

University Teachers' Demographic Characteristics as Determinants of Transformed Human Capital Development in Universities in Rivers State of Nigeria

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DOI Link: <http://dx.doi.org/10.6007/IJARBSS/v4-i2/916>

Published Date: 01 February 2014

Abstract

Quality of teachers is promoted by the policy formulated for quality assurance and productivity in a school system. Demographic characteristics of teachers seem to bring forth investment in production for economic value. Hence this study explored university teachers' demographic characteristics as determinants of transformed human capital development in universities in Rivers State of Nigeria. It was designed to provide a baseline information for policy-management on education in orders to enhance quality and productivity in the university system. An ex-post facto research design was adopted for the study with two research hypotheses to guide the investigation. A stratified random sampling technique was used to select 600 university teachers from the three universities studied. Data was collected using researcher's questionnaire titled "Transformed Human Capital Development Scale (THCDS)". Data was statistically analyzed using independent t-test and Multiple Regression Analysis statistics. Results obtained revealed that university teachers' demographic characteristics (work experience, educational level and computer literacy) could determine transformed human capital development in universities in Rivers State of Nigeria. It was concluded that the development of the nation was guaranteed by knowledgeable, skillful and competent university teachers through teaching experience, computer literacy and educational level status. It was recommended among others that, the right quality of university teachers should be employed to ensure requisite productive capacity for economic growth in the nation.

Keywords: Teachers, university, demographic, characteristics, human capital development.

Introduction

The real value of any system is the human capital commonly described as people and their collection of skills. Hence, the stock of university teachers and the quality of what they produce may be seen in their personality attributes embedded in the ability to work so as to produce economic values. In Wikipedia (2010), human capital is defined as the means of production in which additional investment yields additional output. Indeed, human capital development of university teachers (quality university teachers) tends to be the major driving force of various components of university education in all ramifications. Education leads the potentials that equip the teachers to contribute to individual and societal development vis-à-vis their knowledge, skills, competencies and required attitudes (Asuru, 2010; Ekanem, 2012). It is against this backdrop that the researcher sets out to investigate university demographic characteristics as determinants of transformed human capital development in universities in Rivers State of Nigeria.

The strength of higher education is in human capital development, which is fundamental and of increasing importance in determining a nation's position in the world economy. Human capital is the productive investments embodied in human persons, groups and societies which enable them to carry out assigned responsibilities for attainment of predetermined goals. According to Armstrong (2006), it is the combined intelligence, skill and expertise of individuals that give an organization its distinctive character. In Pepple (2009), human capital encompasses capacities and abilities of individuals from expenditure on education, on-the-job training programme and medical care for the attainment of predetermined goals. Human capital development is essentially an improvement of human effort arising from investment in production. It is recognized as a pre-condition for a nation's economic, political and socio-cultural transformation.

Human resources contribute to the growth of institutions by cultivated personnel in their men and women enlightenment and character. University education promotes: higher quality of individual and social life, national and international interaction and attitudinal changes for modernization and social transformation. It contributes to accelerate the process and rate of economic growth through increasing human productivity. According to FRN (2004), these functions are made possible through teaching, research and development, virile staff development programmes and other extension activities. University teachers being part of the workforce of a nation are expected to be adaptable to improving the national economy since their personalities (individual minds) are relevant to all economic development (Awopegba, 2002). Teachers mobilize and exploit educational resources otherwise such resources may remain latent and their potentials untapped. In effect, human resources in education contribute to the wealth and prosperity of a nation. Thus, human capital development in higher education should be taken seriously by ensuring that the education system produce a huge set of economic, social, cultural, demographic and political externalities.

Human capital theory propounded by Theodore Schultz in 1961 can be applied to this study. The theory states that increased demand for education can lead to increase the productivity and efficiency of workers through increased level of cognitive skills possessed by the workforce. The implication of this theory is that the basis of formation of quality (human capital development) university teachers can be anchored on their demographic characteristics. These variables rest on teachers' idea, skill and ability to aid production through education, training and health. The teachers' demographic characteristics may effectively determine the degree of change in their productive capacity. These personal

variables foster empowerment, economic development and occupational mobility vis-à-vis the quantum of investments in human capital stock (Okebukola, 2002). Hence, the current demand for university teachers is promoted by the policy formulated for quality assurance in meeting the criteria of relevance to teachers' possible manifestation.

