

The Influence of Resource Inputs in the Professionalization of Higher Education in the University of Ngaoundere, Adamawa Region Cameroon

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Abstract— Given the important role higher education plays in the training and equipping of young graduates with professional skills and competences to better adapt to the exigencies of the employment market, this research probes into some of the indicators of professionalization in the university milieu such as infrastructure, personnel and equipment. It assesses the human and material resources input in the professionalization process in the University of Ngaoundere. The study is a descriptive survey with a sample of three and eight students of the university. An open-ended questionnaire was constructed following the Likert Scale from 1-5, of strongly agree (SA), agree (A), not sure (NS), disagree (DS), and strongly disagree (SDA). The data was analyzed with SPSS Package, using regression analysis model. Findings reveals insufficient infrastructure and equipment, while teaching personnel assessment averagely reflects professionalization.

Index Terms— Equipment, Higher education, Infrastructure, Professionalization, Personnel.

I. INTRODUCTION

Higher education (HE) plays an important role in the development of most nations. Developing nations have been working to uplift their standards since the last three decades by initiating a series of institutional reforms in Universities. The main driving force for change is increased demand for more professionalization of Higher Education programs to suit the exigencies of the job market, more accountability and responsiveness to the needs and expectations of internal and external stakeholders who affect or are affected by the existence and functioning of universities. In Cameroon, the 1993 University Reforms, the Bologna process 1995, the 2001 Orientation Law on Higher Education, the 2007 Bachelor-Masters-Doctorate (BMD) Higher Education reforms and the 2008 New University Governance Program amongst other things have restructured governance and professionalization in the country's Higher Education system. Marshall (2011) believed that effective management at all levels of higher education institutions are integral to institutional quality and enhanced innovation. This is in line

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with Baldwin (2009) who believed that academics play an important role in the success of universities, but that governance is required for the infrastructure and personnel to realize quality and innovation.

According to Teshome Yizengaw, (2008), higher education institutions in Africa have seen little or no infrastructure improvements for the last few decades. Learning infrastructure is widely deficient due to insufficient budget and overdependence on public financing. Infrastructure, such as internet access, library, textbooks, equipment, laboratories and classroom space are critical bottlenecks resulting in deterioration of quality of education and learning. The poor state of facilities also affects the quality of research and its ability to contribute to societal development and progress. Africa's higher education institutions face a decline in quality of education, learning and research. Universities operate with overcrowded and deteriorating physical facilities, limited and obsolete library resources, insufficient equipment and instructional materials, outdated curricula, unqualified teaching staff, poorly prepared secondary school students, and an absence of academic rigor and systematic evaluation of performance.

II. LITERATURE REVIEW

There is increasing research on the professionalization process in Cameroon's higher education in a bid to make training responsive to the needs of the 21st century economy. Studies in Cameroon include: Endeley, M. (2014), investigated the teaching and learning process within the Bachelor-Masters-Ph.D. professionalization reform in the University of Buea. Using a descriptive survey questionnaire sample of forty lecturers, the findings reveal the inadequate human and material resources in enhancing professionalization in the teaching-learning process. Teneng (2016), investigated and analyzed skills oriented higher education and graduate employability in Cameroon, came out with the finding that lack of marketable skills and skills that do not match the demands of the labor market are some of the obstacles of getting employment.

According to the ministry of higher education quarterly review, SUP INFOS, (2010c), one of the roles of higher education (HE), is to increase the socio-economic, socio-professional and market friendliness of the curriculum. This role was reconceptualised in their New University Governance Policy (NUGP), with the objective of acquiring:

a modern, professionalized higher education which is resolutely open to the rest of the society and meeting the requirements of knowledge production, of knowhow, of the use of knowledge and the production of human capital, quantitatively and qualitatively which is necessary to drive Cameroon to become an emergent nation by 2035 (Operational Strategy of the NUGP up to 2010:2).

This can only be achieved if our universities can be up to date with the state of the art infrastructure, updated library facilities and the new information and communication technology.

