HIGHER EDUCATION AND THE DEMANDS OF MANPOWER DEVELOPMENT IN THE NIGERIAN MANUFACTURING SECTOR: AN EMPIRICAL STUDY OF ENUGU AND ANAMBRA STATES.

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1.1 INTRODUCTION

The importance of education to the national development project cannot be over-emphasised. Since the attainment of national independence in October, 1960, the successive Nigerian governments have acknowledged this fact with various measures of policy commitment and action. Even in electioneering campaigns and national budgets, politicians and policy makers alike have always recognised and politicised the centrality of good education especially, higher education to national development. Hence, they have frequently laid stress on the establishment of more universities, polytechnics and colleges of education, expansion of existing higher education institutions by creating multi-campus arrangements, provision of "adequate" infrastructural materials, more and well qualified teachers and so forth (Araromi & Adeyoju, 1996:83). In fact, it is sufficiently clear that a nation which fails to provide good education for her citizens would sooner or later face the logical antithesis of sustainable development: Mass illiteracy, obscurantism, superstitution, poverty, squalor, disease, de-industrialisation and low productivity. This mainly explains why governments are highly interested in the educational system particularly, in developing countries.

To this end, the Federal Government declared in the preamble to the National Policy on Education of 1981 (the first clear-cut education policy in Nigeria) that:

> ***Education in Nigeria is no more a private enterprise, but a huge government venture that has witnessed a progressive evolution of government's complete and dynamic intervention and active participation. The federal government of Nigeria has adopted education as an instrument par excellence for effecting national development. It is only natural that Government should clarify the philosophy and objectives that underlie its current massive investment in education and spell out in clear unequivocal terms the policies that guide Government's educational effort.***

From the above preambles, it is clear that government recognises that for it to be quite meaningful, education has to be pertinently related to the national development agenda. This is further illustrated in the broad objectives of education in Nigeria formulated in the same National Policy of 1981. The objectives are the building of:

i. a free and democratic society
ii. a just and egalitarian society
iii. a united, strong and self-reliant nation
iv. a great and dynamic economy
v. a land of bright and full opportunities for all citizens.

Although these objectives may sound too propagandistic, the emphasis on self-reliance and a dynamic economy has non-the-less recurred in all the economic policies and National Developments Plans in Nigeria since 1960 and therefore has to be viewed with a more serious concern. One of the key determinants of a self reliant and dynamic economy is the relatedness and probably responsiveness of the educational system, in particular, high education to developments in the manufacturing/industrial sector of the economy. It has been observed that the rapid liberalisation of the Nigerian economy which has introduced a wide variety of private initiatives, without a corresponding liberalisation of the educational system would in all probability activate only the growth of the former thereby exacerbating the gap between education and industry (Ukaegbu & Agunwamba, 1991). This study problematises the preceding observation, among others.

1.2 STATEMENT OF PROBLEM

This study derives from a concern with how adequate or otherwise, contemporary higher education in Nigeria provides for manpower needs (technical and managerial) of manufacturing industries. In spite of the increasing proliferation of Universities and polytechnics in Nigeria during the past decade, it is evident that the profile of links between higher education and industries especially

in the areas of development and utilisation of skilled labour have not been meaningfully investigated. Infact, the original objective of universities serving as centres for generating innovative knowledge and personnel requisite for creating new productive systems and polytechnics on the other hand producing graduate manpower to help in maintaining these systems especially in industries tends to be rapidly compromised (Longe, Report: 1991).

A probably more disturbing scenario is that as technological changes occur in the Nigerian manufacturing sector via import substitution industrialization (Uwujaren, 1983: Omeje, 1991), the latter does not seem to stimulate a commensurate review in the curricula of the students who are supposedly trained to meet the manpower needs of our industries. All these have led us to the following thematic puzzle namely; how far and how well does higher education in Nigeria satisfy the manpower needs of the industrial sector with particular reference to manufacturing?

This central problematic has led us to a number of more specific and related research objectives.

1.3 OBJECTIVES OF THE STUDY

The main objective of this study is to investigate the adequacy or otherwise of contemporary higher education vis-a-vis manpower development needs of manufacturing industries. Other specific objectives of the research include:

1. To determine the factors that influenced the respondents (graduates and students) choice of higher institution of study (University or Polytechnic).
2. To ascertain the study (University or Polytechnic) conditions obtainable in the respondents' institutions of study or graduation.
3. To find out how the respondents obtained their first employments (main employment for graduates and IT for students) as well as any considerations that motivated them to take up such employments.
4. To determine whether or not the respondents specific work assignments (for graduates) are related to their fields of study.
5. To investigate the usefulness or otherwise of both the theoretical and practical aspects of the respondents' education to their job performance.
6. To ascertain the employment, wage and welfare structures of respondents in terms of the immediacy of sideline jobs, disposable income and fringe benefits at work place.
7. To access the respondents perceptions and attitudes towards their occupational characteristics, career expectations, actualisation and changes.

To unravel the coping capacity of respondents vis-a-vis their working conditions, experiences and employers expectations.

1.4 BRIEF INTRODUCTION TO THE STUDY AREA: ANAMBRA AND ENUGU STATES

Anambra and Enugu States were both formally one state until in August, 1991 when the old Anambra State was split into two, giving birth to the two States.

Awka is the capital of Anambra State while Enugu is the capital city of Enugu State. The states are predominantly inhabited by people of the Ibo ethnic group although there are pockets of Hausa - Fulani settlements in parts of Enugu, Ibagwa, Awka, Onitsha, Eha-Amufu and Uzo-Uwani. There are also large colonies of non-Ibo speaking ethnic groups around the Anambra - Benue border, north of Enugu State.

The two states lie between latitudes $5^{o}40'$ and $7^{o}00$ north and longitude $6^{o}40^{1}$ and $8^{o}20^{1}$ East. Anambra State has a land mass 4,844 sq. km, a population of about 2,767,903 million and an average density of 571 persons per sq. km. Enugu State on the other hand has a land mass of 12,831 sq. km, population of about 3,161,295 million and an average density of 246 persons per sq. km. It is however estimated that Enugu, the capital of Enugu State and Onitsha (the heaviest industrial cum commercial centre in Anambra State) have higher densities of 800-1200 persons per sq. km (Annual Abstract of Statistics, 1995).

The States' position in Southern Nigeria and their absolute location in the rain forest belt gives them a tropical wet-dry climate. Their annual average temperature is about $26^{o}C$ with the temperature falling to its nadir point of about $17^{o}C$ during the months of December and January. This period which is characteristically dry, dusty and cold is known as the harmattan season. The states normally experience their highest temperature mark of $36^{o}C$ - $37^{o}C$ around March - April when the heat of the sun is intensively felt.
The heat period heralds the onset of rains in May. Relatively, the area is characterised by a longer rainy season and a luxuriant climate. The climate favours the growth of fruits, root crops (cassava, yams, cocoayam and potatoes), cereals (rice) and other grains like maize and guinea corn. The rich and favourable agricultural vegetation of the states is today a leading asset in the campaign for local sourcing of raw materials by many Agro-based and allied industries.

In terms of mineral resources, the mineral deposits found in the States include common salts, lead, zinc, aluminium, natural gas, coal igneous rocks and limestone. The rich agricultural and mineral resources obtainable in Enugu and Anambra States are the basis for the existence of a multiplicity of manufacturing industries in the States. Many of these industries especially the brewing, food processing and agro-allied and the building and furniture industries increasingly source their major raw materials locally (Omeje 1991, MAN 1995).

In terms higher education, Anambra State has a total of one university and one polytechnic whereas Enugu State has two universities and two polytechnics. Prior to the splitting of the State into two in 1991, the defunct Anambra State ranked third among the entire states in the federation in the number of fresh students enrolment in undergraduate courses in Universities and Polytechnics. The 1991/92 students enrolment figure was 6,614 students for Universities and about 7,197 students for polytechnics (Annual Abstract of Statistics, 1995). Typical of the ethnic character of the Nigerian society, about 80% of these students are concentrated in home based tertiary institutions. Presently, the students enrolment data in higher education between Anambra and Enugu States depict a lopsided ratio of 1:4. As opposed to the rising quest for higher education in Enugu State, a massive number of Anambra State indigenes are increasingly abandoning higher education for commercial enterprise.

1.5 SIGNIFICANCE OF THE STUDY

This study is considered foremost a contribution to the evolution and growth of knowledge on the linkage between higher education and work in Nigeria. It is a universal norm that higher education is both an instrument as well as a means for the training of specialised manpower appropriate for different vocational purposes. One area where the links between higher education and manpower development have perhaps produced the most far-reaching benefits for mankind is manufacturing. This is particularly evident in view of the profound skills and creativity provided by the linkage of education and industrial manufacturing and which frequently find expression in scientific, technological and socio-economic development.

However, over the years and presently too, policy makers, intellectuals and other professional have tended to conceptualise and make decisions regarding higher education and industrial manufacturing in Nigeria as if they are independent and self-creating processes (Ukaegbu & Agunwanba, 1991). Hence, little or no research and practical attention is paid to exploring and deepening the organic complementarity between education and industry which is the engine of sustainable development. For instance, in a cross-sectional study conducted in selected industries, universities and research institutes in 1985, Ukaegbu found that Nigerian Scientists and engineers employed in various sectors of the economy were conspiciously under-utilized. The reason is partly that their educational training in schools does not harmonize with the imperatives of technological acquisition in industries. Hence often time, technicians and expertriates are preferred over graduates of higher education especially under circumstances of imported technology.

Different studies carried out under the structural adjustment dispensation in Nigeria have however, demonstrated that industries are increasingly relying on home grown skilled labour despite any lapses in experience and training owing to cost-benefit consideration (Ukwu, 1988). Consequently, the phenomena of re-examination of prospective graduate employees (that is, administering written examination on specialised subjects as opposed to mere oral interviews) and internal training/re-training of recruited manpower by various firms appear to have grown remarkably since the advent of the structural adjustment programme. This observation holds both for technical and non-technical manpower. Arguably, the unfolding economic recession and liberalization policy engender a falling standard of education in Nigeria. More critically perhaps, contemporary higher education in Nigeria does not seem to be responsive to the manpower and technological needs of manufacturing industries including the latter's overall access to, and use of new technologies and know-how. As crucial as the preceding observation seems, we are not aware of any literature that have systematically addressed the issue.

Finally, this study is considered timely in view of the growing anxiety over the deteriorating standard of higher education in Nigeria which in turn provokes an array of public and private concerns. Since the Gray Longe Commission on Higher Education in Nigeria in the 1990s submitted its report to the Federal Government in 1991 it has become increasingly evident that improved funding among other things strongly recommended by the commission may not after all be the principal remedy to many a shortfall in Nigerian tertiary education. Hence in his broadcast to mark the country's 36th independence anniversary, the Nigerian military leader, General Sanni Abacha inaugurated a new commission to investigate the problems of higher education in Nigeria and make appropriate recommendations to the federal government. This project therefore promises to make significant input into the Nigerian public policy machinery on critical constraints of higher education in the country and the way forward. At least, the findings and recommendations of this study will be carefully summarised and submitted to the Federal Ministry of Education as independent memorandum.
Moreover, scholarly publications arising from this research will create a robust awareness on the subject matter.

1.6 HIGHER EDUCATION IN NIGERIA: HISTORICAL DEVELOPMENT AND ROLE

Higher education is conceptualize as the culmination of a process of maturity and "systematic training" [our emphasis] through experience and the extensive development of the intellect, orientation and values imbued in the individual at the primary and the secondary education levels (Longe G. et al., 1991:39). Operationally, it is a more or less specialized type of education which individual students obtain at the post-secondary level of schooling such as universities, polytechnics, colleges of education, colleges of agriculture and other monotechnics.

