

Systematic assessment of the functionality of Nigerian education, its implication on national development and graduate unemployment

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Abstract

The general perception of employers and the public that Nigerian education offers little or no relevant skills making her graduates unemployable necessitated this study which was aimed at systematically assessing the functionality of Nigerian education and inferring its implication to graduate unemployment and national development. Descriptive survey design was used. Graduate Youth Questionnaire (GYQ) and Tertiary Institution Lecturer Questionnaire (TILQ) were closed ended likert 4 point scale questionnaires that were used to collect data. Raw data collected was analyzed using percentage distribution and chi square. Results show that the fifteen hypothesis tested had the following P values at 0.05 level of significance H1=0.000, H2=0.53, H3=0.001; H4=0.031, H5=0.000, H6=0.202, H7=0.047, H8=0.000, H9=0.000, H10=0.004, H11=0.100, H12=0.000, H13=0.000, H14=0.205, H15=0.07. The implication of the result is that there is; unemployment in the first two years of graduation, poor vocational, employability and professional skills, high tendency to embrace foreign education, low level of educational facilities, low access to certifications, poor moral conduct, low quality and quantity of research and rampant use of traditional teacher centered approach to learning. We recommend a holistic review of Nigeria education policy and its implementation process and method as to make it reflect solution to industry and societal challenges as well as meet up with global realities.

Keywords: Functional Education, Skill, Unemployment, National Development.

Introduction

Education is as old as man, though it has transformed along the trend to the present age. Fannie B. Shaw (1937) ^[15] observed that education used to be traditional (subject matter centred), later scientific (society centred) and then progressive (child centred). The new world order according to Okon and Ezekiel (2014) ^[28] is characterised by globalization and driven by knowledge. Today's education can be referred to as functional (knowledge/skill application centred).

The world over education remains a veritable instrument of National development. Adamu (2015) ^[2] defined development as growth of progression from lower and often undesirable state to a high and preferred one. Nigeria has had a fair share of under-development even though formal education bathed here more than a century ago.

In the words of Okon and Ezekiel (2014) ^[28] the Nigerian education has failed to equip its products with necessary tools to live in the modern world and excel in their environment. Nigerian tertiary institutions are oversubscribed each year yet hundreds of thousands of candidates who are duly qualified are denied admission due to inadequate vacancies. Since the year 2007 to date, over one million high school leavers apply for spaces in tertiary institutions in Nigeria with more than 40% losing out (James Shaura, 2010). According to the 2007 system wide staff audit, Nigeria tertiary have teacher short fall of over 40%.

One of the greatest social economic challenges facing the country is not youth unemployment but graduate unemployment. Mankiw (1994) ^[25] referred to unemployment as a representation of wasted resources. Nigeria started experiencing intolerable level of unemployment since early

1980's (Monday A. Adawo, 2013) ^[26]. Since the 1980's various initiations of Government have not been able to fix the ugly trend. There was Structural Adjustment Programme (SAP), National Development Programme (NDP), National Economic Empowerment and Development Strategy (NEEDS), National Directorate of Employment (NDE), Industrial Training Fund (ITF), better Life Programme for Rural Women (BLP), Family Economic advancement Programme (FEAP), Family Support Programme (FSP), (Oni, 2006) ^[29] and in recent years Poverty Alleviation Programme (PAP), National Poverty Eradication Programme (NAPEP), Bank of Industry (BOI) initiatives, Small and Medium Enterprises Development Agency of Nigeria (SMEDAN), Youth Enterprise with Innovation in Nigeria (YOUWIN) and Graduate Internship Scheme.

An unemployed person is a person that is qualified for job and willing to work at the current rate of wages but does not find a job. Bassey and Athan (2012) ^[9], identified factors responsible for graduate unemployment as wage rate differential which is not commensurate with productivity, curricular that has no link to employees and industry, lack of in-depth knowledge of ICT, poor funding of universities, inadequate/obsolete facilities, admission overload in tertiary institutions, incessant strikes. Globalization and automation has become an essential instrument for National development in the 21st century. Nigerian Youths are confronted with poverty, unemployment, urbanization, lack of capacity and skills needed to move the economy forward (Dablin, Oni and Adekola, 2000) ^[13].

