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ANALYSIS OF THE PERCEPTIONS OF UNIVERSITY ADMINISTRATORS, FACULTY MEMBERS, AND STUDENTS REGARDING TOTAL QUALITY MANAGEMENT IN SELECTED NIGERIAN UNIVERSITIES

A DISSERTATION
SUBMITTED TO THE FACULTY OF CLARK ATLANTA UNIVERSITY
IN PARTIAL FULFILLMENT OF THE REQUIREMENTS FOR
THE DEGREE OF DOCTOR OF PHILOSOPHY

BY
FRANK C. OKECHUKWU

INTERNATIONAL AFFAIRS AND DEVELOPMENT PROGRAM

CLARK ATLANTA UNIVERSITY

ATLANTA, GEORGIA
MAY 1998
ABSTRACT

INTERNATIONAL AFFAIRS AND DEVELOPMENT

OKECHUKWU, CHIKA FRANK  B.S., UNIVERSITY OF SOKOTO, 1987
M.B.A., MORGAN STATE UNIVERSITY, 1991

ANALYSIS OF THE PERCEPTIONS OF UNIVERSITY ADMINISTRATORS,
FACULTY MEMBERS, AND STUDENTS REGARDING TOTAL QUALITY
MANAGEMENT IN SELECTED NIGERIAN UNIVERSITIES

Advisor: Dr. Christopher Jespersen
Dissertation dated May, 1998

This study analyzes the perceptions of University administrators, faculty members, and students concerning total quality management (TQM). This is done by (1) identifying the key components of TQM for higher education, and (2) assessing the perceptions of university administrators, faculty and students toward adopting and utilizing the principles of TQM as propounded by the late W. Edwards Deming.

The study is inclusive of elements of historical and descriptive research design. Primary and secondary data sources of information are also used for the establishment of data base. The theoretical framework guiding this research includes enumerative theory and analytic theory. More emphasis is placed on the analytic theory because that is the main statistical theory propelling Demings's 14 principles of total quality management.

The sample for this study was taken from Nigerian universities according to personnel status and type of university. Stratified random sampling is used for this research. Four universities based on the three former Nigerian regions were chosen: East, West, and North. These three regions represent a microcosm of the Federal Republic of Nigeria because of their geo-political significance. In all, 104 individuals drawn from 4 universities, spread across a total of 42 different campuses participated in this study. The individuals include 35 students studying in Nigerian universities, 35 administrators and 34 faculty personnel employed by Nigerian universities.
The significant findings of the study appear to warrant the following conclusions:

If Nigerian universities are going to implement total quality management, they must have to address: the use of tests and grades, the use of goals and slogans, the use of statistical assessment, employee evaluation/meritocracy, and finally continuous improvement.
ACKNOWLEDGMENTS

My gratitude goes to God for making this academic milestone possible for me. My profound gratitude rests with Dr. Kwaku Danso, the former chairperson of the International Affairs and Development Program for his genuine support and constructive criticism in guiding this dissertation. I also wish to thank Dr. Hudson Nwakanma for recommending that I embark on this topic, and for his many qualitative inputs. This dissertation would not have been possible without the arduous efforts of my other committee members: Dr. Konfor Masanje and Dr. Ogbu Agburu. Thank you very much Dr. Christopher Jespersen for your enthusiastic cooperation.

Often, how far one gets in life is dictated by who is looking over one’s shoulders. In that light, Innocent Okechukwu, my brother, has been an angel over my shoulders. My unalloyed gratitude also goes to the other members of my family, Joseph Okechukwu for his moral support, Godwin, Chinwe, and Charles for their emotional support. For her unflinching support and understanding, I would like to thank my beautiful wife and first lady, Uju. This acknowledgment will not be complete without recognizing the support of some of my good friends and colleagues: Dr. Obinna Ubani, Dr. Mba Mba, Barrister I.K. Izuegbunam, Chief Clement Chukwuka, and Igwe FFBC Nwankwo. My special thanks goes to Dr. Michael Teigland. Thanks to my other friends too numerous to mention here. Finally, I dedicate this dissertation to the recovery of Charles Okechukwu and to the concept that Ph.D. education could be fun.
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CHAPTER I
INTRODUCTION

The genesis of Nigerian university education could be traced to the report of the Elliot Commission on Higher Education in West Africa. The first university college was established in Ibadan, Nigeria, in 1948, during the British colonial regime, with 104 undergraduate students in attendance. The creation of the university college in Ibadan was the springboard for the establishment and growth of other universities in Nigeria. Subsequently, a litany of universities have been established by both the federal and state governments of Nigeria to satisfy the manpower and development aspirations of the governments and the desire for university education by the citizens.

The Nigerian constitution requires the federal government of Nigeria to steer "... its policies towards ensuring that there are equal and adequate educational opportunities at all levels." With the advent of military interregnum in the Nigerian body politic, more federal and state universities had been created through the empowering instrument of edicts. All the universities, whether federal or state, were established by federal or state instruments as autonomous institutions. The National Universities Commission (NUC)

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2Ibid.


of Nigeria was established in 1962 to strategically plan and manage the development of Nigerian universities.

The continuing contribution of Nigerian universities to Nigerian development is today being threatened by four interrelated quality problems. These programs are endemic to both federal and state universities in Nigeria. First, the mix of output of universities is no longer well suited to the requirements for development. Secondly, the quality of those outputs shows signs of having deteriorated, in many instances, the fundamental effectiveness of the outputs may be in doubt. Third, their costs of production are needlessly high (where cost is measured as the other output forgone). Finally, the financing of the outputs is socially inequitable and economically inefficient.\(^5\) Put more dramatically, Nigerian university education "... is in crisis today ... the quality of education has dropped as classrooms have become overcrowded and teaching materials increasingly scarce."\(^6\)

Nigerian universities therefore, need to improve quality, increase efficiency, locate the right output mix, (which could imply smaller enrollment in certain fields of study), and decrease the burden on public sources of financing by encouraging more participation of beneficiaries and their families.\(^7\) Although quality improvements may cost money in the short-run, Total Quality Management (TQM) could help save money with time. The Nigerian universities which gained financially during the years of Nigerian oil boom (1970s and early '80s) are now confronted with severe economic austerity and the Structural Adjustment Program, which in turn, adversely affects the quality of Nigerian university education.

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\(^6\)Ibid., v.

\(^7\)Ibid.
Many of the universities in the developed countries that have implemented Total Quality Management find that it not only improved the quality of their graduates, but that it also saved the universities money in the process. Applying TQM to the graduate school admission process at the University of Wisconsin, Madison, Donna E. Shalala, the then Chancellor of the University stated:

In the past, it took an average of 99 days to give the person a yes or no. About 26 of those days were taken up in administrative offices...We were failing to compete. An improvement team found that most of the waiting involved a lag in getting copies of transcripts from every institution the student had ever attended. One solution was to redefine what we considered a "complete file," and stop waiting for things we didn't need. In administration, we cut the time from 26 to 3 days and saved more than $100,000 in overtime and clerical assistance in one semester. We gave departments the power to admit or reject students within five days of receipt of application. And our students, our customers, got better service.8

Statement of the Problem

The Nigerian university educators, students, and businesses are becoming more and more dissatisfied with the general quality of Nigerian university education. This is because of the fact that the Nigerian university education system seems inflexible and cannot satisfy the obvious demands of society and the needs of students.

The quality of Nigerian university education has reached a crisis proportion. The inadequacy of funding for capital investment and nonsalary operating expenses have seriously undermined the quality of education in these universities. An example of the deteriorating financial condition is seen at the University of Ibadan:

For several months now we have been expected to run a physics laboratory without electricity, perform biology and zoology experiments without water and get accurate readings from microscopes blinded by use and age. Chemicals are unimaginably short. The result of all this is a

chemistry laboratory that cannot produce distilled water and hundreds of "science graduates" lacking the benefits of practical demonstrations.9

A 1981 report from the Nigerian Commission on salary and Conditions of Service of University staff states that the Commission was horrified to witness the disgraceful spectacle of students in the corridors and outside lecture theaters struggling to comprehend the proceedings inside. Fatawo Olatunji commenting on the poor quality of education in the University of Ibadan states:

Everything in the University today points to an agonizing decline. Students went from their hostels where there are six in a room for two, into a dingy lecture room where a teacher shouts his notes across a hall of five hundred listeners."10

The Visitation Panel looking into the affairs of Obafemi Awolowo University, Ile-Ife, from 1975 to 1986 reports that:

Student population at the University as at 1984/85 session was 12,116. Existing hostel accommodation can only take 3,407. The university officially accommodates only 2,766 students, one wonders what happens to the remaining over eight thousand male students.11

In 1995 publication by E.A. Yoloyo, the continuation of the problems of Nigerian university education was amplified. Some of the current problems are:

(a) an arbitrary increase in the number of universities; (b) inadequate funding of existing ones; (c) pronounced deterioration of existing facilities; (d) massive "brain drain" of tertiary education teachers; (e) persistent erosion of university autonomy by government; and (f) a serious lowering of standard of education.12


10Ibid., 2122.


Various reasons have been given for the deteriorating quality of education in Nigerian universities, ranging from misplaced priorities to over-enrollment of students.\textsuperscript{13}

In particular, faculty brain drain has taken its toll on the university system as many instructors have sought better paying jobs outside the country. Other quality problems identifiable in Nigerian university education include inadequate classroom space and hostel accommodation, poor strategic financial planning, inadequate student welfare services like medical care and food provision, poor managerial ability on the part of the university management, output of many ill-prepared and deficient students, abandonment of capital and research projects; lack of instructional materials such as books, laboratory equipment and, audiovisual aids, inadequate transportation system for the students, faculty and staff, accelerated increase in student enrollment without adequate resources.\textsuperscript{14}

These problems are not mutually exclusive, as they are often interrelated and interconnected. Decades of Nigerian university educational experiment pinpoint the unarguable fact that the bureaucratic organizational structure operated in these schools have not yielded excellence in instruction and learning. This is because of the fact that bureaucratic universities operate through clear lines of hierarchical authority. Invariably, this implies centralized planning, evaluation and decision-making with policies formulated by superiors to manage subordinates.\textsuperscript{15} Often, this centralization tends to impede change rather than facilitate it.

\textsuperscript{13}Ibid.

\textsuperscript{14}Dele Omotunde et al., "Education With Tears," \textit{Newswatch}, 12 April 1990, 14.

\textsuperscript{15}Ibid.
Scope of the Study

This study is subject matter specific. It is a study in perception. It deals with the cognitive component which assessed and compared three different groups’ perceptions concerning total quality management (see detailed explanation under methodology).

The problems about finance, political interference, political instability, and morale are assumed as given. This is also based on this researcher's first-hand experience as a former student and product of Nigerian university education, and current literature.

Purpose of the Study

To state that the quality of Nigerian university education has suffered greatly on the alter of bureaucracy will not be an understatement. This is perhaps, why Chris Uroh stated that "the solution to the problem demands a total overhauling of the system, a comprehensive assessment of the problem of individual universities in their separate settings and great steps at solving them."¹⁶

It would appear, consequently, that a significant Nigerian university improvement is called for at this time, which could involve systematic change for it to occur. TQM by the way, is a systematic process that concentrates on providing the highest value to the customer through the installation of excellence in every aspect of the organization. According to Atkinson, installation of excellence in every aspect of the organization is done by creating an environment that allows and encourages everyone to contribute to the organization and by developing the skills that will enable them to scientifically study and constantly improve every process by which work is accomplished.¹⁷


The general purpose of this study is to examine the perceptions of university administrators, faculty members, and students concerning Total Quality Management in Nigerian universities by 1) identifying the key components of TQM for schools, and 2) assessing the perceptions of students, faculty, and university administrators toward adopting and utilizing the key components of TQM.

*Basic Assumptions*

The design of this study is based on a number of assumptions and observations:

1. Perceptions for quality management in Nigerian universities can be measured.
2. Expectations for quality from Nigerian University is increasing.
3. Effective leadership is essential to quality improvement in Nigerian universities.
4. A management style based upon the total quality management philosophy is a very important variable in the improvement of higher education in Nigeria.
5. Respondents will provide complete and accurate information.

*Significance of the Study*

For some time now, Total Quality Management (TQM) especially as espoused by W. Edwards Deming has gained prominence in the press, industry and academic circles. The most important reason for this is not unconnected with the impressive successes now being enjoyed by organizations that have applied the principles of TQM, mainly in the industrialized countries such as Japan, United States, Canada, et cetera. These successes were first experienced by industry and later by education. The success of TQM in education has been such that many universities in the cutting edge of societal evolution now offer courses in it, while other universities offer degrees in it.

This departure from traditional classroom teaching appealed to a number of schools, including the University of Tennessee. Responses from 505 business and
engineering schools to a 1992 survey conducted by the Total Quality Forum, an annual conference of corporations and business schools that looks at issues of curriculum, research and total quality, indicated that about 40 percent had integrated total quality principles into as many as 6 to 10 courses; 45 percent had begun to practice total quality in administrative areas; and 21 percent were actually practicing total quality in the classroom and in research.\textsuperscript{18} Kansas Newman College offers eight required courses in TQM in its B.S. program while Marian College, an undergraduate school in Fond du Lac, WI, offers 14 courses in what it calls its quality and productivity management program.\textsuperscript{19}

It will not be far fetched to conclude that such a study will be of great significance to policy makers and implementers. It will also help policy monitoring and control processes. Finally, even researchers and scholars will find this pioneering work an invaluable piece of reference.

\textit{Research Questions}

In order to achieve the objectives of this research a number of research questions are formulated to control this study. More precisely, 42 statements were developed, three statements for each of W. Edwards Deming's 14 points philosophy, to be tested against the perceptions of Nigerian University administrators, faculty and students.

1. Should Nigerian universities create constancy of purpose?

   a) Nigerian universities should create constancy of purpose toward improvement of the entire university system and its purposes. They must think and plan for the long term needs of the school and its students, rather than short term requirements.

   b) Universities should aim to create the best quality students capable of improving all forms of processes and entering meaningful positions in society.

\textsuperscript{18}Paul Froiland, "TQM Invades," \textit{Training}, July 1993, 52.

\textsuperscript{19}Ibid., 54.
c) Universities should strive to be as good as they can be and have a continuous desire to improve.

2. Do Nigerian universities need to adopt new educational philosophy?
   a) The management of Nigerian educational institutions must awaken to the challenge, must learn their responsibilities and take on leadership for change.
   b) Universities must accept the idea that students can learn at high levels under the right condition of teaching and learning.
   c) Universities must not accept under achievement from anyone in the system: administrators, board members, faculty, staff, students or parents.

3. Do Nigerian universities need to cease dependence on mass inspection of their educational programs?
   a) Universities need to concentrate on a new philosophy emphasizing the move from the identification of student problems to preventing students’ failure through continuous improvement.
   b) Universities need to understand and use statistical assessment of student growth and development on a daily basis.
   c) Universities must find other ways to assess students without dependency on tests and grades.

4. Must Nigerian universities end the practice of basing their purchasing decisions on cost alone?
   a) Universities should invest in quality rather than just low cost.
   b) Universities should choose, use and evaluate facilities, textbooks, technologies, and other resources in teaching based on statistical evidence of success of the particular product and upon accepted outcome measurements.
   c) Universities need to cease dependence on testing to achieve quality and instead provide learning experiences which create quality performance.

5. Should Nigerian universities constantly improve every educational system?
   a) Administrators and no one else, are responsible for finding and correcting systematic problems.
   b) Universities should continually identify barriers and seek workable solutions to improve processes.
c) Universities must work with the National University Commission and other educational institutions to help improve the quality of instructors coming into the system.

6. Must universities institute training on the job for staff and faculty?

a) University employees cannot perform well unless they know their jobs and feel free to inform administrators of problems they encounter.

b) Universities must use statistical methods to identify when on the job training has achieved its purpose.

c) Resources for job training should be geared toward positively contributing to student achievement.

7. Must Nigerian universities do more to institute leadership?

a) The job of administrators is not management but leadership.

b) The aim of supervision should be to help people use resources to do a better job.

c) Evaluations need to be systematic, programmatic, and formative rather than individual, personal and summative.

8. Must Nigerian universities drive out fear?

a) Universities must drive out fear so that every person can work effectively.

b) Universities must create an environment which encourages people to speak freely.

c) Universities must create an atmosphere conducive to risk taking and experimentation without the fear of punishment for failure.

9. Must Nigerian universities break down barriers among departments?

a) Universities need to be committed to rebuilding and nurturing an environment in which trust and respect can be applied to what is said, heard, read and written.

b) Universities need to break down barriers by problem solving through teamwork and combining the efforts of people from different school areas.

c) Universities should reduce waste by encouraging the community, board members, administrators, faculty and staff to learn more about the problems of education.
10. Must Nigerian universities abandon slogans?
   a) Universities should eliminate the use of goals, targets, and slogans to encourage performance --- unless training and administrative support are provided to meet the goal.
   b) The causes of low quality and low productivity belong to the system and thus lie beyond the control of instructors and students.
   c) Work quotas such as test results cause low morale in universities.

11. Must Nigerian universities eliminate numerical goals and quotas?
   a) All educational employees must be involved in identifying problems, designing programs, planning, budgeting, and selecting material.
   b) Universities must eliminate management by numbers and numerical goals and instead substitute leadership.
   c) Grades and test scores do not motivate students to learn but rather drive out the joy of learning.

12. Must Nigerian universities remove barriers that rob people of pride in workmanship?
   a) Traditional practices of instructor evaluation destroys teamwork, fosters mediocrity and fosters short term thinking; all detriments to continuing improvement.
   b) The responsibilities of all educational administrators must be changed from quantity to quality.
   c) Universities need to place more resources toward evaluating the system rather than individuals.

13. Must Nigerian universities promote education and self-improvement?
   a) All personnel in the universities should learn statistical theory and its application to continuous improvement.
   b) Universities must provide all employees with training in quality leadership, measurement, analysis, problem-solving, self evaluation, and assertiveness training.
   c) Universities must recognize that different levels and functions in the organization require different types of training.
14. Must Nigerian universities structure management to accomplish the transformation?

a) University administrators have been ineffective in bringing about needed changes on campuses.

b) Universities as they are traditionally designed, will not meet the needs of a changing society.

c) Every individual in the system (administrators, faculty, staff, board members, students, parents, community partners) plays a major role in providing quality education.

The Hypotheses

H1 There are no statistically significant differences among the means and standard deviation for Deming's first point and the three related perception statements.

H2 There are no statistically significant differences among the means and standard deviation for Deming's second point and the three related perception statements.

H3 There are no statistically significant differences among the means and standard deviation for Deming's third point and the three related perception statements.

H4 There are no statistically significant differences among the means and standard deviation for Deming's fourth point and the three related perception statements.

H5 There are no statistically significant differences among the means and standard deviation for Deming's fifth point and the three related perception statements.

H6 There are no statistically significant differences among the means and standard deviation for Deming's sixth point and the three related perception statements.

H7 There are no statistically significant differences among the means and standard deviation for Deming's seventh point and the three related perception statements.

H8 There are no statistically significant differences among the means and standard deviation for Deming's eighth point and the three related perception statements.
H9 There are no statistically significant differences among the means and standard deviation for Deming's ninth point and the three related perception statements.

H10 There are no statistically significant differences among the means and standard deviation for Deming's tenth point and the three related perception statements.

H11 There are no statistically significant differences among the means and standard deviation for Deming's eleventh point and the three related perception statements.

H12 There are no statistically significant differences among the means and standard deviation for Deming's twelfth point and the three related perception statements.

H13 There are no statistically significant differences among the means and standard deviation for Deming's thirteenth point and the three related perception statements.

H14 There are no statistically significant differences among the means and standard deviation for Deming's fourteenth point and the three related perception statements.

*Theoretical Framework*

This sub-section will provide the theoretical framework which will assist in better understanding this study. Where feasible, more than one theoretical framework will be employed to further illuminate this work. According to David Easton,

> each type of theoretical orientation brings to surface a different set of problems, provide unique insights and emphasis and thereby makes it possible for an alternative and even competing theories to be equally and simultaneously useful, though often for quite different purposes.²⁰

Two of the theories that will be guiding this study are enumerative theory and analytic theory. According to Deming, enumerative and analytic theories differ by where the action is taken. Thus, enumerative theory is "a statistical study in which action will be taken on the material in the frame being studied" while analytic theory "is a statistical

study in which action will be taken on the process or cause-system that produced the frame being studied, the aim being to improve practice in the future."21

Put differently, an enumerative study deals with judgment of results whereas analytic study deals with the improvement of the process or system which produced the outcome being evaluated - and which will continue to produce outcomes in the future.

This difference between enumerative and analytic studies is the theory behind Deming's fourteen points. His belief is that management must be analytic as opposed to being enumerative in its managerial approach. Put differently, "management should focus on improvement of processes for the future instead of on judgment of current result."22

Another philosophy of total quality management is that everyone within a system is intrinsically motivated by a desire to do his or her best. This idea is derived from psychologist McGregor's23 long-standing theories X and Y. Theory X, according to McGregor, sees people as lazy, and work only because they have to. Theory Y, on the other hand, states that people want to be responsible, recognized and involved. In Nigerian universities, just as in any other organization, theory Y would apply.

*Operational Definition of Terms*

Below are some of the key terms to be found in this dissertation. Where the need arises, the definition to any of these terminologies will be expanded in the body of this work.

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23Ibid., 3.
1. **Total Quality Management**: In this context, structured system for meeting and exceeding needs by creating organization-wide participation in the planning and implementation of continuous improvement processes in accordance with Deming's teachings.

2. **Continuous Improvement**: Study of processes within an organization to produce constant improvement through evaluation and implementation of ideas, learning and suggestions. The goal of total quality management.

3. **Customer**: Recipient of a product or service from others inside or outside the system.

4. **Suboptimization**: Some or all of an organization's processes impede each other in achieving its stated aim.

5. **System**: A network of functions or activities within an organization that work together for a shared goal.

6. **University Transformation**: The act of changing the form, outward appearance, condition, nature, or function of universities.

7. **Culture**: The concepts, habits, skills, arts, instruments, and institutions of a given people in a given period.

8. **Paradigm**: A mindset, pattern, example, or model.

9. **Teamwork**: The belief that work can best be accomplished through efforts of more than one person; joint action by a group of people.

10. **Quality**: The state of continued excellence.

11. **The Presidency**: The Presidency is the Office of the President of Nigeria with its various departments, political, economic, social, or foreign affairs. It also has various other commissions and directorates which have a certain degree of autonomy within its confines. The cabinet office is a branch of the Presidency which coordinates the activities of the services of the Federal Ministry of Education.
12. **Federal Ministry of Education**: This is the political and administrative agency of the Federal Government of Nigeria responsible for the coordination of the development of education throughout the country.

13. **The Minister of Education**: This is the political head and chief accounting officer of the Federal Ministry of Education. The Minister manages the Ministry on behalf of the Nigerian President. The Minister also has a functional relationship with the NUC and University Administrators.

14. **National Universities Commission (NUC)**: An organization established in 1962 by the Federal Government of Nigeria under the leadership of Alhaji Abubakar Tafawa Balewa to oversee the activities of the Nigerian university system. This organization was recommended by the Ashby Commission on Higher Education. Initially, the role of NUC was advisory in addition to liaising between universities, government departments and ministries. It is also the channel through which the universities get their subvention from the Federal Government of Nigeria (see Appendix III for Decree No. 1 of 1974). Government policy matters are channeled to the universities through the NUC. The NUC has a working relationship with both the Federal and State Ministries of Education, and the University Administrators.

15. **University Administrators**: These are the principal officers of the Nigerian university system. They are the university non-teaching staff who were asked their perceptions on Total Quality Management in selected Nigerian universities. They have a functional relationship with the NUC and the Ministry of Education.

1) **Vice Chancellor (V.C.)** - This is the chief administrative and convocation, congregation, and senate. He is appointed or removed from office by the President of Nigeria after consultation with the university council, (the governing body of the university headed by the chancellor).

2) **Deputy Pro-Vice Chancellor** - He acts in the place of the V.C. when the office of the V.C. is vacant. He is appointed by the council after consideration and recommendation.
3) **Registrar** - This is an administrative officer of the university and is responsible to the V.C. for the day-to-day administration of the university. He is the secretary to the council, senate, congregation and convocation. As a secretary for these bodies, he is responsible for the executive action arising from all decisions taken.

4) **Bursar** - This is the chief financial officer of the university. He is responsible to the V.C. for the day-to-day administration and control of the financial affairs of the university.

5) **Academic Planner** - This officer works with the V.C. in the academic planning of the institution.

16. **Faculty Members**: This is the teaching staff of universities. The dean of the faculty is a professor elected by the faculty board to oversee the academic and administrative affairs of the faculty. The dean presents to convocation qualified persons for the conferring of degrees.
CHAPTER II
LITERATURE REVIEW

Introduction

This chapter is organized into several divisions. Literature was reviewed on the genesis of Total Quality Management (TQM) in general and higher education in particular, including Nigerian university education.

Review of Literature Relating to the Genesis of Total Quality Management (TQM) in General

It should be recalled that in Chapter I, TQM is defined as a system eliciting organization-wide participation in planning and improving processes in order to meet and exceed customer expectations. It remains to point out that for the purpose of this study, TQM and Total Quality Assurance (TQA) could be used interchangeably.

According to J.M. Juran, the genesis of TQM could be traced to the Shang Dynasty (16th century to 11th century B.C.) when the autocratic imperial family took direct control over the economic functions of the Chinese society. Continuing, Juran (1990) stated that the handicraft industry of ancient China is viewed as being highly structured into broad sectors, then broken down into workshops ranging in sizes from 100 to more than 1,000 craftsmen. Officials were government appointed and responsible for production. Management regulations were strict through to minute division of labor.

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within the workshops, and the results were products which achieve the highest quality standards.

Just as necessity is the mother of invention, the emergence of modern day TQM resulted from adversity. In 1942, during the second World War (WWII), the Allied cause was suffering. Confronted with unparalleled demand for materials, the U.S. War Department established a quality control session, staffed essentially by employees from Bell Telephone Laboratories.²

However, eleven years earlier, a Bell Laboratories statistician, Walter H. Shewhart, had published some interesting ideas on quality control. Aptly observing that all manufacturing processes involved variation, Shewhart defined acceptable upper and lower limits for tasks. It was subsequently easy to detect variations outside of these limits and pinpoint their causes. Walter Shewhart also introduced the PDCA (Plan-Do-Check-Act) cycle. Shewhart then introduced statistical control charts which assisted the employees to plot and adjust variations.³

Shewhart's statistics soon made a science out of quality. Inspecting and recording manufacturing according to measurable information brought the process under control and enhanced the productivity of future performance. It also replaced traditional end-line inspection with an on-line awareness of variation.⁴

Furthermore, an essential recipe in the war effort became recognized as quality techniques which were guarded and protected as military secrets. The files containing these military secrets were declassified and opened to businesses and industries at the end


³O. Port, "The Quality Imperative" (Special Issue), Business Week, October 1991, 15.