Management of quality teacher education depends on certain factors such as local policies, educational financing, retention of good quality teachers and availability of human/material resources (Afe, 2002). Therefore, to produce well-qualified professional teachers that can adjust to the changing needs of students and society in a fast changing world (transformed human capital) tend to be a big challenge in Nigeria. Demographic characteristics (gender, age, experience, educational level and computer literacy) of teachers, as the most important learning resources available to students have been observed to influence overall administrative effectiveness of school and the society (Ezengbor, 2009; Ayo & Ojebode, 2011). Teachers evaluation of demographic characteristics in this study involve a collection of personal evidence to determine certain developmental changes taking place in them. This investigation seeks to determine the congruence between the results and objectives based on the practice of university teachers geared towards enhancing human capital. Qualified and relevant university teachers are to possess full knowledge and understanding in their fields, acquire the necessary skills and experience in order to transmit their knowledge and understanding effectively to students. Teachers are to have quantifiable ability to produce growth in students' achievement. Hence, the purpose of this study is to investigate the demographic influence of university teacher's in determining transformed teachers human capital in universities in Rivers State of Nigeria.

Teaching staff quality at the university level determine the quality of education and national development (Mangvwat, 2001). Ekanem & Uchendu (2012) confirmed that personal characteristics of teachers are the most important schooling factors explaining human capital development among schools. Some studies have found somewhat stronger and more consistently positive demographic characteristics among teachers than other commonly measured school attributes like instructional materials and class size. According to Baker (1990), gender and age form the core to behavioural pattern of teachers in relation to work. Achieving gender quality in higher education is part of the priority and focus of educational policy in Nigeria (FRN, 2004). Afe (2002) and Ekanem (2011) studies show that age, gender and status have direct relationship with attitudes. Attitude of teachers towards productive capacity attainment largely determines teachers patterns or life-styles with reference to intelligence, skills and expertise.

Some studies such as Darling-Hammond (2000) and, Goldhaber and Eide (2002) revealed that teachers education level, work experience and computer literacy explain only about three percent of the total teacher effect on human capital development. A similar study on relevant-quality interface in Asuru (2010) found a similar results of low correlation between teachers' human capital development and educational quality, such as general academic ability, subject matter knowledge and the teaching-learning skills. In another review, Murnane (2006) found verbal ability and computer literacy as more sensitive measure of teachers' abilities to convey ideas in clear and convincing manners. In Okebukola (2002), their relationships were big and statistically significant.

Studies have found stronger and more consistently positive influence of teachers' education level and working experience on human capital development (Pepple 2009 & Ekanem, 2012). Some recent studies have found qualified teachers in higher education with many years of teaching experience to perform better than their counterparts with less years

(Etuk and Etudor, 2006). According to Uche (2002), the technical competence of teachers in adjusting their teaching to fit the needs of students and demands of various instructional objectives, topics and methods, using students' ideas, probing students comments and asking higher order questions have been found to be of significant influence on students learning ability. These translated to the teachers' productive capacity which is an evidence of functional employment. This study is relevance because by a variety of measures, less academically skilled and competent ones are more in teaching than in other professions. Teachers' demographic characteristics vis-à-vis their quality and attitude should intricately linked to development. The former must serve as a booster to the later otherwise the paradox should be explained.

The significance of the study will be seen in its acting as an inspiration for universities to provide human resource feedback loop, to sustain standards as well as forestall any possible problem that might affect achievement of objectives. The government, educational managers, students and parents will equally find this study useful for accountability in programme implementation and make programme managers to be professionally accountable for success and/or failure of the university system. The study is particularly important to the scholars since it examines the predictability of the demographic variables on the transformed human capital development of university teachers in order to improve programme design by the educational policymakers.