The establishment of higher educational institutions in Nigeria originated as part of the colonial struggles championed by the nationalist elite, majority of who acquired tertiary education outside the country. The nationalists commonly perceived education as the strongest weapon for mental de-colonization, political and socio-economic development (Ojo, 1983) Thus, following their relentless agitations for higher education in Nigeria, the British government established the Yaba Higher College (now known as Yaba College of Technology) in 1932 with the objective of providing higher middle manpower in relevant government departments by offering sub-degree courses in Engineering, Medicine, Agriculture, Teachers' Education and other vocations. Hopes improved in 1945 when the Elliot Commission on Higher Education in West Africa set up by the British Colonial Administration observed that "the need for educated Africans in West Africa in general already far outruns the supply, present and potential", and recommended among other things that there was the need for a University College in Nigeria (Dike, 1969). The University College, Ibadan was established in 1948 as an off-shoot and branch of the University of London, with a nucleus of students up-graded from the Yaba Higher College.

Another report submitted in April 1949 to the British colonial government by a delegation of the inter-University Council for Higher Education in the Colonies made a strong case for promoting technical education at the regional levels to meet the requirements of industry, commerce and the society and pay attention to teachers training (Longe et al., 1991:27). This led to the establishment of three polytechnics, one in each administrative region of the country: the Nigerian Colleges of Arts, Science and Technology, Zaria for the then Northern region (1952); Ibadan for the Western region (1954) and Enugu for the Eastern region (1955). These polytechnics were to provide technical education of non-university character leading to diploma in Secretarial and Business Administration, Accountancy, Land and Estate Management, Teachers Education, Pharmacy and Engineering. These polytechnics were phased out in 1962 when their assets were taken over by three of the new Universities, Ahmadu Bello University, Zaria; University of Ife and the University of Nigeria, Nsukka respectively.

The first major attempt by government to take a comprehensive review of the development of higher education in Nigeria was marked by the appointment in April 1959 of The Commission on Post-School Certificate and Higher Education in Nigeria, otherwise referred to as the Ashby Commission (after its chairman, Sir Eric Ashby). The Commission submitted its report to government early in September 1960, one month before Nigeria's political independence. The Ashby Commission which was also inaugurated to articulate a proposal for the development of all levels of education in Nigeria during the succeeding twenty years of national independence made the following striking observations concerning the weaknesses of the educational system (Yesufu ed. 1969; Ojo, 1983):

i) There was a lack of balance, both in its structure and in its geographical distribution. In an ideal educational system there is a balance between primary, secondary and post-secondary education.

ii) The quality of teachers at primary and secondary levels was poor. Most of the teachers were not properly trained and were uncertificated.

iii) There was glaring geographical imbalance in educational opportunities especially between the southern and northern parts of the country with the latter lagging far behind.

iv) Primary and secondary education were insecure because the great majority of teachers had neither enough general education to qualify them to teach nor adequate professional training.

v) Resources for education were generally limited

vi) Opportunities for enrollment into higher education levels were inadequate.

vii) There was over-emphasis on the literacy tradition and the university degree to the neglect of agriculture, technology, engineering and other practical subjects, particularly at the sub-professional level.

As opposed to the lower levels of education, the commission commended the quality of higher education being provided especially at the University College, Ibadan, albeit the quantity was said to be insufficient. The Commission made pertinent recommendation for tackling the observed shortcomings. At the level of higher education, it was recommended that more courses in technical education should be introduced and the number of polytechnics and universities increased to seven and four respectively in order to accommodate an expanded production of high level manpower to meet the needs of the country. Various other policies were

proposed for the governance of Nigerian Universities including the establishment of the National Universities Commission to secure and distribute funds to Universities and co-ordinate their activities (Longe et al., 1991)

The first indigenous university in Nigeria, The University of Nigeria, Nsukka, took off in October, 1960 when the report of Ashby Commission was barely submitted. Following the report, the University of Northern Nigeria (now Obafemi Awolowo University), the University of Western Nigeria and the University of Lagos were established in 1962. The University College, Ibadan, was converted into an autonomous university in the same year. Thus by the end of 1962, there were five universities in Nigeria, one more than the number recommended by the Ashby report. The University of Benin (which started in 1970 as the Mid-West Institute of Technology) was founded in 1972 to bring the number to six universities.

All the above universities were taken over by the Federal government from state governments in 1975 because of the need to achieve a wider geographical spread of admissions and institutions of higher education. Four more universities were established in Sokoto, Maiduiguri, Jos and Calabar, and three university colleges established in Ilorin, Port Harcourt and Bayero University, Kano respectively. As it were, 13 universities then existed in the federation, one in each state with the exception of the then Oyo State that had two universities. These universities are regarded as the "first generation universities" (Obasi, 1991). Several state governments established their own universities alongside with the Federal government in many of the states. The total number of universities (federal and state) in the country increased from 13 to 26. Private universities equally came to the fore, at least 24 proposed private universities were approved by the federal government. The primary motive for the establishment of these universities was political, to favour certain political constituencies and maximize voting advantages in elections.

Consideration was scarcely given to feasibilities of funding and data on manpower requirements (Longe et al, 1991).

The federal government compounded the situation by advancing a policy of establishing at least one federal university in each of the then 19 states structure. The phenomenon of graduate unemployment inevitably began to emerge due to the lopsided production of high level manpower.

With the eclipse of the Second Republic in December 1983, the succeeding military regime repealed the law on private universities in 1984 and closed down the established few. The Minimum Standards Decree was promulgated in 1985 providing for the accreditation of courses in universities and polytechnics.

The introduction of the World Bank's Structural Adjustment Programme (SAP) in June 1986 has engendered a mixed grill on higher education system in Nigeria. SAP encouraged the withdrawal of the State from the economy especially, from the social service sector considered to be non-productive and therefore, wasteful. Education is one of the natural victims of this philosophy. The Communique of the Conference on Academic Freedom organised by the Academic Staff Union of (Nigerian) Universities (ASUU) and the Council for the Development of Social Science Research in Africa (CODESRIA), Dakar, Senegal, summarised the state of higher education in Nigeria under the SAP dispensation as follows (CODESRIA Bulletin, 1996:6):

(1) Higher education is still grossly inadequately funded, with several negative consequences for academic freedom and university autonomy

(a) Infrastructural facilities/equipment for teaching, research and learning are either lacking, or very inadequate, and in bad state, thus restricting the freedom to carry out these basic functions of the academia.

(b) Students' residential accommodation are grossly inadequate and are frequently uninhabitable or environmentally hazardous, thus violating the right of the students to a conducive atmosphere for rest and studies.

(c) There is a serious shortage of classrooms and office accommodation. The few available are inadequately and poorly furnished

(d) Conditions of service have completely deteriorated with serious negative impact on morale and productivity of academics, and the exercise of academic freedom.

(e) Related to the issue of underfunding and in conformity with the World Bank philosophy is the withdrawal of subsidies on students' feeding and introduction of various fees in the institutions of higher learning which have imposed severe condition on students and violated the rights of many aspiring students to higher learning.

(f) There is a high level of moral decay in the institutions of higher education largely as a result of the collapse of the conditions of service (for teachers), and worsening conditions of subsistence (for students).

The communique further observed that higher institutions and academics in Nigeria are now forced to accept reforms dictated from outside by either government or its agencies or through non-government agencies, by forces of international finance capital-most notably, the World Bank.

Qualitatively therefore, there are strong indications that the current economic recession and liberalization policies engender a falling standard of education. This observation is further supported by several research papers presented during the Eight General Assembly of the Social Science Council of Nigeria (SSCN) with the theme: "University Governance in Nigeria" as well as similar notable studies on Nigerian educational system in general (Ajuogu, 1994; Dawan, 1994, Obiegbu, 1994; Babalola, 1994; Obasi, 1994; Aziegbe & Roberts, 1994; Ogunyemi, 1994; Akpala, 1996; CODESRIA, 1996). From an analysis of these sources, the causes, adduced reasons and effects of the observed falling standard could be summarized in the following Table. Presently, Nigeria's literacy rate is at 52% (42% female, 64% male) and gross enrolment ratio at 72% in the primary school, 20% in the secondary school and 35% in the tertiary institutions (UNDP, 1996:5).

Table 1: Causes, Adduced Reasons and Effects of Falling Standards in Higher Education in Nigeria.

Causes of Falling Standards	Adduced Reasons	Effects on Higher Education
1. Under-Funding of educational institutions	i) Mismanagement of the economy ii. General economic recession iii. Higher education institutions (mainly universities) are seen as promoting anti-government radicalism (criticisms, demonstrations etc).	i) Lack of literature, instructional facilities and laboratory equipment. ii) Deterioration in basic infrastructures, staff and students welfare iii. Poor remuneration of staff iv. increasing attraction of relatively less qualified personnel (based on first degree qualification) to the academic profession and migration of more qualified manpower to the private sector and foreign countries (brain drain). v) Incessant strikes
2. Government undue intervention in the administra-tion of schools	i) To curb radicalism ii) To enforce quota principles in the appointment of top administrative staff and students admission	i) Imposition of subservient and unpopular administrators over the institutions ii. Excessive students in-take and congestion of classrooms and hostels iii. Infilteration of patronage and primordial considerations in staff recruitment and promotion iv. Institutional regimentation, victimization, lack of autonomy and academic freedom. v. Promotion of terrorism and growth of different clandestine organisations within the school environment. vi. Deepening internal (between students, staff and the administration) and external (between students/staff and government) conflicts. vii. Frequent strikes, government clamp down of schools and brain drain.

Sources: This is a compilation based on a content analysis of the following studies

(1) Higher Education in the Nineties and Beyond. Report of the Commission on the Review of Higher Education in Nigeria, 1991.

(2) (2) Social Science Council of Nigeria (SSCN), Projects and Proceedings on, University Governance in Nigeria (1994-1996).

Not withstanding the marked deterioration in the quality of higher education, the SAP era has witnessed the establishment of 12 more universities in Nigeria, bringing the current number of universities in the country to 38. Apart from the two specialised Universities of Agriculture established at Abeokuta and Makurdi in 1988 and the Federal Universities of Technology at Bauchi (now Abubakar Tafawa Balewa University Bauchi) and Yola by the Federal government, the rest of the Universities have been established in the 1990s. In the literature on the evolution of universities in Nigeria, the SAP generation of universities are commonly referred to as the "Third Generation Universities" (Obasi, 1991; Longe et al, 1991).

A primary impetus for the emergence of majority of the third generation universities and indeed several other preceding universities is provided by the politics of state creation (JAMB Brochure, 1996/97:1). From a nexus of past policies, there is a conventional understanding in government quarters, that each state should have at least one federal and one state university respectively,

in order to avail its indigenes a fair enrollment opportunity in tertiary education. The same politics underscores the evolution and proliferation of polytechnics, colleges of education and other tertiary education institutions in the country.

For instance, within a period of three and half decades of national independence, the country has grown from the existence of one polytechnic to 38 polytechnics (16 owned by federal government, 22 state government owned) and from zero to 57 colleges of education (20 owned by federal government, 37 state government owned) in addition to about 34 colleges of agriculture.