⁴Ibid., 17.
of the war. However, American businesses and industries deluded by the war's legacy of consumer prosperity did not pay a keen enough interest in quality. This, however, proved to be precisely the opposite action with the defeated Japanese.\textsuperscript{5}

\textit{TQM and Higher Education}

To be relevant to society, universities must grapple with the problems that are significant to society. Today, societies throughout the world are addressing the concept of competitiveness. Universities can contribute to increased competitiveness in education, research, and internal management behavior. TQM is a management philosophy that has spread throughout the world.\textsuperscript{6}

Echoing some of the quality concerns in higher education above, John Hartley wrote that the future of many a country depends heavily upon its institutions of higher education for products such as research and competent intelligence. In the face of growing financial pressure and public criticism, higher institutions must face facts, lead the effort to change, take action, and help formulate new constructive approaches. They must also undergo a program of total quality management to overcome great challenges, he concluded.\textsuperscript{7}

At the 4\textsuperscript{th} annual Total Quality Forum, held in November 1992, five companies and eight universities reported on the progress of TQM University Challenge. This is a partnership program between business and universities which explores how TQM can be incorporated into university graduate engineering and business curricula. TQM is


inherently a cross-functional topic, but faculty and business and engineering schools are specialists. A large portion of the curriculum design and development normally has been done by individual faculty members working alone or in small groups. But the task of building TQM into the curriculum suggests the need for a new approach. Universities should therefore design curricula that cover the breadth of total quality, integrate total quality throughout the curriculum, and treat TQM as an approach to managing.  

According to Martin Di, TQM concept of continuous improvement was explored in the University of Herfordshire, using the Juran model of quality improvement as the creation of beneficial change. The practical steps to achieving and maintaining quality improvement in the areas of cash handling, lecture room audio visual service and user education were explored. He concluded that TQM can be approached incrementally if there is existing good management practice on which to build its implementation.

A definition of TQM should recognize the fact that it is a continuous process, a development of processes which are error free, and the customers are not simply the ‘end-users’ but also colleagues (‘internal’ customers). A Quality Improvement Program, based on the principles of TQM, was introduced and operated within the Library at the Queen’s University of Belfast with outstanding results. The quality improvement program introduced a new method of looking at problem solving, service development and a genuine understanding of the need to satisfy the requirements of all customers.

In a definitional view of TQM that contrasts with the foregoing, J. Wambsganss and Danny Kennett maintained that seeing students as customers is recognized widely but

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not universally accepted. They supported the view that in the classroom, the student, along with the instructor, are suppliers, producing a "product" (knowledge) that a future 'customer' (employer or graduate school) will evaluate. They concluded that continuous improvement in an accounting department's curriculum means continually meeting the needs of employer-established quality criteria. Student input should be considered secondary to the needs of the profession.\(^\text{11}\)

Pressured by dwindling enrollments and budget worries, a small but growing number of colleges and universities are looking to business and adopting techniques, strategies, and the language of TQM. According to University of Michigan Provost, Gilbert R. Whitaker Jr., TQM techniques can help universities use their schedule, facilities, and human resources better.\(^\text{12}\)

Although U.S. colleges and universities are recognized worldwide for education and research, a number of problems threaten their strength and stability, Karen Bemowski writes. These include increasing costs and decreasing funding, a decreasing number of high school graduates, and competition. One source of competition is Europe, Japan, and other countries where world class schools are being built. The second source of competition is major companies such as Motorola and General Electric Co., which are educating their executives internally. Several colleges and universities have recognized their precarious state and have begun using the principles and practices of TQM to improve how they educate and generate knowledge. For example, Columbia University

\(^{11}\text{Jacob R. Wambgsanss and Danny Kenneth, "Defining the Customer," Management Accounting, May 1995, 39-41.}\)

(New York) has incorporated TQM into its curriculum with education modules, courses on TQM, and a TQM master’s degree program.¹³

An increasing number of companies are letting business schools know that MBAs who are not trained in total quality management may be passed over for recruitment. Companies want graduates with TQM concepts ingrained. To help achieve that goal, industry is reaching out to schools to drive home the need for TQM in the classroom.¹⁴ At Oregon State University, President John V. Byrne made a personal commitment to lead the university into a TQM program. The implementation of TQM at the university moved through 9 phases: 1. Exploration of the TQM concept, 2. The formulation of a TQM pilot study team, 3. The definition of customer needs through quality function deployment, 4. The use of top management breakthrough planning, 5. The use of breakthrough planning by divisions, 6. The formation of daily management teams, 7. The creation of cross-functional pilot projects, 8. The use of cross-functional management, and 9. The introduction of monthly reports, team recognition strategies, and award programs.¹⁵

Major accomplishments of TQM at Northwest Missouri State University include the installation of the first comprehensive electronic campus in the U.S., major writing assignments increased 72%, the semester was lengthened from 15 to 17 weeks, and an assessment program was initiated.¹⁶


In a year when inflation hovered between 2 percent and 3 percent, average annual tuition at public four year institutions, according to the College Board (a non-profit outfit), rose 8 percent for academic year 1993-94, to $2,334 after jumps of 10 percent and 13 percent the previous two years. Tuition for academic year 2000-01 could reach $3,728 annually for four year state colleges, $4,624 annually for flagship public universities, and $18,845 for private four year colleges. Seven in ten institutions report use of TQM principles according to the American Council on Education. Yet only one in ten admits to extensive use of TQM, often focusing on only administrative operations, stopping short of the academic side of the ledger. The time when higher education’s noble mission and intellectual value afforded special dispensation is gone; colleges and universities will have to prove their value in the free market. Universities too slow to adapt are as doomed as the horse in the face of the automobile revolution.

Quality from the Critical Vantage Point of the Gurus

Quality has been defined variously by different experts to suit their temperaments. Philip Crosby, founder and chairman of Philip Crosby Associates, Inc., for example defined quality as conformance to requirements. This implies knowing what the customer desires, describing that desire and then precisely meeting that desire. In a view slightly different from Crosby's, Joseph Juran, founder and chairman emeritus of Juran Institutes Inc., gave two distinctions of quality. In the first instance,

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18 Ibid., 22.

19 Perine, 11.

quality includes those features of what is being produced that respond to customers' needs and that create the requisite income at the same time. This, according to Juran is important because without the requisite income, the exercise would simply be academic.

Also, Juran saw quality as freedom from waste, freedom from trouble and freedom from failure. The distinction between the two is that higher quality by way of product features generally costs more whereas higher quality in the sense of less failure costs less.\textsuperscript{21}

In a view akin to Crosby's and Juran's, Deming\textsuperscript{22} notes that quality could have no meaning without some reference to the customer. As a matter of fact, Deming believes strongly that quality is meeting and exceeding the customer's needs and expectations, and then continuing to improve.

After WWII, the Japanese were more invested in surviving the disastrous aftermath than in maintaining high level of their products. Consequently, the quality of Japanese products became so poor and inferior that the term "Made in Japan" symbolized poor, inferior and shoddy quality.\textsuperscript{23}

In sympathy to the defeated Japanese, General Douglas MacArthur recommended that significant changes be made to improve the country's products and their image. He requested assistance from the United States and Dr. Edwards Deming, a government statistician was sent to teach quality control methods to management leaders in Japan. Deming worked for two years in Japan from 1948 to 1950. In recognition of his

\textsuperscript{21}Ibid., 14.


outstanding and brilliant contributions, the Japanese government honored Deming in 1951 with the creation of the Deming Prize.\textsuperscript{24}

Deming's philosophy is based on the concept that everyone should: 1) plan (a production plan is created) 2); do (plan is implemented on a small scale); 3) study (production is studied to ensure that it conforms to plan); 4) act (lessons learned in the study stage are used to modify the ongoing production process so that a new set of data can be used in creating and implementing the next plan of a larger scale). Then the cycle must keep rotating. This four-step improvement cycle which Deming called the "Shewhart cycle for learning and improvement" is now commonly referred to as the "Deming Wheel."\textsuperscript{25}

Espousing Statistical Process Control (SPC) as a process for monitoring work procedures and setting forth his 14 points for the management of quality and productivity, Deming established quality as goal number one in Japan and set the Japanese 30 years ahead of the United States.\textsuperscript{26} Deming's 14 points can be summarized as follows:

1. Create constancy of purpose toward improvement of products and service, with the aim to become competitive and to stay in business and to provide jobs.

2. Adopt the new philosophy. We are in an economic age. Western management must awaken to the challenge, must learn their responsibilities, and take on leadership for change.

3. Cease dependence on inspection by building quality in the product in the first place.


4. End the practice of awarding business on the basis of price tag. Instead, minimize total cost. Move toward a single supplier for any one item, on a long-term relationship of loyalty and trust.

5. Improve constantly and forever the system of production and service, to improve quality and productivity and thus constantly decrease the costs.

6. Institute training on the job.

7. Institute leadership. The aim of supervision should be to help people and machines and gadgets to do a better job. Supervision of management is in need of overhaul, as well as supervision of production workers.

8. Drive out fear so that everyone can work effectively for the company.

9. Break down barriers between departments people must work as a team, to foresee problems of production and the use that may be encountered with the product or service.

10. Eliminate slogans, exhortations, and targets for the work place, asking for zero defects and new levels of productivity.

11. Eliminate work quotas and management by numerical goals. Substitute leadership.

12. Remove barriers that rob the hourly worker of his right to pride of workmanship. The responsibility of supervision must be changed from sheer numbers to quality.

13. Institute a vigorous training of education and self-improvement.

14. Put everybody in the company to work to accomplish the transformation. The transformation is everybody's job.

Deming’s 14 points have formed the pillar of TQM because they stress continuous process improvement, on the job training, strong leadership, effective communication, and shared decision-making. These elements constitute a program which always benefits the worker as illustrated in the Deming "Chain Reaction": Improve Quality . . . Cost Decreases . . . Productivity Improves . . . Better Quality . . . And Lower Prices Capture the Market . . . Business Survives And Grows . . . More Jobs Created.27

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27Ibid., 42.
Deming's premise is that quality is essential to survival, and he urges manufacturers to work in partnership with their vendors to develop instrumentation, and to gain control over their processes. Deming emphasized that the customer is the most important part of the production line.\textsuperscript{28}

From 1954 to 1955, another prominent consultant J.M. Juran, made a series of visits to Japan, where he lectured on what is known as total quality control. According to Juran, quality begins in the design stage and ends only after satisfactory services are provided to the customer. Quality must be viewed as a total, all encompassing concept, for a company to be successful, Juran maintained.\textsuperscript{29}

Juran attests that his concept should be composed of 90% substance and 10% exhortation with the formula as follows:

1. Establish specific goals to be reached.
2. Establish plans for reaching the goals.
3. Assign clear responsibility for meeting the goals.
4. Base the rewards on results achieved.

The "Juran Trilogy" lays out an interrelated strategy for managing quality through Quality Planning, Quality Control, and Quality Improvement. Secondary to the belief that 80% of problems occur as a result of management inadequacy, Juran insists on training for quality for all managers to enable them to participate in quality improvement projects. The groups are trained in problem solving, brainstorming, group dynamics and teamwork with a view to determining cause and effect relationships in work-related problems.\textsuperscript{30}

\textsuperscript{28}Dick Schaaf, "Beating the Drum for Quality," \textit{Training, the Magazine of Human Resources Development} (March 1991): 5-12.

\textsuperscript{29}Juran, 51.

\textsuperscript{30}Oberle, 49.
Juran's 10 steps to quality improvement are summarized below:

1. Build awareness for the need and opportunity for improvement.
2. Set goals for improvement.
3. Organize to reach the goals.
4. Provide training.
5. Carry out projects to solve problems.
8. Communicate results.
10. Maintain momentum by making annual improvement part of the regular system and processes of the company. 31

In his book, Quality is Free, Philip Crosby describes quality as free but not a gift. Though not specific on the tools of quality, Crosby works at adjusting peoples’ attitudes toward the definition of quality while maintaining that there must be a commitment of key people to the pursuit of this vital company goal. He also sees managers in the roles of trainers, exemplars and demonstrators of quality management principles. Training is essential in obtaining commitment, he posits.

Furthermore, Crosby believes in the principle of zero defects. This implies utilizing prevention rather than inspection, testing and checking. There is no place for statistically acceptable levels of quality in Crosby’s concept because this would allow for the belief that errors are planned for, or are inevitable. Crosby's 14 steps to quality are summarized on the following page:

31 Juran, 6-7.
1. Management commitment to quality.
2. Quality improvement team comprised of department representatives.
3. Quality measurement (defect rate).
4. Cost of quality evaluation.
5. Quality awareness for all employees.
6. Corrective action.
7. Ad hoc committee for zero defects program.
8. Supervisor training.
9. Zero defects day.
10. Goal setting.
11. Error cause removal.
12. Recognition and appreciation.
13. Quality councils for regular communication.
14. Do it over again to emphasize continuous quality improvement.\(^{32}\)

All three quality experts (Deming, Juran, and Crosby) see commitment to quality improvement throughout the organization to be the fundamental message. All three also agree on fixing the system rather than the employee, breaking down the work process to remove the barriers to quality, identifying and satisfying customer needs, eliminating waste, instilling pride and teamwork in the organization and finally creating an atmosphere for continuous and permanent quality improvement. A summary of the comparison of the ideals of the quality experts is tabulated in the table that follows:


**TABLE 1**  
COMPARISON OF THE IDEALS OF QUALITY EXPERTS

<table>
<thead>
<tr>
<th>Topic</th>
<th>Deming</th>
<th>Juran</th>
<th>Crosby</th>
</tr>
</thead>
<tbody>
<tr>
<td>Definition of Quality</td>
<td>Low cost and predictable degree of dependability suitable to the market.</td>
<td>Conformance to requirements. Fitness</td>
<td>Conformance to requirements.</td>
</tr>
<tr>
<td>PERFORMANCE STANDARD</td>
<td>Use of statistics to measure performance in all areas.</td>
<td>Avoidance of campaigns to do perfect work.</td>
<td>Zero defects.</td>
</tr>
<tr>
<td>APPROACH</td>
<td></td>
<td>Management must have &quot;human approach&quot; to quality.</td>
<td>Prevention not Reduction inspection</td>
</tr>
<tr>
<td>STATISTICAL PROCESS CONTROL (SPC)</td>
<td>SPC must be utilized for quality control.</td>
<td>SPC could lead to &quot;too-driven&quot; approach.</td>
<td>Rejection of statistically acceptable levels of quality.</td>
</tr>
<tr>
<td>IMPROVEMENT BASIS</td>
<td>Elimination of goals without methods.</td>
<td>Project by project team approach to goal setting.</td>
<td>Process development of improvement goal</td>
</tr>
<tr>
<td>TEAMWORK</td>
<td>Employee participation Quality Improvement in decision making</td>
<td>Team and quality circle approach</td>
<td>Quality Improvement teams</td>
</tr>
</tbody>
</table>

Source: C. Gail, "The Quality Imperative" (Special Issue), *Business Week*, October 1991, 8-10.

*The Japanese Management Philosophy*

The basic influential concepts of Japanese management which affect outcomes in the operation of quality circles have been outlined by several authors. It is a Japanese philosophy that:

1. the group is more important than the individual;
2. workers intelligent enough to do the work are intelligent enough to improve productivity in general;
3. participatory management enhances leadership and motivational skills;
4. all workers form a family unit; and

5. the sharing of feelings in a social atmosphere as opposed to communicating ideas is an important part of a group communication context.\(^\text{33}\)

**Quality Circle Defined**

Quality circle is a group problem-solving technique in which six to fifteen workers from a given area gather several times a month on company time to study and solve problems that affect their production. Quality circles use the skills and the know-how of the workers who deal with a problem on a daily basis and whose efforts ultimately determine the quality of the product. Due to the greater potential for worker job satisfaction, the common results from the implementation of quality circles include improved quality of products, lower production costs, better labor/management communication, higher productivity, and increased patents and inventions.\(^\text{34}\)

**The Quality Circle Objectives**

The Objectives of Quality Circles include:

1. to promote individual job satisfaction,

2. to develop harmonious manager/worker relationships,

3. to improve communications with the organization,

4. to reduce errors and enhance quality of work and product,

5. to create a problem-solving capability within the organization,

6. to increase employee motivation,

7. to promote personal and leadership development,

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8. to inspire more effective teamwork,
9. to develop a greater safety awareness on the part of the employees, and
10. to build an attitude of problem prevention.  

A difference exists between quality circles and other types of committees and task forces. The specific differences between quality circles and task forces include:

1. quality circles are voluntary, while task forces are usually assigned by management;
2. development of relationships is an important part of quality circles, whereas issues are the focus of task forces;
3. members work together on a regular basis in quality circles, while in a task force, members come together for a short time and then disperse;
4. Quality circle activity takes special skills and training; while task forces require no special expertise;
5. the work project is developed by members in quality circles, but in task forces the work project is assigned by management;
6. quality circle personnel implement their project, whereas a task force may or may not be a part of the implementation process.  

Pros and Cons of Using Quality Circles

Organizations that become involved in quality circles seem to have many positive outcomes:

1. quality circles can have a positive effect on the quality of work life,
2. the team approach enhances group spirit and enthusiasm toward reaching a goal,
3. participatory management is considered by management and participants as a common sense technique,

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36Ibid.
4. matching workers' needs to company goals can be accomplished through quality circles,

5. the improvement of quality ensures the improvement of productivity,

6. recognition of worker participation is a positive reinforcer and a positive motivator,

7. quality circles have resulted in improved operating effectiveness measured in terms of lowered absenteeism rates, reduced costs, improved product quality, higher morale, and greater job satisfaction,

8. quality circles can improve productivity and communication,

9. Abraham Maslow's highest hierarchy of needs, that of self-actualization, can be met through quality circles, and

10. the design of quality circles provides a vehicle for implementing McGregor's theory.\(^{37}\)

On the other hand, many organizations have experienced difficulty in implementing quality circles. Some authors agree that:

1. some organizations are oriented toward tangible results and managers are unwilling to allow time for what may seem like intangible service,

2. lack of objectives can cause lack of direction,

3. too high of an expectation from the management can cause detrimental pressures,

4. problems with other unrelated programs can cause problems with circle implementation,

5. managers often give only "lip service" to implementation of concepts,

6. realization of goals are inhibited by closed policies,

7. problems in implementation training could be caused by a poor communication system,

8. lack of appropriate training causes a breakdown in skill development,

9. problems could be caused by failure to maintain enthusiasm, as well as changes in management,
10. the size of the organization can affect its chances of success or failure,
11. lack of financial planning can result in loss of funding,
12. not following up on projects can mean management's lack of commitment,
13. not involving the union can cause problems,
14. lack of first-hand experience could cause inadequate expertise.38

Blueprint for Success in Quality Circles

Much of the research seems to support the following recommendations for successful circle programs:

1. organizations must be committed to quality,
2. the focus must be on clear goals and on results of efforts,
3. responsible facilitator must be available,
4. advance planning for diffusion and institutionalization is a must,
5. management on every level must be honestly supportive,
6. organizations must begin slowly with small pilot programs,
7. there must be a willingness on the part of management to share responsibility,
8. concerted and comprehensive training of employees to be more effective communicators is essential,
9. policies and procedures must reflect supportive philosophy,
10. trust must be the basis of quality circles,
11. use of organizational development strategies is recommended,
12. quality circles work best in change-oriented environments,

13. programs must be on voluntary basis,

14. to ensure access to information and no punishment for errors, open communication must exist,

15. several needs assessment instruments are recommended to indicate organizational readiness,

16. employee recognition and feedback are highly recommended,

17. use of organizational development strategies is a must.\textsuperscript{39}

\textit{Total Quality Management in Education}

Authors have found remarkable similarities between W. Edwards Deming's philosophies and research from effective schools as shown in Table 2 that follows:

<table>
<thead>
<tr>
<th>14 POINTS (DEMING 1986)</th>
<th>IMPROVEMENT EFFECTIVENESS CORRELATES (MACKENZIE, 1983)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Constancy of purpose toward long-range improvement.</td>
<td>Long-range goal-focused activity. Clear goals and high expectations commonly shared.</td>
</tr>
<tr>
<td>2. Reject commonly accepted levels of delays, mistakes.</td>
<td>High and positive achievement expectations. Strategies to avoid nonpromotion of students. School-wide emphasis on basic and higher order skills. Effective use of instructional time.</td>
</tr>
<tr>
<td>3. Improve input and seek statistical evidence of quality.</td>
<td>School-wide development.</td>
</tr>
<tr>
<td>5. Look for problems in the system.</td>
<td>In service training for effective teaching.</td>
</tr>
<tr>
<td>7. Use modern methods of supervision. (managers learn from employees)</td>
<td>Stability and continuity of key staff. Sense of community.</td>
</tr>
<tr>
<td>8. Drive out fear.</td>
<td>Total staff involvement in school improvement. Collaborative planning and collegial relationships.</td>
</tr>
<tr>
<td>10. Eliminate slogans, provide effective methods.</td>
<td>Autonomy and flexibility to implement adaptive practices.</td>
</tr>
<tr>
<td>12. Enable pride of workmanship.</td>
<td></td>
</tr>
</tbody>
</table>
13. Institute vigorous program of education and retraining.

14. Create management structure for constant improvement of knowledge and effectiveness.

<table>
<thead>
<tr>
<th></th>
<th>Autonomous school-site management</th>
<th>Positive accountability, acceptance responsibility for learning outcomes</th>
</tr>
</thead>
</table>


School practitioners and others discovering that total quality processes enhance many of their management strategies, for instance, strategic planning and site based management; TQM is a systematic, all-over approach that provides for the "top-down" enablement of "bottom-up" decisions, and not just another add-on. It empowers employees, organizations, managers, and even whole communities.  

It is Rhode's contention that many of the principles of TQM are "naturals" to educators. Embedded in the foundation of TQM are the most primary beliefs about people---how they grow and learn, and what motivates them. Educators and others are beginning to realize that TQM makes it flexible and possible for them to change their policies, systems, processes, and practices so as to better achieve their long-held professional and personal values and beliefs. TQM is based on the fact that people are generally already self-improving beings, regularly putting forward their best efforts, and need a work setting which supports them.

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TQM: A Highlight of the Core Components

The inevitability of the criteria for success in managing the total quality of an organization cannot be over emphasized. Several authors agree on four core components of the TQM process.\textsuperscript{41}

Customer Satisfaction

It goes without saying that the customer’s importance to any organization is very significant. Here is what Glenn had to say on customers:

Customers are worthy people, both honest and competent. It means treating them that way. If our customers are honest and competent people, they are perfectly capable of expressing their valid needs, although we may have to negotiate with them to translate those needs into measurable terms we can work to fulfill. We can ask customers what they want, need, and expect.\textsuperscript{42}

Reinforcing his customer argument, Glenn maintained: "All we do is for their sake; without them our work has no purpose. Therefore, if we are serious about quality, customers, no matter whether they are internal or external, have every right to have their requirements, needs, and expectations met the first time and every time."\textsuperscript{43} In a view similar to Glenn's, Krone opined that each member of the organization must establish a clear vision of how to provide service to the customer, a vision which must view that service as "courteous, clear, concise, correct, complete and concerned."\textsuperscript{44}


\textsuperscript{43}Ibid., 17.

The "customer" concept is not new to the professional literature in educational administration. It is more difficult however, to determine who is the customer in schools than it is in commerce or industry. The list of customers accredited to educators include; students, parents, faculty members, board members, employers, community patrons. Students, however, are the primary "customers" of schools. Hence, schools need to meet the holistic needs of their students.\textsuperscript{45}

Since students are the school's "customers," they should logically become the focus of the school’s "product". The student's need must become the foundation for goal-setting in education. Ultimately, provision of customer satisfaction demands keeping in touch with the customer.\textsuperscript{46}

\textit{Leadership}

As Axline poignantly pointed out about leadership's role in TQM: "when committed leadership is lacking, the various pieces of TQM do not fit together in a coherent pattern."\textsuperscript{47} Continuing, Axline goes on to state that leadership is a prerequisite at all levels of the organization, not confined to or reserved for only the high ranking executives.

In their contribution, Aalbregtse et al. defined the role of leadership in TQM:

Leadership involves defining the need for change, creating new visions, and using frameworks to mobilize commitment to those visions... frameworks for thinking about strategy, structure, and people. Leadership emphasizes the ability to articulate those visions clearly and forcefully.


\textsuperscript{46}Ibid., 93.

\textsuperscript{47}L. Axline, "TQM: A Look in the Mirror," \textit{Management Review} 80, no. 7 (1991): 64.
Leaders provide focus by consolidating or challenging conventional wisdom, and translating their ideas into operational actions. \(^{48}\)

The role of the leader is defined in the following terms by Glenn:\(^{49}\)

1) Leaders excite other people by communication, including action and inspiration.
2) What leaders have in common in addition to their galvanizing vision are positiveness, passion, and humility.
3) Leaders reach beyond mere facts to the what-could-be, to facts which have not yet come into existence.
4) When leaders are leading, their focus is outside of themselves, but on the goal...the vision they are committed to.

Koons further defines the leadership role in TQM, observing that at times it must go well beyond support and facilitation modes:

Not all problems or issues are appropriate for team assignments. There is still a role for creative managers to identify opportunities for operational program enhancements under their control, and to take the necessary administrative actions to implement these enhancements. At some points, decisions have to be made even though all of the subordinate staff may not agree. Even in TQM environment, managers are not mere facilitator, but still must make some tough decisions that are not always popular. \(^{50}\)

Commitment has been described as the foundation of an effective TQM initiative. Leadership must play a significant role in promoting commitment. Leaders should, therefore, be charismatic, flexible, and inspiring, especially with those they lead. They should also be able to inspire others to create and manage change, to take responsibility, and, above all, to take risks. Genuine improvement can be created only when leaders are involving, participating, and actively listening to their followers. Transformational


\(^{50}\)P. Koons, "Getting Comfortable with TQM," Bureaucrats 20, no. 119: 35-38.
leaders are dependent, visionary, and inspirational, and are driven by long-term goals, visions, and objectives. They are interested in ends rather than means.\textsuperscript{51}

Ultimately, leadership boils down as a function of the leader, the followers, and the situation. The good leader is expected to be able to adapt to the ever-changing circumstances with a view to achieving the organization's set goals and objectives.

\textit{Process Control}

It goes without saying that quality is the focus of Deming's work. The central problem in management, leadership, and production is failure to understand the nature and interpretations of variations. Efforts and methods of improvement of quality and productivity are in most companies and in most government agencies fragmented with no overall competent guidance, no integrated system for continual improvement.\textsuperscript{52}

Continuous process improvement shifts the emphasis from problem-solving to investigation of better ways of doing business even when the status quo is acceptable. Continuing in same line of thought, Scott maintained that the key to TQM is "pursuing a strategy of steady continuous improvement by focusing on and understanding all the elements of existing task. Ideally every person in an organization is always looking for a better way to do a job."\textsuperscript{53} He then recommended the use of statistical instruments to minimize variations in processes much as did Deming.\textsuperscript{54}


\textsuperscript{54}Deming, 469.
Glasser\textsuperscript{55} asserts that although schools have long been characterized by standardized, norm-referenced tests to measure quality, these mechanisms do not appear to be compatible with the TQM approach because they generally lack meaningful impact on "production," are imposed by external rather than internal forces, and do not measure quality in ways that are meaningful to the "customer" or student. He concluded that only the student will recognize what represents "quality" (or lack thereof) for him/her and, that it is the student's own assessment that should take priority over the assessments of instructors, professors, teachers, parents, administrators, peers, and so on.