The professionalization process of higher education in Cameroon cannot be attained without adequate infrastructural, material, personnel and equipment. According to the Resource theory of pedagogy, (Astin, 1984), Physical facilities like spacious lecture halls, libraries, laboratories, audio-visual aids are believed to enhance students' learning. The theory maintains that if adequate resources are brought together in one place, student learning will improve and development will occur. Space plays a vital role in HE. The classroom is being reinvented to support new pedagogies (Ball, 2010). So the use of student centred learning is hall mark of the 2007 BMP reform goal which requires space and necessitates every university library to occupy a central position in its placement and prominence. According to American Economist Robert Barro (2013), heavy public sectorspending on infrastructure is a favorable component to boost economic growth. In the same light, heavy investment in infrastructure, personnel and equipment in higher education will enhance the professionalization process in higher education.

Investment in teaching personnel (Human resources) is very important for any effective student centred teaching to take place. Astin (1984) asserts that one resource measure that is particularly popular is the student-faculty ratio. Many administrators believe that the lower the ratio the greater the learning and personal development that will occur. Without sufficient teachers, Graduate Assistants and non-academic staff, it is likely that the class sizes may be large, the teacher overworked and lectures becomes the predominant teaching method. Gibbs (1992) argues that one of the reasons why university lecturers use lecture is because they are overworked. This is confirmed by the findings on teaching methods and activities where teachers say they use lectures most of the time due to time constraints and overcrowded halls. In such an environment, student-centred learning may be compromised, critical thinking and creativity necessary for the workplace may not be achieved and the goal of professionalization may not be attained.

III. RESEARCH METHODOLOGY

Research Design: This study was a survey and used quantitative analysis.

Population Sample: The population consisted of third year undergraduate students and fourth year post graduate students of eleven departments of the four faculties of the University of Ngaoundere. They were therefore well suited to evaluate the influence of infrastructure, personnel and equipment

on the professionalization of Higher Education in the University of Ngaoundere.

Research Instruments:The questionnaire consisted of 06 questions constructed along the pattern of the Likert scale: Strongly agree (SA), Agree (A), Not sure (NS), strongly disagree (SDA), Disagree (DA).

IV. PRESENTATION AND ANALYSES OF RESULTS

Research Hypothesis

Ha:The availability of infrastructure, personnel and equipment determines the level professionalization of higher education.

Ho:The availability of infrastructure, personnel and equipment do not determine the level professionalization of higher education.

Table 1: Descriptive Statistics

Notions on infrastructure, personnel and Equipment		SA	A	NS	DA	SDA	Mean	Total
		Frequency	20	40	90	63	95	
Equipping of library with updated books and learning materials	Percentage	6.5	13.0	29.2	20.5	30.8	2.44	100
	Frequency	6	57	80	85	80	2.43	308
Investments in teaching personnel	Percentage	1.9	18.5	26.0	27.6	26.0	2.43	100
	Frequency	7	35	79	69	118	2.17	308
Investments in infrastructure	Percentage	2.3	11.4	25.6	22.4	38.3	2.17	100
	Frequency	20	33	45	74	136	1.98	308
Availability of auxiliary infrastructure and equipment	Percentage	6.5	10.7	14.6	24.0	44.2	1.98	100
	Frequency	14	60	70	86	78	2.50	308
Assessment of teaching/learning programs	Percentage	4.5	19.5	22.7	27.9	25.3	2.50	100
	Frequency	30	70	70	51	87	2.69	308
Quality of teaching staff	Percentage	9.7	22.7	22.7	16.6	28.2	2.69	100

V. FINDINGS

From the means of the above descriptive table, the responses are as follows; equipping of library with updated books and materials 2.44, investment in teaching personnel 2.43, investment in infrastructure 2.17, availability of auxiliary infrastructure and equipment 1.98, students involvement in assessment the teaching/ learning process 2.50, quality of teaching staff 2.69. All these gives a total global means of 2.37. Based on these results, one observes that in terms documentation, infrastructure, personnel and equipment,

improvements need to be done to enhance professionalization in the training programs of the faculties of the university. The use of equipment like the information and communication technology (The Internet) is an important tool in the facilitation of the teaching/learning process of today. The usage of internet technologies in teaching has recorded some achievements: There is increased accessibility of reference materials and data of all categories of users, quickness of information retrieval, decrease in the cost of information delivery to users, individualized learning and teaching (UNESCO, 2003). Daniel (1996) asserts that technology equips students with the generic skills for lifelong learning. One of the Bachelor-Masters-Ph.D. (BMP) implementation strategies was the improvement of teaching through the use of appropriate technologies and methods. Even if there were sufficient human resources and knowledge of the appropriate teaching/learning activities, without ICTs and other materials, student centered teaching and assessment cannot attain a certain quality. Current research is given credence when updated materials or books are consulted and exploited. It is therefore important for the university to always update books in the library to enable students have updated materials for their research. The absence of departmental and faculty libraries impede research and expert knowledge in various disciplines. Expert knowledge is an essential ingredient for professionalization.