It is against the backdrop that 21st century global, automated, skilled and knowledge driven education is a sure route to

national development, wealth creation and high rate of employment that we chose to study the functionality of Nigeria's education to proffer solution to the challenges of the new age.

Education generally is the process of transmitting societal lores, values and desirable attitude from one generation to another. B.O. Ukeke (1973) says that the process of education occurs whenever any influence produces a change in the physical and mental behavior. Nwaigwe (1976) defines education as the process by which every society attempts to preserve and upgrade the accumulated knowledge, skills and attitudes in its cultural setting and heritage in order to foster continuously the wellbeing of mankind and guarantee its survival against the unpredictable at times hostile and destructive elements and forces of man and nature. This definition is closer to the term functional education.

Functional is defined as practical and having useful purpose (Geddes and Gross *et al*, 2005 ^[18]; Quirks, 1995) ^[23]. Ali (2000) ^[5] posited that functional education will ensure the availability of food for people, creation of jobs and provision of services. In his words (Nwobodo, 1997) stated that functional education should be capable of producing Nigerians who can manufacture raw materials, machines and tools needed for local and international markets, invent new designs, discover drugs capable of curing diseases hitherto incurable and transform the nation from a consumption to a manufacturing status. Idowu (1999) ^[21] stated that functional education is the total process of bringing up individuals to develop their potentials to the fullest and consequently be able to contribute maximally to the development of the society.

The national policy on education (2004) ^[16] pointed out the need of functional education for the promotion of a progressive united Nigeria. Educational requirements for employment have become increasingly prominent not only at professional level but also at bottom occupational hierarchy.

Functional education is supported by the Technical function theory. The proposition of the theory stated that:

1. The skill requirements in jobs in industrial society increase because of technological change involving two processes
 - a. Proportion of jobs requiring low skill decreases and the proportion requiring high skills increases
 - b. The same jobs are upgraded in skill requirements.
2. Formal education provides the training either in specific skills or general capacities necessary for highly skilled jobs
3. Therefore, educational requirements for employment constantly rise and increasingly larger proportion of the population are required to spend more resources. (Randal Collins, 1971) ^[32].

Most efforts of the Nigeria government have rather focused on vocational skills than professional skills where graduate engineers are required by agencies such as National Directorate of Engineers to learn generator repairs instead of professional roles expected of these highly trained professionals. Most skilled manual workers acquire their skills on the job or casually (Clark and Sloan, 1973). Retraining for important technological changes in industry has been carried out informally on-the-job but where the

society is suffering from massive graduate unemployment, the on the job training becomes more elusive and hence a formal training and retraining in educational institutions can be adopted (Collins 1969) ^[32]. It is therefore necessary to adopt a conscious effort aimed at increasing the functionality of education in Nigerian institutions to promote national development and check graduate unemployment.

The functional theory of education believes that status should be achieved on the basis of merit, not on who you are or who you know. It sees modern society as meritocratic, expert driven and democratic. The health and economic wellbeing of a society is dependent on the degree to which it can place its most talented individuals in the most demanding occupations (Christopher J. Hunn, 1993) ^[11].

Functional education is a form of education with closest link to skills and jobs. It does not mean that education is solely on vocational skills. The functional paradigm does assert however that the general cognitive skills and intellectual sophistications that schools develop have positive functions on adult occupations and that indeed they are indispensable for the performance of growing numbers of middle and high status education.

Issues in Nigerian education as captured by Jamira Shuara (2010) include Low Access (Inadequate tertiary institutions), poor funds and fund utilization, unstable academic calendar, lack of critical infrastructure and facilities, inadequate and poor quality faculty, low technology and vocational education, poor research and development, problem of standard and quality assurance.

The general perception that Nigerian; (a) fresh graduates do not possess relevant employability, entrepreneurship and professional skills, (b) Nigerian tertiary institutions do not train to solve industry and societal challenges (c) Nigerian corporate bodies, government and non-governmental organizations do not partner with tertiary institutions in proffering solutions to challenges through effective research and development necessitated this work which is aimed at determining the extent of functionality of Nigerian education and its implication on graduate unemployment and national development.