\textit{Staff Development}

The importance of staff development certainly has been recognized by TQM. Hunter states: "A final criterion of a profession is that its practitioners never stop learning better ways of providing service for their clients."\textsuperscript{56}

Glenn\textsuperscript{57} defines these training needs in four basic categories; statistical tools, skills, interpersonal dynamics, and the basic principle of TQM. He believes that all staff development needs must be addressed on an ongoing basis for the whole organizational members, in line with the specific roles held and skills required by each of them.

Shanker asserts: 1) Teachers' learning comes about through continuous inquiry and interaction with colleagues, as well as through exposure to new research ideas from the academic and broader communities; 2) teachers are viewed as an important source of


\textsuperscript{57}Glenn, 19.
knowledge that should inform what happens in schools; 3) the school is the focus of staff development.\(^58\)

**Team Work**

The very essence of TQM is teamwork. This is the ability to work collegially toward a common vision. Management and employees need to trust one another and work cooperatively for a common goal. Intra-organizational competition must be discouraged. Teamwork is an integral component for enhanced productivity in an organization. By working together on interdisciplinary and multi-levels, organization will learn to constantly improve services, reduce variation in services, and better meet both the internal and external customer needs.\(^59\)

Reports indicate that people work best when they are in, and feel part of, a team in which they can be trusted and trust each other to do their jobs; share leadership and make decisions; are accepted and respected; resolve issues with sensitivity and understanding; have the opportunity to accomplish challenging goals; and contribute to improvement.\(^60\)

**Traditional Management and Total Quality Management Compared**

Much of the literature reviewed in this study supports several main differences between traditional management and total quality management.\(^61\) (See Table 3 on the following page.)


TABLE 3
TRADITIONAL AND TOTAL QUALITY MANAGEMENT COMPARED

<table>
<thead>
<tr>
<th>Traditional Management</th>
<th>Total Quality Management</th>
</tr>
</thead>
<tbody>
<tr>
<td>1) Profit is number one responsibility.</td>
<td>Profit follow quality.</td>
</tr>
<tr>
<td>2) Focuses on its own requirements.</td>
<td>Focuses on the customer.</td>
</tr>
<tr>
<td>3) Workers work and managers manage.</td>
<td>Encourages every employee on better ways to work.</td>
</tr>
<tr>
<td>4) Quality is single dimensional.</td>
<td>Quality is multi-dimensional.</td>
</tr>
</tbody>
</table>


*Nigerian University Education*

There are currently 34 universities, 32 polytechnics, and 55 colleges of education in Nigeria. In 1950, there was only one university college in Nigeria. But the number rose to five in 1962, and thirteen by 1975. The pattern of the number of universities established within each decade increased as shown in the following table:

TABLE 4
GROWTH IN NIGERIAN UNIVERSITIES

<table>
<thead>
<tr>
<th>Decade</th>
<th># of Universities</th>
<th>Percentage Increase</th>
</tr>
</thead>
<tbody>
<tr>
<td>1960</td>
<td>2</td>
<td>100</td>
</tr>
<tr>
<td>1970</td>
<td>6</td>
<td>300</td>
</tr>
<tr>
<td>1980</td>
<td>17</td>
<td>283.3</td>
</tr>
<tr>
<td>1990</td>
<td>31</td>
<td>182.4</td>
</tr>
</tbody>
</table>

The figures above show an increase of four universities between 1960 and 1970, eleven between 1970, 1980, and fourteen between 1980 and 1990. This is an indication of a solid average percentage increase of 255% per decade.\(^{62}\)

*Historical Development of University Education in Nigeria*

The purpose of university education in Nigeria has evolved over time and varied from its earliest inception to present. To address the problem of acute shortage or complete lack of the requisite high-level human resources, Nigeria adopted a two-tier system of approach. The first was to send pre-qualified students abroad to study and train in the universities of Western industrialized countries—mainly Britain and USA. While this provided an immediate or first aid solution, it was unequivocal that it could not provide a permanent solution. Subsequently, the second approach was to establish universities and other institutions of higher learning in Nigeria.\(^{63}\)

The Colonial Government set up the Nigerian Commission on Post-School Certificate and Higher Education in 1959. The Commission was to advise the Nigerian Government on the long term high level human resources needs of the country and to recommend a strategy for university development. This panel, known as the Ashby Commission, was named after its chairman, Sir Eric Ashby. The commission was mandated to conduct an investigation into Nigeria's needs in the fields of post-school certificate and higher education over the next twenty years. The commission was a joint operation of three Nigerians—K.O. Dike, S.D. Onabamiro, and Senator Shetima Kashim; three Americans—R.C. Gustavson, H.W. Hannah, and F. Keppel; and three Britons—


Eric Ashby, J.F. Lockwood, and G.W. Watts. The funds for the Commission came from British and American governments, together with Carnegie Foundation of New York City. The Commission recommended the establishment of a National Universities Commission (NUC) to coordinate the development, financing and other activities of the universities.\textsuperscript{64}

The NUC was also responsible for quality control and supervision of Nigerian universities. It sets minimum standard for curricula and management of Nigerian universities, reporting directly to the federal Minister of Education. Established in 1962, NUC was also charged with responsibility of effective management and development of the Nigerian university system. Initially, NUC was not a statutory body and was limited to merely advising the government on issues. This accounted for the main reason why most of the recommendations of the commission could not be effectively implemented. When the NUC was converted into a statutory body, it became a powerful agency of the federal government on university education matters.\textsuperscript{65}

\textit{Growth in Enrollment}

University education in Nigeria grew from a low of 338 in 1951 to 63,120 in 1980. Enrollment in the universities grew by 825.4 percent between 1951 and 1961, by 446.5 per cent between 1961 and 1971 and by 269.3 percent between 1971 and 1980. During the 1974/5 academic year, the student enrollment in Nigerian universities stood at 26,023 with only six universities in operation. However, by 1977-78 the number of


universities had risen to thirteen, with the student population increasing to 48,927. Between 1979 and 1993 twenty one new universities have been created in the country for a total of thirty-four. 1975 alone witnessed the establishment of seven new universities in Calabar, ILorin, Jos, Kano, Maiduguri, Port Harcourt, and Sokoto.\textsuperscript{66}

Nearly two-thirds of the universities are owned by the federal government while the rest are state-owned. There are no private universities in Nigeria currently. However, private universities did make a brief appearance in 1983 and 1984, when a supreme court ruled that there was nothing in the Nigerian constitution and laws of the country preventing the establishment of private universities. Just within 6 months of the ruling, twenty-six private universities were established or proposed in the country. The federal military government immediately promulgated a decree in 1984 abolishing the existing private universities and prohibiting further establishment of same.\textsuperscript{67}

\textit{University Staffing}

The need for reform in Nigerian universities has been felt since the country's independence, but particularly since after the Nigerian civil war in 1970. During the National Development plan period of 1962-68, most of the universities' academic staff were non-Nigerians. The first decade of Nigeria's independence witnessed 306 out of 516 academic staff as non-Nigerians for the 1962-63 academic session; 422 expatriates out of 670 staff for the 1963-64 session; 503 foreigners out of 1,076 staff for the 1964-65 year, and 595 non-Nigerians out of 1,324 academic staff for the 1966-67 year. This implied a 59.3\% expatriate teaching staff in 1962, 63\% in 1963, 46.7\% in 1964, and


44.9% in 1966. Expatriate staff averaged 53.4% for most part of the first decade of independence. How this preponderance of expatriate staff affected the quality of university education at the time was not reported. It suffices to state, however, that the federal government and NUC did not like the status quo, and wanted it reformed.

Soon after the civil war, the Nigerian university staffing status changed in favor of the Nigerianization effort via the staff development programs initiated by the universities in the early 1970s. By mid-1977, the expatriate staff constituted only about 26% of Nigerian universities' teaching staff.

*Nigeria's Educational Goals*

To better serve the needs of the nation, and its citizens no policy on education can be devised without first identifying the overall philosophy and objectives of the nation. The Federal Republic of Nigeria's National Policy on Education\(^6^8\) outlined five major national objectives as stated in the second National Development Plan:

1. a free and democratic society;
2. a just and egalitarian society;
3. a united, strong and self-reliant nation;
4. a great and dynamic economy;
5. a land bright and full of opportunities for all citizens.

The philosophy of Nigeria's education has to agree with Nigeria's national objectives in order to affect national consciousness, national development, national unity, and the integration of the individual into a sound and effective citizen. The philosophy is operationally linked to Nigeria's educational objectives as follows:

1. the inculcation of national consciousness and national unity;

2. the inculcation of the right type of values and attitudes for the survival of the individual in Nigerian society;

3. the training of the mind in the understanding of the world around; and

4. the acquisition of appropriate skills, abilities, and competencies, both mental and physical as equipment for the individual to live in and contribute to the development of the society.⁶⁹

These goals form the bedrock of the current national policy on education. They are reflected in the content of the curricula, as well as the planning and administration at all levels. The Nigerian government has a deliberate policy of encouraging graduation of more students in science and technology for industrialization and modernization. The 1982 Tannanarive Conference on Higher Education which Nigeria has adopted recommended that the ratio of science to humanities in student enrollment in African universities should be 60:40.⁷⁰

Financing University Education in Nigeria

The financing of university education in Nigeria is intricately intertwined with the vagaries of the nation’s economy. The Nigerian economy has undergone some fundamental changes since independence in 1960. Eighty five percent of Nigeria’s foreign exchange earnings came from agriculture. The industrial sector contributed only 3.6%. However, the discovery and exploitation of oil during the early 1970s bolstered the Nigerian economy. Oil production and sales became the main foreign exchange earner, attracting over 80%. Subsequently, the agricultural sector was neglected and its contribution to the economy dwindled with impunity. Sequel to the oil boom, a period of

⁶⁹Ibid., 9.

⁷⁰Yoloye, 27.
uncontrolled spending particularly on imported products including food ensued. When the price of oil started to burst in the early 1980s Nigeria's foreign exchange earnings plummeted while foreign debt and foreign debt servicing skyrocketed. Notwithstanding a structural adjustment program with a very stringent fiscal measures adapted by the government in 1986, the national economy has remained in a poor state.\textsuperscript{71}

The repercussions on the universities have been quite severe: 1) infrastructural facilities have deteriorated and become quite inadequate; 2) gross shortage of instructional materials in institutions including textbooks, journals chemicals and scientific equipment; 3) decline in the percentage of money allocated to education in yearly federal and state government budgets; 4) the standard of living in the campuses has declined resulting in overcrowding and poor sanitary conditions; 5) frequent student unrests in demand for better conditions forcing universities to be closed down to prevent violence; 6) lay off of faculty and staff members because of shortage of funds; 7) imposition of longer hours, larger classes and heavier workloads on faculty and staff without salary increases or promotions; 8) massive brain drain of staff and students to wealthier countries mostly in the industrialized world.\textsuperscript{72}

\textit{TQM and Nigerian Universities}

Deming's 14 point philosophy and how each point relates to university education are highlighted in the discussion on the following pages.

\textsuperscript{71}A. Adedeji, \textit{Africa: Autopsy of a Crisis} (UNESCO, May, 1990), 9.

1) Constancy of purpose:

W. Edwards Deming's number one point is to create constancy of purpose toward the improvement of products and services by allocating resources for long term planning, organizational research and workforce education.\textsuperscript{73}

Applying Deming's first point point to Nigeria, it is found that Nigerian university educators must believe that all resources are aimed at students' development. All programs that consume critical resources are examined with a view to eliminating those that do not contribute to student achievement and effectiveness. Faculty, staff, students, support staff, administrators, board members, parents, and the community at large must all share a common understanding of desired outcomes, beliefs and mission, as well as a consistent belief that those outcomes can be accomplished. Short term strategy must be changed to accomplish long term objectives and educators must develop a willingness to measure progress.\textsuperscript{74}

2) New philosophy:

Deming's second point is to reject commonly accepted levels of delays, mistakes, defective workmanship and defective materials. Organizations must constantly perfect processes aimed at finding problems, their causes and ways of correcting them.\textsuperscript{75}

This implies a transformation to a new way of thinking and planning for student learning in Nigerian universities. Faculty and staff must reject the idea that students cannot learn at high levels under the right conditions of teaching and learning. NUC and

\textsuperscript{73} Deming, 25.


\textsuperscript{75} Deming, 30.
university management must awaken to the challenge, learn their responsibilities and take on leadership for change.\textsuperscript{76}

3) Dependence on mass inspection:

Deming's third point is to cease mass inspection of purchased materials and services. In its place, improve selection processes and seek statistical evidence of quality.\textsuperscript{77}

Nigeria's university education cannot wait until the end of the year to measure student progress. The system must understand and use statistical assessment of student growth and development on a daily basis. The emphasis must be a move from the identification of student failure to using continuous improvement to prevent student failure.\textsuperscript{78}

4) Awarding business on the basis of price alone:

Deming's fourth point suggests ending the practice of awarding business on the basis of price tag.\textsuperscript{79} A strive for long-term reduction of total cost rather than piecemeal efficiency.\textsuperscript{80}

In this instance, Nigerian university educators should invest in quality, instead of just low cost. With time, high quality produces low cost. Consequently, the universities must choose, use and evaluate technologies, facilities, new philosophies, textbooks and


\textsuperscript{77} Deming, 32.

\textsuperscript{78} Leonard, \textit{South Carolina Business}, 11.

\textsuperscript{79} Ibid.

\textsuperscript{80} Deming, 33.
other resources in instructing based on statistical evidence of success of the particular product and upon accepted outcome criteria.\textsuperscript{81}

5) Improve every system: Deming's fifth point suggests searching for problems in the system. Managers are fully responsible for finding and correcting problems in the system.\textsuperscript{82}

Nigeria's university educators must acknowledge that improvement is not a one-time event. Commitment to constantly improve the university system necessitates a long-term planning effort. Potential for improvement could be found in each step taken to create or upgrade university programs and services. Nigerian universities should therefore consistently identify barriers and seek workable solutions to ameliorate the problems.\textsuperscript{83}

6) On-the-job-training:

The sixth point for Deming recommends on the job training with modern training techniques. Unless employees know their jobs and feel free to inform their managers of any problems they encounter, they cannot perform well. Further, statistical methods must be used to identify when on-the-job-training has met its aim.\textsuperscript{84}

Nigerian universities need to continually stay abreast of changing demands and requirements. A wide array of external and internal resources must be used for the professional, managerial and technical development of all university personnel. The limited resources must be channeled toward enhancing student achievement.\textsuperscript{85}


\textsuperscript{82} Deming, 34.

\textsuperscript{83} Melvin, 12.

\textsuperscript{84} Deming, 34.

7) Leadership:

Deming's seventh point advocates the institution of leadership. One of the most important responsibilities of managers is supervision. They must learn from employees to help them do a better job.\footnote{Deming, 35.}

University educators need to respect the fact that the job of management is not to necessarily tell people what to do, but to instead to point people in the right direction. They should emphasize the quality of the total program instead of individual behaviors. Evaluations need to be formative, systematic, and programmatic rather than punitive, summative, and personal.\footnote{Glaub, 58.}

8) Drive out fear:

Deming's eighth point is to drive out fear so that people can work effectively in an atmosphere of reduced anxiety. Employees must be given job security and encouraged to feel free to ask questions, express ideas, and ask for instructions. An important responsibility of managers is the elimination of fear.\footnote{Deming, 35.}

This point calls for respect for the basic human dignity of others. One of the best ways to help a student acquire a good self-image is not to do anything to damage it. Drive out fear.\footnote{W. McLeod, “Toward a System of Total Quality Management (the Deming Way),” An Introduction to Total Quality for Schools. A Collection of Articles on the Concept of Total Quality Management and Deming, 33.}
9) Break down barriers:

Deming's ninth point encourages breaking down barriers between departments. People performing different functions can come together as a team and work effectively to improve products and services.90

Universities in Nigeria need to be committed to rebuilding and nurturing an environment in which trust and respect can be applied to what is said, heard, read, and written. Encourage nontargeting two-way communications on quality outcomes between departments, faculties, and schools. Encourage teamwork for problem solving in order to break down barriers.91

10) Abandon Slogans:

Deming's tenth point advocates the elimination of goals, quotas, posters and slogans demanding new levels of productivity without the provision of effective methods. Goals must be accompanied by implementational guidelines.92

Universities should not want employees searching for excuses and explanations. The employees should rather always strive to continually improve. Slogans asking for perfect performance and new levels of productivity should be eliminated. Most of the causes of low quality and low productivity are inherent in the system and consequently beyond the jurisdiction of university professors and students.93

11) Eliminate numerical goals and quotas:

Deming's eleventh point advocates the elimination of work standards that prescribe numerical quotas. Such standards are strongholds against improvement.94

90 Deming, 36.
91 McLeod, 33.
92 Deming, 33.
93 Glaub, 58.
94 Ibid., 8.
Nigerian universities should replace numerical goals with charts that measure progress and do situational analyses. This will be an evidence that the school is committed to a long-term process. Mandates and numerical goals should be eliminated, and numbers used constructively. All university employees must be involved in problem identification, program design, planning, budgeting and materials selection.\(^{95}\)

12) Remove barriers that rob pride in workmship:

Deming’s twelfth point suggests the removal of barriers that rob employees of their pride of workmanship. Accurate definition of acceptable workmanship is, however, a prerequisite to pride of workmanship. Managers are responsible for definitions.\(^{96}\)

Nigerian universities need to remove barriers that rob the student, faculty, staff, management and support staff of their right to pride of workmanship. This includes the abolition of: a) annual rating b) merit rating and c) management by objectives (MBO). The responsibility of all educated managers must be changed from quantity to quality.\(^{97}\)

13) Promote education and self-improvement:

Deming’s thirteenth point advocates the institution of a vigorous program of education and retraining. New jobs and responsibilities will be accored to people by education and retraining. Improvement in productivity implies reassignment of personnel. Every employee must learn the rudiments for statistical theory and application.\(^{98}\)

Nigerian universities must provide all employees with training in quality leadership, self-evaluation, measurement, analysis, problem solving, and assertiveness training. Different levels and functions in the organization require different types of

\(^{95}\)Deming, 36.

\(^{96}\)Melvin, 12.

\(^{97}\)Deming, 36.

\(^{98}\)Ibid., 37.
training. In service must therefore be a part of the normal work of the university and not just a yearly or monthly event.\textsuperscript{99}

14) Structure management to accomplish the transformation:

Deming's fourteenth point is to create a structure in top management that will encourage the implementation of the 13 points above on a daily basis.\textsuperscript{100}

Nigerian universities' leadership must move toward processes that are geared toward problem prevention. To correct deficiencies and accomplish the complete transformation of the university educational system entail years. Everybody in the system is responsible for assisting to bring about this transformation—students, parents, faculty, staff, board members, teachers, support staff, community partners, administrators and so on. A thorough comprehension of the past, ability to assess events leading to the present, and the ability to forecast future needs and requirements all demand an entrepreneurial approach. Conceptual skill is an indispensable recipe in moving from traditional management practices to total quality management practices.

\textit{Summary}

It appears, that with the past successes of total quality management in business, industry, and the public sector of the countries where it has been applied, the possibilities of applying TQM to university education in Nigeria does seem to exist. Strategic planning and other school improvement literature all seem to blend well with the total quality management philosophy.

However, Nigerian universities are users of public finance and consume a substantial portion of the Gross National Product (GNP). The universities constitute a financial burden to government budgets and, currently, governments are finding it hard to

\textsuperscript{99}Ibid.

\textsuperscript{100}Melvin, \textit{Journal of Staff Development}, 12.
provide adequate financial support to operate 34 universities in the country due to the Economic Austerity and Structural Adjustment Program. Reasons ranging from misplaced priorities to over-enrollment of students have been adduced for the deteriorating educational situation in Nigerian universities. How can TQM improve this situation? The literature suggests that TQM philosophies hold a promising outcome if successfully applied in Nigerian universities.

Among other things, TQM literature urges that:

1. schools need process controls that are valid in order to give feedback for continuous improvement,

2. an individual who is educated in the use of statistical methods and in development of information will be needed to teach faculty, other staff, and administrators how to use information effectively, and

3. there has to be continuous improvement and not just snapshots or random fixes.

In a recent conversation with school administrators before he died on November 23, 1993, Deming maintained:

1. that education can only be transformed one system at a time;

2. that leaders must have a vision and must understand their system in order to put that system into practice;

3. that schools must expect and design for variations among students;

4. that the goal of educational leaders must not be achieving numerical goals, but transforming school systems.

The test of anyone's ideas for improving the quality of educational services is whether they can be shown to be effective. Deming and his track record argue persuasively that it is possible to determine whether a system is becoming better or worse, and he provides concepts and tools for sure-footed actions when the latter is the case.
Nigerian university administrators will need to take a serious look at total quality management as one way to bring about needed change and continuous improvement in education as we enter the next millennium.
CHAPTER III
HISTORY, STRUCTURE AND ADMINISTRATION OF UNIVERSITY
EDUCATION IN NIGERIA

The demand for University establishment in Nigeria began late in the 19th century when a small group of educated Nigerians campaigned ceaselessly to the British, who had conquered and established colonialism over Nigeria, to start a University. This group of educated Nigerians consisting of lawyers, doctors, engineers, teachers and religious leaders felt that if Nigeria were to develop into a modern nation, a university would be indispensable in providing the wide variety of high-level manpower that would be required.

The colonial authorities did not heed to this clarion call until 1948 when the University College, Ibadan (UCI), was established as a college of the University of London. The University College concept implied that UCI could not determine its own examination schemes, could not set or mark its own examination papers, and could not assess candidates for degree awards. Ironically, most UCI's academic staff were doctoral products of London University and other renowned British and European Universities. For instance, in 1950-51 academic year, UCI had thirty-three Ph.D. degree holders: nine from London, three from each of Birmingham, Edinburgh, Manchester, Oxford, Reading, Copenhagen, Gottingen and Toronto Universities. Yet the colonial office at that time still did not think that the college could design and manage its own academic programs.¹

During the National Curriculum Reform Conference held in 1969, the former Federal Commission for Education, was not adequate for Nigeria because it neglected to adapt to the country’s cultural and social background. Nnamdi Azikiwe had earlier made a similar statement when he argued that Africans under the colonial rule have been “miseducated” to acquiesce in their own subjugation. “The training has so alienated them from their own vital capacities,” Azikiwe wrote.²

The nationalist struggle in education begun in 1937 by Azikiwe and his American educated colleagues, and their undaunted spirit gave birth in October 7, 1960, to the University of Nigeria NSUKA (UNN):

1. An indigenous intellectual center where the raw materials of African humanity will be reshaped into leaders in all fields of human endeavor;

2. A truly African University capable of ridding the Renascent Africa of inferiority complex which has led Nigerians to imitate the excrescences of a civilization which is not rooted in African life;

3. A higher institution that will be cultural and vocational in its objective and Nigerian in its content.³

Following UNN’s lead, three other new universities were established in quick succession: The University of Lagos (Unilag) was opened with an enrollment of 102 students. Four months later, the Ahmadu Bellow University (ABU) was opened with 400 students enrolled. The University of Ife was established under the leadership of Chief Obafemi Awolowo in the Western Region on October 24, 1962, with 244 students enrolled. It was also in 1962 that the University College, Ibadan, became independent of London University and proceeded with its own degree award under the new name of the “University of Ibadan” (UI).⁴

²Nnamdi Azikiwe, Liberia In World Politics (London: Stockwell, 1934), 20.

³Azikiwe, "Renascent Africa," 77.

⁴Ibid., 79.
Functional Structure and Administration

The primary organizations responsible for the governance of educational institutions in Nigeria are the Federal and State Ministries of Education. The Constitution also confers concurrent legislative responsibility for the provision of university, technological, and professional education to the Federal and State governments.\(^5\) The Federal Ministry of Education has responsibility for federally owned educational institutions and the parastatal organization, NUC, is responsible specifically for the development of federal universities in Nigeria, including some aspects of universities owned by state governments. Figure 1 illustrates the organizational structure of the Federal Ministry of Education in Nigeria. The vice-chancellor, who is the executive head and the registrar are responsible for the day to day administration of universities. The financial affairs of the universities are handled by the bursar’s department. The main policy making body of the university is the council consisting of lay and academic persons appointed by the federal government. The university senate is responsible for policies regarding academic matters.

For the purposes of teaching, research and examination, the universities are grouped into faculties, departments and committees. Courses of study leading to bachelor’s degree in Nigerian universities lasts three to four years, depending on the students’ entry qualification. Universities offer programs leading to advanced degrees at the master’s and doctorate levels. Master’s degrees are usually awarded after an additional two years of study. With master’s level of entry qualification, a doctorate degree may be obtained usually after four additional years of study.

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\(^5\)Nigerian Constitution, 1979, 131.
FEDERAL REPUBLIC OF NIGERIA

FEDERAL MINISTRY OF EDUCATION

- Minister
- Director General
- Audit
- Legal
- Information

- Personnel
- Finance & Supplies
- Higher Education
- Technical Education
- Secondary Schools
- Educational Services
- Inspectorate
- Planning Resources & Statistics

NBTE (National Board of Technical Education)

Federal Government Colleges & WAEC

NUC

JAMB
(Joint Admission & Matriculation Board)

NERDC
(National Educational Research and Development Council)

Federal Universities

State Universities

Fig. 1. Organizational Structure of the Federal Ministry of Education, Nigeria

Until 1977-78, each Nigerian university had its own admission policy based on such criteria as the quality of entry qualifications and the student's geographical state of origin. There were the problems of duplication of admissions, late acceptances and admissions, too much competition for admission for particular courses. These and other problems led the federal government to establish a Joint Admission and Matriculation Board (JAMB) to coordinate university admissions, and conduct qualifying examinations for university entry.

**Major Indicators of Educational Quality**

Two of the most serious challenges for educational institutions in the 1990s are: Achieving and maintaining quality, and acquiring, streamlining and maximizing the essential resources to fulfill their respective missions.⁶ Most things people do are based on decisions. Decisions in turn are based on values, and values provide the ethical, professional and personal criteria that give direction to thought and deed. The need for constant and never-ending improvement (CANI), necessitates the motivation to question and evaluate the fundamental values (and assumptions) upon which decisions are made and actions taken. Education is a value-based business. Nigerian university administrators frequently make a plethora of value loaded decisions that directly or indirectly impact the lives of others. It becomes imperative, therefore that they clearly understand the educational values and underlying assumptions upon which their professional decisions are made and with what results.⁷ Nigerian university educators

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⁷Ibid., 145.
must therefore understand the interrelationship between these value decisions and the entire university education system.