The growth (at least quantitative) of higher education in Nigeria is better appreciated from the Tables (2-3) showing the progressive increases in the total number of students enrollment in universities and polytechnics since 1960. Table 2 indicates that, cumulatively there has been large disproportion of male (7B%) to female (22%) enrollment for both the ND and HND programmes in our polytechnics over the years. Research has shown that this gender bias is attributable to the preponderantly quantitative and applied science nature of the courses offered by the polytechnics (Longe, 1996). Nigerian polytechnics in the main offer Engineering, Business Administration, Building Technology and allied courses. Following the prevailing pattern of sex-role educational socialisation in our local cultures, these courses as well as the typical employment opportunities they promise would least appeal to females. On the contrary, the dominant values in our local cultures traditional predispose the female gender to cooking, entertainment and general service roles. This explains why there are consistently a larger female enrollment is such courses as Catering & Hotel Management, Food technology, Nutrition & Dietetics, Secretarial Studies and Music.

Table 3 shows the total students enrollment in Nigerian Universities by major disciplines (!989 - 1993). From the data, the overall students enrollment increased progressively from 174,133 in 1989 to an uppermost limit of 227, 999 in 1993. Out of the 15 disciplines contained in the Table, the Social Sciences, education, arts and veterinary medicine consistently recorded the highest enrollments in that order, maintaining above 20,000 students enrollments in each year. The discipline with the least students enrollment is pharmacy, with an enrollment range of 1,306 students in 1989 to 2,084 students in 1993.

It is pertinent to point that students enrollment (by disciplines) in the individual universities is usually subject to the National Universities Commission (NUC) quota allocation. The NUC normally sends a students admission quota to each Nigerian university and this quota is planned on departmental basis. Among the core issues taken into consideration in the NUC students quota allocation are the current staff strength of the teaching department, the infrastructural facilities available, and the manpower development requirements of the country (Longe et.al., 1991). With the quantum leap in the volume of application for university admission in Nigeria in recent years, individual universities have increasingly exceeded the NUC quota allocation for students admission with impunity, sometimes admitting more than, twice the number allocated by the NUC to a given department (Araromi & Adeyoju, 1996). This has further overwhelmed the inadequate infrastructural facilities in our universities. University authorities are placed under constant pressure by parents and staff who are desperate to have their wards enrolled in higher education. The patronage culture that has been pervasively institutionalised in our society weakness the capacity of the university administrations to resist such pressures. Predictably, the number of tertiary educational institutions is likely to increase in the near future following the creation of six additional states by the federal military government on October 1, 1996.

Table:2 STUDENT ENROLLMENT IN POLYTECHNIC BY PROGRAMME, SEX AND LEVEL OF STUDY

	1990/91				1991/92				1992/93				1993/94			
	ND		HND		ND		HND		ND		HND		ND		HND	
	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F

Accountancy	5494	2822	2222	796	4220	2204	1893	882	5313	2724	3278	1573	7258	3543	4638	2076
Architectural Tech.	698	86	251	29	349	113	153	22	607	128	281	35	993	252	320	39
Art and Design	421	139	108	15	332	108	152	39	-	-	-	-	636	142	191	60
Building Tech.	822	63	369	18	578	108	172	19	774	132	353	37	1282	345	433	51
Bus. Admin & Mgt. Studies	4191	2480	1354	657	2838	1752	1228	630	1358	772	951	423	4427	2891	2400	1200
Catering & Hotel MGT.	150	478	106	306	201	526	80	391	193	354	83	200	287	526	81	254
Ceramics	-	-	-	-	-	-	-	-	-	-	-	-	41	14	-	-
Civil Engr. Tech.	1217	183	759	55	910	142	466	114	989	131	596	53	1637	185	908	86
Computer Students	-	-	-	-	381	150	42	20	1024	486	83	35	1252	606	130	63
Elect/Electronic Engr.	2711	178	782	22	2094	144	547	34	2342	159	1100	61	1389	132	329	22
Estate Management	495	234	188	78	518	224	235	116	492	254	303	117	977	498	420	160
Fashion/Design	27	75	11	19	11	30	7	23	13	142	12	17	13	142	12	17
Food Technology	458	452	190	193	389	349	141	208	420	433	214	305	491	340	235	313
Graphics	-	-	-	-	-	-	146	20	-	-	90	14	-	-	74	7
Topographic Science	41	10	62	11	-	-	-	-	33	9	37	9	33	9	37	9
Land Surveying	729	105	256	35	33	2	-	-	360	48	28	8	635	66	205	26
Mech. Engr. Tech.	2489	46	576	16	1335	63	361	17	1389	74	658	30	2335	148	877	30
Painting	-	-	47	3	-	-	32	1	-	-	52	13	-	-	39	3
Printing Tech.	-	-	-	-	118	3	57	15	161	36	124	38	161	36	124	38
Qty Surveying	396	57	149	11	372	102	172	30	354	95	224	34	507	116	300	45
Science Lab. Tech.	1189	583	335	172	1031	489	235	131	2023	1412	360	201	2627	1806	477	258
Science Tech. (Chemistry)	-	-	13	5	80	43	18	20	-	-	-	-	-	-	-	-
Science Tech. (Physics)	-	-	4	1	-	-	14	1	-	-	-	-	-	-	25	2
Science Tech. (Micro Biol)	-	-	11	1	-	-	5	2	-	-	-	-	-	-	11	-
Sculpture	-	-	45	2	-	-	23	1	-	-	26	2	-	-	26	2
Secretariat Studies	1421	254	287	686	640	2447	365	735	1191	2629	410	913	1820	3946	628	1366
Statistics/Maths	920	228	165	55	643	183	198	71	889	357	788	84	1394	540	388	125
Textiles Technology	34	8	71	36	25	5	31	14	89	29	88	28	89	29	88	28
Town & Regional Planning	498	117	300	85	324	124	191	39	598	221	232	68	1038	327	392	87
General Art	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Source: Annual abstract of statistics, 1996 Edition. Lagos: Federal office of Statistics

Explanation

ND = National Diploma (2-year programme)

HND= Higher National Diploma (5-year programme).

Table2 (cont'd)

STUDENT ENROLLMENT IN POLYTECHNIC BY PROGRAMME, SEX AND LEVEL OF STUDY

	1987/88		1988/89		1989/90		1990/91	
	ND	HND	ND	HND	ND	HND	ND	HND

	M	F	M	F	M	F	M	F	M	F	M	F	M	F	M	F
Irrigation Eng. Tech.	126	6	3	-	21	1	-	-	-	-	-	-	-	-	-	-
Agric. Engr. Tech.	1822	168	339	15	296	57	82	13	324	79	216	43	419	110	162	29
Marketing	1460	840	549	206	1492	864	440	198	1371	957	608	332	1835	1145	928	458
Purchasing & Supply	921	55	166	255	363	185	131	33	190	107	164	50	340	169	105	35
Tourism	52	29	31	27	30	12	-	-	24	7	-	-	29	12	-	-
Mass Communication	592	630	125	83	770	585	230	340	895	715	172	146	1447	1265	402	486
Banking & Finance	1145	816	216	103	819	547	175	79	1023	822	376	199	1201	953	433	221
Chemical Engr. Tech.	288	53	173	20	127	31	-	-	367	78	120	20	407	102	143	29
Library Science	155	113	10	-	220	233	50	43	82	104	38	32	228	254	76	72
Metallurgy	58	10	-	-	187	9	62	3	129	7	62	5	361	11	93	6
Nutrition & Dietetics	16	54	12	42	-	28	-	-	6	15	11	40	6	43	11	40
Post Harvest Tech.	-	-	27	4	-	-	67	10	-	-	-	-	-	-	67	10
Water Resources Tech.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Drug & Chemical Tech.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Cartography	-	-	-	-	-	-	-	-	-	-	-	-	10	4	29	7
Mining Engr. Tech	117	42	86	2	135	13	16	-	232	10	126	4	140	17	142	9
Photogrammetry	-	-	-	-	-	-	-	-	23	5	8	-	23	5	8	-
Production Eng. Tech.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Wood/Paper Tech.	17	14	5	5	16	11	7	2	-	-	-	-	21	1	7	2
Insurance	271	261	68	27	59	75	66	21	144	137	92	51	324	23	23	16
Rubber/Polymer Tech.	32	22	-	-	40	28	-	-	-	-	-	-	-	-	-	-
Agricultural Tech.	-	-	-	-	139	15	-	-	563	127	329	17	550	84	368	18
Agric. Mechanisation Tech.	-	-	-	-	36	1	-	-	-	-	-	-	36	1	-	-
Animal Production Tech.	41	10	62	11	38	18	69	15	-	-	-	-	167	52	-	-
Music	32	35	6	5	-	-	-	-	-	-	-	-	32	35	6	6
Co-operative Societies	182	54	8	6	44	7	-	-	28	48	3	5	35	49	3	5
Forestry Tech.	-	-	36	-	24	-	-	-	-	-	-	-	-	-	-	-
Total:	31719	14009	10583	4102	23278	12011	8339	4352	26422	13948	12468	5295	38935	21396	16800	7817

Source: Federal Ministry of Education, Lagos.

Table 3: TOTAL STUDENTS ENROLLMENT IN NIGERIAN UNIVERSITIES BY MAJOR DISCIPLINES

Discipline	1989	1990	1991	1992	1993
Administration	10,831	10,969	12,746	15,469	12,674
Agriculture	9,265	10,919	12,002	13,803	12,170
Arts	23,507	24,302	25,339	27,348	22,646

Education	29,698	29,996	34,834	31,506	31,012
Engineering and Technology	14,238	15,226	17,984	20,971	22,080
Environment Design	5,477	5,655	6,394	7,049	7,763
Law	9,597	9,284	9,524	11,291	9,765
Medicine/health Sciences	10,613	11,162	12,565	13,956	17,118
Pharmacy	2,109	2,290	2,661	2,716	5,003
Social Sciences	27,338	30,083	34,819	40,068	41,504
Veterinary Medicine	20,475	21,622	25,363	30,830	24,163
Pharmacy	1,306	1,403	1,528	1,643	2,084
Unclassified	10,129	6,577	5,015	8,679	20,017
Total	174,133	179,488	200,774	224,879	227,999

Source: National Universities Commission

Note: * Federal Universities only

It suffices to mention that the role of polytechnics has expanded over the years corresponding with the changes in the structure of manpower needs and development in the country. In the present conjuncture, the goals and objectives of polytechnics are teaching, research with emphasis on application and development, and public service through;

(i) the production of high level and middle level manpower as appropriate, in areas necessary for agricultural, industrial, commercial and economic development.

(ii) the identification and solution of the technological problems and the needs of the industry.

(iii) the production of technicians and technologists for direct employment in industry (FGN, 1990-92)

The Report of the Commission on the Review of Higher Education in Nigeria (1991) demonstrates that there is a clear identity crisis within the polytechnics arising from a wrong perception by them of their role in national development. Polytechnics are charged with the responsibility, primarily, for the training of middle level manpower (technical and technologists) for direct employment in industry as a support for the high level manpower essentially turned out by universities.

This primary role differentiation engenders unnecessary competition between polytechnics and universities for parity of status, academic staff structure and system of administration. Other causes of anxiety in the polytechnics identified by the Commission include:

(i) the placing of a limit to the career progression of products of polytechnics in the public service

(ii) the lack of opportunities for polytechnic graduate to achieve: academic progression beyond by HND level;

(b) professional recognition particularly entry into the engineering cadres.

(iii) the general societal perception of university graduates as being of higher social status than the products of the polytechnics.