The scope of the study is delimited to the determinations of the identified demographic characteristics on transformed human capital development in universities in Rivers State of Nigeria. Therefore, the investigation wishes to contribute to the filling of the gap and hence, to bring added knowledge to literature in terms of university system transformation.

Statement of the problem

The problem of this study centres on lack of necessary technical competence and professional skills by university teachers which can meet the quality challenge and productivity bedeviled against university education system in Nigeria. Co-ordinated personalities of teacher educators seem to be needed now particularly as Nigeria is clamouring for rebranding of all facets of national life. Teachers poor quality entrants, experience, low technology and lack of capacity building form the bases of major administrative challenges since education develops human beings and it is critical for economic development of a nation. This study is necessary to fill the gap by examining the predictive power of demographic characteristics of university teachers as the determinants of transformed human capital stock of university teachers in Rivers State of Nigeria.

A perceived way out of the problem is the transformation of the university system through the culture of effective and efficient management strategies to optimally achieve university goals. This will result in staff commitment, objectivity, integrity and appreciation of ethical values for quality assurance and productivity. University teachers have transformational vital roles to play by precept and example. The question remains: can demographic characteristics of university teachers be predictors of transformed human capital development in universities in Rivers State of Nigeria? This study was designed to find the answer to this poser.

Research Hypotheses

The following hypotheses were tested:

1. There is no significant difference in the demographic characteristics of university teachers and their transformed human capital development.
2. There is no significant composite contribution of identified demographic characteristics of university teachers on transformed human capacity development.

Methodology

This study adopted the survey design using ex-post facto research method. This research design was most appropriate because the variables of the study already existed and only required observation of the phenomenon. It was a systematic empirical inquiry without direct control of the independent variables by the researcher. The study area was Rivers State, one of the states in the south-south geo-political zone of Nigeria. It covered three universities located therein, two owned by the state, while the other was owned by the Federal Government.

The sample consisted of 600 university teachers (male =330, female =270) selected through stratified random sampling technique from Rivers state University of Science and Technology, Nkpolu; Rivers State University of Education, Ruluremini and University of Port Harcourt, Chioba. The respondents were drawn from departments in Faculty of Education of the three universities used to assess their contributions of demographic characteristics on transformed human capital development.

The instrument used for the study was a 15 item questionnaire titled "Transformed Human Capital Development Scale (THCDS)" developed by the researcher. The instrument was designed to find out relevant information in human capital development for solving the problem of quality assurance and productivity among cohorts of university teachers. Section A of the instrument require information from the respondents on their demographic characteristics (gender, age, work experience, education level and computer literacy). Section B measured various patterns of transformed human capital development. The four-point rating scale of Strongly Agree (4 points), Agree (3 points), Strongly Disagree (2 points) and Disagree (1 point) was adopted to score the instrument. The questionnaire was face-validated by two experts in Educational Management and Measurement Evaluation departments of University of Port Harcourt. The reliability test was ascertained with test re-test method using Spearman Rank correlation to give 0.72 with an internal of two weeks. This value indicated that the scale was reliable for use in achieving the research objectives.

The administration of the instrument was done by the researcher and two trained research assistance. The percentage response was 90 percent with 600 copies out of 667 copies of the scale found suitable for the study. Data collected were analyzed using statistical techniques of independent t-test and Multiple Regression Analysis to test the hypothesis at 0.05 level of significance.

Data Analysis and Results

Hypothesis One

There is no significant difference in the demographic characteristics of university teachers and their transformed human capital development.

The independent variable was the demographic characteristics (gender, age, work experience, education level and computer literacy), while the dependent variable was transformed human capital development. Independent t-test statistical analysis was used to

determine the dependence of the identified demographic variables on the transformed human capital development among the cohorts. The results were presented in table 1.