When something comes along that suggests that the educational values taught, defended and practiced for years may be based on faulty assumptions, there is naturally cause for concern, uncertainty and even strong resistance. Such is the case with the introduction of TQM principles and tenets into education. Universities are reluctant to embrace "efficiency" principles of business into the more "humane" enterprise of education. However, TQM offers much more to the educational scene than simply efficiency measures. It, indeed, offers a whole new way of thinking about education, management styles, and other people including students.\(^8\)

Some of the criteria that could be used to measure the quality of Nigerian university education include, but are not limited to:

1. **Staff/Student Ratio:** On the basis of personnel listings of approved positions, the ratio of students to academic staff is 7:1. By way of comparison, the ratio of students to academic staff in Britain is 13:1. One reason for this generous staff comparison with industrialized Britain is the high propensity for Nigerian universities to offer very wide ranging programs and courses in each institution. Course enrollment of fifteen students is not unusual. Nigerian universities also usually employ large numbers of nonacademic staff, especially to operate municipal and student welfare services and to care for the campus. The University of Nigeria, for example employed 52,000 staff for a student population of 77,000.\(^9\)

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\(^8\)Ibid., 146

2. **Faculty Stability:** A severe consequence of the economic downturn, and of the concomitant constriction in public budgets, and reduced access to foreign exchange, has been the disappearance from many universities exactly those inputs that make physical plan and highly trained academic staff educationally productive. This has often resulted in the migration of staff and students to other countries especially Europe and America where conditions are deemed much better. Nigerian university administrators should therefore provide, "... students with an attractive alternative to (more costly) foreign study, create incentives for university researchers to pursue their work on the continent, and in so doing address two aspects of the serious problem of brain drain."\(^{10}\)

3. **Adequacy of Funding:** The decreasing oil revenue in Nigeria from the late 1970s through 1980s meant that the government commitment to provide adequate financial resource for universities could no longer be assumed fully. The decrease in Nigerian oil revenues, and Nigerian huge foreign debts together with other fiscal issues led to inadequacy of funding in Nigerian universities, which in turn resulted in lowered quality of education.

   In 1978, the report of the Commission of Inquiry into the Nigerian universities crisis found that "the problem of universities hinges on the government trying to develop seven new universities and simultaneously expanding the six older ones."\(^{11}\) The report of the commission also stated "the commission felt the burden of some aspects of existing policy on the financing of higher education such as

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\(^{10}\)Ibid., 21

scholarships, bursaries, should be shared between the federal and state government.\textsuperscript{12}

4. Students’ Performance: The most severe outcome of the drying up of non-salary inputs to Nigerian university education are that research ceases and instruction is reduced to little more than rote learning from professorial lectures. This sad situation invariably produces:

Chemists who have not done a titration; biologists who have not done a dissection; physicists who have never seen an electrical current; agronomists who have never conducted a field trial of any sort; engineers who have never disassembled the machinery they are called upon to operate; social scientists of all types who have never collected, or conducted an analysis of their own empirical data; specialists for whom the programming and use of computers is essential who have never sat before or tested a program on a functioning machine; lawyers who do not have access to recent judicial opinions; medical doctors whose only knowledge of laboratory test procedures is from hearing them described in a lecture hall. \ldots \textsuperscript{13}

5. Students’ Accommodation: It is visibly becoming increasingly difficult for Nigerian Universities to provide enough classroom and hostel accommodations for students. According to the Visitation Panel looking into the Affairs of Obafemi Awolowo University, from 1975 to 1986:

Student population at the University as at 1984/85 session was 12,116. Existing hostel accommodation can only take 3,407. The university officially accommodates only 2,766 students. One wonders what happens to the remaining over eight thousand male students.\textsuperscript{14}

Furthermore, the panel also reports that student population has more than doubled over the period under consideration (1975-1986). Consequently, lecture halls can only

\textsuperscript{12}Ibid., 48.

\textsuperscript{13}World Bank, \textit{Educational Policies}, 23.

accommodate a fraction of the students owing to inadequate spaces. This situation invariably adversely affects the quality of this university’s education.

Fig. 2. The Wheel of Measurable Indicators of Educational Quality.

Source: Developed by this researcher, based on information exchanged with educators and practitioners.

\[15\text{Ibid., 49.}\]
6. University Infrastructure: Besides inadequate classroom and hostel accommodations, many Nigerian universities also lack modern water facilities. The majority of them have wells around their campuses. However, the water drawn from these wells is not good for human consumption. As a result, many of these students look for water outside the university wells to avoid infectious diseases that can emanate from drinking contaminated well water.

Electricity supply is another problem. This is why students have christened National Electrical Power Authority (NEPA) of Nigeria to mean “Never Expect Power Always.” Some universities that have standby generators often suffer from lack of replacement spare parts for the generators when they are broken. This detracts from the quality of Nigerian University education.

Transportation problems are acute in Nigerian universities that operate on multi-campus systems that cannot afford to maintain shuttles or buy new buses for inter and intra-campus commuting. This results in students scrambling to secure accommodation in the few operational buses. Often a spectacle to behold. This has often resulted in accidents and unnecessary loss of students lives, as witnessed by this researcher at Usman Dan Fodio University, Sokoto.

_Nigeria's Attempt at Quality Control in the Universities_

Since independence from Britain in 1960, Nigeria has pursued the development and improvement of higher educational institutions including universities. The branch of the government charged with this activity is the Federal Ministry of Education. Among many of its functions, the coordination of educational activities throughout the country is still being pursued (see figure 1 for the organizational chart of the Nigerian Federal Ministry of Education).
The Federal Ministry of Education has a parastatal that is responsible for advising the Federal Government of Nigeria on the planning of a balanced and coordinated development and improvement of universities in Nigeria. This parastatal also advises the government on financial needs of the universities as well as distributes such funds effectively. This parastatal is the National Universities Commission of Nigeria (NUC). Through the NUC, the Federal Government of Nigeria is able to maintain the activities of the Nigerian university system.\textsuperscript{16}

The NUC consults with relevant institutions in the preparation of periodic master plans for the balanced and coordinated development of quality universities in Nigeria. It is responsible for the development of Federal universities in Nigeria, including some aspects of universities operated by the State Governments. NUC is made up of two groups: (1) the Commission, which is the highest decision making body of the NUC, and made up of members representing various interests within the Nigerian community (see appendices C – G), and (2) the staff of the commission, who are appointed by the Commission by way of direct recruitment or transfer or secondment from public service (see appendix D).

To help better the quality of university education in Nigeria, the NUC was reconstituted in 1974 by Act No. 1 as a statutory body to give it the legal authority to perform its functions effectively (see appendix III). In 1979, the Nigerian constitution put higher education on the Concurrent Legislative List, which is a list of issues on which the state and federal government can make laws. Eight state governments took advantage of this provision to establish their state universities. In the development of these universities, the NUC played the role of consultant and quality controller.\textsuperscript{17} In some state

\textsuperscript{16}National Universities Commission, 25 Years of Centralized University Education in Nigeria, 1988, 97.

\textsuperscript{17}Ibid., 98.
universities, NUC is on the university council. Most of the universities were established between 1981 and 1983. These universities were established in the states of Anambra, Imo, Rivers, Ondo, Ogun, Lagos and Cross River. Oyo State University was established in 1989 (see Figure 3 for map of Nigeria showing states of Nigeria and the location of universities).

Fig. 3. Map of Nigeria, Showing States of Nigeria and the Location of Universities

At the beginning of the 1980s, about 26 private universities were established in Nigeria. NUC sent out experts to assess the quality of these universities. However, after consultation with the NUC, the Federal Government abolished all private universities and colleges in 1984 partly due to the poor quality of the institutions. Decree No. 19 of 1984 prohibited the establishment of private universities in Nigeria (see appendix V). This decree further indicates the efforts of the Federal Government to provide NUC with increased authority to oversee the emergence of a qualitative university system.

*The Political Context in Which the Nigerian University Operates*

According to Professor Grace Alele Williams, the political context in which Nigerian universities operate is a complex one. This is because Nigerian university system in all its ramifications is a miniature Nigeria characterized by the internal and external forces of pull and push (positive and negative) reminiscent of a heterogeneous society.\(^{18}\)

The administration of the university is the joint responsibility of council and senate. The council is the highest political body of the university and its membership is inclusive of people from inside and outside the university community. The outsiders who constitute part of the university’s external political environment include government appointees representing a variety of interests in the community. The insiders who are often in the minority are members of the university community who gain membership through elections from senate and congregation. The ultimate financial and managerial responsibilities in the university lies with the council. The senate is the highest academic policy making body in the university and its main responsibility is to chart the academic programming.

As a member of the university governing council and the university senate, the vice-chancellor constantly manages the boundary maintenance problem between council and senate. As the head of the academic and administrative staff, the vice-chancellor has to consult with his staff and students regularly, particularly on issues relating to them and report his findings to council or senate as the case may be. As the only constant variable in university politics, the vice-chancellor is the first citizen of the university community.

The politics associated with the selection of the vice-chancellor could be punctuated by deep rancor, bitter in-fighting and at times open confrontation. Ethnicism and sectionalism could be brought into play depending on the ethnic or ideological composition of the senate. In the final analysis, the appointment of the vice-chancellor is the prerogative of the president of Nigeria after consultation with the Governing Council of the University, and the Federal Ministry of Education. However, after the appointment, the vice-chancellor of the Nigerian university is usually confronted in the beginning with problems arising from the competition to the position. This is because the Nigerian, whether in academia or outside is hardly able to take defeat in a sportsman-like manner.19

The university is governed on a committee system which is usually ridden by politics. Provosts, deans, directors, heads of departments, and so on, form a group of university administrators upon whom the vice-chancellor must rely for the daily governance of the university. Provosts, deans and directors serve for two years subject to not more than four years at a time. Heads of departments serve for three years at a time, except the non-professors who serve in acting capacity for not more than one year at a time.

19Ibid., 55.
Ethnicism, one of the most common problems of the country could be found in the university system. For instance, an ethnically conscious registrar could use his position to employ his kit and kin to most vacancies in the university administration against the rules and regulations governing employment into universities.

Perhaps the most challenging aspect of the internal governance of the Nigerian university is the problem of the student. Generally, students may put up with inadequacies like staff shortage and poor library facilities but hardly with acute shortage of living accommodation like, water, food and so on.\textsuperscript{20} This is why a pronounced attention should be given to the social conditions of students along with the advancement of the university. Interactions between the vice-chancellor and his staff and students could reduce potential crisis situations to mere rubbles of arguments.

The different actors in the Nigerian university system such as, the council, senate, academia, students, and so on, all work to maintain university autonomy. Autonomy is very important to the successful fulfillment of the seven principal functions of the university: quality teaching, certification, research, storage of knowledge, publication of texts, public service and enlightened commentary.\textsuperscript{21} However, with pressure from the very top echelon of government, the Nigerian university which incidentally depends on the government for survival could hardly sustain its autonomy.

The locality factor in the administration of the university made the Nigerian government to reserve up to 30\% of the admission vacancies to the locality.\textsuperscript{22} Vice-chancellors develop harmonious relationship with the local population through hiring policy as well.

\textsuperscript{20}Ibid., 58.

\textsuperscript{21}Ibid.

\textsuperscript{22}Ibid.
The Nigerian university is called upon to promote national unity. National security itself can be threatened by student unrest which sometimes may arise not from the internal problems of the university but as a response to external political factors. It is therefore the hallmark of a good vice-chancellor to understand the political context in which the Nigerian university operates with a view to achieving the university's set objectives while preventing undesired endogenous and exogenous variables.
CHAPTER IV
RESEARCH, DESIGN AND METHODOLOGY

This research project is an exploratory study with the purpose to examine the perceptions of Nigerian University educators and students towards the feasibility of adopting W. Edwards Deming's total quality management philosophy. It is also designed to compare the perceptions of university administrators, faculty members and students.

The four key elements of the study detailed in this chapter are:

1. identification and validation of the 42 perception statements,
2. the sample and population used in the study,
3. the administration of the instrument, and
4. the analysis of the data.

Identification and Validation of the 42 Attitude Statements

Following the completion of literature review, 42 perception statements were developed to assess and compare university educators' and students' perceptions concerning Deming's 14 points as they apply to education in general and Nigerian University education in particular. Three perceptions were created for each of the 14 points.

Often, attitudes are measured in educational research because of their possible predictive value. Borg and Gall wrote that an attitude is usually thought of as having three components: an affective component, which consists of the individuals feelings about the attitude object; a cognitive component, which is the individual’s perceptions or
knowledge about the attitude object; and a behavioral component, which is the individual’s predisposition to act toward the attitude object in a particular way.¹

This particular research dealt with the cognitive component which assessed and compared the three groups’ perceptions concerning total quality management.

The instrument in this particular research comprised 42 perception statements (three for each of the 14 points). Respondents were requested to assess the degree to which they agreed or disagreed with each of the 42 perception statements using a five-point Likert scale.

The ratings of A, B, C, D and E were given a number weighting of A = 1, B = 2, C = 3, D = 4, and E = 5. The boundaries for the mean rating scores were as follows: Strongly Agree = 1 to 1.49, Agree = 1.50 to 2.49, Not Sure = 2.50 to 3.49, Disagree = 3.50 to 4.49, Strongly Disagree = 4.50 to 5.00.

A rating of A was given by the respondent to a perception statement with which she/he strongly agreed. A rating of E was given to a perception statement with which she/he strongly disagreed. A rating of C indicated that the respondent was unsure of her/his perception. To avoid a response set so the respondent could not fall into a pattern on marking the questionnaire, reverse wording was used on some questions.

Primary and secondary data were used. The main research instrument used for primary data collection was the survey technique using questionnaires. To accord face validity to the questionnaire, copies were given to African Ph.D. as well as masters level students at the Library of Congress in Washington D.C., in April 1994. These Ph.D. and masters research students were asked to participate in a validating procedure, and answer yes or no if they thought that the questionnaire was good enough to gather the pre-intended data for this study. Sixty percent of the respondents answered “yes” while

forty percent answered "no." The forty percent who answered no made constructive suggestions which were included in the reconstruction of the questionnaire. The input of these validators all of whom were current students of Howard University, significantly improved the comprehensiveness and flow of the questionnaire. The ten African Ph.D. research students and forty masters level students who voluntarily participated in validating the questionnaire were familiar with the quality of education in African universities. As a matter of fact, these fifty validators finished their first degrees in various Nigerian universities. The validated questionnaire was administered to 104 individuals chosen from six universities. The questionnaire can be seen in the appendix I section. The data for this study were collected between May 3 and August 21, 1994.

The second type of data employed in this study is the secondary data collection, which involves library research such as the Journal of the Federal Ministry of Education, Journal of Education, Finance and Development, and books. The secondary data collection also includes government statistics, World Bank and International Monetary Fund (IMF) publications, unpublished Masters and Ph.D. thesis and dissertations, newspapers and magazines.

**Procedure**

As earlier stated, all data for this study were collected between May and August 1994. Completed surveys were collected from 104 participants. The scoring for the negatively stated items of the survey was reversed and the data analyzed.

In computing the primary data, a Statistical Package for the Social Sciences (SPSS) was employed. Initial data analysis involved four separate procedures. First, total means and standard deviations were calculated for the ratings given each of the 42 perception statements by the 104 respondents. Means and standard deviations across
participants were calculated for the 14 subscales that were organized according to Deming’s 14 points.

As a third statistical procedure, one-way analysis of variance was used to test for significant differences among the mean ratings for each of the 14 points as well as for the 42 individual perception statements comparing the three participant groups. Analysis of Variance (ANOVA) gives a common ground in making inferences about whether samples of the study are drawn from populations having the same mean. The one-way analysis of variance was used to test the null hypothesis that there are no significant differences among the mean scores of the perceptions when comparing the three groups’ responses to each of the 42 perception statements and the 14 points.

\[ H_0 = m_1 = m_2 = m_3 \]

\[ H_1: \text{ At least two } m\text{'s are not equal} \]

\[ a = .05 \]

The detailed statistical procedure for data analysis is presented in Chapter V.

**Limitations of the Study**

Since all the universities in Nigeria could not possibly be included in a study of this type, the sample is limited to those universities that were carefully but purposefully selected. In addition, generating a sample frame is made more difficult by the fact that all the students, faculty and administrators of all the universities are not easily available for inclusion in the study. Furthermore, complications arose because stability and continuity of academic calendars cannot be guaranteed due to student riots and unrest, which in most cases, resulted in the closing of universities. In many cases, some universities are reopened while some are closed for one reason or another, including faculty strikes. Finally, access to some remote university campus sites are constrained by bad roads, (many under reconstruction), relocations and regional diversity. To reduce, if not
eliminate the constraints, the research selected four universities based on the three former Nigerian regions: East, West and North. These three regions represent a microcosm of the Federal Republic of Nigeria, by their geographical, historical, educational, and political significance.

**Sampling Procedure**

The sample for this study was taken from Nigerian universities as earlier indicated. The stratification of the sample was according to personnel status and type of university. It includes 35 students, 35 administrators, and 34 faculty personnel in the 4 universities that were conveniently randomly selected by stratified random sampling. In all, 104 individuals drawn from 4 universities participated in this study. The individuals included 35 students studying in Nigerian universities, 35 administrators and 34 faculty personnel employed by Nigerian universities. Ten of the administrators sampled in this study have functional relationships with both the NUC and the Ministry of Education. The universities were located in the three former regional governments of Nigeria: the Northern, the Western and the Eastern. Samples were taken from these universities based on their status, Federal and State. The selected universities are: University of Nigeria, Nsukka, Usman Dan Fodiyo University, University of Lagos, and Nnamdi Azikiwe University. Nnamdi Azikiwe University is a state owned university established to respond to the high demand for university education in Anambra State of Nigeria. It is also primarily financed by Anambra State because of its state status. Table 5 on the following page describes the universities that were in the sample, their status, regional locations and the number of people that participated in the study.
**TABLE 5**

**SAMPLE POPULATION**

<table>
<thead>
<tr>
<th>University</th>
<th>Location</th>
<th>Status</th>
<th>Administrators</th>
<th>Faculty</th>
<th>Students</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>University of Nigeria NSUKKA</td>
<td>East</td>
<td>Federal</td>
<td>8</td>
<td>9</td>
<td>9</td>
<td>26</td>
</tr>
<tr>
<td>Nnamdi Azikiwe University</td>
<td>East</td>
<td>State</td>
<td>8</td>
<td>9</td>
<td>9</td>
<td>26</td>
</tr>
<tr>
<td>University of Lagos</td>
<td>West</td>
<td>Federal</td>
<td>10</td>
<td>8</td>
<td>8</td>
<td>26</td>
</tr>
<tr>
<td>Usman Dan Fodiyo University</td>
<td>North</td>
<td>Federal</td>
<td>9</td>
<td>8</td>
<td>9</td>
<td>26</td>
</tr>
<tr>
<td><strong>GRAND TOTAL</strong></td>
<td></td>
<td></td>
<td>35</td>
<td>34</td>
<td>35</td>
<td>104</td>
</tr>
</tbody>
</table>

Source: Developed by this researcher.
CHAPTER V
FINDINGS AND DATA ANALYSIS

Findings of the data collection process are presented in this chapter. Reporting is ordered in the following manner for purposes of clarity and accuracy: 1) a report of key demographic factors used in the study, 2) a report of methods used for presenting statistical findings, 3) an examination of the data, 4) testing for mean differences and 5) summary.

Key Demographic Factors

The findings of this study are based on the results obtained by administering the survey instrument to university administrators, faculty and students from each of the four universities in the sample population.

Demographic variables used in this study include gender of respondents, educational background of respondents, age of respondents and positions held by respondents.

Table 6 on the following page reveals that out of 104 respondents, 71 were males and 32 were females. One person did not indicate his or her gender.

As indicated in Table 7 on the following page, the highest educational level of respondents ranged anywhere from a high school diploma to a doctorate degree.

Out of the 104 respondents, 10 had a bachelor’s degrees, 28 had master’s degrees, 30 had specialist degrees like Ordinary National Diploma, Higher National Diploma and National Certificate of Education Diploma, 15 had doctorate degrees, and 21 had general certificate of education (High School Diploma).

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TABLE 6

GENDER OF RESPONDENTS

<table>
<thead>
<tr>
<th>GENDER</th>
<th>NUMBER</th>
<th>RELATIVE PERCENT</th>
<th>ADJUSTED PERCENT</th>
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</thead>
<tbody>
<tr>
<td>Male</td>
<td>71</td>
<td>68.3</td>
<td>68.3</td>
</tr>
<tr>
<td>Female</td>
<td>32</td>
<td>30.8</td>
<td>30.8</td>
</tr>
<tr>
<td>Not Indicated</td>
<td>1</td>
<td>1.0</td>
<td>*</td>
</tr>
<tr>
<td>TOTAL</td>
<td>104</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

* This respondent is not included in adjusted percentage calculations.

TABLE 7

EDUCATION LEVEL OF RESPONDENTS

<table>
<thead>
<tr>
<th>EDUCATION LEVEL</th>
<th>NUMBER</th>
<th>RELATIVE PERCENT</th>
<th>ADJUSTED PERCENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>High School</td>
<td>21</td>
<td>20.2</td>
<td>20.2</td>
</tr>
<tr>
<td>Bachelor</td>
<td>10</td>
<td>9.6</td>
<td>9.6</td>
</tr>
<tr>
<td>Master</td>
<td>28</td>
<td>29.6</td>
<td>26.9</td>
</tr>
<tr>
<td>Specialist</td>
<td>30</td>
<td>28.8</td>
<td>28.8</td>
</tr>
<tr>
<td>Doctorate</td>
<td>14</td>
<td>14.4</td>
<td>14.4</td>
</tr>
<tr>
<td>TOTAL</td>
<td>104</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>
TABLE 8

POSAIONS HELD BY RESPONDENTS

<table>
<thead>
<tr>
<th>POSITIONS</th>
<th>NUMBER</th>
<th>RELATIVE PERCENT</th>
<th>ADJUSTED PERCENT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administrator</td>
<td>35</td>
<td>33.7</td>
<td>33.7</td>
</tr>
<tr>
<td>Faculty</td>
<td>34</td>
<td>32.7</td>
<td>32.7</td>
</tr>
<tr>
<td>Students</td>
<td>35</td>
<td>33.7</td>
<td>33.7</td>
</tr>
<tr>
<td>TOTAL</td>
<td>104</td>
<td>100.0</td>
<td>100.0</td>
</tr>
</tbody>
</table>

Methods Used for Presenting Statistical Findings

Statistical analyses comparing the three groups include: 1) the means and standard deviations for each of the 42 perception statements (three statements for each of the 14 points); 2) the means and standard deviations for each of the 14 points; 3) one-way analyses of variance were calculated to test for significant differences among the mean rating score for each of the 14 points as well as the 42 individual perception statements comparing the three participant groups; and 4) the one-way analysis of variance was used to test the research null hypothesis that there would be no significant differences among the mean scores of the three groups when tested for response to each of the 42 perception statements and the 14 points.

\[ H_0 = m_1 = m_2 = m_3 \]

\[ H_1: \quad \text{At least two } m\text{'s are not equal} \]

\[ a = .05 \]

The final statistical procedure involved conducting at the .05 level of significance the Scheffe post hoc multiple-range procedure. This procedure was used to identify any group means found to be significantly different at the .05 level. The critical value of the F-statistic with 2 and 61 degrees of freedom is 3.55. An F-statistic greater than 3.55 will
be needed to reject the null hypothesis that there are no significant differences in the mean scores.

**Examination and Analysis of Data**

The following tables beginning with Table 9 reveal the means and the standard deviations for each of the 14 points and the three perception statements that represent each point. Preceding each table is the discussion of the table content that explains the responses given by university administrators, faculty, and students.

As shown in Table 9 on the following page, administrators (1.31), faculty (1.33), and students (1.29) agree strongly that Nigerian universities should create constancy of purpose toward improvement of product and service. The mean rating scores of the three groups were comparable. Standard deviations for item means ranged from .307 to .342.

Table 9 also shows that the three groups agreed with the first perception statement (1a) that Nigerian universities should create constancy of purpose toward improvement of the entire school system and its purposes. The mean rating scores were similar among administrators (1.24), students (1.24) and faculty (1.50). Standard deviations for the item means ranged from .431 to .496.

The second perception statement (1b) indicates that all three groups agreed that Nigerian universities should aim to create the best quality students capable of improving all forms of processes and entering meaningful positions in society. Faculty (1.38) gave similar mean rating scores as administrators (1.54) and students (1.51). Standard deviations for the item means varied from .493 to .657.

When comparing the three groups’ responses to the perception statement (1c) that Nigerian universities should strive to be as good as they can be and have a continuous desire to improve, all three groups agreed very strongly and their mean rating scores were comparable. Standard deviations for the item means ranged from .327 to .404.
TABLE 9
ITEM MEANS AND STANDARD DEVIATIONS FOR DEMING'S FIRST POINT AND THE THREE RELATED PERCEPTION STATEMENTS (1a, 1b, 1c)^A

<table>
<thead>
<tr>
<th>DEMING'S POINT/PERCEPTION STATEMENTS</th>
<th>N</th>
<th>MEAN</th>
<th>S.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deming Pt. 1. Nigerian Universities should create constancy of purpose toward improvement of product and service.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administrators</td>
<td>35</td>
<td>1.31</td>
<td>.342</td>
</tr>
<tr>
<td>Faculty</td>
<td>34</td>
<td>1.33</td>
<td>.307</td>
</tr>
<tr>
<td>Students</td>
<td>35</td>
<td>1.29</td>
<td>.325</td>
</tr>
<tr>
<td>Perception 1a. Nigerian Universities should create constancy of purpose toward improvement of the entire university system and its purposes.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administrators</td>
<td>34</td>
<td>1.24</td>
<td>.496</td>
</tr>
<tr>
<td>Faculty</td>
<td>34</td>
<td>1.50</td>
<td>.564</td>
</tr>
<tr>
<td>Students</td>
<td>34</td>
<td>1.24</td>
<td>.431</td>
</tr>
<tr>
<td>Perception 1b. Nigerian Universities should aim to create the best quality students capable of improving all forms of processes and entering meaningful positions in society.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administrators</td>
<td>35</td>
<td>1.54</td>
<td>.657</td>
</tr>
<tr>
<td>Faculty</td>
<td>34</td>
<td>1.38</td>
<td>.493</td>
</tr>
<tr>
<td>Students</td>
<td>35</td>
<td>1.51</td>
<td>.562</td>
</tr>
<tr>
<td>Perception 1c. Nigerian Universities should strive to be as good as they can be and have continuous desire to improve.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administrators</td>
<td>35</td>
<td>1.17</td>
<td>.382</td>
</tr>
<tr>
<td>Faculty</td>
<td>34</td>
<td>1.12</td>
<td>.327</td>
</tr>
<tr>
<td>Students</td>
<td>35</td>
<td>1.11</td>
<td>4.04</td>
</tr>
</tbody>
</table>

^A Five point Likert scale: 1-Strongly agree, 2-Agree, 3-Not sure, 4-Disagree, 5-Strongly disagree.
All three groups agreed that Nigerian universities need to adopt a new philosophy which states that commonly accepted levels of mistakes, delays, and defects will no longer be tolerated (Table 10 on the following page). Administrators (1.49) and faculty (1.52) gave similar mean rating scores as students (1.70) when comparing the three groups. Standard deviations for the item means ranged from .451 to .520.