To redress these confusion and constraints, the Commission made the following recommendations:

i. Removal of any limitations to the advancement (career progression) of competent polytechnic products who demonstrate the potential for performance at the higher levels of the public service

ii. The establishment of a one-year bridge programme in the Universities through the collaboration of Universities, polytechnics, National Board for Technical Education (NBTE) and Nigerian Universities Commission (NUC) to enable HND holders with distinction and upper credit grades to pursue studies for higher degrees. The successful completion of the "bridge programme" should qualify the candidate for admission into a master's degree programme; and make him eligible for registration with the appropriate professional bodies.

iii. The Federal Ministry of Education should take the initiative to have such "bridge programme" established.

iv. Polytechnics should concentrate on their main role of producing technicians and technologists who are greatly needed by the nation and not indiscriminately mount "bridge programmes" and offer higher degree courses as recommended in some memoranda to the commission.

v. Polytechnic teachers should participate in regular short term exposure programmes in industry after every two years to keep them abreast of current practice. Although, this may not have a direct implication for our study but it suffices to point out that mounting the “bridge programme “ would most likely reduce the intense competition for university admission and the massive over-enrollment of students already observed in the analysis of table 3.

It is pertinent to observe that six years after the commission submitted its report to the Federal Government, much of the above recommendations have not yet been implemented. Only a few universities have mounted the "bridge programme" to enable good HND graduates advance their academic career to post-graduate degree levels.

Discrimination in career progression between holders of HND and university degree within the public service still obtains, and so forth.

1.7 STRUCTURE AND EVOLUTION OF THE MANUFACTURING SECTOR

Major studies on manufacturing processes in Nigeria (Mabogunje, 1973; Adejugbe, 1979; Teriba et. al, 1981; Omeje, 1991; Ukaegbu, 1994) are commonly of the view that in terms of structural configuration, the Nigerian manufacturing sector tends to be characterised by the following:

(a) Concentration of manufacturing activities mainly on consumer and intermediate goods with the production of capital goods such as basic engineering products, special agricultural and industry machinery, transport equipment and automobiles still largely negligible.

(b) Reliance of several industries within the manufacturing spectrum on government import substitution strategy designed since the early 1960s to benefit both foreign and Nigerian investors in manufacturing. This strategy has historically encouraged the increased reliance of Nigerian manufacturing industries on imported inputs especially raw materials, spare parts and equipment, making real backward integration and multi-sectoral complementarity within the nation's economy elusive.

(c) Lopsided locational pattern resulting in a high concentration of manufacturing industries in a few urban areas on account of population concentration of manufacturing facilities and their relatively higher per capita income.

(d) Domination of large-scale manufacturing activities in Nigeria by foreign entrepreneurs and monopolies with indigenous entrepreneurs small and medium-scale manufacturing, and;

(e) High level of retrenchment of labour (skilled and unskilled), employees' turnover and job insecurity in the manufacturing sector especially during the past decade of structural adjustment policy.

Beyond structural features, scholars have accorded more indepth and far-reaching attention to the evolution of public policy as it affects manufacturing and the over-all development of the economy. We have arranged our review of this vital area in five stages. These states are the pre-independence era, the immediate post-independence the first military interregnum and the second and third plan periods (1966-1979); the second republic, the fourth plan and the era of economic stabilization (1980 - first half of 1986); and lastly, the period of structural adjustment programme (second half of 1986 to present).

With regard to the first stage of the discourse, there seems to be a consensus among several commentators that manufacturing in Nigeria during the pre-independence era was typically negligible given the event that British industrial policy for the nation systematically discouraged local crafts and manufacturers (Sokalski, 1965; Hekam, 1966; Usoro, 1977 and Inegbenebor, 1989). Hence at independence in 1960, the Nigerian economy was largely agrarian and only 150 plants of medium and large scale size in the industrial sector were available, the bulk of which (some 55%) had been established only in the preceding five years (Teriba et al; 1981: 22). Evidently, modern manufacturing accounted for a mere 3.2.% of our GDP at independence (FGN, 1988), with expatriate investors dominating the business.

Focusing on the immediate post-independence era and the period of the First national plan, Ukpong and Anusionwu (1986) tried to establish that the government of the first republic placed immense premium on foreign investment and active partnership with foreign capital as a major strategy for industrial growth and enhancing the productive performance of manufacturing sector. But throughout the period, industrial establishments engaged in manufacturing remained few and widely dependent on foreign inputs and technical support (Adujegbe, 1979).

Available writings show that the first, military interregnum (the third stage of the discourse) witnessed a more or less, radical broadening of the industrial policy of the nation as it affects manufacturing, under the pivotal auspices of the Second and Third National Development Plans (see Second Plan FGN, 1970; Third Plan FGN, 1975; Asiodu, 1977 and Uwujaren, 1981-83). As against the pursuance of industrial development via the attraction of foreign capital investment, emphasis was diverted to the creation of a sound industrial base for the long term growth of the economy through government direct investment in strategic industries such as agro-based industries, iron and steel and vehicle assembly. A new set of policy objectives was enunciated for the manufacturing sector highlighting;

(i) Even development;

(ii) Increase of manufacturing income,

(iii) Rapid expansion and diversification;

(iv) Creation of employment opportunities;
(V) Promotion of export industries to earn foreign exchange;
(vi) Raising the level of intermediate and capital goods:
(vii) Indigenous manpower development; and
(viii) Raising the level of indigenous ownership.

Furthermore, a comprehensive national policy on education, the first of its kind, was formulated under the Second National Development Plan. The policy among other things links education to the challenges of industrial development, further seeking ways of harmonizing the two. For instance, it assigns to universities the role of generating innovative knowledge and high level personnel requisite for creating new productive systems while polytechnics are to produce intermediate manpower to help in maintaining these systems. These dynamic steps in the national development planning profile were some of the necessary changes brought about by the boom in our external revenue earning from oil.

According to Akeredolu-Ale (1975) and Akor (1988), the numerical size of manufacturing plants operating in the country also saw astronomical increase during this period with hundreds of indigenous entrepreneurs receiving government loan to launch their entrance into the manufacturing business. The collaboration of the industrial sector, manufacturing inclusive, was enhanced by the establishment of the students Industrial Work Experience Scheme (SIWES), a programme that affords students in the relevant technology and management oriented disciplines an internship opportunity in the industrial sector at the collaborative expense of the latter and the government.

Following the Fourth National Development Plan (1980 - 1985) the civilian regime of the second republic renewed interest in supporting private enterprises, especially expatriate investors. Government industrialization strategy experienced increased profligacy with a resultant emphasis on the establishment of grandiose projects, not accompanied by a significant technological break-through or growth (Onoh, 1986, Philips and Ndekwu, 1987). Governmental actions and excesses, dismaly expressed in the prebendal mode of accumulation of the ruling regime occasioned an exacerbation of the spending spree on imported inputs and frivolous consumptions (Obi, 1984 and Usman, 1985). Thus besieged by the abrupt collapse of the international oil market, the Nigerian economy was sentenced to its gloomiest disaster leading to the commencement of the economic crisis of the 1980s. The quest to manage the crisis materialised in the Economic Stabilization Act of April 1982 in a demand- management short-run adjustment measure which was later streamlined and extended by the succeeding military administration of Retired General Buhari. Previous Studies have shown that the manufacturing industries were worst- hit by the economic crunch of the early 1980s and the stabilization responses that it provoked from government (Okongwu, 1986 and Kolade, 1990). The crisis forced many industries out of production, while a lot more operated far below their normal capacities.

Retrenchment of industrial employees became rampant. The manpower situation was compounded by the emergence of a high rate of graduate unemployment which was partly caused by the deepening crisis and partly by the explosion in the number of higher educational institutions as well as their graduates following the politics of the second civilian republic.

The era of structural adjustment programme (the final phase of our discourse) with its attendant enthronement of market forces as the major determinants of resource allocation has produced mixed effects for the manufacturing sector and the economy at large. Despite all efforts at reviving the economy, available indicators show that the Nigerian economy is still in serious recession, displaying unhealthy features, viz (Philips & Ajakiya, 1993 MAN, 1990, Omeje, 1991, MAN, 1995).

(i) Slow down in economic activity
(ii) Low industrial capacity utilization average of 38% per annum
(iii) An annual inflation rate of 80%
(iv) Rising unemployment and lack of new investments,
(v) Heavy build-up of business inventory owing to flagging domestic demand.

Among the main constraints to improved performance in industries in particular are (MAN, 1995).

* difficulties in accessing production inputs
* excess burden of taxation arising from multiple levies/charges by state and local governments;
* deteriorating infrastructure and escalating cost of production.

Though the structural adjustment period has been characterized by high rate of graduate unemployment and retrenchment in area of enhancing the collaboration between institutions of higher learning and industries is establishment of the Foundation for the Promotion and Commercialisation of Indigenous Technology (FOPCIT). Members of FOPCIT at both Federal and State levels are drawn from relevant government ministries, the organised private sector (inclusive of Manufacturers Association of Nigeria), Universities, polytechnics, research institutes and other academic institutions. Some of the ideas behind the formation of the group include (Anazodo, 1988; Ifejika, 1996):

(a) To identify areas of research and development needs.
(b) To monitor past and on-going research and development activities in these areas.
(c) To identify further research and development activities in these areas
(d) To act as liaison between research institutions/inventors and industries/inventors for solutions of both technical and financial problems
(e) To evaluate and verify actual research and development products
(f) To establish the commercial applications and acceptability of these products
(g) To promote the fabrication for prototypes
(h) To contribute to the restructuring of curricular of higher educational institutions based on the technical needs of industries.

Doubtlessly, FOPCIT is founded on laudable objectives and scope of activities. The forum has recorded significant break through with respect to the development and commercialisation of indigenous technology especially, during the first seven years of SAP (RMRDC, 1994, Aliyu 1996). However, in the area of manpower development, training and revision of academic curricular, FOPCIT seems not to have made any meaningful head-way. The reason is not quite clear. But it appears to us that further capacity (in terms of personnel and resources) is required to be built into FOPCIT for the team to be able to accomplish this task.

A more disturbing observation perhaps is that some of the State branches of FOPCIT are in disarray. In Enugu and Anambra States (our study location) for instance, FOPCIT has not been operational since 1993 and members of the team have silently withdrawn into their tents. There is therefore a need to revive and motivate the team. Possibilities of collaborative linkages between FOPCIT and such bodies as Nigerian Universities Commission (NUC) and National Board for Technical Education (NBTE) should be explored without which there cannot be any significant progress in the much desired curriculum development in the participating schools.

1.8 HIGHER EDUCATION AND THE EMPLOYMENT SYSTEM: CONTENDING PARADIGMS OF EXPLANATION

Scholars have differently theorized the relation between higher education and the employment system or work. Contending theories of explanation fall into two broad intellectual perspectives namely, the positive nd normative paradigms. The positive paradigm represents attempts by pundits to explain the observed structural connections between education and work and how they developed, while the normative paradigm tends to focus on what should be the relation between education and work (Levin, 1995:13). In other words, whereas the former is primarily concerned with `the real' or `what is', the latter focuses on`the ideal' or `what ought to be'. Correspondingly, social scientists favour the positive approach with its emphasis on understanding and analysing what exists or has existed while educationist are particularly concerned with the normative view arguably because it has decisive implications in designing the structure and content of schooling and in preparing the student specially for the employment market. There is the need to point out however that the two paradigms are not mutually exclusive. At least, there is a markable consensus among exponents that higher education plays a solid role vis-a-vis the employment system, first, in terms of providing job related knowledge and competences, and second in pre-selecting students for future jobs, positions and ranks (Brennan et. al. 1995).

The Normative Paradigm:

The normative paradigm encapsulates two strands of thought, viz; the instrumentalist and moralistic or liberal perspectives.

The instrumentalist perspective posits that the educational system should be functionally tailored to produce workers that are suitable (in terms of Knowledge and skills) for a given productive economy. Hence, the criterion of measuring the success of the educational system is the degree to which the schools provide trained personnel to fill the needs of firms (Blaug, 1970). This mechanistic utilitarian conception of the organic linkages between education and work also underlies the human capital theory of investment in schooling and the development of vocational schooling.