TABLE 1

Independent t-test analysis of dependent of demographic characteristics of university teachers on transformed human capital development

N=600

S/N	Variable	Group	N	Mean	SD	t-value
1	Gender	1. Male	330	40.10	6.84	-0.015
		2. Female	270	40.15	7.02	
2	Age	1. Below 36	230	38.34	6.04	1.815
		2. 36 & above	370	40.24	6.93	
3	Experience	1. Below 11	240	41.97	6.95	9.65*
		2. 11 & above	360	38.88	6.54	
4	Educational level	1. Below Ph.D	230	37.95	7.42	5.12*
		2. Ph.D & above	370	40.97	6.54	
5	Computer Literacy	1. Non	373	39.47	6.76	9.47*
		2. Literate	227	42.21	6.42	

*P < 0.05; critical = 1.96. df = 598.

The results presented in table 1 indicated that the demographic characteristics of male and female university teachers were not significantly different ($t = 0.015$, $p > 0.05$); the university teachers below the age of 36 and those who were 36 and above appear not to be significantly different in their transformed human capital development ($t = 1.815$, $P > 0.05$). The table, however showed that teaching experience was a significant factor in transforming human capital development in teachers ($t = 9.65$, $P < 0.05$). The qualification of teachers with Ph.D and above was significantly higher than those with qualification below Ph.D ($X = 37.95$). The table also showed that the university teachers who were computer literate ($X = 42.21$) had a significantly more positive transformed human capital development than their counterparts with mean 39.47 ($t = 9.47$, $p < 0.05$). Therefore, the demographic characteristics of the university teachers' experience, education level and computer literacy could significantly determine the transformed human capital development and not by their gender and age.

Hypothesis Two

There is no significant composite contribution of identified demographic characteristics of university teachers on the transformed human capital development.

The independent variables x_1, x_2, \dots to the variation of dependent variable Y in the functional notation was given as $Y = f(x_1, x_2)$. The analysis was shown in table 2.

TABLE 2

Regression analysis of joint prediction of demographic characteristics (gender, age, work experience, education level and computer literacy) of university teachers on transformed human capital development.

R =	=	0.152
R-square =		0.023
Adjusted		
R-square =		0.018

Variable	Sum of square	df	Mean square	F	Sig.	Decision
Estimate =	6.4934					
Regression	501.711	5	167.241	3.967	0.008	sig
Residual	20914.089	594	42.165			
Total	21415.800	599				

Sig at $F_{(5,594)} = 3.967$; $p < 0.05$, Adj. R-square = 0.018; Std Error = 6.4934

Results in Table 2 showed that the five university teachers' independent variables (gender, age, experience, educational level and computer literacy), when taken together on transformed human capital development yielded a coefficient of multiple regression $R = 0.153$ on an adjusted R^2 of 0.018. The implication of this was that 1.80 percent of total variance on transformed human capital development was accounted for by the combination of the five variables. Moreso, the analysis produced F-ratio value significantly at 0.05 alpha level ($F_{(5,594)} = 3.967$; $P < 0.05$) which depicted that the predictive capacity of the independent variables did not occur by chance. This further confirmed the results earlier reported in table 1.

Discussion

The independent t-test analysis of the dependence of five predictor variables (University Teachers demographic characteristics) on the criterion variable (transformed human capital development) revealed that experience, educational level and computer literacy determined transformed human capital development, while gender and age did not. The implication was that teachers who possessed high working experience, high education level and computer literacy performed effectively, thereby enhancing quality assurance and productivity in the university system. The other two predictor variables (gender and age) could not significantly determine the transformed human capital development. The outcome of this study confirmed the concept of marginal productivity of labour which states that an additional input of labour can only be acceptable if the returns from the labour contribute to produce more than the cost. The university teachers' productive capacity was worthwhile as their intelligence, skill and expertise were able to accelerate the process and rate of economic growth. This findings was in consonance with the observation of Asuru (2010) that quality of preparation of teachers increase the potentials of teachers and the need for government to enforce their consistency in standards, sharply reducing under-prepared and uncertified teachers.