When contrasting the three groups and their responses to the first perception statement (2a), administrators (1.39) and faculty (1.42) gave comparable mean rating scores as students (1.71) when asked if educational management must awaken to the challenge, must learn their responsibilities, and take on leadership for change. Standard deviations for the item means varied from .561 to .788.

The second perception statement (2b) reveals that all three groups were in agreement that Nigerian universities must accept the idea that students can learn at high levels under the right conditions of teaching and learning.

Administrators (1.44) gave a similar mean rating score as faculty (1.59) and students (1.51). Standard deviations for the item means ranged from .504 (administrators) and .658 (students) to .857 (faculty).

When responding to the third perception statement (2c), all three groups agreed that the Nigerian universities must not accept underachievement from anyone in the system, including faculty, administrators, staff, students or parents. It appears the administrators (1.51), faculty (1.56), and students (1.89) gave similar mean rating scores. Standard deviations for the item means varied from .562 (administrators) to .963 (students).
<table>
<thead>
<tr>
<th>DEMING'S POINT/PERCEPTION STATEMENTS</th>
<th>N</th>
<th>MEAN</th>
<th>S.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deming Pt. 2. Nigerian Universities need to adopt a new philosophy which states that commonly accepted levels of mistakes, delays, and defects will no longer be tolerated.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administrators</td>
<td>35</td>
<td>1.49</td>
<td>.520</td>
</tr>
<tr>
<td>Faculty</td>
<td>34</td>
<td>1.52</td>
<td>.451</td>
</tr>
<tr>
<td>Students</td>
<td>35</td>
<td>1.70</td>
<td>.516</td>
</tr>
<tr>
<td>Perception 2a. University management must awaken to the challenge, must learn their responsibilities, and take on leadership for change.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administrators</td>
<td>33</td>
<td>1.39</td>
<td>.788</td>
</tr>
<tr>
<td>Faculty</td>
<td>33</td>
<td>1.42</td>
<td>.561</td>
</tr>
<tr>
<td>Students</td>
<td>34</td>
<td>1.71</td>
<td>.760</td>
</tr>
<tr>
<td>Perception 2b. Nigerian Universities must accept the idea that students can learn at high levels under the right conditions of teaching and learning.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administrators</td>
<td>34</td>
<td>1.44</td>
<td>.504</td>
</tr>
<tr>
<td>Faculty</td>
<td>34</td>
<td>1.59</td>
<td>.857</td>
</tr>
<tr>
<td>Students</td>
<td>35</td>
<td>1.51</td>
<td>.658</td>
</tr>
<tr>
<td>Perception 2c. Nigerian Universities must not accept underachievement from anyone in the system: board members, administrators, staff, students or parents.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administrators</td>
<td>35</td>
<td>1.51</td>
<td>.562</td>
</tr>
<tr>
<td>Faculty</td>
<td>34</td>
<td>1.56</td>
<td>.660</td>
</tr>
<tr>
<td>Students</td>
<td>35</td>
<td>1.89</td>
<td>.963</td>
</tr>
</tbody>
</table>

*aFive point Likert scale: 1-Strongly agree, 2-Agree, 3-Not sure, 4-Disagree, 5-Strongly disagree.
All three groups agreed that Nigerian universities need to cease dependence on mass inspection (Table 11 on the following page). The item mean rating scores for Deming’s third point included administrators (1.91), faculty (2.21) and students (2.10). Standard deviations for the item means ranged from .534 to .596.

The first perception statement (3a) reveals that all three groups were in agreement that Nigerian universities need to concentrate on a new philosophy emphasizing the move from the identification of student failure to preventing student failure through continuous improvement. Administrators (1.54), faculty (1.68), and students (1.97) gave similar mean rating scores. Standard deviations for the item means varied from .741 to .985.

When examining the second perception statement (3b), faculty (2.29) and administrators (2.46) agreed slightly that Nigerian universities need to understand and use statistical assessment of student growth and development on a daily basis. Students (2.63) were not sure how to respond to this statement. Standard deviations ranged from .906 to 1.060.

The third perception statement (3c) indicates that students (1.69) and administrators (1.74) agreed that Nigerian universities must find other ways to assess students without dependency on tests and grades. Faculty indicated that they were not sure of this perception statement by giving a mean rating score of 2.65 (p ≤ .01). Standard deviations for the item means varied from .657 (administrators) to .900 (students).
TABLE 11

ITEM MEANS AND STANDARD DEVIATIONS FOR DEMING'S THIRD POINT AND THE THREE RELATED PERCEPTION STATEMENTS (3a, 3b, 3c)^A

<table>
<thead>
<tr>
<th>DEMING'S POINT/PERCEPTION STATEMENTS</th>
<th>N</th>
<th>MEAN</th>
<th>S.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deming Pt. 3. Nigerian Universities need to cease dependence on mass inspection.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administrators</td>
<td>35</td>
<td>1.91</td>
<td>.596</td>
</tr>
<tr>
<td>Faculty</td>
<td>34</td>
<td>2.21</td>
<td>.544</td>
</tr>
<tr>
<td>Students</td>
<td>35</td>
<td>2.10</td>
<td>.534</td>
</tr>
<tr>
<td>Perception 3a. Schools need to concentrate on a new philosophy emphasizing the move from the identification of student failure to preventing student failure through continuous improvement.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administrators</td>
<td>34</td>
<td>1.54</td>
<td>.741</td>
</tr>
<tr>
<td>Faculty</td>
<td>34</td>
<td>1.68</td>
<td>.727</td>
</tr>
<tr>
<td>Students</td>
<td>35</td>
<td>1.97</td>
<td>.985</td>
</tr>
<tr>
<td>Perception 3b. Schools need to understand and use statistical assessment of student growth and development on a daily basis.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administrators</td>
<td>35</td>
<td>2.46</td>
<td>.950</td>
</tr>
<tr>
<td>Faculty</td>
<td>34</td>
<td>2.29</td>
<td>.906</td>
</tr>
<tr>
<td>Students</td>
<td>35</td>
<td>2.63</td>
<td>1.06</td>
</tr>
<tr>
<td>Perception 3c. Schools must find other ways to assess students without dependency on tests and grades.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administrators</td>
<td>35</td>
<td>1.74</td>
<td>.657</td>
</tr>
<tr>
<td>Faculty</td>
<td>34</td>
<td>2.65**</td>
<td>.981</td>
</tr>
<tr>
<td>Students</td>
<td>35</td>
<td>1.69</td>
<td>.900</td>
</tr>
</tbody>
</table>

^A Five point Likert scale: 1-Strongly agree, 2-Agree, 3-Not sure, 4-Disagree, 5-Strongly disagree.

**Significant at the .01 level.
Table 12 indicates that the single classification analysis of variance produced significant differences ($F(2.61)= 17.17$) between the mean scores of the four sample universities. The $H_0$ was rejected and through the Scheffe multiple range procedure, the mean scores between the three groups were significantly different at the .05 level and beyond ($F_{cv} = 5.38$ at $a=.01$). There was a significant difference when comparing faculty with the other two groups.

**TABLE 12**

ONE-WAY ANALYSIS OF VARIANCE: NIGERIAN UNIVERSITIES MUST FIND OTHER WAYS TO ASSESS STUDENTS WITHOUT DEPENDENCY ON TESTS AND GRADES (POINT 3/PERSPECTIVE 3c)

<table>
<thead>
<tr>
<th>SOURCE</th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>$F$</th>
<th>$F_{cv}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANOVA (block)</td>
<td>40</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between groups</td>
<td>2</td>
<td>20.05</td>
<td>10.03</td>
<td>17.17**</td>
<td>3.55</td>
</tr>
<tr>
<td>Error</td>
<td>61</td>
<td>35.62</td>
<td>.58</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td>103</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

** Significant at the .01 level

The three groups agreed that Nigerian universities must end the practice of basing decisions on cost alone (Table 13 on the following page). However, there appears to be a significant difference with the responses of faculty ($2.19\ p \leq .01$) when compared with the other two groups. Administrators (1.86) and students (1.86) appeared to be in stronger agreement with this point. Standard deviations for the item means ranged from .420 to .538.

When comparing the three groups with the first perception statement, all three groups agreed that Nigerian universities should invest in quality rather than just low cost. The mean rating scores of administrators (1.20), students (1.31) and faculty (1.50) were similar. Standard deviations varied from .564 (faculty) to .719 (administrators).


**TABLE 13**

ITEM MEANS AND STANDARD DEVIATIONS FOR DEMING’S FOURTH POINT AND THE THREE RELATED PERCEPTION STATEMENTS (4a, 4b, 4c)

<table>
<thead>
<tr>
<th>DEMING’S POINT/PERCEPTION STATEMENTS</th>
<th>N</th>
<th>MEAN</th>
<th>S.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deming Pt. 4. Nigerian Universities must end the practice of basing decisions on cost alone.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administrators</td>
<td>35</td>
<td>1.86</td>
<td>.538</td>
</tr>
<tr>
<td>Faculty</td>
<td>34</td>
<td>2.19**</td>
<td>.420</td>
</tr>
<tr>
<td>Students</td>
<td>35</td>
<td>1.86</td>
<td>.438</td>
</tr>
<tr>
<td>Perception 4a. Nigerian universities should invest in quality rather than just low cost.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administrators</td>
<td>35</td>
<td>1.20</td>
<td>.719</td>
</tr>
<tr>
<td>Faculty</td>
<td>34</td>
<td>1.50</td>
<td>.564</td>
</tr>
<tr>
<td>Students</td>
<td>35</td>
<td>1.31</td>
<td>.631</td>
</tr>
<tr>
<td>Perception 4b. Nigerian universities should choose, use, and evaluate facilities, textbooks, technologies, and other resources in teaching based on statistical evidence of success of the particular product and upon accepted outcome measurements.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administrators</td>
<td>35</td>
<td>2.20</td>
<td>.933</td>
</tr>
<tr>
<td>Faculty</td>
<td>34</td>
<td>2.03</td>
<td>.577</td>
</tr>
<tr>
<td>Students</td>
<td>35</td>
<td>2.17</td>
<td>.954</td>
</tr>
<tr>
<td>Perception 4c. Nigerian universities need to cease dependence on testing to achieve quality and instead provide learning experiences which create quality performance.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administrators</td>
<td>35</td>
<td>2.17</td>
<td>.923</td>
</tr>
<tr>
<td>Faculty</td>
<td>34</td>
<td>3.03**</td>
<td>.993</td>
</tr>
<tr>
<td>Students</td>
<td>35</td>
<td>2.09</td>
<td>.818</td>
</tr>
</tbody>
</table>

*Five point Likert scale: 1-Strongly agree, 2-Agree, 3-Not sure, 4-Disagree, 5-Strongly disagree.
**Significant at the .01 level.
All three groups agreed with the second perception statement that Nigerian universities should choose, use and evaluate facilities, textbooks, technologies, and other resources in teaching based on statistical evidence of success of the particular product and upon accepted outcome measurements. The mean rating scores given were fairly comparable ranging from 2.03 to 2.20. Standard deviations for the item means ranged from .577 (faculty) to .933 (administrators) and .954 (students).

When examining the responses from the three groups to the third perception statement, there was a significant difference. Administrators (2.17) and students (2.09) agreed that Nigerian universities need to cease dependence on testing to achieve quality and instead provide learning experiences which create quality performance. Faculty (3.03 p ≤ .01) were not sure when responding to this particular perception statement. Standard deviations for the item means ranged from .818 (students) to .993 (administrator).

Table 14 indicates that the single classification analysis of variance produced significant differences (F(2.61)= 6.3252) between the mean scores of the four sample universities. The H₀ was rejected and through the Scheffe multiple-range procedure, the mean scores between the three groups were significantly different at the .05 level and beyond (Fcv = 5.38 at a=.01). There was a significant difference when comparing administrators with the other two groups.

**TABLE 14**

**ONE-WAY ANALYSIS OF VARIANCE: NIGERIAN UNIVERSITIES MUST END THE PRACTICE OF BASING DECISIONS ON COST ALONE (POINT 4)**

<table>
<thead>
<tr>
<th>SOURCE</th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>Fcv</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANOVA (block)</td>
<td>40</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between Groups</td>
<td>2</td>
<td>2.4921</td>
<td>1.2461</td>
<td>6.3252**</td>
<td>3.55</td>
</tr>
<tr>
<td>Error</td>
<td>61</td>
<td>12.0170</td>
<td>.1970</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td>103</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

** Significant at the .01 level.
When comparing the three groups in Table 15 on the following page with Deming’s fifth point, all three groups agreed that the Nigerian universities must constantly and forever improve the system of production and service. Administrators’ (1.52) mean rating score was similar to faculty a (1.66) and students (1.66). Standard deviations for the item means ranged from .422 to .461.

The first perception statement (5a) showed all three groups agreeing that administrators and no one else are responsible for finding and correcting systematic problems. It should be noted, however, that there is a significant difference between the mean rating scores of the three groups. Administrators (1.57) and faculty (1.47) appear to agree much more strongly than students (1.94, p ≤ .01). Standard deviations for the item means varied from .655 (administrators) and .622 (faculty) to .906 (students).

When contrasting the three groups with the second perception statement (5b), there was agreement with all three that Nigerian universities should continually identify barriers and seek workable solutions to improve processes. Administrators (1.46) strongly agreed with this perception statement and students (1.57) and faculty (1.71) also agreed. Standard deviations for the item mean scores ranged from .462 to .505.

All three groups agreed that Nigerian universities must work with the National Universities Commission to help improve the quality of teachers coming into the system. Students (1.46) agreed strongly with the third perception statement (5c), with faculty (1.79) and administrators (1.54) also agreeing. Standard deviations for the item mean scores varied from .505 to .729.
<table>
<thead>
<tr>
<th>DEMING'S POINT/PERCEPTION STATEMENTS</th>
<th>N</th>
<th>MEAN</th>
<th>S.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deming Pt. 5 Nigerian Universities must constantly and forever improve the system of production and service.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administrators</td>
<td>35</td>
<td>1.52</td>
<td>.430</td>
</tr>
<tr>
<td>Faculty</td>
<td>34</td>
<td>1.66</td>
<td>.422</td>
</tr>
<tr>
<td>Students</td>
<td>35</td>
<td>1.66</td>
<td>.461</td>
</tr>
<tr>
<td>Perception 5a. Administrators and no one else are responsible for finding and correcting systematic problems.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administrators</td>
<td>35</td>
<td>1.57</td>
<td>.655</td>
</tr>
<tr>
<td>Faculty</td>
<td>34</td>
<td>1.47</td>
<td>.662</td>
</tr>
<tr>
<td>Students</td>
<td>35</td>
<td>1.94**</td>
<td>.906</td>
</tr>
<tr>
<td>Perception 5b. Nigerian universities should continually identify barriers and seek workable solutions to improve processes.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administrators</td>
<td>35</td>
<td>1.46</td>
<td>.505</td>
</tr>
<tr>
<td>Faculty</td>
<td>34</td>
<td>1.71</td>
<td>.462</td>
</tr>
<tr>
<td>Students</td>
<td>35</td>
<td>1.57</td>
<td>.502</td>
</tr>
<tr>
<td>Perception 5c. Nigerian universities must work with the educational institutions to help improve the quality of teachers coming into the system.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administrators</td>
<td>35</td>
<td>1.54</td>
<td>.657</td>
</tr>
<tr>
<td>Faculty</td>
<td>34</td>
<td>1.79</td>
<td>.729</td>
</tr>
<tr>
<td>Students</td>
<td>35</td>
<td>1.46</td>
<td>.505</td>
</tr>
</tbody>
</table>

*Five point Likert scale: 1-Strongly agree, 2-Agree, 3-Not sure, 4-Disagree, 5-Strongly disagree.

**Significant at the .01 level.
The single classification analysis of variance produced significant differences (F(2.61) = 3.7785) between the mean scores of the four sampled universities (Table 16). The $H_0$ was rejected and through the Scheffe multiple-range procedure, the mean scores between the three groups were significantly different at the .05 level and beyond ($F_{cv} = 5.38$ at $a=.01$). There was a significant difference when comparing faculty with the other two groups.

**TABLE 16**

ONE-WAY ANALYSIS OF VARIANCE: ADMINISTRATORS AND NO ONE ELSE ARE RESPONSIBLE FOR FINDING AND CORRECTING SYSTEMATIC PROBLEMS (POINT 5/PERCEPTION 5a)

<table>
<thead>
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<th>F</th>
<th>$F_{cv}$</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANOVA (block)</td>
<td>40</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between Groups</td>
<td>2</td>
<td>4.2546</td>
<td>2.1273</td>
<td>3.7785*</td>
<td>3.55</td>
</tr>
<tr>
<td>Error</td>
<td>.61</td>
<td>34.3430</td>
<td>.5630</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td>103</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Significant at the .05 level.

When comparing the mean rating scores of the three groups (1.95), (1.89), and (2.03), all three are in agreement that Nigerian universities must institute modern methods of training on the job (Table 17 on the following page). Standard deviations for the item means ranged from .415 to .537.

The comparison between the three groups with the first perception statement (6a) indicates a significant difference when asked if Nigerian university employees cannot perform well unless they know their jobs and feel free to inform administrators of problems they encounter. Faculty (1.29) and students (1.34) agreed much more strongly with this statement than did administrators (1.66, $p<.01$). Standard deviations for the item means ranged from .482 (students) and .524 (faculty) to .765 (administrators).
The second perception statement (6b) signifies that administrators (2.34) and faculty (2.45) agree that Nigerian universities must use statistical methods to identify when on the job training has achieved its purpose. Students (2.51) were not sure when asked to respond to this particular perception statement. Standard deviations for the item means varied from .666 to .742.

When examining the responses from the three groups to the third perception statement (6c), it appears that there is agreement from all three groups when asked if resources for job training should be geared toward positively contributing to student achievement. Administrators (1.86), faculty (1.94), and students (2.24) gave similar mean rating scores. Standard deviations for the item means ranged from .722 (administrators) to .966 (faculty).
TABLE 17

ITEM MEANS AND STANDARD DEVIATIONS FOR DEMING’S SIXTH POINT AND THE THREE RELATED PERCEPTION STATEMENTS. (6a, 6b, 6c)\textsuperscript{A}

<table>
<thead>
<tr>
<th>DEMING’S POINT/PERCEPTION STATEMENTS</th>
<th>N</th>
<th>MEAN</th>
<th>S.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administrators</td>
<td>35</td>
<td>1.95</td>
<td>.537</td>
</tr>
<tr>
<td>Faculty</td>
<td>34</td>
<td>1.89</td>
<td>.455</td>
</tr>
<tr>
<td>Students</td>
<td>35</td>
<td>2.03</td>
<td>.415</td>
</tr>
<tr>
<td>Perception 6a. Nigerian university employees cannot perform well unless they know their jobs and feel free to inform administrators of problems they encounter.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administrators</td>
<td>35</td>
<td>1.66**</td>
<td>.765</td>
</tr>
<tr>
<td>Faculty</td>
<td>34</td>
<td>1.29</td>
<td>.524</td>
</tr>
<tr>
<td>Students</td>
<td>35</td>
<td>1.34</td>
<td>.482</td>
</tr>
<tr>
<td>Perception 6b. Nigerian universities must use statistical methods to identify when on-the-job training has achieved its purpose.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administrators</td>
<td>35</td>
<td>2.34</td>
<td>.725</td>
</tr>
<tr>
<td>Faculty</td>
<td>33</td>
<td>2.45</td>
<td>.666</td>
</tr>
<tr>
<td>Students</td>
<td>35</td>
<td>2.51</td>
<td>.742</td>
</tr>
<tr>
<td>Perception 6c. Resources for job training should be geared toward positively contributing to student achievement.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administrators</td>
<td>35</td>
<td>1.86</td>
<td>.722</td>
</tr>
<tr>
<td>Faculty</td>
<td>34</td>
<td>1.94</td>
<td>.966</td>
</tr>
<tr>
<td>Students</td>
<td>35</td>
<td>2.24</td>
<td>.781</td>
</tr>
</tbody>
</table>

\textsuperscript{A}Five point Likert scale: 1-Strongly agree, 2-Agree, 3-Not sure, 4-Disagree, 5-Strongly disagree.

**Significant at the .01 level.
The single classification analysis of variance produced significant differences (F[2.61] = 3.7449) between the mean scores of the four sampled universities (Table 18). The H₀ was rejected and through the Scheffe multiple-range procedure, the mean scores between the three groups were significantly different at the .05 level. There was a significant difference when comparing faculty with the other two groups.

**TABLE 18**

**ONE-WAY ANALYSIS OF VARIANCE: NIGERIAN UNIVERSITY EMPLOYEES CANNOT PERFORM WELL UNLESS THEY KNOW THEIR JOBS AND FEEL FREE TO INFORM ADMINISTRATORS OF PROBLEMS THEY ENCOUNTER (POINT 6/PERCEPTION 6a)**

<table>
<thead>
<tr>
<th>SOURCE</th>
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<th>MS</th>
<th>F</th>
<th>Fcv</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANOVA (block)</td>
<td>40</td>
<td>2.8012</td>
<td>1.4006</td>
<td>3.7449*</td>
<td>3.55</td>
</tr>
<tr>
<td>Between Groups</td>
<td>2</td>
<td>2.8012</td>
<td>1.4006</td>
<td>3.7449*</td>
<td>3.55</td>
</tr>
<tr>
<td>Error</td>
<td>61</td>
<td>22.8140</td>
<td>.3740</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td>103</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Significant at the .05 level.

All three groups agreed the Nigerian universities must do more to adopt and institute leadership and get leaders to take responsibility for quality (Table 19). Administrators (1.90) mean rating score was similar with faculty (2.17) and students (2.09). Standard deviations for the item means ranged from .460 to .604.

When contrasting the three groups with the first perception statement (7a), all three groups agreed that the job of administrators is not management, but leadership. The mean rating scores for students (1.74) and administrators (1.80) were comparable with those from faculty (2.09). Standard deviations for the item means varied from .497 (students) to .932 (faculty).

Comparing the three groups and their responses to the second perception statement (7b) indicates agreement that the aim of supervision should be to help people
use resources to do a better job. It appears that the mean rating scores of the three groups were very comparable (1.83), (1.89), and (1.91). The standard deviations for the item means ranged from .618 to .781.

The third perception statement (7c) indicates that administrators (1.97) agreed that evaluations need to be systematic, programmatic, and formative rather than individual, personal, and summarative. It should be noted, however, that there is a significant difference between the mean rating scores of the three groups. Faculty (2.56) and students (2.71 p<.01) were not sure how to respond when asked this question. Standard deviations for the item means varied from .822 (administrators) and .906 (students) to 1.133 (faculty).
TABLE 19

ITEM MEANS AND STANDARD DEVIATIONS FOR DEMING’S SEVENTH POINT
AND THE THREE RELATED PERCEPTION STATEMENTS *(7a, 7b, 7c)*

<table>
<thead>
<tr>
<th>DEMING’S POINT/PERCEPTION STATEMENTS</th>
<th>N</th>
<th>MEAN</th>
<th>S.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deming Pt. 7. Nigerian Universities must do more to adopt and institute leadership and get leaders to take responsibility for quality.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administrators</td>
<td>35</td>
<td>1.90</td>
<td>.553</td>
</tr>
<tr>
<td>Faculty</td>
<td>34</td>
<td>2.17</td>
<td>.604</td>
</tr>
<tr>
<td>Students</td>
<td>35</td>
<td>2.09</td>
<td>.460</td>
</tr>
<tr>
<td>Perception 7a. The job of administrators is not management but leadership.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administrators</td>
<td>35</td>
<td>1.80</td>
<td>.769</td>
</tr>
<tr>
<td>Faculty</td>
<td>33</td>
<td>2.09</td>
<td>.932</td>
</tr>
<tr>
<td>Students</td>
<td>35</td>
<td>1.74</td>
<td>.497</td>
</tr>
<tr>
<td>Perception 7b. The aim of supervision should be to help people use resources to do a better job.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administrators</td>
<td>35</td>
<td>1.91</td>
<td>.781</td>
</tr>
<tr>
<td>Faculty</td>
<td>34</td>
<td>1.88</td>
<td>.729</td>
</tr>
<tr>
<td>Students</td>
<td>35</td>
<td>1.83</td>
<td>.618</td>
</tr>
<tr>
<td>Perception 7c. Evaluations need to be systematic, programmatic, and formative rather than individual, personal, and summative.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administrators</td>
<td>35</td>
<td>1.97</td>
<td>.822</td>
</tr>
<tr>
<td>Faculty</td>
<td>34</td>
<td>2.56</td>
<td>1.133</td>
</tr>
<tr>
<td>Students</td>
<td>34</td>
<td>2.71**</td>
<td>.906</td>
</tr>
</tbody>
</table>

*a Five-point Likert scale: 1-Strongly agree, 2-Agree, 3-Not sure, 4-Disagree, 5-Strongly disagree.

**Significant at the .01 level.
Table 20 reveals that the single classification analysis of variance produced significant differences (F[2.60] = 5.4813) between the mean scores of the four sample universities. The $H_0$ was rejected and through the Scheffe multiple-range procedure, the mean scores between the three groups were significantly different at the .05 level and beyond (Fcv = 5.38 at a=.01). There was a significant difference when comparing the responses from students and those from administrators.

**TABLE 20**

<table>
<thead>
<tr>
<th>SOURCE</th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>Fcv</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANOVA (block)</td>
<td>40</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between Groups</td>
<td>2</td>
<td>10.6009</td>
<td>5.3005</td>
<td>5.4813***</td>
<td>3.55</td>
</tr>
<tr>
<td>Error</td>
<td>60</td>
<td>58.0200</td>
<td>.9670</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td>103</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Significant at the .01 level.

The three groups agreed that Nigerian universities must drive out fear so that everyone may work effectively for the organization (Table 21). Administrators' (1.76) mean rating score was similar with faculty (1.83) and students (1.86). Standard deviations for the item means ranged from .451 to .540.

When comparing the responses of all three groups with the first perception statement (8a), all three agreed that Nigerian universities must drive out fear so that everyone can work effectively. Mean rating scores for faculty (1.82), administrators (2.00), and students (2.29) were similar. Standard deviations for the item means varied from .686 (administrators) to .869 (faculty) and .987 (students).
The second perception statement (8b) indicates that the three groups agree that Nigerian universities must create an environment which encourages people to speak freely. Faculty (1.47) indicated a similar mean rating score with those responses form administrators (1.63) and students (1.60). Standard deviations for the item means ranged from .563 (faculty) to .80 (administrators).