Materials and Methods

The research is a descriptive survey carried out to cover the thirty six (36) states of Nigeria including the Federal Capital Territory (FCT). The instrument for sample collection was close ended questionnaire. Two questionnaires were designed; (a) Graduate Youth Questionnaire (GYQ) for graduates not more than ten (10) years of post-graduation experience (b) Tertiary Institution Lecturer Questionnaire (TILQ) for lecturers with PhD qualifications and above.

The GYQ tested forty (40) items while the TILQ tested 20 items. A total of one thousand (1000) GYQ were sent out to respondents and 867 representing 86.7% returned and analyzed. 500 TILQ was sent to respondents and 430 representing 86% was returned and analyzed. The likert 4 point rating scale was used.

Fifteen (15) variables were examined in relationship to functional education and training. The dependent variable is functional education with current western education as bases. The frequency table, percentage distribution and chi square were used for data analysis.

Hypothesis tested include:

1. Unemployment in Nigeria is not significant in the first two years after graduation from Nigerian Tertiary Institutions.
2. There is no significant difference in the number of technology based education and that of humanities.
3. There is no significant difference in vocational skills obtained during and after schooling in Nigeria.
4. There is no significant difference in employability skills taught in Nigerian Tertiary institutions and that of finishing schools or on the job training centres.
5. There is no significant difference in professional skills learnt in Nigerian tertiary institutions and that learnt on the job.
6. There is no significant difference in entrepreneurship skills learnt in Nigerian tertiary institutions and that learnt in finishing schools.
7. There is no significant difference in the tendency of Nigerian students to embrace foreign education to local education.
8. There is no significant difference in the levels of facilities in Nigerian tertiary institutions and that expected by students.
9. There is no significant difference in the level of skill acquired in tertiary institutions and that from professional certifications.
10. There is no significant difference in general conduct of students in Nigerian tertiary institutions and the general corporate conduct.
11. There is no significant difference in the cost of education in Nigeria and that in western countries.
12. There is no significant difference in the quality of research from Nigerian tertiary institutions and the western institutions.
13. There is no significant difference in the common teaching methods used in Nigeria and western institutions.
14. There is no significant difference in multidisciplinary approach to education in Nigeria and western schools
15. There is no significant difference in industrial input to teaching in Nigeria tertiary institutions and western schools.

The instruments were validated by the judgement of an education expert who reviewed it and offered expert advice that was implemented to produce the final instruments.

Results and Discussion

The raw results were presented in table 1 to 15 while the analytical results were summarized in appendix V.

Frequency Table of Response of Graduate Youths

Table 1: Fresh Graduate unemployment

Questions	SA	A	D	SD
1	155	201	306	178
2	179	211	250	200
3	235	110	220	275
4	230	221	251	138
5	242	192	201	205

Table 2: Technology based education

Questions	FU	SU	PU	PT
6	150	300	18	372
Questions	SA	A	D	SD
7	124	220	281	215
8	182	179	272	217

Table 3: Level of Vocational skills

Questions	SA	A	D	SD
9	290	106	180	264
10	286	123	194	237
11	234	102	201	303

Table 4: Level of employability skills

Questions	SA	A	D	SD
12	153	184	296	207
13	204	180	200	256
14	216	142	207	275
15	132	197	283	228

Table 5: Level of professional skills

Questions	SA	A	D	SD
16	106	258	220	256
17	187	148	290	215
18	132	200	207	301
19	121	144	285	290

Table 6: Level of entrepreneurship skills

Questions	SA	A	D	SD
20	176	186	181	297
21	208	137	209	286
22	177	201	260	202
23	172	205	263	200

Table 7: Tendency for foreign education

Questions	SA	A	D	SD
24	308	201	202	129
25	296	211	203	130
26	310	221	182	127
27	325	231	153	131

Table 8: Level of physical facilities

Questions	SA	A	D	SD
28	195	217	218	210
29	117	206	201	316
30	133	191	312	204
31	225	201	206	208
32	131	211	291	207

Table 9: Level of skills from certifications

Questions	SA	A	D	SD
33	221	242	199	178
34	270	281	123	166
35	238	250	179	173
36	295	201	170	174

Table 10: General conduct of students

Questions	SA	A	D	SD
37	183	181	196	280
38	205	202	270	163
39	229	105	299	207
40	191	189	255	205