Furthermore, the analysis of the same data set showed that gender and age were found to be non-significant in determining transformed human capital development. This means that the change in the predictors variables, could not lead to a proportionate change in the university teachers' human capital development. The explanation of this findings was that quality can be assured when competent and qualified people are given the appropriate development (not withstanding gender and age). The uniqueness of the findings was derived from the fact that human action can be modified to some extent but human nature cannot be changed. Excellence was a gradual result of always striving to do better. This confirmed the study of Afe (2002) that university teachers should of necessity refine their existing skills, developed new ones and act as role models to their students for quality behavior and productivity in the system.

The analysis of hypothesis two showed that there was a significant composite contribution of most of the identified demographic characteristics of university teachers on the transformed human capital development. By implication, the university teachers

demonstrated sufficient theoretical knowledge and practical skill on their job that could make them productive. This finding was contrary to the results in Darling-Hammond (2000) and, Goldhaber and Eide (2002) which reported low effect on human capital development. The difference in findings could be explained to the fact that excellence was not an act but a habit. Things the university teachers did the most, were things they did the best. Quality management of teachers could hold unto motivation and attitude of teachers to productive work. This was because motivation determined what to do, attitude determined how well to do it while ability was the capability of doing it. The university management could sustain their competence and improve upon their capacity/skills through periodic training.

The predictive capacity of the predictor variables which did not occur by chance further confirmed the results of the analysis in table 1. Teaching experience was observed to be the highest significant predictor of the transformed human capital development. This showed the teachers with many years of experience could perform better than their counterparts who have less years (Uche, 2002). Computer literacy provided the university teachers with advantages to achieve cognitive goal deliberately. These included speed, improved labour performance, improve accuracy, variety of information, multi-purpose and managerial aids for decision making. In effect, computer has developed into an emerging socializer among teachers and students. However, to a great extent, students' aim tend to be fortuitous rather than deliberate cognitive goal (Nigerian Embassy Media, 2012). The education level status also revealed that competent and qualified teachers were needed in the university system to surmount the complex and challenging activities of teaching/research. This finding supported the need for university graduates already teaching or having intention to teach, to possess post graduate diploma in education (PGDE). Again, Teachers' Regression Council (TRC) set up by Nigerian government aimed at controlling and regulating the practice of teaching through certification of teachers on their performance (FRN, 2004). This could promote quality of teaching and maintained afloat the productive capacity to satisfy students and the society.

Conclusion

On the strength of the findings of this study, it was concluded that there existed a significant prediction of the university teachers' demographic characteristics on transformed human capital development in universities in Rivers State of Nigeria. Working experience, education level and computer literacy contributed significantly to redirecting the present situation of the university teachers' skills, knowledge, ability and capabilities to improve quality and productivity in the system. Gender and age variables did not significantly determine the transformed human capital development. Transformed human capital development was informed by deliberate improvement of active agents in accumulating capital, exploiting natural resources, building socio-economic organization and carrying forward national development. Management requirements to achieve transformed human capital development included effective leadership, strategic planning, responsive service delivery, relevance sound policies, and networking based on common interests. Therefore, the development of the nation was guaranteed by knowledgeable, skillful and competent university teachers through teaching experience, computer literacy and educational level status.

Recommendations

1. The right quality of teachers should be employed in the university system. This enables them to possess the requisite productive capacity which can accelerate the process and rate of economic growth in the nation.
2. University teachers should be trained periodically on skills development and quality behavior. This is because intellectual enforcement encompasses attitudes, behaviours and emotion as essential role model to students and effectiveness of human capital development.
3. Adequate funding of university teacher education by government is a necessity. This is because human capital formation comprises of expenditure on education, on-the-job training programme and medical care in order to achieve economic value.
4. University management should deliberately promote mentorship among the university teachers. This is because diligent and experienced teachers will guide and counsel the inexperienced ones towards quality academic attainment.
5. University management should promote inter-university linkage. This will improve upon teachers' demographic characteristics through co-ordination among human capital institutions and effective harnessing of human/material resources for socio-economic transformation.

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