When examining the responses for the third perception statement (8c), the three groups agreed that Nigerian universities must create an atmosphere conducive to risk taking and experimentation without fear of punishment for failure. However, there was a significant difference between the responses of faculty members (2.21, p ≤ .01) and those from administrators (1.66) and/or students (1.69). Faculty members did not agree as strongly to this perception as did administrators and students. Standard deviations for the item means ranged from .530 (students) and .684 (administrators) to .978 (faculty members).
TABLE 21
ITEM MEANS AND STANDARD DEVIATIONS FOR DEMING’S EIGHTH POINT AND THE THREE RELATED PERCEPTION STATEMENTS
(8a, 8b, 8c)\(^a\)

<table>
<thead>
<tr>
<th>DEMING’S POINT/PERCEPTION STATEMENTS</th>
<th>N</th>
<th>MEAN</th>
<th>S.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deming Pt. 8. Nigerian Universities must drive out fear so that everyone may work effectively for the organization.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administrators</td>
<td>35</td>
<td>1.76</td>
<td>.540</td>
</tr>
<tr>
<td>Faculty</td>
<td>34</td>
<td>1.83</td>
<td>.451</td>
</tr>
<tr>
<td>Students</td>
<td>35</td>
<td>1.86</td>
<td>.452</td>
</tr>
<tr>
<td>Perception 8a. Nigerian universities must drive out fear so that everyone can work effectively.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administrators</td>
<td>35</td>
<td>2.00</td>
<td>.686</td>
</tr>
<tr>
<td>Faculty</td>
<td>34</td>
<td>1.82</td>
<td>.869</td>
</tr>
<tr>
<td>Students</td>
<td>35</td>
<td>2.29</td>
<td>.987</td>
</tr>
<tr>
<td>Perception 8b. Nigerian universities must create an environment which encourages people to speak freely.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administrators</td>
<td>35</td>
<td>1.63</td>
<td>.808</td>
</tr>
<tr>
<td>Faculty</td>
<td>34</td>
<td>1.47</td>
<td>.563</td>
</tr>
<tr>
<td>Students</td>
<td>35</td>
<td>1.60</td>
<td>.775</td>
</tr>
<tr>
<td>Perception 8c. Nigerian universities must create an atmosphere conductive to risk taking and experimentation without the fear of punishment for failure.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administrators</td>
<td>35</td>
<td>1.66</td>
<td>.684</td>
</tr>
<tr>
<td>Faculty</td>
<td>34</td>
<td>2.21**</td>
<td>.978</td>
</tr>
<tr>
<td>Students</td>
<td>35</td>
<td>1.69</td>
<td>.530</td>
</tr>
</tbody>
</table>

\(^a\) Five-point Likert scale: 1-Strongly agree, 2-Agree, 3-Not sure, 4-Disagree, 5-Strongly disagree.

**Significant at the .01 level.
The single classification analysis of variance produced significant differences (F[2.61] = 6.1710) between the mean scores of the four sampled universities (Table 22). The H₀ was rejected and through the Scheffe multiple-range procedure, the mean scores between the three groups were significantly different at the .05 level and beyond (Fcv = 5.38 at a=.01). There was a significant difference when comparing faculty members with administrators and students.

**TABLE 22**

ONE-WAY ANALYSIS OF VARIANCE: NIGERIAN UNIVERSITIES MUST CREATE AN ATMOSPHERE CONducIVE TO RISK TAKING AND EXPERIMENTATION WITHOUT THE FEAR OF PUNISHMENT FOR FAILURE (POINT 8/PersPECTION 8c)

<table>
<thead>
<tr>
<th>SOURCE</th>
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<th>MS</th>
<th>F</th>
<th>Fcv</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANOVA (block)</td>
<td>40</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between Groups</td>
<td>2</td>
<td>6.5659</td>
<td>3.2829</td>
<td>6.1710**</td>
<td>3.55</td>
</tr>
<tr>
<td>Error</td>
<td>61</td>
<td>32.4520</td>
<td>.5320</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td>103</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Significant at the .01 level.

Table 23 reveals that the three groups agree with Deming's ninth perception statement. Mean rating scores of administrators (1.77) and faculty members (1.76) were similar with those of students (1.83) when asked if Nigerian universities must break down barriers between departments. Standard deviations for the item means ranged from .504 to .562.

When examining the responses from the three groups to the first perception statement (9a), all three groups agreed that Nigerian universities need to be committed to rebuilding and nurturing an environment in which trust and respect can be applied to what is said, heard, read, and written. The mean rating scores of faculty members (1.67) were
similar with administrators (1.97) and students (2.03). Standard deviations for the item, means varied from .990 (faculty members) to 1.291 (students) and 1.359 (administrators).

The second perception statement (9b) in Table 23 reveals the three groups agreeing that Nigerian universities need to break down barriers by problem solving through teamwork and combining the efforts of people from different university areas. When contrasting the three groups’ mean scores, administrators (1.51) gave a similar mean rating score as did faculty members (1.61) and students (1.68). Standard deviations for the item means ranged from .507 to .638.

When examining the third perception statement (9c), it appears that all three groups agreed that Nigerian universities should reduce waste by encouraging the community, students, administrators, and staff to learn more about the problems of education. When comparing the mean scores of the three groups, administrators (1.82) and students (1.85) were in similar agreement with faculty members (2.00). Standard deviations for the item means varied from .492 (faculty members) to .619 (students) and .797 (administrators).
<table>
<thead>
<tr>
<th>DEMING'S POINT/PERCEPTION STATEMENTS</th>
<th>N</th>
<th>MEAN</th>
<th>S.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deming Pt. 9. Nigerian universities must break down barriers among departments.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administrators</td>
<td>35</td>
<td>1.77</td>
<td>.553</td>
</tr>
<tr>
<td>Faculty</td>
<td>34</td>
<td>1.76</td>
<td>.504</td>
</tr>
<tr>
<td>Students</td>
<td>35</td>
<td>1.83</td>
<td>.562</td>
</tr>
<tr>
<td>Perception 9a. Nigerian universities need to be committed to rebuilding and nurturing an environment in which trust and respect can be applied to what is said, heard, read, and written.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administrators</td>
<td>34</td>
<td>1.97</td>
<td>1.359</td>
</tr>
<tr>
<td>Faculty</td>
<td>33</td>
<td>1.67</td>
<td>.990</td>
</tr>
<tr>
<td>Students</td>
<td>34</td>
<td>2.03</td>
<td>1.291</td>
</tr>
<tr>
<td>Perception 9b. Nigerian universities need to break down barriers by problem solving through teamwork and combining the efforts of people from different school area.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administrators</td>
<td>35</td>
<td>1.51</td>
<td>.507</td>
</tr>
<tr>
<td>Faculty</td>
<td>33</td>
<td>1.61</td>
<td>.609</td>
</tr>
<tr>
<td>Students</td>
<td>34</td>
<td>1.68</td>
<td>.638</td>
</tr>
<tr>
<td>Perception 9c. Nigerian universities should reduce waste by encouraging the community, board of education, administrators, and staff to learn more about the problems of education.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administrators</td>
<td>34</td>
<td>1.82</td>
<td>.797</td>
</tr>
<tr>
<td>Faculty</td>
<td>34</td>
<td>2.00</td>
<td>.492</td>
</tr>
<tr>
<td>Students</td>
<td>33</td>
<td>1.85</td>
<td>.619</td>
</tr>
</tbody>
</table>

*a Five-point Likert scale: 1-Strongly agree, 2-Agree, 3-Not sure, 4-Disagree, 5-Strongly disagree.*
There were some different responses from the three groups when asked if Nigerian universities must eliminate posters and slogans that ask staff for new levels of productivity without providing new methods (Table 24). Administrators (3.48) were not sure when asked to respond to this item while faculty members (3.89, p ≤ .01) and students (3.50) disagreed with Deming’s ninth point. There was a significant difference between faculty members’ responses and the mean rating score of one or both of the other groups. Standard deviations for the item means ranged from .391 (faculty members) and .579 (students) to .742 (administrators).

When examining the first perception statement (10a), it appears that all three groups were not sure when asked if Nigerian universities should eliminate the use of goals, targets, and slogans to encourage performance—unless training and administrative support are provided to meet the goals. Students (2.71) gave a similar mean rating score when compared to administrators (2.97) and faculty members (3.29). Standard deviations for the item means ranged from .893 (students) and 1.029 (administrators) to 1.315 (faculty members). Table 24 reveals that all three groups disagreed that the causes of low quality and low productivity belong to the system and thus lie beyond the control of teachers and students. Mean rating scores of administrators (4.14) and students (4.00) were very comparable in showing disagreement with the second perception statement (10b). However, faculty members (4.50) disagreed strongly with the statement. Standard deviations for the item means ranged from .663 (faculty members) and .840 (students) to .974 (administrators).

The third perception statement (10c) indicates that the three groups differed in their opinion when asked if work quotas such as test results cause low morale in Nigerian universities. Administrators (2.31) and students (2.37) agreed with this statement while faculty members (3.00, p ≤ .01) were not sure how to respond to this statement. Standard deviations for the item means varied from .816 to 1.060.
### TABLE 24

**ITEM MEANS AND STANDARD DEVIATIONS FOR DEMING’S TENTH POINT AND THE THREE RELATED PERCEPTION STATEMENTS (10a, 10b, 10c)**

<table>
<thead>
<tr>
<th>DEMING’S POINT PERCEPTION STATEMENTS</th>
<th>N</th>
<th>MEAN</th>
<th>S.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deming Pt. 10. Nigerian Universities must eliminate posters and slogans that ask staff for new levels of productivity without providing new methods.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administrators</td>
<td>35</td>
<td>3.48</td>
<td>.742</td>
</tr>
<tr>
<td>Faculty</td>
<td>34</td>
<td>3.89**</td>
<td>.391</td>
</tr>
<tr>
<td>Students</td>
<td>35</td>
<td>3.50</td>
<td>.579</td>
</tr>
<tr>
<td>Perception 10a. Nigerian universities should eliminate the use of goals, targets, and slogans to encourage performance—unless training and administrative support are provided to meet the goals.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administrators</td>
<td>34</td>
<td>2.97</td>
<td>1.029</td>
</tr>
<tr>
<td>Faculty</td>
<td>34</td>
<td>3.29</td>
<td>1.315</td>
</tr>
<tr>
<td>Students</td>
<td>35</td>
<td>2.71</td>
<td>.893</td>
</tr>
<tr>
<td>Perception 10b. The causes of low quality and low productivity belong to the system and thus lie beyond the control of teachers and students.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administrators</td>
<td>35</td>
<td>4.14</td>
<td>3974</td>
</tr>
<tr>
<td>Faculty</td>
<td>34</td>
<td>4.50</td>
<td>.663</td>
</tr>
<tr>
<td>Students</td>
<td>35</td>
<td>4.00</td>
<td>.840</td>
</tr>
<tr>
<td>Perception 10c. Work quotas such as test results cause low morale in schools.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administrators</td>
<td>35</td>
<td>2.31</td>
<td>1.051</td>
</tr>
<tr>
<td>Faculty</td>
<td>34</td>
<td>3.00**</td>
<td>.816</td>
</tr>
<tr>
<td>Students</td>
<td>35</td>
<td>2.37</td>
<td>1.060</td>
</tr>
</tbody>
</table>

*a Five-point Likert scale: 1-Strongly agree, 2-Agree, 3-Not sure, 4-Disagree, 5-Strongly disagree.*

**Significant at the .01 level.
There is a significant difference between the responses from faculty members and the responses from one or both of the other groups.

The single classification analysis of variance produced significant differences ($F[2.61] = 5.38$) between the mean scores of the four sample universities (Table 25). The Ho was rejected and through the Scheffe multiple-range procedure, the mean scores between the three groups were significantly different at the .05 level and beyond ($Fcv = 5.38$ at $a=.01$). There was a significant difference when comparing faculty members with administrators and students.

**TABLE 25**

ONE-WAY ANALYSIS OF VARIANCE: NIGERIAN UNIVERSITIES MUST ELIMINATE POSTERS AND SLOGANS THAT ASK STAFF FOR NEW LEVELS OF PRODUCTIVITY WITHOUT PROVIDING NEW METHODS (POINT 10)

<table>
<thead>
<tr>
<th>SOURCE</th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>Fcv</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANOVA (block)</td>
<td>40</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between Groups</td>
<td>2</td>
<td>3.747</td>
<td>1.873</td>
<td>5.38**</td>
<td>3.55</td>
</tr>
<tr>
<td>Error</td>
<td>61</td>
<td>21.235</td>
<td>.348</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td>103</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Significant at the .01 level.**

Table 26 shows that the single classification analysis of variance produced significant differences ($F[2.61] = 5.8733$) between the mean scores of the four sampled universities. The Ho was rejected and through the Scheffe multiple-range procedure, the mean scores between the three groups were significantly different at the .05 level and beyond ($Fcv = 5.38$ at $a=.01$). There was a significant difference when comparing faculty members with administrators and students.
TABLE 26
ONE-WAY ANALYSIS OF VARIANCE: WORK QUOTAS SUCH AS TEST RESULTS CAUSE LOW MORALE IN NIGERIAN UNIVERSITIES
(POINT 10/PERCEPTION 10c)

<table>
<thead>
<tr>
<th>SOURCE</th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>Fcv</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANOVA (block)</td>
<td>40</td>
<td>52.0940</td>
<td>.8540</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between Groups</td>
<td>2</td>
<td>10.0315</td>
<td>5.0158</td>
<td>5.8733**</td>
<td>3.55</td>
</tr>
<tr>
<td>Error</td>
<td>61</td>
<td>52.0940</td>
<td>.8540</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td>103</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Significant at the .01 level.

The three groups were not sure when asked to respond to whether or not Nigerian universities must eliminate numerical goals and quotas for the work force (Table 27). The mean rating score for students (2.52) was similar with those responses from faculty (2.81) and administrators (2.71). Standard deviations for the item means ranged from .570 (students) and .576 (faculty members) to .755 (administrators).

When examining the first perception statement (11a), all three groups agreed that all educational employees must be involved in identifying problems, designing program, planning, budgeting, and selecting material. When comparing the mean rating scores of the three groups, it appears that faculty members (1.65) gave a similar mean rating score as students (1.86) and administrators (2.06). Standard deviations for the item means ranged from .734 (faculty members) to .998 (administrators).

Table 27 indicates that all three groups were not sure when asked if universities must eliminate management by numbers and numerical goals and instead substitute leadership. There was a similar comparison in the mean rating scores between students (2.71) faculty members (3.29), and administrators (2.97). Standard deviations for the item varied from .893 (students) to 1.029 (administrators) and 1.315 (faculty members).
The third perception statement (3c) indicates a difference in the responses form the three groups. Faculty members (3.50) disagreed when asked if grades and test scores do not motivate the students to learn, but rather drive out the joy of learning.

Students (3.03) and administrators (3.09) were not sure when responding to this statement. Standard deviations for the item means ranged from .707 (faculty members) and 1.243 (students) to 1.121 (administrators).
TABLE 27

ITEM MEANS AND STANDARD DEVIATIONS FOR DEMING'S ELEVENTH POINT AND THE THREE RELATED PERCEPTION STATEMENTS

(11a, 11b, 11c)^a

<table>
<thead>
<tr>
<th>DEMING'S POINT/PERCEPTION STATEMENTS</th>
<th>N</th>
<th>MEAN</th>
<th>S.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deming Pt. 11. Nigerian Universities must eliminate numerical goals and quotas for the work force.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administrators</td>
<td>35</td>
<td>2.71</td>
<td>.755</td>
</tr>
<tr>
<td>Faculty</td>
<td>34</td>
<td>2.81</td>
<td>.576</td>
</tr>
<tr>
<td>Students</td>
<td>35</td>
<td>2.52</td>
<td>.570</td>
</tr>
<tr>
<td>Perception 11a. All educational employees must be involved in identifying problems, designing program, planning, budgeting, and selecting material.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administrators</td>
<td>34</td>
<td>2.06</td>
<td>.998</td>
</tr>
<tr>
<td>Faculty</td>
<td>34</td>
<td>1.65</td>
<td>.734</td>
</tr>
<tr>
<td>Students</td>
<td>35</td>
<td>1.86</td>
<td>.845</td>
</tr>
<tr>
<td>Perception 11b. Nigerian universities must eliminate management by numbers and numerical goals and instead substitute leadership.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administrators</td>
<td>34</td>
<td>2.97</td>
<td>1.029</td>
</tr>
<tr>
<td>Faculty</td>
<td>34</td>
<td>3.29</td>
<td>1.315</td>
</tr>
<tr>
<td>Students</td>
<td>35</td>
<td>2.71</td>
<td>.893</td>
</tr>
<tr>
<td>Perception 11c. Grades and test scores do not motivate the student to learn, but rather drive out the joy of learning.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administrators</td>
<td>35</td>
<td>3.09</td>
<td>3.121</td>
</tr>
<tr>
<td>Faculty</td>
<td>34</td>
<td>3.50</td>
<td>.707</td>
</tr>
<tr>
<td>Students</td>
<td>34</td>
<td>3.03</td>
<td>1.243</td>
</tr>
</tbody>
</table>

^a Five-point Likert scale: 1-Strongly agree, 2-Agree, 3-Not sure, 4-Disagree, 5-Strongly disagree.
Table 28 indicates that all three groups were not sure if universities must remove barriers that rob people of pride in workmanship and eliminate the annual rating or merit system. When comparing the mean rating scores of the three groups, administrators (2.62), faculty members (2.67) and students (2.55) were similar. Standard deviations for the item means ranged from .435 to .567.

When examining the first perception statement (12a), it appears that the three groups were not sure when asked if traditional practices of teacher evaluation destroys teamwork, fosters mediocrity, and fosters short-term thinking—all detriments to continuing improvement. The mean scores of the three groups were somewhat similar, although students (2.74) tended to be closer to agreeing with this statement than did administrators (2.94) or faculty members (3.00). Standard deviations for the item means varied from 1.067 (students) to 1.235 (administrators) and 1.348 (faculty members).

Table 28 reveals that the three groups agreed that the responsibility of all educational administrators must be changed from quantity to quality. Administrators (1.54) and students (1.54) agreed with the second perception statement (12b), while faculty members (1.38) strongly agreed. Standard deviations for the item means ranged from .497 (faculty members) and .564 (students) to .751 (administrators).

When examining the third perception statement (12c), the mean rating scores of administrators (3.37) and students (3.37) indicated that they were not sure if schools need to place more resources toward evaluating the system rather than individuals. Faculty members (3.62) responded by disagreeing with the statement. Standard deviations for the item means ranged from .551 (faculty members) to .877 (students) and 1.190 (administrators).
TABLE 28

ITEM MEANS AND STANDARD DEVIATIONS FOR DEMING’S TWELFTH POINT AND THE THREE RELATED PERCEPTION STATEMENTS (12a, 12b, 12c)\(^a\)

<table>
<thead>
<tr>
<th>DEMING’S POINT/PERCEPTION STATEMENTS</th>
<th>N</th>
<th>MEAN</th>
<th>S.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deming Pt. 12. Nigerian Universities must remove barriers that rob people of pride in workmanship and eliminate the annual rating or merit system.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administrators</td>
<td>35</td>
<td>2.62</td>
<td>.567</td>
</tr>
<tr>
<td>Faculty</td>
<td>34</td>
<td>2.67</td>
<td>.485</td>
</tr>
<tr>
<td>Students</td>
<td>35</td>
<td>2.55</td>
<td>.435</td>
</tr>
<tr>
<td>Perception 12a. Traditional practices of teacher evaluation destroys teamwork, fosters mediocrity, and fosters short-term thinking—all detriments to continuing improvement.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administrators</td>
<td>35</td>
<td>2.94</td>
<td>1.235</td>
</tr>
<tr>
<td>Faculty</td>
<td>34</td>
<td>3.00</td>
<td>1.348</td>
</tr>
<tr>
<td>Students</td>
<td>35</td>
<td>2.74</td>
<td>1.067</td>
</tr>
<tr>
<td>Perception 12b. The responsibility of all educational administrators must be changed from quantity to quality.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administrators</td>
<td>35</td>
<td>1.54</td>
<td>.751</td>
</tr>
<tr>
<td>Faculty</td>
<td>34</td>
<td>1.38</td>
<td>.497</td>
</tr>
<tr>
<td>Students</td>
<td>35</td>
<td>1.54</td>
<td>.564</td>
</tr>
<tr>
<td>Perception 12c. Nigerian universities need to place more resources toward evaluating the system rather than individuals.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administrators</td>
<td>35</td>
<td>3.37</td>
<td>1.190</td>
</tr>
<tr>
<td>Faculty</td>
<td>34</td>
<td>3.62</td>
<td>.551</td>
</tr>
<tr>
<td>Students</td>
<td>35</td>
<td>3.37</td>
<td>.877</td>
</tr>
</tbody>
</table>

\(^a\) Five-point Likert scale: 1-Strongly agree, 2-Agree, 3-Not sure, 4-Disagree, 5-Strongly disagree.
When comparing the three groups' responses to Deming's thirteenth point, we see a significant difference between the three groups (Table 29). The mean rating scores of administrators (2.33, \( p \leq .01 \)) and faculty members (2.02) agreed that schools must institute a vigorous program of education and self-improvement for everyone. Students (2.54, \( p \leq .01 \)) indicated that they were not sure when responding to this particular point. Standard deviations for the item means ranged from .434 to .577.

When examining the three groups' responses to the first perception statement (13a), it appears that the three groups differed when asked if all personnel in Nigerian universities should learn statistical techniques and their application towards continuos improvement. Administrators (3.20) and faculty members (2.58) indicated that they were not sure when asked this perception and their rating scores were somewhat different. The significant difference was with the students (3.60, \( p \leq .05 \)) disagreeing with this perception statement. Standard deviations for the item means ranged from .659 (students) and .912 (faculty members) to 2.079 (administrators).

Table 29 also reveals that the three groups agree that schools must recognize that different levels and functions in the organization require different types of training. The mean rating scores of the three groups were somewhat similar, with administrators (1.74) and faculty members (1.82) agreeing with students (2.00). Standard deviations for the item means varied from .459 to .689.
<table>
<thead>
<tr>
<th>DEMING'S POINT/PERCEPTION STATEMENTS</th>
<th>N</th>
<th>MEAN</th>
<th>S.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Administrators</td>
<td>35</td>
<td>2.33**</td>
<td>.577</td>
</tr>
<tr>
<td>Faculty</td>
<td>34</td>
<td>2.02</td>
<td>.434</td>
</tr>
<tr>
<td>Students</td>
<td>35</td>
<td>2.54**</td>
<td>.478</td>
</tr>
<tr>
<td>Perception 13a. All personnel in Nigerian universities should learn statistical theory and its application toward continuous improvement.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administrators</td>
<td>35</td>
<td>3.20</td>
<td>2.079</td>
</tr>
<tr>
<td>Faculty</td>
<td>34</td>
<td>2.68</td>
<td>.912</td>
</tr>
<tr>
<td>Students</td>
<td>35</td>
<td>3.60*</td>
<td>.659</td>
</tr>
<tr>
<td>Perception 13b. Nigerian universities must provide all employees with training in quality leadership, measurement, analysis, problem solving, self-evaluation, and assertiveness training.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administrators</td>
<td>35</td>
<td>2.06</td>
<td>1.027</td>
</tr>
<tr>
<td>Faculty</td>
<td>34</td>
<td>1.56</td>
<td>.660</td>
</tr>
<tr>
<td>Students</td>
<td>35</td>
<td>2.00</td>
<td>.921</td>
</tr>
<tr>
<td>Perception 13c. Nigerian universities must recognize that different levels and functions in the organization require different types of training.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administrators</td>
<td>35</td>
<td>1.74</td>
<td>.611</td>
</tr>
<tr>
<td>Faculty</td>
<td>34</td>
<td>1.82</td>
<td>.459</td>
</tr>
<tr>
<td>Students</td>
<td>35</td>
<td>2.00</td>
<td>.689</td>
</tr>
</tbody>
</table>

* Five-point Likert scale: 1-Strongly agree, 2-Agree, 3-Not sure, 4-Disagree, 5-Strongly disagree.
* Significant at the .05 level.
** Significant at the .01 level.
The single classifications analysis of variance produced significant differences (F[2.61] = 9.164) between the mean scores of the four sample universities (Table 30). The Ho was rejected and through the Scheffe multiple-range procedure, the mean scores between the three groups were significantly different at the .05 level and beyond (Fcv at a=.01). There was a significant difference when comparing faculty members’ responses with those responses from administrators and students.

**TABLE 30**

ONE-WAY ANALYSIS OF VARIANCE: NIGERIAN UNIVERSITIES MUST INSTITUTE A VIGOROUS PROGRAM OF EDUCATION AND SELF-IMPROVEMENT FOR EVERYONE. (POINT 13)

<table>
<thead>
<tr>
<th>SOURCE</th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>Fcv</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANOVA (block)</td>
<td>40</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Between Groups</td>
<td>2</td>
<td>4.7131</td>
<td>2.3565</td>
<td>9.1694**</td>
<td>3.55</td>
</tr>
<tr>
<td>Error</td>
<td>61</td>
<td>15.6770</td>
<td>.2570</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>103</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Significant at the .01 level.**

Table 31 reveals that the single classification analysis of variance produced significant differences (F[2.61]-8.8654) between the mean scores of the four sample universities. The Ho was rejected and through the Scheffe multiple-range procedure, the mean scores between the three groups were significantly different at the .05 level and beyond (Fcv-5.38 at a=.01). There was a significant difference when comparing administrators with faculty members.
TABLE 31

ONE-WAY ANALYSIS OF VARIANCE: ALL PERSONNEL IN THE UNIVERSITIES SHOULD LEARN STATISTICAL THEORY AND ITS APPLICATION TOWARD CONTINUOUS IMPROVEMENT (POINT 13/PERCEPTION 13a)

<table>
<thead>
<tr>
<th>SOURCE</th>
<th>df</th>
<th>SS</th>
<th>MS</th>
<th>F</th>
<th>Fcv</th>
</tr>
</thead>
<tbody>
<tr>
<td>ANOVA (block)</td>
<td>40</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Between Groups</td>
<td>2</td>
<td>14.6634</td>
<td>7.3317</td>
<td>8.8564**</td>
<td>3.55</td>
</tr>
<tr>
<td>Error</td>
<td>61</td>
<td>50.4470</td>
<td>.8270</td>
<td></td>
<td></td>
</tr>
<tr>
<td>TOTAL</td>
<td>103</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Significant at the .01 level.

When examining the responses to Deming’s fourteenth point, it appears the three groups were in agreement that Nigerian universities must put everybody in the organization to work to accomplish the transformation (Table 32). The mean rating scores of administrators (2.14), faculty members (2.21) and students (2.06) were similar. Standard deviations for the item means ranged from .479 to .683.

When responding to the first perception statement (14a), it appears that all three groups were not sure when asked if university administrators have been ineffective in bringing about needed change in Nigerian universities. When comparing the mean scores of the three groups, administrators (3.37), students (3.06), and faculty members (3.12) were similar. Standard deviations for the item means ranged from .844 (faculty members) to 1.083 (students) and 1.165 (administrators).