Teichler (1995) has aptly pointed out the ideological danger of conceiving higher education in excessively utilitarian terms. Such a simplistic view is often biased by the selfish interest of employers and further subjects higher education institutions to the increased pressures of serving the employment system in a narrow way.

On the other hand, the moralistic or liberal perspective originally associated with the American educationist, John Dewey (1916), argues that schools should serve the ideals of providing a moral education dedicated to human development and democratic ideals without specific reference to the needs of the employment market. As opposed to becoming a logical prime mover of the educational process, protagonists of the moralistic view argue that effective work skills could at best be an important `by-product' of the process. School activities and learning are therefore to be undertaken on the basis of their intrinsic goodness considered at any rate to be coterminous with the ideals of a liberal democratic system.

The Positive Paradigm

The positive paradigm is a broad collection of related theories that tend to emphasize the relation between training (both formal and informal) and work. But unlike the normative theorists, positivists do not generally insists on a deliberate and prescriptive structuring of the school curriculum to suit the imperatives of specific job descriptions and types of employment offered by the society. Exponents of positivism more or less share marked consensus on the presumed logical and flexible correspondence between education in general and the employment system. Such natural correspondence does not however rule out the functionality or desirability of formal on-the-job training, in-service training, work experience and so forth.

One of the earliest strands of thought within the positive paradigm is the human capital theory which regards education, all formal trainings and repertoire of employment experience as investments in skill development that essentially lead to higher work productivity and remuneration in the labour market (Welch, 1970; Levin, 1995). Economists and other experts hold varied opinions on the measurability between investments in education/training on the one hand, and productivity/rewards on the other hand, but the theory of human capital implies that since investment returns are the ultimate guide for education decisions, families and societies will attempt to make certain that education is vocationally relevant so as to attract competitive reward.

Another varient of the positive paradigm is the functionalist school in sociology which hypothesizes a close correspondence between the organisation of schools and that of the workplace. According to this perspective, every society must develop means of preparing the young to be competent adults capable of fulfilling the different roles and functions as required for the stability and continuity of the society (Inkeles and Smith, 1974). Essentially, the schools are viewed as the single most important agency of socialization for creating competent adult workers for modern work institutions (Parsons, 1960). The amount of schooling experience, argue some exponents, has a direct correlation to productive skills and social efficiency in work organisation.

The functionalist approach has been widely criticized particularly by scholars of the marxist orientation who argue that functionalism merely presents a static analysis of the relationship between two institutions rather than a dynamic explanation of the origin, nature and social character of such relationship. The marxist critique further holds that functionalist theory is an attempt to rationalize the character of division of labour and differential wage structure intrinsic to the nature of relationship between schooling and the employment system in most industrialized market economies. In this context, the critics argue that the main function of schooling is the reproduction of the hierarchical power relations between different groups and social classes through differential valuation of training, occupational placement and disposable perquisites. Put in marxian terminology, the structure and agenda of the type of schooling which functionalists are interested in is one moulded by a dominant capitalist class either directly or indirectly to reproduce exploitable labour power for the needs of capital expansion and to mediate the contradictions of capitalist expansion (Poulantzas, 1975; Bowles and Gintis, 1976).

Gap in Literature

Without delving into ideological controversies, the fact about the relationship between the educational and employment systems is virtually indubitable. Scholars have merely disagreed on the particular nature, details and dimensions of the observed relationship. Furthermore, it is evident from available literature that most scholars, researches and theories are limited to exploring the structural links between higher education and employment. Research into the curricula contents of higher education and their impact on graduate work has been less frequently undertaken (Brennan et. al. 1995). This project is more interested in the latter. As we stated earlier in the literature review, we are not aware of any systematic study that is focused on higher education curricular in Nigeria and

their impact on graduate work especially, within the manufacturing sector of the economy. What factors influence students employment prospects in such a competitive sector of the economy as manufacturing? How far do the schooling curricula and experience prepare graduate for effective career in industries?

In their conceptualisation of higher education and work, Brennan, Kogen and Teichler (1995) have developed some important clues to our research puzzles based on the proceedings of the Consortium of Higher Education Researchers held in London in 1992. According to the experts, research has aimed to identify differences in employment prospects of students according to:

* types of higher education institutions
* types and levels of course programmes and degree
* field of study
* intra-type diversity, ie hierarchy of prestige and reputation of institutions of formally the same institutional type
* differences in terms of achievement - related dimensions, such as students grades or areas of specialisation.

Consequently, curricula in higher education the scholars posit might vary in terms of their relationships to work in the following ways:

- Curricula might be strongly directed towards preparation for research and the creation of knowledge or towards the reproduction and dissemination of existing knowledge
* Curricula might be geared closely to occupational preparation or be unrelated to it
* Where occupational preparation is a goal, curricula might differ in the extent to which such preparation is considered to be completed
* Curricula might vary according to the degree of specialisation
* Curricula might focus on a single discipline or combine various disciplines
* Curricula might differ according to the extent they attempt to shape students personality.
* Stages of degree programmes might progress from more general to more specific stages or conversely from `vocational'; short programmes to `theoretical' long programmes.

In the context of Nigeria, curricula development for all categories of high education (i.e. centrally coordinated and are primarily geared towards occupational preparation particularly at the undergraduate level (NUC, 1992; NBTE, 1994). The other observations of Brennan et al. that are quite pertinent to the Nigerian situation are that:

- Curricular vary according to the degree of specialisation, and
- Stages of degree programmes progress from more general to more specific stages and from "vocational" "long" programmes to theoretical "short" programmes.

Based on our problem statement and overview of literature, our expectations from this study are as follows:

(a) Prevalence of poor and de-motivating study environment including teaching quality of lectures, academic advise offered, teaching equipment and infrastructural facilities.

(b) Students decisions to enrol in specific higher education institutions being more influenced by parental factors and area of specialisation/practice oriented study programme.

(c) Existence of a wide mismatch between theoretical and practical knowledge acquired in the course of school education and the demands of graduate work place assignments.

(d) Extensive interplay of primordial factors (ethnic origin, family connections and

relationships etc) personnel recruitment and the procurement of employment opportunities.

(e) Employees and applicants overwhelming preference for attractive remuneration as the most important occupational characteristic.

(f) Respondents' demonstration of satisfaction with the different aspects of their industrial training (IT) experiences.

(g) Prevalence of a high rate of employment turnover.

(h) Increased subjection of employees to an immediate post recruitment training or re-training.

1.9 Methodology

Data for the analysis of this work has been based on primary and secondary sources. At the secondary level, we sourced our data from the different higher educational institutions and manufacturing firms in the study states. Category of information gathered include data about the admission requirements for some specified disciplines in the higher institutions, their academic curricula and various job specifications (technical and non-technical) in the manufacturing firms. Further, we have done a content analysis of the relevant government policies and documents, industrial memos and writings of the academia.

In terms of the primary data, we adopted the questionnaire method of self-report technique.

Study Population, Sample and Sampling Procedure

The population of this study include students in higher institutions of learning whose disciplines are fundamental to filling technical and administrative positions in industries as well as industry personnel of graduate cadre (holders of at least higher diploma certificates). Operationally, We are interested in the following disciplines:

(i) All branches of engineering plus computer science
(ii) All administration courses including business management, public administration, accountancy, finance, banking, marketing etc.
(iii) Key liberal sciences such as political science, sociology, psychology, economics and mass communication

The study has been carried out in Enugu and Anambra States. Our sampling procedure is based on a combination of simple probability and non-probability sampling design. From the two states, we studied the following higher education institutions; their students and graduate employees:

(a) University of Nigeria, Nsukka, UNN (Enugu State)
(b) Enugu State University of Science and Technology, ESUT (Enugu State).
(c) Institute of Management and Technology, IMT, Enugu, (Enugu State).
(d) Nnamdi Azikiwe University , NAU, Awka (Anambra State)
(e) Federal Polytechnic Oko, Okopoly; (Anambra State).

For reasons of convenience we decided to exclude one polytechnic in the study area, Our Saviour Institute of Science, Technology and Agriculture, OSISATECH, Enugu from our sample. This is because many of the courses in OSISATECH as we discovered in our investigation have not yet been accredited by the National Board of Technical Education (NBTE) and being a relatively new school, the institution has not yet produced its first set of graduates.

A total number of 800 questionnaire were distributed to student respondents among the five schools between April and September 1996 on a loose equal proportion. The rate of returns are as follows:

Table 4: Students questionnaire distribution and return rate by educational institutions .

		No. of Dist. Questn.	No. of Completed Returned Questn.	Return rate
(i)	UNN	160	64	40%
(ii)	ESUT	180	124	69%
(iii)	IMT	200	120	60%
(iv)	NAU	150	60	40%
(v)	OKOPOLY	150	68	62%
	TOTAL	800	436	55%

An overall number of 436 completed questionnaire (55%) were promptly recovered from the field survey. It is pertinent to mention that the unanticipated poorer return rate recorded by UNN and NAU is attributable to the nation-wide strike action embarked upon by University teacher which virtually cut across the entire duration of our field study. ESUT boycotted the strike. Generally, we restricted our students sample to under-graduate and postgraduate degree students who were either undergoing industrial training at the time of the study or already had experience of industrial training. Further stratification of the sample within each educational institution was done on the basis of academic faculties and departments while the final selection of respondent was based on a systematic random technique.

Our sampling of the manufacturing sector was purposively limited to firms that are affiliated to the Manufacturers Association of Nigeria (MAN), Based on a previous study (Omeje, 1995) we are aware that MAN represents more than 85% of the total registered manufacturing companies operating in Nigeria, thus the Association is widely representative of the manufacturing business in the country. Membership of MAN is open only to medium and large scale companies involved in manufacturing activity in which some form of material is converted, assembled, processed or reconstituted into more developed form or finished product. Altogether, the two study states have about 140 manufacturing companies affiliated to MAN. As against 14 companies originally stated in our revised proposal, we practically, ended up covering 40 manufacturing companies in an effort to meet up with our targeted number of graduate respondents.

In all, we administered a total of 500 questionnaire to our industries respondents comprising of technical and non-technical personnel of graduate level between July, 1996 and January 1997. Actual selection of firms and respondents within the study firms was judgementally structured. We concentrated on the manufacturing companies that were established before January 1995 and this we were able to ascertain using the MAN Directory of affiliated companies. We purposively selected these companies from where we obtained the names and sections of assignment of their employees that fell into our sample cohorts (1985-1995 graduates of our specified universities and polytechnics). We then proceeded to administer questionnaire to these employees with the help of our field assistants. No sooner that we commenced the survey than we discovered that not many employees met our sampling criteria. Hence, we gradually expanded the list of the sample firms from 14 through 40. Similar to the students sample, our survey of the industries reflect a loose stratification of the sample into sub-sectoral groups on the basis of the operative classification of MAN. Questionnaire returned among the eight different sub-sectors (products classification) are as follows:

Table 5: Employees questionnaire distribution and return rate by sub-sectoral groups of manufacturing firms.

		No. of Questn. Distri	No. Returned	Return rate
(i)	Printing and paper products	20	9	45%
(ii)	Basic industrial chemicals, and			

	pharmaceutical products	50	27	54%
(iii)	Textile, clothing apparels & foot wears	30	14	47%
(iv)	Building and furniture	60	30	50%
(v)	Food processing and agro-allied	70	34	49%
(vi)	Soft drinks and beer	92	45	49%
(vii)	Household plastics	28	10	36%
(viii)	Automobile assembly, spare parts and basic engineering and petroleum products	150	97	65%
	TOTAL	500	266	53%

Our overall questionnaire return rate for graduate employees is 53%.