Frequency Table of Response of Tertiary Institution Lecturers

Table 11: Cost of education

Questions	SA	A	D	SD
1	79	80	160	107
2	91	95	125	115
3	67	94	156	109
4	69	79	138	140
5	72	88	136	130

Table 12: Quality of research

Questions	SA	A	D	SD
6	18	41	139	228
7	65	74	106	181
8	66	67	101	192
9	65	68	186	107

Table 13: Common teaching methods

Questions	SA	A	D	SD
10	109	87	109	121
11	63	70	103	190
12	64	71	105	186
13	61	73	100	191

Table 14: Multidisciplinary approach to education

Questions	SA	A	D	SD
14	76	60	182	107
15	70	88	126	142
16	65	92	121	147

Table 15: Level of industry and other stakeholders input to education.

Questions	SA	A	D	SD
17	68	75	186	197
18	65	79	100	182
19	84	88	194	160
20	89	78	109	150

Discussion

The functionality of tertiary education in Nigeria is low from the result of this work as represented by the test of hypothesis 1 to 15.

Hypothesis 1 stated that “Unemployment in Nigeria is not significant in the first two years after graduation from the Nigerian tertiary Institutions”. With a P value of 0.000 the null hypothesis is rejected. The prevalence of unemployment could be due to graduates not having functional skills to fit into the Job market. Dabalén and Adekola (2000) [13] reported that employers believe university graduates are poorly trained and unproductive on the job. Oni (2009) [13] corroborated the idea. Asiyai (2014) [6] was of the view that lack of job opportunities is rather the cause.

Hypothesis 2 stated that “the nature of the tertiary institutions and courses offered has no significance to unemployment.” The P value for the test was 0.53 which makes the null hypothesis acceptable. The result could be due to the trend where tertiary education is seen as general education and not specialist education. The banking boom of 1990’s promoted the employment of workers irrespective of their disciplines (Clark, 2001.) [12] Adamu (2015) [2] had a contrary opinion as he stated that a predominant number of products of Nigerian tertiary institutions are in the humanities. The point was strengthened by Stan *et al* (2000) who said that countries that have increased their innovative capacity have invested heavily in science and engineering education.

Hypothesis 3 stated that “there is no significant difference in vocation skills obtained from school and out of school”. With a P value of 0.001 the null hypothesis was rejected.

Hypothesis 4 stated that “there is no significant difference in employability skills taught in Nigeria tertiary institution and that of finishing school or on the job training schools”. This null hypothesis was rejected as the P value was 0.031

Hypothesis 5 stated that “there is no significant difference in professional skills learnt in Nigeria tertiary institution and those learnt on the job”. The null hypothesis was accepted as the P value was 0.202.

Hypothesis 6 stated that “there is no significant difference in entrepreneurship skills learnt in Nigeria tertiary institution and that learnt in finishing schools”. The P value for this hypothesis was 0.047 hence the null hypothesis was rejected. Hypothesis 3 to 6 bothered on functional skills needed for work which to a large extent is low Aladekomo (2004) [4] blamed it on the original design of education to supply manpower who could be useful in the administration of British colonies. Oviawe (2010) [31] in a survey sponsored by Nigeria University Commission (NUC) and Educational Trust Fund (ETF) posited that need skills like literacy, oral communication, information technology, entrepreneurship, analytical problem solving and decision making were poor among Nigerian Fresh Graduates .

According to, Williams *et al* (2003). Nigeria has neither articulated a development strategy linking knowledge to economic growth nor built up her capacity to do so. While the nation is a far cry in terms of National development Asiyai (2014) [6] reported that qualities of knowledge which are generated in institutions of higher learning are critical to national development.

Hypothesis 7 stated that “there is no significant difference in the tendency of the Nigerian students to embrace foreign education to local education”. The null hypothesis was rejected for having a P value of 0.047. The increasing number of Nigerians in foreign tertiary institutions is a clear indication of the inadequacies of local education. In 2002, there were 800 Nigerians studying in Canada, by 2016, over 10,000 Nigerians were captured in survey in Canada, UK, over 17585, Ghana alone, over 150,000 (UK – UCSA 2015).