The second perception statement (14b) in Table 31 shows all three groups agreeing that Nigerian universities as they are traditionally designed will not meet the needs of a changing society. The mean rating scores for administrators (1.86) and students (2.03) were similar with faculty members (2.26). Standard deviations for the item means ranged from .931 to 1.033.
In response to the third perception statement (14c), all three groups agreed strongly that every individual in the system (administrators, professors, volunteers, teachers, support staff, students, parents, community partners), plays a major role in providing a quality education. The mean rating scores of students (1.09), administrators (1.20) and faculty members (1.24) were quite similar. Standard deviations for the item means varied from .284 (students) to .406 (administrators) and .431 (faculty members).
## TABLE 32

ITEM MEANS AND STANDARD DEVIATIONS FOR DEMING’S FOURTEENTH POINT AND THE THREE RELATED PERCEPTION STATEMENTS (14a, 14b, 14c)\(^a\)

<table>
<thead>
<tr>
<th>DEMING’S POINT/PERCEPTION STATEMENTS</th>
<th>N</th>
<th>MEAN</th>
<th>S.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Deming Pt. 14. Nigerian Universities must put everybody in the organization to work to accomplish the transformation.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administrators</td>
<td>35</td>
<td>2.14</td>
<td>.683</td>
</tr>
<tr>
<td>Faculty</td>
<td>34</td>
<td>2.21</td>
<td>.479</td>
</tr>
<tr>
<td>Students</td>
<td>35</td>
<td>2.06</td>
<td>.580</td>
</tr>
<tr>
<td>Perception 14a. University administrators have been ineffective in bringing about needed changes in Nigerian universities.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administrators</td>
<td>35</td>
<td>3.37</td>
<td>1.165</td>
</tr>
<tr>
<td>Faculty</td>
<td>34</td>
<td>3.12</td>
<td>.844</td>
</tr>
<tr>
<td>Students</td>
<td>35</td>
<td>3.06</td>
<td>1.083</td>
</tr>
<tr>
<td>Perception 14b. Nigerian universities as they are traditionally designed will not meet the needs of a changing society.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administrators</td>
<td>35</td>
<td>1.86</td>
<td>1.033</td>
</tr>
<tr>
<td>Faculty</td>
<td>34</td>
<td>2.26</td>
<td>.931</td>
</tr>
<tr>
<td>Students</td>
<td>35</td>
<td>2.03</td>
<td>.985</td>
</tr>
<tr>
<td>Perception 14c. Every individual in the system (administrators, professors, volunteers, teachers, support staff, students, parents, community partners) plays a major role in providing a quality education.</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Administrators</td>
<td>35</td>
<td>1.20</td>
<td>.406</td>
</tr>
<tr>
<td>Faculty</td>
<td>34</td>
<td>1.24</td>
<td>.431</td>
</tr>
<tr>
<td>Students</td>
<td>35</td>
<td>1.09</td>
<td>.284</td>
</tr>
</tbody>
</table>

\(^a\) Five-point Likert scale: 1-Strongly agree, 2-Agree, 3-Not sure, 4-Disagree, 5-Strongly disagree.

**Significant at the .01 level.
Summary of Findings

When comparing the three groups’ perceptions toward total quality management, there appears to be some agreement, disagreement, and uncertainty with the 14 points and the 42 perception statements.

Findings Related to the 14 Points

The following points were found to be agreed upon by administrators, faculty members, and students:

1. Nigerian universities should create constancy of purpose toward improvement of product and service.

2. Nigerian universities need to adopt a new philosophy which states that commonly accepted levels of mistakes, delays, and defects will no longer be tolerated.

3. Nigerian universities need to cease dependence upon mass inspection.

4. Nigerian universities must end the practice of basing decisions on cost alone.

5. Nigerian universities must constantly and forever improve the system of production and service.


7. Nigerian universities must do more to adopt and institute leadership and get leaders to take on responsibility for quality.

8. Nigerian universities must drive out fear so that everyone can work effectively.


10. Nigerian universities must put everybody in the organization to work to accomplish the transformation.

The following points were found to be answered “not sure” by administrators, faculty members, and students.
11. Nigerian universities must eliminate numerical goals and quotas for the work force.

12. Nigerian universities must remove barriers that rob people of pride in workmanship and eliminate the annual rating or merit system.

The following point was disagreed upon by administrators, faculty members, and students.

10. Nigerian universities must eliminate posters and slogans that ask staff for new levels of productivity without providing new methods.

Findings Related to the 42 Perception Statements

When comparing the three groups and their responses to the 42 perception statements, there appears to be some agreement, disagreement, and uncertainty.

Administrators, faculty members, and students were all in agreement with the following perception statements:

(1a) Nigerian universities should create constancy of purpose toward improvement of the entire school system and its purposes.

(1b) Nigerian universities should aim to create the best quality students capable of improving all forms of processes and entering meaningful positions in society.

(1c) Nigerian universities should strive to be as good as they can be and have a continuous desire to improve.

(2a) University management must awaken to the challenge, must learn their responsibilities, and take on leadership for change.

(2b) Nigerian universities must accept the idea that students can learn at high levels under the right conditions of teaching and learning.

(2c) Nigerian universities must not accept underachievement from anyone in the system: faculty members, administrators, staff, students, or parents.

(3a) Nigerian universities need to concentrate on a new philosophy emphasizing the move from the identification of student failure to preventing student failure through continuous improvement.
(4a) Nigerian universities should invest in quality rather than just low cost.
(4b) Nigerian universities should choose, use, and evaluate facilities, textbooks, technologies, and other resources in teaching based on statistical evidence of success of the particular product and upon accepted outcome measurements.
(5a) Administrators and no one else are responsible for finding and correcting systematic problems.
(5b) Nigerian universities should continually identify barriers and seek workable solutions to improve processes.
(5c) Nigerian universities must work with the educational institution to help improve the quality of instructors coming into the system.
(6a) Nigerian universities employees cannot perform well unless they know their jobs and feel free to inform administrators of problems they encounter.
(6c) Resources for job training should be geared toward positively contributing to student achievement.
(7a) The job of administrators is not management, but leadership.
(7b) The aim of supervision should be to help people use resources to do a better job.
(8a) Nigerian universities must drive out fear so that everyone can work effectively.
(8b) Nigerian universities must create an environment which encourages people to speak freely.
(8c) Nigerian universities must create an atmosphere conducive to risk taking and experimentation without the fear of punishment for failure.
(9a) Nigerian universities need to be committed to rebuilding and nurturing an environment in which trust and respect can be applied to what is said, heard, read, and written.
(9b) Nigerian universities need to break down barriers by problem solving through teamwork and combining the efforts of people from different university areas.
(9c) Nigerian universities should reduce waste by encouraging the community, faculty, administrators, staff to learn more about the problems of education.
(11a) All educational employees must be involved in identifying problems, designing program, planning, budgeting, and selecting material.
(12b) The responsibility of all Nigerian university administrators must be changed from quantity to quality.

(13b) Nigerian universities must provide all employees with training in quality leadership, measurement, analysis, problem solving, self-evaluation, and assertiveness training.

(13c) Nigerian universities must recognize that different levels and functions in the organization require different types of training.

(14b) Nigerian universities as they are traditionally designed will not meet the needs of a changing society.

(14c) Every individual in the system (administrators, faculty, volunteers, support staff, students, parents, community partners) plays a major role in providing a quality education.

The following perception statements were found to be answered “not sure” by administrators, faculty members, and students:

(10a) Nigerian universities should eliminate the use of goals, targets, and slogans to encourage performance – unless training and administrative support are provided to meet the goals.

(11b) Nigerian universities must eliminate management by numbers and numerical goals and instead substitute leadership.

(12a) Traditional practices of teacher evaluation destroy teamwork, foster mediocrity, and foster short-term thinking—all detriments to continuing improvement.

(14a) Nigerian university administrators have been ineffective in bringing about needed changes in the universities.

Administrators, faculty members, and students all disagreed with the following perception statement:

(10b) The causes of low quality and low productivity belong to the system and thus lie beyond the control of teachers and students.
The following perception statements were answered differently (but not significantly different) by administrators, faculty members, and student:

(3b) Nigerian universities need to understand and use statistical assessment of student growth and development on a daily basis. (Administrators agree, faculty members agree, students not sure).

(6b) Nigerian universities must use statistical methods to identify when on-the-job training has achieved its purpose. (Administrators agree, faculty members agree, students not sure.)

(11c) Grades and test scores do not motivate the student to learn, but rather drive out the joy of learning. (Administrators not sure, faculty members disagree, students not sure.)

(12c) Nigerian universities need to place more resources toward evaluating the system rather than individuals. (Administrators not sure, faculty members disagree, students not sure.)

Findings related to the significant differences between the three groups when comparing the item mean scores.

When comparing the three groups' perceptions toward total quality management, there appear to be some significant differences among the 14 points and the 42 perception statements. In order to visually portray these differences, Tables 33 and 34 were created.

There is a significant difference in perceptions when comparing the three groups on Points 4, 10, and 13.

When comparing the attitudes of the three groups toward the 42 perception statements, significant differences were found with perception statements 3c, 4c, 5a, 6a, 7c, 8c, 10c, and 13a.
<table>
<thead>
<tr>
<th>RESPONDENT GROUP</th>
<th>DIRECTION OF DIFFERENCE</th>
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</thead>
<tbody>
<tr>
<td>4 Faculty Members</td>
<td>(a) Are less willing to agree that Nigerian universities must end the practice of basing decisions on cost alone.</td>
</tr>
<tr>
<td>10 Faculty Members</td>
<td>(a) Are more willing to disagree that Nigerian universities must eliminate posters and slogans that ask staff for new levels of productivity without providing new methods.</td>
</tr>
<tr>
<td>5 Administrators and Students</td>
<td>(b) Are less willing to agree that Nigerian universities must institute a vigorous program of education and self-improvement for everyone.</td>
</tr>
<tr>
<td>4 Students</td>
<td>(c) Are not sure if Nigerian universities must institute a vigorous program of education and self-improvement for everyone.</td>
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TABLE 34
SUMMARY OF SIGNIFICANT DIFFERENCES BY GROUPS WHEN EXAMINING THE 42 PERCEPTION STATEMENTS

<table>
<thead>
<tr>
<th>RESPONDENT GROUP</th>
<th>DIRECTION OF DIFFERENCE</th>
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</thead>
<tbody>
<tr>
<td>3c Faculty Members</td>
<td>(a) Do not agree that universities must find other ways to assess students without dependency on tests and grades.</td>
</tr>
<tr>
<td>4c Faculty Members</td>
<td>(b) Are not sure if universities need to cease dependence on testing to achieve quality and instead provide learning experiences which create quality performance.</td>
</tr>
<tr>
<td>5a Students</td>
<td>(c) Are less willing to agree that administrators and no one else are responsible for finding and correcting systematic problems.</td>
</tr>
<tr>
<td>6a Administrators</td>
<td>(d) Are less likely to agree that university employees cannot perform well unless they know their jobs and feel free to inform administrators of problems they encounter.</td>
</tr>
<tr>
<td>7c Students</td>
<td>(e) Are less likely to agree that evaluations need to be systematic, programmatic, and formative rather than individual, personal, and summative.</td>
</tr>
<tr>
<td>8c Faculty Members</td>
<td>(f) Are less likely to agree that universities must create an atmosphere conducive to risk taking and experimentation without the fear of punishment for failure.</td>
</tr>
<tr>
<td>10c Faculty Members</td>
<td>(g) Are not sure if work quotas such as test results cause low morale in Nigerian universities.</td>
</tr>
<tr>
<td>13a Students</td>
<td>(h) Do not agree that all personnel in the university should learn statistical theory and its application toward continuous improvement.</td>
</tr>
</tbody>
</table>
CHAPTER VI

RESEARCH FINDINGS, CONCLUSIONS, IMPLICATIONS, AND RECOMMENDATIONS

The purpose of this study, conducted during the months of May and August 1994, was to analyze the perceptions of University administrators, faculty members, and students regarding total quality management in Nigerian universities. The survey instrument used in this study was developed by the researcher using a two-step procedure. After the review of literature was completed, 42 perception statements were created to assess and compare educators’ perceptions concerning Deming’s 14 points (three perceptions for each of the 14 points) as they apply to education. These 42 perception statements were submitted to a validating panel to assess the validity of the instrument.

All data were collected during the months of May and August 1994. Completed surveys were collected from 104 participants which included 35 administrators, 34 faculty members, and 35 students. The scoring for negatively stated items of the survey was reversed before the data were analyzed.

Initial data analysis involved four separate procedures. First, total means and standard deviations were calculated for the ratings given each of the 42 perception statements by the 104 respondents. Means and standard deviations across participants were calculated for the 14 subclasses that were organized according to Deming’s 14 points. As a third statistical procedure, one-way analysis of variance was performed to test for significant differences among the mean ratings for each of the 14 points as well as for the 42 individual perception statements comparing the three participant groups. The one-way analysis of variance was used to test the research null hypotheses.
\[ H_0 = m_1 = m_2 = m_3 \]

\[ H_1: \text{ At least two } m's \text{ are not equal} \]

\[ a = .05 \]

The final statistical procedure involved conducting the Scheffe post hoc multiple-range procedure (\( P \leq .05 \)).

**Summary of Findings**

In summary, if Nigerian universities are going to implement total quality management, there appear to be several major issues that should be addressed. These are 1) continuous improvement, 2) the use of goals and slogans, 3) the use of tests and grades, 4) using statistical assessment and 5) the current employee evaluation and merit system.

Several perception statements emphasized the need for continuous improvement in Nigerian universities and generally all three groups were in agreement with this philosophy. However, the concept of giving up the use of goals and slogans in universities met with some resistance. All three groups expressed uncertainty and some disagreement when asked if goals, targets, and slogans should be eliminated to encourage performance.

Several perception statements addressed the current practice of using tests and grades in Nigerian universities and the three groups had different viewpoints. Students and administrators agreed that universities must find other ways to assess students without dependency on tests and grades while faculty members indicated that they were not sure.

The idea that test scores and grades do not motivate the students to learn, but rather drive out the joy in learning, was disagreed with by faculty members while students and administrators expressed uncertainty. Furthermore, students and
administrators agreed that work quotas such as test results cause low morale in school while faculty members disagreed with this perception statement.

The perception that all personnel in universities should learn statistical theory and its application toward university improvement was met with uncertainty and disagreement by the three groups. Administrators and faculty members indicated uncertainty while students disagreed with this perception statement.

Several perception statements indicated that the three groups would have problems when examining the areas of employee evaluation and the merit pay system. Faculty members disagreed that universities need to place more resources toward evaluating the system rather than individuals while administrators and students indicated that they were not sure. Furthermore, administrators, faculty members, and students all disagreed that the causes of low quality and low productivity could be traced to the system and thus lie beyond their control. All three groups indicated resistance when asked to respond to eliminating the annual rating or merit pay system.

Implication of This Study

This study suggests that the perception held on TQM (as defined by Deming’s 14 principles, and the 42 perception statements) by Nigerian university administrators, faculty and students is generally very positive. This implies that the possibilities of TQM being accepted and possibly implemented in these selected universities are high. This does not, however, imply that TQM is a panacea for Nigeria’s ailing university system. But it does imply that TQM could be part of the solution to some Nigerian university problems.

Although the study suggests a need for TQM in the studied Nigerian universities, if there is no political willpower or administrative acumen, TQM does not have a chance in Nigerian universities. Consequently, there are some exogenous and endogenous
variables that could militate against TQM in Nigerian universities: financial inadequacy, political instability, low administrative morale, and the list could go on and on. However, these variables are not insurmountable.

To have a favorable national policy on TQM that will apply to all Nigerian universities, the Federal Ministry of Education as well as the NUC will first have to buy into it. More studies are needed on the perceptions of the Federal Ministry of Education and the NUC on TQM in Nigerian universities. Alternatively, the benefits of TQM and the need for TQM in Nigerian universities could be marketed to the Federal Ministry of Education and the NUC alike. Since not every academic and administrative decision made by each Nigerian university must be cleared through the Federal Ministry of Education or the NUC, a skillful vice-chancellor with the political willpower and administrative wherewithal could explore the usefulness of TQM in his/her particular university.

Recommendations

1. The universities involved in this study need to have a thorough understanding of total quality management, including the similarities and major differences of current educational practices.

2. A great deal of time needs to be invested in order to develop the readiness that Nigerian universities will need before they are ready to truly involve themselves with TQM.

3. Students, faculty, parents, board members, administrators, support staff, and Nigerian university members will need to have a thorough understanding of the radical change that will be involved. A tremendous amount of careful planning will have to take place before this happens.

4. More research needs to be done with several other institutions of higher learning in Nigeria to facilitate comparative analysis.

5. Finally, further research needs to be done to ascertain the perceptions of the Federal Ministry of Education, State Ministries of Education and the NUC on TQM in Nigerian Universities and other institutions of higher learning.
APPENDIX A

UNIVERSITY ADMINISTRATORS, FACULTY AND STUDENTS QUESTIONNAIRE

The following is a survey for a Ph.D. research project. It was designed to assess your opinion of Total Quality Management in Nigerian Universities. Rate each of the following statements by circling one of the alphabets from A to E that best represents your thoughts on each statement.

Your participation is sincerely appreciated.

For example:

<table>
<thead>
<tr>
<th>STATEMENT</th>
<th>STRONGLY AGREE</th>
<th>AGREE</th>
<th>NOT SURE</th>
<th>DISAGREE</th>
<th>STRONGLY DISAGREE</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nigerian University education is the best in the world.</td>
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<tr>
<td>1. Nigerian universities should create constancy of purpose.</td>
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<td></td>
</tr>
<tr>
<td>a. Nigerian universities should create constancy of purpose toward improvement of the entire university system and its purposes. They must think and plan for the long term needs of the school and its students, rather than short term requirements.</td>
<td></td>
<td></td>
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</tr>
<tr>
<td>b. Universities should aim to create the best quality students capable of improving all forms of processes and entering meaningful positions in society.</td>
<td></td>
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<tr>
<td>c. Universities should strive to be as good as they can be and have a continuous desire to improve.</td>
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<tr>
<td>2. Nigerian universities need to adopt new philosophy.</td>
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<tr>
<td>a. Nigerian educational management must awaken to the challenge, must learn their responsibilities and take on leadership for change.</td>
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</table>
b. Universities must accept the idea that students can learn at high levels under the right condition of teaching and learning.

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<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
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</thead>
<tbody>
<tr>
<td>c. Universities must not accept under achievement from anyone in the system: administrators, board members, faculty, staff, students or parents.</td>
<td>A</td>
<td>B</td>
<td>C</td>
<td>D</td>
<td>E</td>
</tr>
<tr>
<td>3. Nigerian universities need to cease dependence upon mass inspection.</td>
<td>A</td>
<td>B</td>
<td>C</td>
<td>D</td>
<td>E</td>
</tr>
<tr>
<td>a. Universities need to concentrate on a new philosophy emphasizing the move from the identification of student problems to preventing students failure through continuous improvement.</td>
<td>A</td>
<td>B</td>
<td>C</td>
<td>D</td>
<td>E</td>
</tr>
<tr>
<td>b. Universities need to understand and use statistical assessment of student growth and development on a daily basis.</td>
<td>A</td>
<td>B</td>
<td>C</td>
<td>D</td>
<td>E</td>
</tr>
<tr>
<td>c. Universities must find other ways to assess students without dependency on tests and grades.</td>
<td>A</td>
<td>B</td>
<td>C</td>
<td>D</td>
<td>E</td>
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<tr>
<td>4. Nigerian universities must end the practice of basing decisions on cost alone.</td>
<td>A</td>
<td>B</td>
<td>C</td>
<td>D</td>
<td>E</td>
</tr>
<tr>
<td>a. Universities should invest in quality rather than just low cost.</td>
<td>A</td>
<td>B</td>
<td>C</td>
<td>D</td>
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</tr>
<tr>
<td>b. Universities should choose, use and evaluate facilities, textbooks, technologies, and other resources in teaching based on statistical evidence of success of the particular product and upon accepted outcome measurements.</td>
<td>A</td>
<td>B</td>
<td>C</td>
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<tr>
<td>c. Universities need to cease dependence on testing to achieve quality and instead provide learning experiences which create quality performance.</td>
<td>A</td>
<td>B</td>
<td>C</td>
<td>D</td>
<td>E</td>
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<tr>
<td>5. Nigerian universities should constantly improve every system.</td>
<td>A</td>
<td>B</td>
<td>C</td>
<td>D</td>
<td>E</td>
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<tr>
<td>a. Administrators and no one else, are responsible for finding and correcting systematic problems.</td>
<td>A</td>
<td>B</td>
<td>C</td>
<td>D</td>
<td>E</td>
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<tr>
<td>b. Nigerian universities should continually identify barriers and seek workable solutions to improve processes</td>
<td>A</td>
<td>B</td>
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<td>E</td>
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<tr>
<td>c. Universities must work with National University Commission and other educational institutions to help improve the quality of instructors coming into the system.</td>
<td>A</td>
<td>B</td>
<td>C</td>
<td>D</td>
<td>E</td>
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<tr>
<td>6. Universities must institute training on the job for staff and faculty.</td>
<td>A</td>
<td>B</td>
<td>C</td>
<td>D</td>
<td>E</td>
</tr>
<tr>
<td>a. University employees cannot perform well unless they know their jobs and feel free to inform administrators of problems they encounter.</td>
<td>A</td>
<td>B</td>
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</table>
b. Universities must use statistical methods to identify when on the job training has achieved its purpose.  

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c. Resources for job training should be geared toward positively contributing to student achievement.  

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7. Nigerian universities must do more to institute leadership.  

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a. The job of administrators is not management but leadership.  

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b. The aim of supervision should be to help people use resources to do a better job.  

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c. Evaluations need to be systematic, programmatic, and formative rather than individual, personal and summative.  

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8. Nigerian universities must drive out fear.  

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a. Universities must drive out fear so that every person can work effectively.  

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<td>B</td>
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b. Universities must create an environment which encourages people to speak freely.  

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c. Universities must create an atmosphere conducive to risk taking and experimentation without the fear of punishment for failure.  

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a. Universities need to be committed to rebuilding and nurturing an environment in which trust and respect can be applied to what is said, heard, read and written.  

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b. Universities need to break down barriers by problem solving through teamwork and combining the efforts of people from different school areas.  

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c. Universities should reduce waste by encouraging the community, board members, administrators, faculty and staff to learn more about the problems of education.  

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10. Nigerian universities must abandon slogans.  

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a. Universities should eliminate the use of goals, targets, and slogans to encourage performance --- unless training and administrative support are provided to meet the goal.  

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b. The causes of low quality and low productivity belong to the system and thus lie beyond the control of instructors and students  

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c. Work quotas such as test results cause low morale in universities.  

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<td>11. Nigerian universities must eliminate numerical goals and quotas.</td>
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<td>a.</td>
<td>All educational employees must be involved in identifying problems, designing program, planning, budgeting, and selecting material.</td>
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<td>b.</td>
<td>Universities must eliminate management by numbers and numerical goals and instead substitute leadership.</td>
<td>A</td>
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<td>c.</td>
<td>Grades and test scores do not motivate students to learn but rather drive out the joy of learning.</td>
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<td>12. Nigerian universities must remove barriers that rob people of pride in workmanship.</td>
<td>A</td>
<td>B</td>
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<td>a.</td>
<td>Traditional practices of instructor evaluation destroys teamwork, fosters mediocrity and fosters short term thinking all detriments to continuing improvement.</td>
<td>A</td>
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<td>b.</td>
<td>The responsibilities of all educational administrators must be changed from quantity to quality.</td>
<td>A</td>
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<td>c.</td>
<td>Universities need to place more resources toward evaluating the system rather than individuals.</td>
<td>A</td>
<td>B</td>
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<td></td>
<td>13. Nigerian universities must promote education and self-improvement</td>
<td>A</td>
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<td>a.</td>
<td>All personnel in the universities should learn statistical theory and its application towards continuous improvement.</td>
<td>A</td>
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<td>b.</td>
<td>Universities must provide all employees with training in quality leadership, measurement, analysis, problem-solving, self evaluation, and assertiveness training.</td>
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<td>c.</td>
<td>Universities must recognize that different levels and functions in the organization require different types of training.</td>
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<td>14. Nigerian universities must structure management to accomplish the transformation.</td>
<td>A</td>
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<td>a.</td>
<td>University administrators have been ineffective in bringing about needed changes in campuses.</td>
<td>A</td>
<td>B</td>
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<td>b.</td>
<td>Universities as they are traditionally designed, will not meet the needs of a changing society.</td>
<td>A</td>
<td>B</td>
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<td>c.</td>
<td>Every individual in the system (administrators, faculty, staff, board members, students, parents, community partners) plays a major role in providing a quality education.</td>
<td>A</td>
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Please respond to the following questions:

1. Student: YES ( ) NO ( )
2. Professor/Lecturer: YES ( ) NO ( )
3. Federal University: YES ( ) NO ( )
4. State University: YES ( ) NO ( )

5. Male ____________ Female ____________
6. Age ______________
7. Highest level of education
   BA ____________
   Masters ____________
   Specialist ____________
   GCE ____________
   OND ____________
   HND ____________
   Doctorate ____________
   Other ____________
APPENDIX B

LIST OF HIGHER INSTITUTIONS IN NIGERIA

Federal Universities

1. Bayero University, Kano  P.M.B. 3011, Kano  064-626021
2. University of Port-Harcourt  P.M.B. 5323, P/H  088-228218/226400
3. University of Nigeria, Nsukka  Nsukka, Anambra State  042-771911/52
4. University of Ilorin  P.M.B. 1515, Ilorin, Kwara State  031-221727
5. University of Ibadan  Ibadan, Oyo State  022-400550
6. Ahmadu Bello University, Zaria  P.M.B. 1013, Zaria, Kaduna State  069-50581-4
7. University of Jos  P.M.B. 2084, Jos, Plateau State  073-35951
8. Obafemi Awolowo University  Ife-Ife, Oyo State  036-230290-99
9. University of Benin  P.M.B. 1154, Benin  052-200482
10. University of Lagos  P.M.B. 12003, Lagos  01-821945
11. Usman Dan Fodio Univ., Sokoto  P.M.B. 2346, Sokoto  060-232134/236688/232366
12. University of Maiduguri  P.M.B. 1069, Maiduguri  076-232577
13. University of Calabar  P.M.B. 1115, Calabar  087-222790
18. A.T. Balewa University, Bauchi  P.M.B. 248, Bauchi  —
19. Univ. of Agriculture, Abeokuta  P.M.B. 2240  039-230768/200170-177
20. Univ. of Agriculture, Makurdi  P.M.B. 2373, Makurdi  044-33204/33205
22. Nigerian Defense Academy  P.M.B. 2109, Kaduna  —
Appendix B Cont’d

State Universities

1. Anambra University of Technology
2. Bendel State University
3. Cross River State University
4. Imo State University
5. Lagos State University
6. Ogun State University
7. Ondo State University
8. Rivers State University
9. Oyo State University
APPENDIX C

INITIAL FUNCTIONS OF THE NATIONAL UNIVERSITIES COMMISSION

The commission was charged with the following functions:

(i) To inquire into and advise the government on the financial needs both recurrent and capital of university education in Nigeria.