The students and graduates questionnaire that we used in this study were adapted from the standard instrument developed by participants of the March 1996 AAU workshop in Accra, Ghana. The questionnaire instruments contained both structured and unstructured questions designed to test our major research objectives, with a marked background view to cross-national comparability.

CHAPTER TWO
A PROFILE OF THE COVERED RESPONDENTS

This chapter provides some background information about the respondents (graduates and students). These include information on course of study, year of graduation, gender, level of education of parents (for graduates only), year of first enrollment into higher institution (for students only).

2.1 PROFILE OF INTERVIEWED GRADUATES

Interestingly, the results of the survey reveal a fair representation of graduates within the three categories resulting from the classification of the graduates by their various years of graduation; 1985 - 87 (34.2%;), 1988 - 90 (32.7%) and 1991 -95 (33%).

The course of study of the responding graduates reveals that while (43.6%, 42.0%) were from management science and engineering, only (14.3%) of them were from social sciences. The low representation of graduates of social sciences in the list of surveyed graduates may stem from the tendency of most manufacturing firms to employ mostly graduates from engineering and management sciences for reasons of technical specificities. The gender of the graduate respondents show a high percentage of males (72.8%) as against (22.2%) females.

The gender of the respondents were further examined by courses of study of the respondents. The result shows a fairly well distribution of females among the chosen courses; (27.0%, 27.0%, 15.6%) for management, social sciences and engineering disciplines respectively. The low female respondents in the engineering discipline is consistent with the earlier table on student enrolment by field of study. The number of females seen within management and social sciences however, indicates an under representation of females within the two courses vis-a-vis the disproportionately massive number of female graduates turned out from these fields. The basis for this under representation cannot be conclusively explained but we imagine that the phenomenon may not be unrelated to the gender biases intrisic to particular social relations.

The educational attainment of parents of responding graduates shows a high literacy ratio of (89%, 81.6%), for fathers and mothers respectively.

The distribution of this literate percentage on the different levels of education indicate more of low and middle levels of education (39.8%,41.4%) for primary school and secondary school attendant. The tertiary level accounts for only (22.4%,14.3%) for both parents.

Table 6: Profile of interviewed graduates

Factors	Percentage
Year of Graduation	
85 -- 87	34.2
88 -- 90	32.7
91 -- 95	33.1
Course of study	

Manag. Sciences.	43.6
Social Sciences	14.3
Engineering	42.1
Gender	
Male	77.8
Female	22.2
Level of education of father	
No education	11.0
Primary	39.8
Secondary	26.8
Tertiary	22.4
Level of education of mother	
No education	18.4
Primary	41.4
Secondary	25.8
Tertiary	14.3
Count	(256)

Table 7: Course of study of responding graduates by gender (percent)

	Male	Female	Total
Manag. Sciences.	73.0	27.0	100
Social Sciences	73.0	27.0	100
Engineering	84.4	15.6	100
Total	77.8	22.2	100
Count	(200)	(57)	(257)

2.2 PROFILE OF INTERVIEWED STUDENTS

The course of study of the interview students reveal that two thirds of them were from engineering (66%). Social Sciences and Mass communication together accounts for only (34.0%) of the entire student respondents.

The high percentage of engineering students seen in the survey obviously draws from the criteria for the sample stratification which allows mostly students who have undergone at least six months to one year industrial training to be interviewed. Six months industrial training is essentially a partial requirement for the award of degree in engineering. This requirement however does not apply to other discipline in the universities. The result on year of first enrollment into higher institution reveal that (77%) of the students enrolled between 1990 and 1992. The much older class in the year of enrollment (1987 - 1989) may have resulted from students who either had a break or extra sessions and this class accounts for (10.8%) of the responding students. The youngest class of students seen within the year of first enrollment are those who were still undergoing their industrial training at the time of the survey. This constitutes a percentage of (12.2%)

The female representation among the responding students are fairly higher than that of graduates. The reason for this variation can be drawn from the fact that everyone in the polytechnic is expected to undergo industrial training. The data on employment status show that 95 percent of the graduates have full time employment, 3 percent are contract workers while only 1 percent are persons undergoing their one year National Youth Service. On the aspect of other gainful activities, 74 percent of the graduates have no other jobs, 11 percent have second jobs or a form of private business, 15 percent have side jobs.

The graduates employers were almost equally shared into public and private sectors in a ratio of (49:46) while the industrial training students' employers were mainly from the private sectors (58.3%) the public has (41.5 percent).

Table 8: Profile of interviewed students

Factors	Percentage
Year of first enrollment	
87 – 89	10.8
90 -- 92	77.1
92 -- 94	12.2
Course of study	
Management Sciences.	12.6
Social Sciences	21.6
Engineering	66.1
Gender	
Male	63.0
Female	37.0
Count	(436)

Table 9: Course of study of responding students by gender (percent)

	Male	Female	Total
Manag. Sciences.	48.8	51.2	100
Social Sciences	73.8	26.2	100
Engineering	36.4	63.6	100
Total	63.2	36.8	100

CHAPTER THREE

ASSESSMENT OF STUDY ENVIRONMENT AND FACTORS THAT INFLUENCED THE RESPONDENTS CHOICE OF HIGHER INSTITUTIONS

3.1 ASSESSMENT OF STUDY ENVIRONMENT

This section is concerned with the assessment by the graduates and students of their study atmosphere, decisions to enroll in their various schools of choice and specific areas of the study conditions and provisions were marked and questions were designed to

address them. The data resulting from responses on these aspects were analysed both for graduates and student by type of institution attended; (polytechnic and university), course of study, year of graduation and gender. The students as well as the graduates responded well to the questions. On a general note the result of the survey reveal personal input made by both lecturers and students as being quite high . This aspect of study provisions may be regarded as the human oriented aspects. These human aspect include; teaching quality of lectures (77%) for all graduate respondents …, contact with fellow students (73%) … and academic advice offered (60%) … The only aspect of the above which did not seem to be as high even though fair is the issue of advice given by lecturers.

The provision of equipment which include the availability of teaching equipment, teaching materials and stocking of libraries recorded low marks comparatively. This is evidenced from less than 50% scores for all of them in both types of institutions. In the supply of teaching materials only (35%) of the respondents responded positively to it while the rest saw it as insufficient.

The third aspect of the study condition can be referred to as off-study infrastructural facilities on campus. This include Accommodation facilities and catering facilities, quality of buildings. The three recorded poor scores of less than 40% using the same criteria of responses from good to very good for both institutions.

Looking at the students questionnaire, almost the same pattern of results tend to emerge. It is also interesting to note that the pattern followed by the results from the polytechnic graduates is almost the same followed by the university graduates. This goes to prove that the conditions obtainable in Nigerian Universities are practically similar to those obtainable in the polytechnics. Even when variations exist it may not be significant. The last aspect to be considered is what one may term as the regulating aspect of the study provisions. These include the possibility of individual structuring of the studies and the ability of the students to exercise positive influence on institutional policy. These also had poor scores on the positive side. Only (17%) and (32%) scores on the respective items. A logical extrapolation from the forgoing is that the study conditions and provisions regarding the actual delivery of lectures and what the lecturers offer have been fairly adequate. Contacts that students have among themselves could be judged to be adequate as well, while the equipment, facilities of studies are evidently poor. These findings more or less correspond with the views expressed by Professor L.U. Imaga, a veteran member of the Curriculum development Committee of the Nigerian Universities Commission (NUC) in a personal interview with the researchers (12-3-97). Professor, Imaga particularly deplored the poor state of equipment and facilities in most Nigerian tertiary institutions which he observed dismally fall below the NUC and NBTA accreditation minimum for various departments. He attributed this problem partly to under funding on the part of government and misprioritization or mismanagement of resources on the part of school administration.

Chart 1: Assessment of study provisions and conditions by type of institutions of responding graduates (percent)

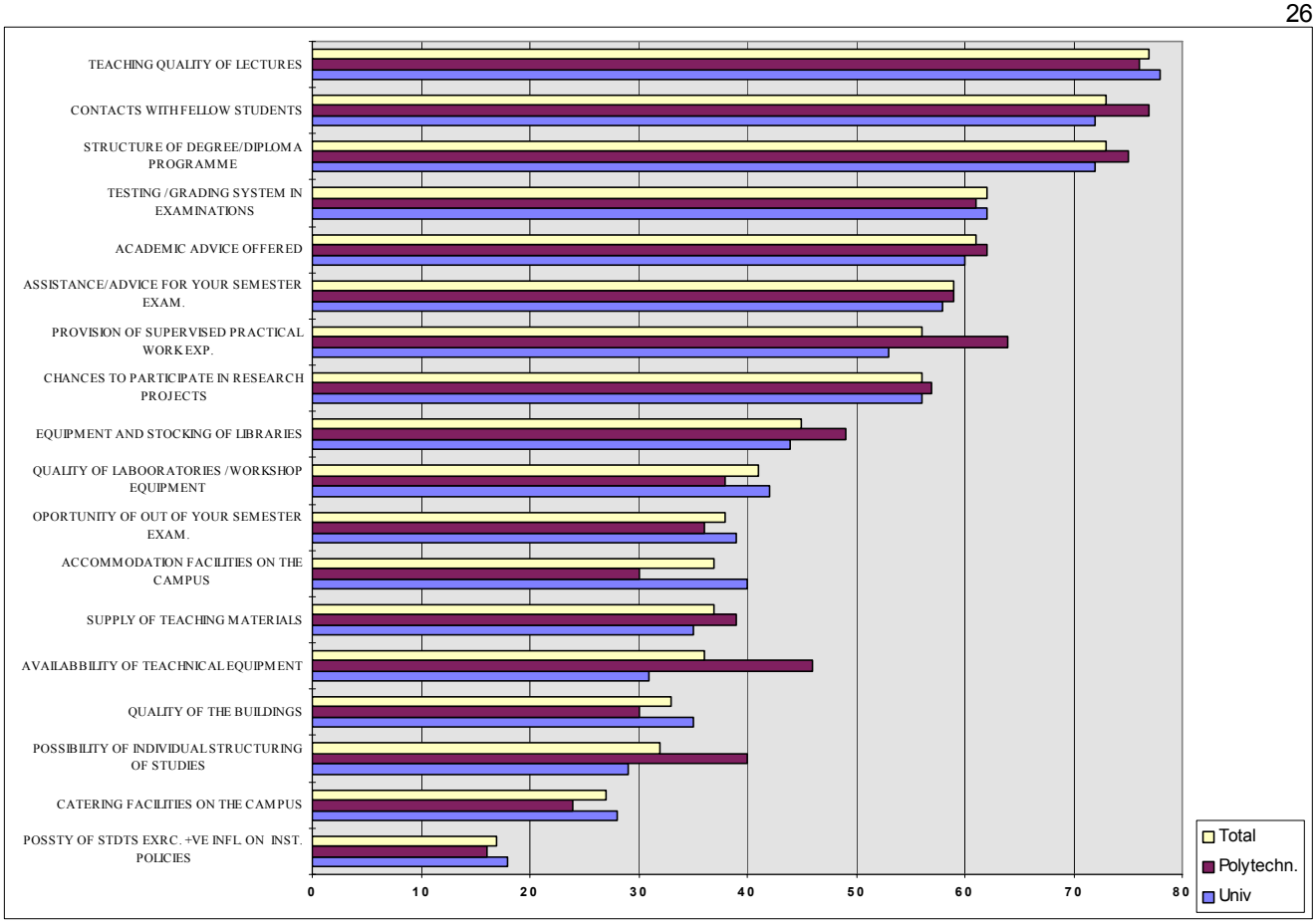
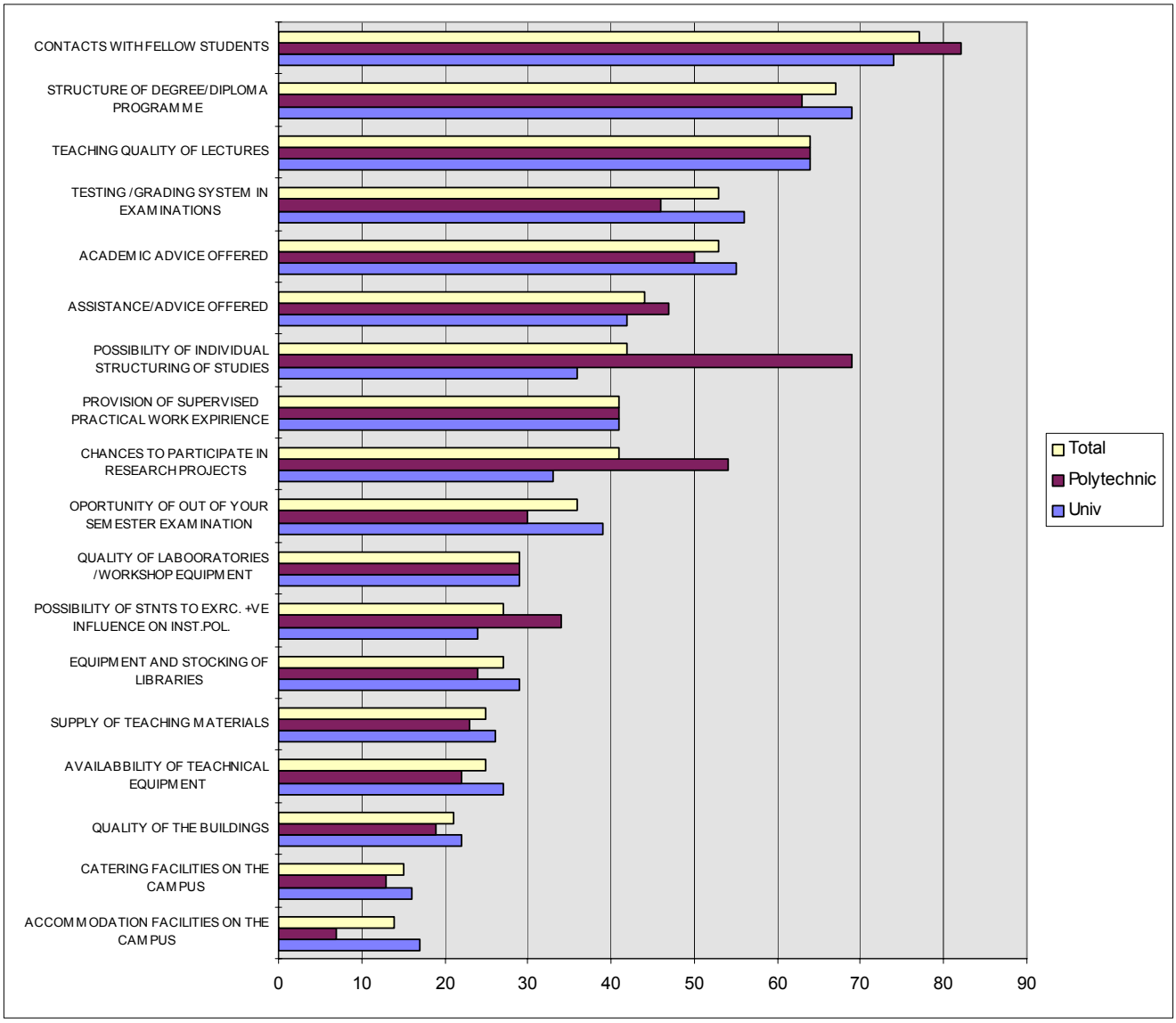