Hypothesis 8 which stated that “there is no significant difference in the level of facilities in Nigerian tertiary

institution and that expected by students". The P value was 0.000 and the null hypothesis was rejected. Abdullahi *et al* (2015) ^[1] pointed out that provision of facilities in higher institutions in Nigeria was below average. UKO (2015) ^[36], Hashbulah *et al* (2010) found out that institutions of higher learning in Nigeria had poor facilities. Poor funding and lack of commitment of relevant stakeholders could be the cause of lack of facilities which is a major inhibitor to functional education.

Hypothesis 9 stated that "there is no significant difference in skills obtained from the external certifications and that from the tertiary institutions". The P value was 0.000 and was rejected. Certifications offer skills that activate degree and close the gap between the industry and tertiary institutions.

Hypothesis 10 states that "there is no significant difference in the conduct of students in the Nigerians tertiary institutions and the general cooperate conduct". It was rejected for having a P value of 0.004. Most tertiary students across the nation exhibit poor conduct characterized by indecent dressing, cultism, gangsterism, examination malpractices, truancy and prostitution which run contrary to expected corporate code of conduct. Adeyomo (2000) agreed that Nigerian students have a problem with adapting to a corporate code of conducts due to poor character development in school.

Hypothesis 11 stated that "there is no significant difference in cost of education in western world and Nigeria". The P value was 0.100 and it was accepted. Federal republic of Nigeria (2001) ^[17] reported that in 1999 cost per student from government allocation was USD 970 per year which is a far cry to that which is obtainable in western countries. On the contrary, Akpotu (2008) ^[3] stated that the average cost per student in tertiary educations in developed countries was 55% of GNP per capital while developing countries like Nigeria spend over five times GNP per capital. Capital structures exist in Nigeria that could provide for a rational and effective development of tertiary education (World Bank, 2002).

Hypothesis 12 stated that "there is no significant difference in quality of research from tertiary institution in Nigeria and those from western countries". The Hypothesis was rejected for having a P value of 0.000 World Bank (2002a) revealed that Nigeria has only 15 scientists and engineers engaged in research and development per million persons compared to 168 in Brazil, 459 in China, 158 in India and 4103 in USA. In 1995 Nigerias scientific publication stood at 711 less than 1,062 recorded in 1981 by a comparatively smaller university system (Taskforce, 2000). The low number and quality of research in Nigeria could be attributed to poor funding, the lack of facilities and poor utilization of research findings. Hartnet (2000) ^[19] reported that only 1.3% of budget of federal universities is spent on research.

Hypothesis 13 stated that "there is no significant difference in common teaching methods used in Nigerian tertiary institution and those used in Western Countries". The p value was 0.00 hence the hypothesis was rejected. The continual use of traditional lecturing method to deliver learning is becoming obsolete and unacceptable. National Policy on Education (2004) ^[16] mandated that all teachers in educational institutions including Universities should be professionally

trained. Lecturers should have competence in the respective subject matter, pedagogy exposure and experience in principles and practice of education. Lack of this hampers content delivery as pointed out by Baikie (2006). Clark (2001) ^[12] suggested a review of curricula every two to three years to reflect current knowledge. Globally current changes are causing a shift in pedagogical emphasis from staff teaching to students learning (SACMI, 2001).

Hypothesis 14 stated that "there is no significant difference in multidisciplinary approach to education in Nigeria and Western schools".

Hypothesis 15 stated that "there is no significant difference in external input to academics in Nigeria schools and schools abroad". Hypothesis 14 and 15 were accepted for having P values of 0.205 and 0.07 respectively. The introduction and establishment of various centers, institutes and professorial chairs across Universities and other tertiary Institutions may have created a multidisciplinary environment as well as opportunities for partnership and collaborations that should be taken to a higher dimension. Boating (2002) suggested a robust collaboration with labour market drivers and other stakeholders in curriculum consultations, student industrial placements and research funding.

Recommendations and Conclusion

In line with the result of this study, we recommend;

A holistic review of Nigeria's education policy to reflect solution to current industry and societal challenges as well as meet up with global realities.

A systematic overhaul of tertiary education and allied systems such as Student Industrial Work Experience Scheme, Special Schools of (Technology, Agriculture, Education, Business, Law, Medicine, etc), collaboration with professional bodies and consultants, National Youth Service Corps, funding and regulatory agencies. Emphasis should be more on relevant knowledge and skill acquisition.

