school, to intending new undergraduates and their parents; but high graduation rates have also been seen as a marker of institutional excellence (Desjardins, Kim and Rzonca, 2003). Other variables for measuring the performance of universities are level of research output, visibility in international ranking, employability of its graduates etc.

Graduation rates are a measure of the main outputs of higher education, and we report that output here. Performance indicators are a means of measuring concepts of quality in numeric ways (Dochy, Sergers and Wijnen, 1990). Cave, Hanney, Henkel and Kogan (1997) define performance indicators as measures that become a reference point for institutions to compare performance. Universities are often asked to report the percentages of job-placement, student retention, and graduation rates often used as attainment measures. This may affect funding and/or budgeting decisions (Cave, Haney, Henkel and Kegan, 1997).

Universities are centers of excellence for technological and scientific advancement, skill development, training of quality entrepreneurial graduates, and strategic researches for sustainable development. The performance of Nigerian universities is evaluated by a group of external assessors (accreditation panel) in the same area of knowledge through the National Universities Commission (NUC). This allows for cross fertilization of ideas irrespective of the huge human, financial and other resources needed. In view of this, a relatively fast, reliable and less expensive approach to measure the performance of the universities need to be adopted (Abdulkareem and Oyeniran, 2011).

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With idea of performance-based standards becoming acceptable practice in business and government, schools and universities have found themselves swept up in the same accountability and efficiency trends, regardless of academic support or opposition to the management of tertiary institutions (Kitagawa, 2003). Berdahl (1999) opines that colleges and universities find themselves increasingly having to report certain indicators, such as retention and graduation rates which influence funding appropriations.

Although most higher education administration would agree that their institutions should be held responsible and report their progress, there is little discussion between policy makers and higher education administration about what would be the best indicators for colleges and universities. Ewell (1994) concludes that regardless of the indicators chosen, policy leaders need to view performance indicators as a means to shape the future in realigning higher education priorities.

Rothmann and Jordan (2006) developed a list but had the following indicators to add to his list:

- Admission standards;
- Total student credit hours by institution and discipline;

- Results of satisfaction studies of alumni, students, parents, and employers;
- External or sponsored program funds. Burke (1998) outlines similarities of the most common indicators in performance funding and performance reporting.

They were retention and graduation rates, faculty teaching load, job placement, test scores and satisfaction surveys. Burke (1998) further notes that performance indicators overwhelmingly focused on undergraduate education.

6. Analysis of Data

6.1 Hypothesis

H₀: Cognitive crafting does not have significantly effect on graduation rate of federal universities, South East, Nigeria.

H₁: Cognitive crafting does not have significantly effect on graduation rate of federal universities, South East, Nigeria.

Table 1: Cognitive Crafting and Graduation Rate of Students

S/N	Questionnaire Item	Strongly Agree	Agree	Disagree	Strongly Disagree	Undecided	Total	
1	Cognitive crafting psychologically prepares the students for sound mind and reasoning to graduate in record time	250 1250 (48.08%)	235 940 (45.19%)	23 69 (4.42%)	Disagree 12 24 (2.31%)	-	520 2283	4.39
2	Cognitive crafting prepares students for graduation through mental activities most closely associated with learning and problem solving	323 1615 (62.12%)	187 748 (35.96%)	10 30 (1.92%)	-	-	520 2393	4.60
3	Intelligence tests have strong correlations with students' academic performance through cognitive abilities	302 1510 (58.08%)	200 800 (38.46%)	10 30 (1.92%)	4 8 (0.77%)	4 4 (0.77%)	520 2353	4.52

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4	The acquisition of cognitive capabilities, intellectual competencies and skill is required for students to graduate as and when due	335 1675 (64.42%)	183 732 (35.19%)	2 6 (0.37%)	-	-	520 2413	4.64
	Total	1210 (58.17%)	805 (38.70%)	45 (2.16%)	16 (0.77%)	4 (0.19%)	2080 100	4.53

Source: Field Survey, 2021.

Item 3 in the table shows that 302 (58.08%) strongly agreed that intelligence tests have strong correlations with students' academic performance through cognitive abilities, 200(38.46%) respondents agreed while 10(1.92%) disagreed. However, 4(0.77%) strongly disagreed while 4(0.77%) respondents were undecided.

Table 2: Model summary

Model	R	R square	Adjusted square R	Std. Error of the estimate
1	.860 ^a	.739	.739	.50161

a. Predictors: (Constant), Cognitive Crafting

Table 2 contains the model summary for hypothesis testing. The R² in this model represents the proportion of variability in Cognitive crafting that affect graduation rate of students in Federal Universities in South-East Nigeria. Therefore, this result indicates that 74% of variability in graduation rate is explained by Cognitive crafting in universities in South-East Nigeria while 26% of the variability is unexplained by it.

Table 3: ANOVA^a

Model	Sum of Squares	Df	Mean Square	F	Sig.
Regression	1483.735	1	1483.735	5897.010	.00013
1 Residual	522.841	2078	.252		
Total	2006.576	2079			

a. Dependent Variable: Graduation rate

b. Predictors: (Constant), Cognitive crafting

Table 3 indicates that there is a significant positive effect of Cognitive crafting on graduation rate of students in the University in South-East Nigeria (F = 5897.010; p = 0.00013 < 0.05). Therefore, the null hypothesis is rejected while the alternative hypothesis is accepted which says there is a significant positive effect of Cognitive crafting on graduation rate of students in Federal Universities in South-East, Nigeria.

Table 4: Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
(Constant)	-1.129	.072		-15.598	
1 Cognitive crafting	.723	.016	.860	76.792	

a. Dependent Variable: Graduation Rate

The coefficient Table 4 shows how cognitive crafting affects graduation rate of students in the universities in South-East Nigeria. From this analysis therefore, the coefficient value of .723 indicates that cognitive crafting strongly affects graduation rate as every 100 per cent increase in graduate employability, cognitive crafting contributes a huge value of 72 per cent. Again, cognitive crafting coefficient indicates a positive significant effect of task crafting on graduation rate which is statistically significant ($t = 76.792$).

7. Summary of Findings

It was found that cognitive crafting had significant positive effect on graduation rate of students in Federal Universities ($r = 0.803$; $P < 0.05$).

8. Conclusion

The study concluded that cognitive capabilities that promote students' graduation rate enhances the overall performance of Universities in South East, Nigeria.

8.1 Recommendations

The study recommended that Universities should be properly funded to encourage the employment and retention of professionals with cognitive capabilities that can enhance students' graduation rate and overall performance of the Universities.

Conflict of Interest Statement

The authors declare no conflicts of interests.

About the Author

Ukairo, Agwu Kalu (PhD) holds MBA and PhD in Management from the University of Nigeria, Enugu Campus. He is a top-notch administrator with vast experience in university administration. He is an astute researcher and currently the Principal Confidential Secretary in the Department of Banking and Finance and Chairman, Non-Academic Staff Union of Universities, University of Nigeria, Enugu Campus, Nigeria.

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