TEACHING QUALITY OF LECTURES
CONTACTS WITH FELLOW STUDENTS
STRUCTURE OF DEGREE/DIPLOMA PROGRAMME
TESTING /GRADING SYSTEM IN EXAMINATIONS
ACADEMIC ADVICE OFFERED
ASSISTANCE/ADVICE FOR YOUR SEMESTER EXAM.
PROVISION OF SUPERVISED PRACTICAL WORK EXP.
CHANCES TO PARTICIPATE IN RESEARCH PROJECTS
EQUIPMENT AND STOCKING OF LIBRARIES
QUALITY OF LABOORATORIES /WORKSHOP EQUIPMENT
OPORTUNITY OF OUT OF YOUR SEMESTER EXAM.
ACCOMMODATION FACILITIES ON THE CAMPUS
SUPPLY OF TEACHING MATERIALS
AVAILABBILITY OF TEACHNICAL EQUIPMENT
QUALITY OF THE BUILDINGS
POSSIBILITY OF INDIVIDUAL STRUCTURING OF STUDIES
CATERING FACILITIES ON THE CAMPUS
POSSTY OF STDTS EXRC. +VE INFL. ON INST. POLICIES
0
10
20
30
40
50
60
70
80
Total
Polytechn.
Univ

Chart 2: Assessment of study provisions and conditions by type of institutions of responding students (percent)



3.11 ASSESSMENT OF STUDY PROVISIONS AND CONDITIONS (GRADUATES)

As mentioned earlier, the classification of graduates into the three major courses of study was used as one of the factors taken into consideration in examining responses of graduates on items of study conditions and provisions . The results indicates that graduates of social sciences had better study provisions and conditions than the others. This is reflected by the higher scores recorded within almost all the item which served as indicators of prevalent study conditions and provisions within the graduates' institutions of study. The low comparative scores seen on the items among graduates of social sciences on the availability of equipment is expected. Engineering make more use of equipment among the three courses and this is reflected in their responses on items that had to do with practical work. In spite of the relative high scores found among engineering graduates on the practical aspect of provisions and conditions of study, the result on a general note reveal low values in the practical aspect of these conditions and provisions.

Table 10: Assessment of study provisions and conditions of responding graduates by their course of study: (percent)

	Manag.	Soc. Sc.	Engnr .	Total
Assistance/advice for your semester examinations	59	68	56	59
Opportunity of out of your semester examinations	40	42	37	39
Academic advice offered	62	63	60	61
Chances to participate in research projects	59	64	52	57
Teaching quality of lectures	75	83	78	77
Structure of degree/diploma programme	72	71	74	73
Testing /grading system in examinations	61	64	63	62
Possibility of individual structuring of studies	30	45	30	32
Provision of supervised practical work experience	49	69	59	56
Contacts with fellow students	73	86	70	74
Possibility of stdts. exrc. +ve infl. on inst. policies	18	12	19	18
Availability of teaching equipment	25	26	47	35
Quality of laboratories /workshop equipment	30	40	49	40
Supply of teaching materials	30	42	40	36
Equipment and stocking of libraries	42	55	46	45
Accommodation facilities on the campus	32	42	40	37
Catering facilities on the campus	23	27	29	26
Quality of the buildings	30	36	35	33
Count (n)	(89)	(84)	(85)	(258)

Question 3: how do you rate the study provision and study conditions you experienced?
scale from 1 = very good to 5 = very bad.

When the above mentioned conditions and provisions of study were examined by year of graduation, the responses by older graduates reveal a better positive response than the younger graduates especially on the very important indicators of study provisions and conditions. These include, chances to participate in research work, teaching quality of lectures, testing/grading system, provision of supervised work experience, availability of technical equipment quality of laboratory, supply of teaching materials, etc. The decrease in the scores of these items over the years certainly reflect a falling standard in the study conditions and provisions within the higher institutions.

Table 11: Assessment of Study Provisions and Study Conditions of responding graduates by year of graduation: (percent)

	85-87	88-90	91-95	Total	
Assistance/advice for your semester examinations	58	65	53	59	
Opportunity of out of your semester examinations	38	43	36	39	
Academic advice offered	62	65	56	61	
Chances to participate in research projects	63	59	49	57	
Teaching quality of lectures	91	78	63	77	
Structure of degree/diploma programme	81	68	70	73	
Testing /grading system in examinations	68	63	55	62	
Possibility of individual structuring of studies	33	36	28	32	
Provision of supervised practical work experience	63	56	50	56	
Contacts with fellow students	67	74	80	74	
Possibility of stdts exrc. +ve infl. on inst. policies	21	17	15	18	
Availability of teaching equipment	42	26	38	35	
Quality of laboratories /workshop equipment	53	34	34	40	
Supply of teaching materials	49	32	27	36	
Equipment and stocking of libraries	58	39	39	45	
Accommodation facilities on the campus	51	35	23	37	
Catering facilities on the campus	41	25	13	26	
Quality of the buildings	43	33	23	33	
Count (n)	(89)	(84)	(85)	(258)	

Question 3: how do you rate the study provision and study conditions you experienced?
scale from 1 = very good to 5 = very bad.

The items on study condition and provision which were considered insensitive to gender were filtered off in analyzing the study conditions and provisions by gender of responding graduates. This method of analysis was also applied to the responses of students on the above by gender. The reason for filtering this was to have a proper basis for establishing the facts on the gender dimensions as it pertains to the study conditions and provisions. The result of this analysis from graduates reveal that the females were given fairer considerations

than the males in almost all the items. These include, assistance /advice for semester examination (65%,56%), offering of academic advice (70%, 59%), testing/grading system (69%, 60%), chances to participate in research projects (73%, 52%).

The male respondents scored more than the females only on the contact they have with their fellow students (76%, 70%) This was infact not among the study provisions and conditions that were to be provided for.

Table 12: Assessment of study provisions and conditions of responding graduates by gender of graduation: (percent)

	Male	Female	Total
Assistance/advice for your semester examinations	56	65	59
Opportunity of out of your semester examinations	37	44	39
Academic advice offered	59	70	61
Chances to participate in research projects	52	73	57
Teaching quality of lectures	76	85	77
Structure of degree/diploma programme	75	66	73
Testing /grading system in examinations	60	69	62
Possibility of individual structuring of studies	30	41	32
Contacts with fellow students	76	70	74
Count (n)	(194)	(56)	(250)

Question 3: how do you rate the study provision and study conditions you experienced?
scale from 1 = very good to 5 = very bad.

3.12 ASSESSMENT OF STUDY PROVISIONS AND CONDITIONS (STUDENTS)

The same method of analysis used for the graduate survey was applied to the responses given by the students on the study conditions and provisions. The responses by students reveal that students of management have a fairer study condition and provisions on the human resource aspect. These include, academic advice, chances to participate in project, and teaching quality of lectures.

The aspect of the study conditions and provisions that has to do with equipments and materials (also seen earlier) recorded higher positive responses among students of engineering. The result from students of social sciences however, reveals that they have more chances to participate in research work than students of other discipline.

Table 13: Assessment of study provisions and conditions of responding students by course of study (percent)

	Manag.	Soc. Sc.	Engnr .	Total	
Assistance/advice for your semester examinations	55	40	43	44	
Opportunity of out of your semester examinations	53	35	22	35	
Academic advice offered	69	50	51	53	
Chances to participate in research projects	61	32	58	41	
Teaching quality of lectures	71	70	59	63	
Structure of degree/diploma programme	81	59	67	67	
Testing /grading system in examinations	52	49	55	54	
Possibility of individual structuring of studies	54	76	35	43	
Provision of supervised practical work experience	49	69	59	56	
Contacts with fellow students	71	87	74	76	
Possibility of stdts exrc. +ve infl. on inst. policies	13	38	27	28	
Availability of teaching equipment	11	12	32	25	
Quality of laboratories /workshop equipment	26	18	33	29	
Supply of teaching materials	24	16	28	36	
Equipment and stocking of libraries	38	17	29	45	
Accommodation facilities on the campus	10	9	16	37	
Catering facilities on the campus	10	12	17	26	
Quality of the buildings	17	15	25	33	
Count (n)	(50)	(85)	(258)	(393)	

Question 3: how do you rate the study provision and study conditions you experienced?
scale from 1 = very good to 5 = very bad.