The establishment of world class centralized facilities such as laboratories, workshops, libraries, ICT centres, studios, pilot plants, etc in each geo political zones of the country to serve as research and innovation centers of excellence in order to compliment facilities of institutions in the zones.

A review of the curriculum to reflect current trends across the world, adopt foreign linkage programmes, a considerable percentage of teachers should come from the industry and an over haul of teaching methods to suit present day realities.

Excellence, innovation, creativity and invention should be encouraged and rewarded handsomely.

Tertiary Education in Nigeria to a large extent has been found not to adequately empower the beneficiaries to do that which it professes thereby leaving the graduates at the mercy of after school industry experience. When getting employment with a poor skill development in a knowledge driven automated global job market has become a mirage. Survival here becomes more of who you are and who you know undermining the functional theory of meritocracy to the detriment of national development. It has become imperative that the nation consciously and urgently functionalize her education. We have dwelt more on education to know now let's add education to do, create, innovate, invent and produce.

Acknowledgement

We are sincerely grateful to the Good Ambassadors of Help Initiatives (GAHI), a Non-Governmental Organization registered in Nigeria for youth and woman empowerment for her financial sponsorship of this research as well as the opportunity offered us to use their national network of youths and resource persons to distribute and collect our questionnaires.

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APPENDIXES

APPENDIX I

GRADUATES YOUTH QUESTIONNAIRE (GYQ)

This questionnaire is designed to find out the functionality (skill level) of the education you received at your tertiary institution. Your response is purely for the purpose of the research and shall be handled with utmost confidentiality.

State of Residence.....

Instruction: Read each statement below carefully and tick (√) the best option that represents your opinion.

The opinions are SA – strongly agree, A – Agree, D – Disagree and SD – Strongly Disagree.

1. Most of my course mates get jobs in the first year after NYSC. SA A D SD
2. I performed excellently during my service year due to the fresh skills I possess. SA A D SD
3. I got the job of my dream less than two years after graduation. SA A D SD
4. Most of my job applications secured an interview slot for me. SA A D SD
5. Very few vacancies were advertised within two years after our graduation. SA A D SD
6. I studied in a Federal University State University Private University Polytechnic
7. Practical skills I got from my school was high SA A D SD
8. We had more science and technology students than arts, humanities, social and management sciences SA A D SD

9. Field trips was a common practice in my undergraduate days SA A D SD
10. My student industrial work experience was in a form directly related to my course of study SA A D SD
11. My place of primary assignment during the service year was directly related to my course of study SA A D SD
12. We received special training on inter personal skills as part of our general studies SA A D SD
13. Our general studies covered communication and presentation skills effectively SA A D SD
14. Critical thinking, innovation and leadership was part of our school curriculum SA A D SD
15. Latest information and communication technology skills was part of our course of study SA A D SD
16. Our program was loaded with practical SA A D SD
17. Most of our course mates passed professional examinations SA A D SD
18. At graduation I was skilled enough to perform as a professional in my chosen career SA A D SD
19. In school we were well equipped to compete globally SA A D SD

20-23 before I left school I could:

20. Carry out feasibility studies SA A D SD
21. Prepare a business plan and bankable proposal SA A D SD
22. Carry out market and new product research SA A D SD
23. Manage a formal business SA A D SD

24-27 if given the opportunity, I would prefer to

24. Study in the western world SA A D SD
25. Carry out industrial training abroad SA A D SD
26. Conduct my research work (project) abroad. SA A D SD
27. Attend a finishing school abroad. SA A D SD

My undergraduate school has the following;

28. Fully equipped laboratories SA A D SD
29. Fully equipped modern library SA A D SD
30. Fully equipped technical and engineering workshops SA A D SD
31. Fully equipped modern lecture halls SA A D SD
32. Efficient public utilities (electricity and water). SA A D SD
33. Most graduates learnt about certification after school SA A D SD
34. Most graduates got jobs as a result of certifications SA A D SD
35. Most certifications have less than three months duration SA A D SD
36. In Nigeria after graduation, one needs to acquire some work related skills SA A D SD
37. Moral instruction was part of my school curriculum. SA A D SD
38. Secret cult activities were rare in my school SA A D SD
39. Decent dressing was the hallmark of Nigerian tertiary schools SA A D SD

40. Students of my undergraduate school hardly partake in criminal activities. SA A D SD

APPENDIX II

Tertiary Institution Lecturer Questionnaire (TILQ)

This questionnaire is designed to find out your opinion on some variables of a functional tertiary education. It is purely for research purpose and shall be handled with utmost confidentiality.