(ii) To assist in consultation with the Universities and other bodies concerned in planning the balanced and coordinated development of the universities in order to ensure that they are fully adequate to the national needs.

(iii) To receive annually a block grant from the federal government and to allocate it to universities with such conditions attached as the commission may think advisable.

(iv) To act as an agency for channeling all external aid to the universities throughout the federation.

(v) To take into account, in advising the federal government, such grants as may be made to the universities by regional governments, persons and institutions both at home and abroad.

(vi) To collate, analyze and publish information relating to universities’ finance and university education both in Nigeria and abroad.

(vii) To make, either by itself or through committees, such other investigations relating to higher education as the commission may consider necessary and, for the purpose of such investigations, have access to the records of universities seeking or receiving federal grants.

(viii) To make such other recommendations to the federal government or to universities relating to higher education as the commission may consider to be in the national interest.

APPENDIX D

NUC Decree No. 1 of 1974

Supplement to Official Gazette No. 4 Vol. 61. 24th January, 1974--Part A

NATIONAL UNIVERSITIES COMMISSION DECREE 1974

ARRANGEMENT OF SECTIONS

Section

National Universities Commission


Staff of the Commission

5. Executive Secretary of the Commission. 13. Annual Reports.

National Universities Commission Panel, etc.

8. Establishment of the National Universities Commissions Fund Supplement Provisions relating to the Commission, etc.

Schedule

Decree No. 1

(15th January 1974) Commencement

THE FEDERAL MILITARY GOVERNMENT hereby decrees as follows:

1.--(1) There is hereby established a body to be known as the National Universities Commission which shall be a body corporate with perpetual succession and a common seal, and may sue and be sued in its corporate name.

(2) The supplementary provisions contained in the Schedule to this Decree shall have effect with respect to the proceedings of the Commission and the other matters mentioned therein.

Establishment of the National Universities Commission.
Appendix D continued

2.—(1) The commission shall consist of a Chairman and the following other members, that is—
(a) seven members from the universities in Nigeria chosen in such a way that each of the following disciplines is represented, that is to say— Agriculture; Forestry and Veterinary Sciences; Basic Sciences; Engineering Sciences and Technology; Social Sciences; the Humanities; Medical Sciences; and other disciplines not otherwise so named, and (ii) the members represent the highest possible number of universities;
(b) the Permanent Secretaries of the following Federal Ministries, that is Education, Finance, Economic Development and Reconstruction, and Health;
(c) six members appointed on individual merit and a nation-wide basis to represent commercial, industrial and professional interests and such other national interests as are not represented; and
(d) the Executive Secretary who shall be an ex officio member of the Commission but shall not have the right to vote at meetings of the Commission.
(2) The Chairman and the other members of the Commission shall be appointed by the Head of the Federal Military Government.

3.—(1) Subject to the provisions of this Decree, a person appointed to be a member of the Commission, not being a public officer, shall hold office for a period of three years from the date of his appointment or for such other period as may be specified in his instrument of appointment.
(2) Any member, not being a public officer, may resign his appointment by a letter addressed to the head of the Federal Executive Council may determine.

4.—(1) The functions of the Commission shall be—
(a) to advise the Head of the Federal Military Government, through the Commissioner, on the creation of a new universities and other degree-granting institutions in Nigeria;
(b) to prepare, after consultation with all the State Governments, the universities, the National Manpower Board and such other bodies as it considers appropriate, periodic master plans for the balanced and coordinated development of universities in Nigeria and such plans shall include—
(i) the general programmes to be pursued by the universities in order to ensure that they are fully adequate to national needs and objectives,
(ii) recommendations for the establishment and location of new universities and as when considered necessary, and
(iii) recommendations for the establishment of new faculties or post-graduate institutions in existing universities or the approval or disapproval of proposals to establish such faculties or institutions;

(a) may by notice in writing served on any person in charge of any such institution require that person to furnish information on such matters as may be specified in this notice.
(b) It shall be the duty of any person required to furnish information pursuant to subsection (1) above to comply with the notice within a reasonable period of time.
(3) In this section the reference to an institution is a reference to a university or any other degree-granting institution in Nigeria recognized for that purpose by the Commission.

15. The Federal Executive Council may by regulations published in the Gazette prescribe anything failing to be prescribed generally for the purposes of this Decree.

16. In this Decree, unless the context otherwise requires—
"the Chairman" means the Chairman of the National Universities Commission;
"the Commission" means the National Universities Commission established under section 1 of this Decree;
"the Commissioner" means the Federal Commissioner charged with responsibility for higher education;
"the Executive Secretary" means the person appointed as the Executive Secretary to the Commission in pursuance of section 5(1) of this Decree;
"member" means a member of the Commission and includes the Chairman.

17. This Decree may be cited as the National Universities Commission Decree 1974.

A-2
Membership
of the Commission

A-6
Regulations.
Interpretation.
Citation
Appendix D continued

SCHEDULE

SUPPLEMENTARY PROVISIONS RELATING TO THE COMMISSION, ETC.

Proceedings

1. Subject to this Decree and section 26 of the Interpretations Act 1964 (which provides for decisions of a statutory body to be taken by a majority of its members and for the chairman to have a second or casting vote), the Commission may make standing orders regulating the proceedings of the Commission or any committee thereof.

2. Every meeting of the Commission shall be presided over by the Chairman or, if the Chairman is unable to attend a particular meeting, the members present at the meeting shall elect one of their number to preside at the meeting.

3. The quorum at a meeting of the Commissioner shall consist of the Chairman (or, in an appropriate case, the person presiding at the meeting pursuant to paragraph 2 above) and five other members of whom at least two shall be members appointed pursuant to paragraphs (a) and (c) of section 2(1) of this Decree.

4. Where upon any special occasion the Commission desires to obtain the advice of any person on any particular matter, the Commission may co-opt that person to be a member for as many meetings as may be necessary, and that person while so co-opted shall have all the rights and privileges of a member except that he shall not be entitled to vote.

Commission

5.—(1) Subject to its standing orders, the Commission may appoint such number of standing and ad hoc committees as it thinks fit to consider and report on any matter with which the Commission is concerned.

(2) Every committee appointed under the foregoing provisions of this paragraph shall be presided over by a member of the Commission and shall be made up of such number of persons, not necessarily members of the Commission, as the Commission may determine in each case.

(3) The quorum of any committee set up by the Commission shall be as may be determined by the Commission.

6. Where standing orders made pursuant to paragraph 1 above provide for a committee of the Commission to consist of or co-opt persons who are not members of the Commission, the committee may advise the Commission on any matter referred to it by the Commission.

Miscellaneous

7. The fixing of the seal of the Commission shall be authenticated by the signature of the Chairman or of the Executive Secretary of the Commission.

8. Any contract or instrument which, if made by a person not being a body corporate, would not be required to be under seal may be made or executed on behalf of the Commission by the Executive Secretary or by any other person generally or specially authorized to act for that purpose by the Commission.

9. Any document purporting to be contract, instrument or other document duly signed or sealed on behalf of the Commission shall be received in evidence and, unless the contrary is proved, be presumed without further proof to have been so signed or sealed.

10. The validity of any proceedings of the Commission or a committee thereof shall not be affected--

(a) by any vacancy in the membership of the Commission, or

(b) by any defect in the appointment of a member of the Commission or committee.

MADE at Lagos this 15th day of January 1974.

General Y. Gowon,
Head of the Federal Military Government,
Commander-in-Chief of the Armed Forces,
Federal Republic of Nigeria.
Appendix D continued

(c) to make such other investigations relating to higher education that the Commission may consider necessary in the national interest;
(d) to make such other recommendations to the Federal Military Government and State Governments or to the universities relating to higher education as the Commission may consider to be in the national interest;
(e) to inquire into and advise the Federal Military Government on the financial needs, both recurrent and capital, of university education in Nigeria and, in particular, to investigate and study the financial needs of university research and to ensure that adequate provisions are made for this in the universities;
(f) to receive block grants from the Federal Military Government and allocate them to universities in accordance with such formula as may be laid down by the Federal Executive Council;
(g) to take into account, in advising the Federal Military Government on university finances, such grants as may be made to the universities by State Governments and by persons and institutions in and outside Nigeria;
(h) to collate, analyze and publish information relating to university education in Nigeria and from other sources where such information is relevant to the discharge of its functions under this Decree;
(i) to undertake periodic reviews of the terms and conditions of service of personnel engaged in the universities and to make recommendations thereon to the Federal Military Government where appropriate;
(j) to recommend to the visitor of a university that a visitation be made to such university as and when it considers it necessary;
(k) to act as the agency for channeling all external aid to the universities in Nigeria; and
(l) to carry out such other activities as are conducive to the discharge of its functions under this Decree.

(2) The Commissioner may give the Commission directives of a general character or relating generally to particular matters with regard to the exercise by the Commission of its functions under this Decree, and it shall be the duty of the Commission to comply with such directives.

Staff of the Commission

5—(1) There shall be appointed by the Head of the Federal Military Government an Executive Secretary to the Commission who shall have appropriate qualifications.

(2) The Executive Secretary shall be the chief executive officer of the Commission and shall be responsible for the execution of the policy of the Commission and the day to day running of the affairs of the Commission.

(3) The Executive Secretary shall hold office in the first instance for a period of five years and shall be eligible for re-appointment for such further terms of five years as the Head of the Federal Military Government may determine.

(4) Subject to this section, the Executive Secretary shall hold office on such terms as to emoluments and otherwise as may be specified in his instrument of appointment.

Executive Secretary of the Commission.

A-3

6.—(1) The Commission may appoint a Deputy Executive Secretary and such other persons to be officers and servants of the Commission to assist the Executive Secretary in the exercise of his functions.

(2) The remuneration of tenure of office of the Deputy Executive Secretary and the other officers and servants of the Commission shall be determined by the Commission after consultation with the Federal Commissioner for Establishments.

(3) Notwithstanding the provisions of subsection (1) above, the Deputy Executive Secretary or any other officers and servants of the Commission may be appointed by the Commission by way of transfer or secondment from any of the public services in the Federation.

A-4

7.—(1) The Federal Commissioner for Establishments may by order published in the Gazette declare the office of any person employed by the Commission to be a pensionable office for the purposes of the Pensions Act.

(2) Subject to subsections (3) and (4) below, the Pensions Act shall in its application by virtue of the foregoing subsection to any office have effect as if the office were in the public service of the Federation within the meaning of the Constitution of the Federation.

(3) For the purpose of the application of the Pensions Act in accordance with subsection (2) above:

(a) paragraph (1) of section 7 of that Act (which confers on the Commissioner power to waive the requirement to give notice of desire to retire at the age of forty-five) shall have effect as if for the references to the Commissioner there were substituted references to the Commission;

(b) the power under section 9 (1) of the Act to require an officer to retire at any time after attaining the age of forty-five, subject to his being given six months notice in writing, shall be exercisable by the Commission and not by any other authority.

(2) Nothing in the foregoing provisions shall prevent the appointment by the Commission of a person to any office on terms which preclude the grant of a pension or gratuity in respect of service in that office.

Staff of the Commission.


1963 NO.20.
Appendix D continued

National Universities Fund, etc.

8.--(1) There shall be established by the Commission a fund to be known as the National Universities Commission Fund.
(2) There shall be paid into the fund established in pursuance of subsection (1) above--
(a) such sums as may be made available to the Commission for the purpose of making grants to the universities in pursuance of paragraphs (f) and (g) of section 4 (1) of this Decree; and
(b) such sums as may from time to time be credited to the fund by way of payment of the principal and interest on other charges in respect of any loan made out of the fund, and also any interest from investments made from the fund.
(2) Disbursements from the fund shall be made in accordance with rules made under section (23) of the Finance (Control and Management) Act 1958 and, without prejudice to the foregoing, rule (26) of the Public Funds of the Federation (Disbursement) Rules 1959 shall continue in force and have effect as if made under this subsection.

Establishment of
the National Universities Commission Fund.

No. 33 of 1958.
I.N. 49 of 1959.

9. The First Schedule of the Finance (Control and Management) Act 1958 is hereby amended by the insertion immediately after item (17) in Part II thereof of the following new item, that is:
"(18) National Universities Commission Fund: The fund established by section 8 (1) of the National Universities Commission Decree 1974."

Expenditure of
the Commission.

Amendment of
No. 33 of 1958.

Maintenance of
separate fund by
the Commission.

10.--(1) The Commission shall establish and maintain a separate fund from which there shall be defrayed all expenditure incurred by the Commission except such expenditure as may be incurred by it pursuant to section 8 above.
(2) There shall be paid and credited to the fund established in pursuance of subsection (1) above such payments as may be made to it by the Federal Military Government for the running expenses of the Commission and all other assets from time to time accruing to the Commission otherwise than in pursuance of section 8 above.

11. The Commission may from time to time apply the proceeds of the fund established in pursuance of section 10(1) above--
(a) to the cost of administration of the Commission;
(b) for reimbursing members or members of any committee set up by the Commission for such expenses as may be expressly authorized by the Commission in accordance with the rates approved by the Federal Executive Council;
(c) to the payment of the salaries, fees or other remuneration or allowances and pensions, superannuation allowances or gratuities payable to the officers and servants of the Commission, so however that no payment of any kind under this paragraph (except such as may be expressly authorized as aforesaid) shall be made to any person who is in receipt of emoluments from the Government of the Federation or the Government of a State;
(d) for the maintenance of any property vested in the Commission; and
(e) for and in connection with all or any of its functions under this Decree.

Annual estimates
and accounts.

12.--(1) The Commission shall submit to the Commissioner not later than 31st December in each financial year an estimate of its expenditure and income (including payments to the National Universities Commission Fund) during the next succeeding financial year by the Auditor-General of the Federation.

Annual reports.

Miscellaneous and Supplementary

13. The Commission shall prepare and submit to the Federal Executive Council, through the Commissioner, not later than 30th June in each financial year a report in such form as he may direct on the activities of the Commission during the immediately proceeding financial year, and shall include in such report a copy of the audited accounts of the Commission for that year and the Auditor-Generals report thereon.

Power to obtain
information.

14.--(1) For the purpose of carrying out the functions conferred on the Commission under this Decree, the Executive Secretary or any other officer of the Commission authorized in that behalf--
(a) shall have a right of access to all the records of any institution to which this Decree applies;
APPENDIX E

NUC Decree No. 19 of 1984

Reprint from Supplement to Official Gazette Extraordinary No. 36, Vol. 71.
27th June, 1984--Part A

PRIVATE UNIVERSITIES (ABOLITION AND PROHIBITION)
DECREES 1974

Decree No. 19

(9th February 1984) Commencement

THE FEDERAL MILITARY GOVERNMENT hereby decrees as follows:--

1. As from the commencement of this Decree, all private universities and similar institutions in existence in any part of Nigeria are hereby abolished and no such private university or similar institution shall henceforth be established.

2. As from the commencement of this Decree, it shall be unlawful for any person or group of persons (whether corporate or unincorporate) to establish establishment of any private university or similar institution of higher learning in any part of Nigeria.

3. All existing private universities and similar institutions are hereby, as from the commencement of this Decree, closed down and all students registration and matriculation prior to the coming into effect of this Decree are hereby canceled.

4.—(1) Registers, forms, emblems, syllabuses or other documents of the private universities abolished pursuant to section 1 of the Decree shall be forwarded to the Ministry of Education of the State where the private university is located or to the Federal Ministry of Education, Sciences and Technology.

(2) All such documents shall be forfeited to the Government of the State or to the Federal Military Government, as the case may be.

5.—(1) Any person who contravenes any provision of this Decree shall be guilty of an offense and shall be liable on conviction to imprisonment for a term not less than three years or not more than five years.

(2) Where an offense under this section is committed by a body corporate, it shall be liable on conviction to a fine of not less than N10,000.

(3) Where in subsection (2) above is proved that the commission of the offence is attributable to any officer in authority or control of the corporate body he as well as the body corporate shall be deemed to be guilty of an offense and shall be liable to be proceeded against and punished as provided in subsections (1) and (2) of this section.

Abolition of all existing private Universities.

Prohibition of private universities by persons.

Closure of all private universities and institutions, etc.

Return and forfeitures of all documents.

Offenses and penalties.

Corporate and universities.
Appendix E continued

6. In this Decree, unless the context otherwise requires—
"closure of institution" includes closure of such places as the bookshops, library, hostels, lecture halls, administrative blocks and workshops of the universities or institutions abolished pursuant to this Decree

"documents" include incorporation papers, certificates, registers, account books, and all such documents in use in a private university.

"private university" means any university or similar institution which is privately financed and managed and which is not established by law of a State or the Federation:

"university" means any institution establishes for the purpose of awarding a degree or its equivalent.

7. This Decree may be cited as the Private Universities (Abolition and Prohibition) Decree 1984 and shall be deemed to have come into operation on 9th February 1984.

Made at Lagos this 27th day of June 1984.

Major-General M. Buhari,
Head of the Federal Military Government
Commander-in-Chief of the Armed Forces
Federal Republic of Nigeria

EXPLANATORY MEMORANDUM

(This note is not intended to form part of the above Decree but is intended to explain its effect)

The Decree abolishes all private universities and prohibits the establishment of new ones by private persons. It provides for the punishment of any person (including corporate bodies) for contravention of its provisions.
APPENDIX F

NUC Decree No. 16 of 1985

Extraordinary

Federal Republic of Nigeria
Official Gazette

No. 43  Lagos - 20th August, 1985  Vol. 72

Government Notice No. 592

The following are published as Supplement to this Gazette—

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Supplement to Official Gazette Extraordinary No. 43, Vol. 72,
20th August, 1985—Part A

EDUCATION (NATIONAL MINIMUM STANDARDS AND
ESTABLISHMENT OF INSTITUTIONS) DEGREE 1985

ARRANGEMENT OF SECTIONS

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1. Minimum standards for pre-primary and primary institutions.
2. Purpose of pre-primary education.
3. Purpose of primary education.

Secondary Education
5. Purpose of secondary education.
7. Purpose of teacher education.

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9. Purpose of technical education.

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10. Minimum standards in universities.
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13. Purpose of special education.
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7. The purpose of teacher education shall be--
   (a) to produce highly motivated, conscientious and efficient classroom teachers for all levels of 
   the educational system mentioned in this Decree; education;
   (b) to encourage the spirit of inquiry and creativity in teachers;
   (c) to help teachers fit into the social life of the community and society at large and to enhance 
   their commitment to national objectives;
   (d) to enhance teachers commitment to the teaching profession.

Technical Education

8.—(1) The responsibility for the establishment of minimum standards in polytechnics, technical 
      colleges and other technical institutions in the Federation shall be vested in the Minister after consultation 
      with the National Board for Technical Education and thereafter that Board shall have responsibility for 
      the maintenance of such standards.

     (2) The Board shall have power to accredit programmes of all institutions mentioned in subsection 
     (1) above for the purpose of award of national certificates and diplomas and other similar awards and for 
     entry into national and zonal examinations in respect of such institutions.

     (3) In exercising the powers conferred under or pursuant to the foregoing provisions of this section, 
     the Minister or, as the case may be, the Board shall have regard to the matters mentioned in section 9 of this 
     Decree.

9.—(1) The purpose of technical education shall be--
      (a) the provision of trained manpower in engineering, applied science, technology and commerce 
      at all professional grades;
      (b) the provision of technical knowledge and vocational skills necessary for agricultural, industrial, 
      commercial and economic development;
      (c) the provision of qualified and well-equipped personnel to apply scientific knowledge to the 
      improvement and solution of environmental problems for use and convenience of man;
      (d) the introduction of professional studies in engineering and other technologies;
      (e) the provision of training to impart the necessary skills leading to the production of craftsmen, 
      technicians, technologists and engineers and other skilled personnel who will be enterprising and 
      self-reliant;
      (f) to enable men and women to have intellectual understanding of the increasing complexity of 
      technology and the role technology plays in the world around them.

     (2) All students of specialized engineering, technical, business, applied science or applied arts 
     programmes shall be required to have compulsory supervised industrial attachment as part of their regular 
     studies in such a manner as may be prescribed by the Board.

Higher Education

10.—(1) The power to lay down minimum standards for all universities and other institutions of 
       higher learning in the Federation and the accreditation of their degrees and other academic awards is 
       hereby vested in the National Universities Commission, after obtaining prior approval therefor through 
       the Minister, from the Head of the Federal Military Government.

     (2) In the exercise of the powers conferred under and pursuant to subsection (1) above, the 
     Commission shall have regard to the matters mentioned in section 11 of this Decree.

     (4) Nothing in this section shall be construed as preventing or restricting the National Board for 
     Technical Education from carrying out its functions under section 8 of this Decree.

11. The purpose of higher education shall be--
    (a) the acquisition, development and inculcation of the proper value-orientation for the survival 
    of individuals and society;
    (b) the development of the intellectual capacities of individuals to understand and appreciate their 
    environment;
    (c) the acquisition of both physical and intellectual skills to enable individuals to develop into 
    useful members of the community;
    (d) the acquisition of an objective view of local and external environment;
    (e) the making of optimum contributions to national development through the training of higher 
    learning shall, as far as possible, be on a broad national basis;
    (f) promotion of national unity by ensuring that admission of students and recruitment of staff 
    into universities and other institutions of higher learning shall, as far as possible, be on a broad national 
    basis;
    (g) the promotion and encouragement of scholarship and research.
Appendix F continued

Special and Adult Education

12.—(1) The Minister shall have responsibility for the establishment of minimum standards in respect of the following, that is to say—
   (a) special education; and
   (b) adult and non-formal education.

   (2) In prescribing the minimum standards mentioned in subsection (1) above, the Minister shall have regard to the matters mentioned in sections 13 and 14 of this Decree.

   (3) Before prescribing any of the aforementioned standards, the Minister shall have consultations with interested parties and may set up such committees as he considers appropriate to advise him in the discharge of his responsibilities under this section.

13. The purpose of special education shall be—
   (a) to provide adequate education for all handicapped children and adults in order to enable them to fully play their roles in the development of the nation; and
   (b) to provide opportunities for exceptionally gifted children to develop at their own pace in the interest of the nation’s economic and technological development.

14. The purpose of adult and non-formal education shall be—
   (a) to provide functional literacy education for non-literate adults;
   (b) to provide functional and remedial education for those young people who prematurely dropped out of the formal school system.
APPENDIX G
NUC DEGREE NO. 49 OF 1988

NATIONAL UNIVERSITIES COMMISSION (AMENDMENT) DEGREE 1988

Decree No. 49
(22nd December 1988)

1. The National Universities Commission Act 1974 (herein thereafter in this Decree referred to as "the principal Act") is hereby amended as set out in this Decree.

2. Subsection (1) of section 2 of the principal Act is hereby amended as follows:

(a) in paragraph (a) thereof—

(i) by substituting for the word "seven" the word "fourteen";
(ii) by electing the existing sub-paragraph (l) and substituting the following new sub-paragraph (l), that is—

"(l) each of the following disciplines is represented, that is to say—Agriculture and Forestry; Architecture; the Creative Arts; Education; the Engineering Sciences and Technology; the Earth and Mineral Sciences; the Humanities; the Legal Sciences; the Management Sciences; the Medical Sciences; Natural Sciences; Pharmaceutical Sciences; Social Sciences; the Veterinary Sciences, and other disciplines not otherwise so named; and";

(b) in paragraph (b) by electing the existing paragraph and inserting the following new paragraph, that is—

"(b) the Directors-General of the following Federal Ministries and body that is—

(i) Education;
(ii) Finance and Economic Development;
(iii) Health;
(iv) Science and Technology;
(v) Establishment Department of the Federal Civil Service Commission;");

© in paragraph © delete the word "six" and insert the word "twelve";

3. In subsection (1) of section 3 of the principal Act immediately after the words "date of his appointment" there shall be inserted the following words "and shall be eligible for re-appointment."

4. Subsection (1) of section 4 of principal Act is hereby amended as follows:

(a) in paragraph (a) by inserting the words "and the Governors of the States"
immediately after the word "Government";
(b) in paragraph (b) thereof—

(i) by inserting the word "all" immediately after the words "coordinated development of";
(ii) sub-paragraph (l) by inserting the word "meet" immediately after the word "to";
(iii) sub-paragraph (ii) by inserting immediately after the words "when considered necessary and" the words "in accordance with the Commission's approved guidelines";
(iv) sub-paragraph (iii) by deleting the existing sub-paragraph and inserting the following new sub-paragraph, that is—

"(iii) recommendations for the establishment of new academic units in existing universities or the approval or disapproval of proposals to establish such academic units;"
Appendix G continued

(c) in paragraph © by deleting the word "that" appearing after the words "higher education" and substituting thereof the word "as";

(d) in paragraph (d) by deleting the existing paragraph and substituting thereof the following new paragraph, that is-

"(d) to make such other recommendations to the Federal Military Government and State Governments relating to universities and other degree awarding institutions as the Commission may consider to be in the national interest";

(e) in paragraph (f) immediately after the words "allocate them to" there shall be inserted the word "Federal";

(f) in paragraph (g) immediately after the words "Federal Military Government" there shall be inserted the words "and State Governments";

(g) immediately after the existing paragraph (f) delete the full stop and insert therefor a semi-colon and thereafter insert the following new paragraph (m), that is-

"(m) to lay down minimum standards for all Universities in the Federation and to accredit their degrees and other academic awards after obtaining prior approval therefor through the Minister from the President, Commander-in-Chief of the Armed Forces; provided that the accreditation of degrees and other academic awards shall be in accordance with such guidelines as may be laid down and approved by the Commission from time to time.";

5.—(1) Section 16 of the principal Act is amended by inserting before the interpretation of the word "the Chairman" the following new interpretations, that is-

"academic units" includes departments, faculties, schools, colleges, institutes, centres and all such academic divisions in the universities at the post-graduate, under-graduate pre-degree and non-degree levels;

"accreditation" means a system for recognizing educational institutions and programmes offered in these institutions for a level of performance, integrity and quality which entitles them to the confidence of the educational community, the public and the labour.

(2) Delete the words "Head of the Federal Military Government" wherever it appears in the Act and substitute therefor the words "President, Commander-in-Chief of the Armed Forces".

(3) Delete the words "the Commissioner" wherever it appears in the Act and substitute therefor the words "the Minister".

4. The Decree may be cited as the National Universities Commission (Amendment) Decree 1988.

MADE at Lagos the 22nd day of December 1988.

General J.B. Babangida,
President, Commander-in-Chief of the Armed Forces,
Federal Republic of Nigeria

EXPLANATORY NOTE

(This note does not form part of the above Decree but is intended to explain its purport)

The Decree amends the National Universities Commission Act 1974 by increasing the membership of the Commission to include academic disciplines not presently represented on the Commission, that is, education, law, management sciences, earth and mineral sciences and the humanities, etc.

The Decree also gives additional powers of accreditation to the National Universities Commission in relation to all Universities in Nigeria.

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