The increasing students' population necessitates the construction of larger amphitheatres and the construction and equipping of scientific laboratories to better equip and prepare science students in their professionalization training. Finally, it was also realized that the provision of infrastructure, personnel and equipment play a significant role in the professionalization process of higher education in the university. However, resource inputs on library facilities, infrastructure, personnel and equipment needs much attention for the professionalization process to attain an acceptable standard given that the means of the above indicators stood at 2.37 below the average mean of 2.5.

In order to test the hypothesis of this study, we used the multiple regression analysis which is expressed as:

$$\hat{Y} = \beta_0 + \beta_1 X_1 + \beta_2 X_2 + \dots + \beta_p X_p$$

Where the β s are a set of coefficients in the population whose values are to be determined.

Table 2: ANOVAb

	Sum of Squares	Df	Mean Square	F	Sig.
1 Regression	181,166	3	60,389	50,193	,000
Residual	365,752	304	1,203		a
Total	546,919	307			

A. Predictors: (Constant)

The Provision of Infrastructures, Personnel and Equipment, Impact of Teaching/ Learning Programs, Implementation of University Governance Policies

B. Dependent Variable:

Professionalization of Higher Education

Table 3: Coefficientsa

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std. Error	Beta		
1 (Constant)	1,523	,186		8,209	,000
Impact of administrative Governance Policies	,241	,200	,232	1,206	,029
Impact of Pedagogic Governance	,255	,137	,248	1,865	,013
Infrastructures, Equipment and Personnel governance	,115	,212	,107	,543	,003

This table test the statistical significance of each of the independent variables. It also test whether the unstandardized (or standardized) coefficients are equal to 0 (zero) in the population. If $p < .05$, one can conclude that the coefficients are statistically significantly different to 0 (zero). The first independent variable - implementation of administrative governance policies - is statistically significant at 0.29, the second - the impact of pedagogic programs - the provision of infrastructures, personnel and equipment - is significant at 0.013 while the third-is significant at 0.003. This implies that statistically, the provision of infrastructures, personnel and equipment is the first predictor of professionalization in higher education, seconded by the impact of teaching/learning programs while implementation of governance policies comes third

VI. CONCLUSION

The primary reason for failure is that people do not develop new plans to replace those plans that did not work. Revamping higher education through the provision of better infrastructure, quality teaching personnel and modern equipment as a whole to respond to the needs of the 21st century knowledge economy and the exigencies of professionalization is the premise for which this work is built. It is believe that the provision of sufficient infrastructure, personnel and equipment will boost the level of professionalization of higher education in the University of

Ngaoundere thereby improving graduate skills and competences that will make them more responsive to the needs of the national and international job market. The conclusion drawn from this study is that the professionalization process of higher education in Cameroon cannot be attained without adequate infrastructural, material, personnel and equipment.

VII. RECOMMENDATIONS

One of the several indices for properly evaluating government commitment to educational development in any country is budgetary allocation and disbursement to education. The government of Cameroon should place a high premium on education by meeting up the recommended 26% educational spending prescribed by UNESCO, to help revitalize the higher education system and enhance the professionalization process. Thus for professionalization to effectively take place in our universities government need to step up its financial support to the universities, if not the expected results from the professionalization process will be far from being attained. A focus on resource inputs like infrastructure, equipment and personnel development will bring positive externalities that will boost the professionalization of training programs in the university. Other stake holders such as students and parents need to accept the fact that no meaningful professionalization can take place in the university if we keep on depending only on government funds without thinking of stepping up the stipends students pay as registration fee.

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In 1962 the National Institute for University Studies evolved into the Federal University of Cameroon, created to take over the role of training senior cadres in Science, Education and Technology. This institution was composed of organisational units such as faculties, schools, centres and institutes, each assigned a specific mission. By 1967 other establishments had been created and attached to the University of Yaoundé (new name after 1967). The principal ones are worth mentioning. Medical training began in 1969 with the opening of the University Centre for Health Sciences (CUSS). At the sam