State of Residence.....

Instruction: Read each statement below carefully and tick (✓) the best option that represents your opinion.

The opinions are SA – strongly agree, A – Agree, D – Disagree and SD – Strongly Disagree

1. Most undergraduate projects carried out in my school are implementable SA A D SD
2. Students have time and access to carryout innovative project apart from terminal research SA A D SD
3. Our students participate in creativity and innovation exhibitions regularly SA A D SD
4. Most Nigerian problems are solved from researches carried out in our tertiary institutions SA A D SD
5. Research activities in Nigerian schools can be classified as world class SA A D SD
6. Most tertiary institutions in Nigeria charge over five hundred thousand naira per annum as school fees. SA A D SD
7. Various scholarship schemes are available for Nigerian undergraduate scholars SA A D SD
8. Industry sponsorship of research and tertiary education is a common practice in Nigeria SA A D SD
9. Salaries and benefits are a true reflection of investment in education SA A D SD
10. Teaching in Nigerian tertiary schools are carried out in fully multimedia lecture theatres SA A D SD
11. Students visit industries for better understanding of technical modules SA A D SD
12. Nigerian lecturers use appropriate computer software SA A D SD
13. Lecturing method of teaching is becoming obsolete in the Nigerian system SA A D SD
14. A second class upper degree holder in industrial physics can be admitted into Masters in Mechanical Engineering. research SA A D SD
15. Lecturers from across faculties usually collaborate in research SA A D SD
16. Nigerian system prefers multidisciplinary scholars to uni disciplinary scholars as lecturers. SA A D SD
17. Most tertiary institutions hire the service of industry operators. SA A D SD
18. Nigerian tertiary institutions collaborate with professional bodies to deliver a professional curriculum. SA A D SD
19. All oversea scholarship recipients return to Nigeria to lecture. SA A D SD
20. All first class graduates are retained as graduates. SA A D SD

APPENDIX III

CONTINGENCY TABLE OF RESPONSES WITH PERCENTAGE DISTRIBUTION

From the frequency table of results (see table 1-15), the positive responses (SA and S) was collapsed by addition to

form X in contingency table while the negative responses (D and SD) was collapsed by addition to form Y in the contingency table. $X=SA+A$; $Y=D+SD$; $\%X=X/X+Y \times 100$, $\%Y=Y/X+Y \times 100$; Row total (RT) = $X_1 + Y_1 = RT_1$; Column Total(CT)= $X_1+X_2+.....X_n$ or $Y_1+Y_2+.....Y_n$.

CONTINGENCY Table 1;

Questions	X	%X	Y	%Y
1	356	42.4	484	57.6
2	390	46.4	450	53.6
3	345	41.1	495	58.9
4	451	53.7	389	46.3
5	434	51.7	406	48.3

CONTINGENCY Table 2:

Questions	FU	SU	PU	PT
6	150	300	18	372
Questions	X	%X	Y	%Y
7	344	40.9	496	59.1
8	361	42.3	489	

CONTINGENCY Table 3:

Questions	X	%X	Y	%Y
9	396	47	444	53
10	409	48.7	431	51.3
11	336	40	504	60

CONTINGENCY Table 4:

Questions	X	%X	Y	%Y
12	337	40.1	503	59.9
13	384	45.7	456	54.3
14	358	42.6	482	57.4
15	329	39.2	511	60.8

CONTINGENCY Table 5:

Questions	X	%X	Y	%Y
16	364	43.3	476	56.7
17	331	39.6	505	60.4
18	332	39.5	508	60.5
19	265	31.5	575	68.5

CONTINGENCY Table 6:

Questions	X	%X	Y	%Y
20	362	43.1	478	56.9
21	405	48.2	435	51.8
22	378	45	462	55
23	377	44.9	463	55.1

CONTINGENCY Table 7:

Questions	X	%X	Y	%Y
24	509	60.6	331	39.4
25	507	60.4	333	39.6
26	530	63.1	310	36.9
27	556	66.2	284	33.8

CONTINGENCY Table 8:

Questions	X	%X	Y	%Y
28	412	49.1	428	50.9
29	323	38.4	517	61.6
30	324	38.6	516	61.4
31	426	50.7	414	49.3
32	342	40.7	498	59.3

CONTINGENCY Table 9:

Questions	X	%X	Y	%Y
33	463	55.1	377	44.9
34	551	65.6	289	34.4
35	488	58.1	352	41.9
36	496	59.1	344	40.9

CONTINGENCY Table 10:

Questions	X	%X	Y	%Y
37	364	43.3	476	56.7
38	407	48.5	433	51.5
39	335	39.9	505	60.1
40	380	45.2	460	54.8

CONTINGENCY Table 11:

Questions	X	%X	Y	%Y
1	159	37.3	267	62.7
2	186	43.7	240	56.3
3	161	37.8	265	62.2
4	148	34.7	278	65.3
5	160	37.6	266	62.4

CONTINGENCY Table 12:

Questions	X	%X	Y	%Y
6	59	13.8	367	86.2
7	139	32.6	287	67.4
8	133	31.2	293	68.8
9	133	31.2	293	68.8

CONTINGENCY Table 13:

Questions	X	%X	Y	%Y
10	206	48.4	220	51.6
11	133	31.2	293	68.8
12	135	31.7	291	68.3
13	134	31.5	291	68.3

CONTINGENCY Table 14:

Questions	X	%X	Y	%Y
14	136	31.9	290	68.1
15	158	37.1	268	62.9
16	157	36.9	269	63.1

CONTINGENCY Table 15:

Questions	X	%X	Y	%Y
17	143	33.6	283	66.4
18	144	33.8	282	66.2
19	172	40.3	254	59.7
20	167	39.2	259	60.8

APPENDIX IV CHI SQUARE CALCULATION FROM CONINGENCY TABLE 1 (Hypothesis 1)

Questions	X	Y	TOTAL
1	356	484	840
2	390	450	840
3	345	495	840
4	451	389	840
5	434	406	840
TOTAL	1976	2,234	4200

The expected is obtained from the relation $E = r \times c / \text{Total No of Response}$.

Where r is the summation of the row cells, c is the summation of the column cells. The expected for a long x is $X = r \times c / N$ while expected for a long y is $Y = r \times c / N$

$$X = (1976 \times 840) / 4200, Y = (2234 \times 840) / 4200$$

$$X = 395.2 \quad Y = 556.75$$

$$X_c^2 = \frac{1}{395.2} [356^2 + 390^2 + 345^2 + 451^2 + 434^2] + \frac{1}{556.75} [484^2 + 450^2 + 495^2 + 389^2 + 406^2]$$

$$X_c^2 = 41.59$$

$$X_{0.05}^2 \text{ at } df = 4 = 9.48$$

This method was used for the remaining tests and results were tabulated in appendix v.

APPENDIX V RESULT OF CHI SQUARE CALCULATIONS

HYPOTHESIS	ΣX	ΣY	ΣTOTAL	df	z_c	$z \text{ at } \alpha = 0.05$	P VALUE	REMARK
1	1976	2224	4200	4	41.59	41.59	0.00	REJECTED
2	705	985	1690	1	0.4	0.4	0.53	ACCEPTED
3	1141	1379	2520	2	14.57	14.57	0.001	REJECTED
4	1408	1952	3360	3	8.87	8.87	0.031	REJECTED
5	1292	2064	3356	3	26.23	26.23	0.000	REJECTED
6	1522	1838	3360	3	4.62	4.62	0.202	ACCEPTED
7	2102	1258	3360	3	7.95	7.95	0.047	REJECTED
8	1827	2373	4200	4	47.97	47.97	0.000	REJECTED
9	1998	1362	3360	3	20.39	20.39	0.000	REJECTED
10	1486	1874	3360	3	13.13	13.13	0.004	REJECTED
11	814	1316	2130	4	7.78	7.78	0.100	ACCEPTED
12	464	1240	1704	3	51.6	51.6	0.000	REJECTED
13	608	1095	1703	3	39.66	39.66	0.000	REJECTED
14	451	827	1278	2	3.17	3.17	0.205	ACCEPTED
15	626	1078	1704	3	6.96	6.96	0.070	ACCEPTED