The study conditions and provisions when examined by year of enrollment reveal the same pattern as was observed with the result from the graduate survey. The students who enrolled earlier responded more positively on almost all the key items than the later sets. These include, assistance/advice offered for examination, offering of academic advice, teaching quality of lectures, availability of teaching materials, etc.

Table 14: Assessment of study provisions and conditions of responding graduates by year of first enrollment: (percent)

	87-89	90-92	93-94	Total	
Assistance/advice for your semester examinations	44	44	41	44	
Opportunity of out of your semester examinations		54	33	35	36
Academic advice offered	67	52	50	53	
Chances to participate in research projects	39	41	42	41	
Teaching quality of lectures	71	62	70	64	
Structure of degree/diploma programme	67	66	73	67	
Testing /grading system in examinations	56	53	51	53	
Possibility of individual structuring of studies	42	41	55	42	
Provision of supervised practical work experience		54	39	39	41
Contacts with fellow students	86	75	83	77	
Possibility of stdts exrc. +ve infl. on inst. policies	43	25	30	27	
Availability of teaching equipment	32	25	22	25	
Quality of laboratories /workshop equipment	36	28	31	29	
Supply of teaching materials	33	23	29	25	
Equipment and stocking of libraries	32	25	35	27	
Accommodation facilities on the campus	19	12	21	14	
Catering facilities on the campus	11	15	17	15	
Quality of the buildings	13	22	24	21	
Count (n)	(40)	(236)	(53)	(419)	

Question 3: how do you rate the study provision and study conditions you experienced?
scale from 1 = very good to 5 = very bad.

When these provisions and conditions of study were by considered according to gender, the result reveals a similar pattern with the earlier result from the graduates. The females students also were observed to have received better treatments than the males judging from the result from their responses on the items which include advice on both semester exam and general academics and chances to participate in research work.

Table 15: Assessment of Study Provisions and Study Conditions by gender of responding students (percent)

	Male	Female	Total
Assistance/advice for your semester examinations	37	58	44
Opportunity of out of your semester examinations	34	39	35
Academic advice offered	48	62	53
Chances to participate in research projects	29	60	40
Testing /grading system in examinations	56	52	55
Possibility of individual structuring of studies	37	54	42
Contacts with fellow students	35	49	40
Count (n)	(247)	(142)	(389)

Question 3: how do you rate the study provision and study conditions you experienced?
scale from 1 = very good to 5 = very bad.

3.2 FACTORS FOR DECISION TO ENROLL

The decision to enroll into higher education were informed by many factors each having differing magnitudes in the percentage score as responded to by both the graduates and the students.

The dominant factors as revealed by the survey are (i) reputation of school - (76%) for graduates and (78%) for students; (ii) area of specialization/practice oriented study program has 58% for graduates and 72% for students. Other factors like nearness to home of parents, availability of accommodation, scholarship and attractiveness of town were not important elements of consideration in choosing schools to attend.

It is a point of emphasis that the ethno-demographic location of this study, the eastern part of Nigeria has a comparatively high population density and literacy rate. Abundant premium is placed by the indigenes on modern literacy and therefore the competition to secure admission into tertiary institutions in this part of the country is correspondingly high. Expectedly, most of the respondents are also indigenes of the catchment communities and states of eastern Nigeria.

Chart 3:Factors for decision to enrol at the university by type of institutions of responding graduates (percent)

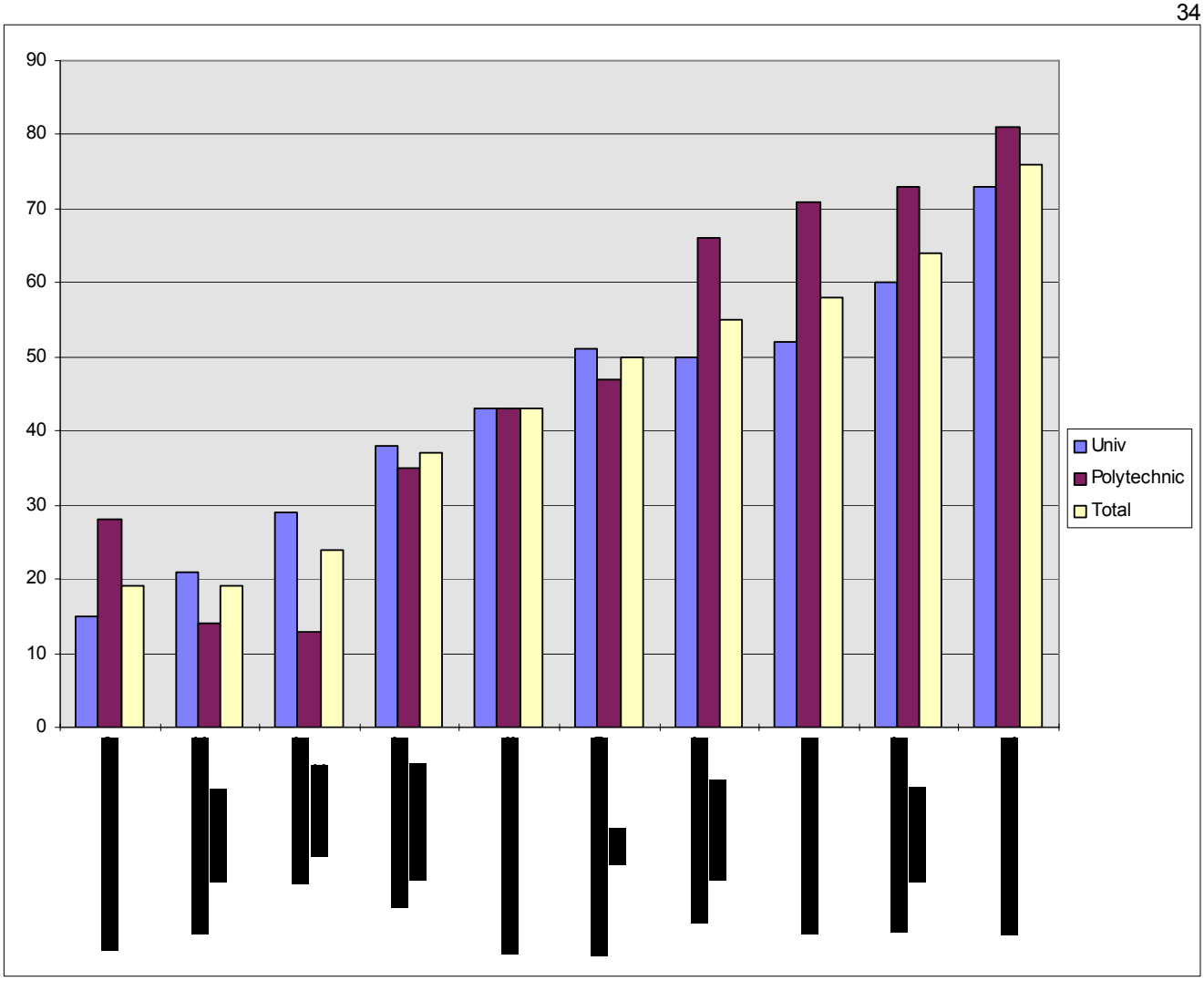
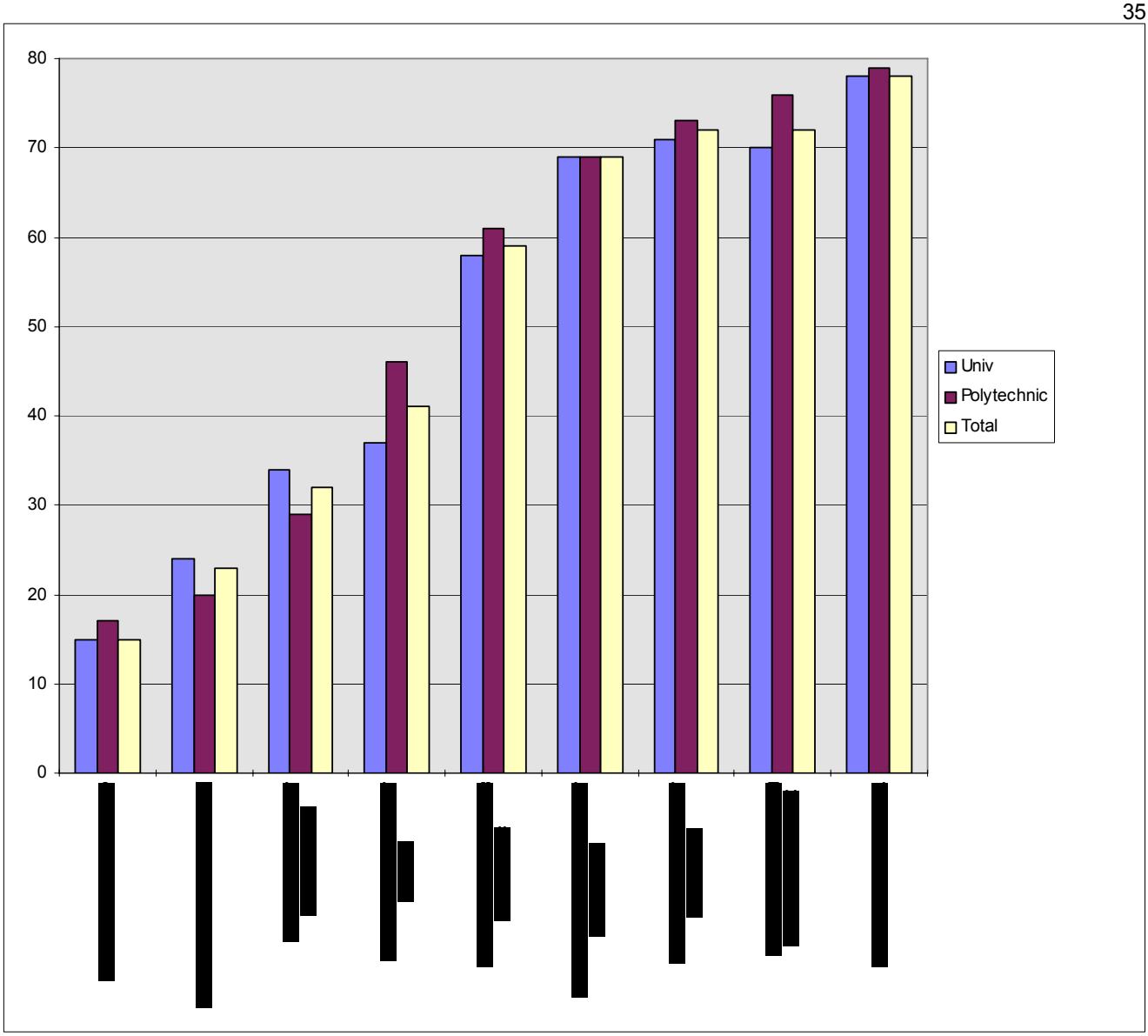


Chart4: Factors for decision to enrol at the university by type of institutions of responding students (percent)



3.21 FACTORS FOR DECISION TO ENROLL (GRADUATES)

The result of the survey on factors for decision to enroll analysed by courses of study of responding graduates shows that graduates of engineering were more particular than the others on their consideration of the following factors: reputation of school, practice oriented study programme and area of specialization offered.

Table 16: Factors for the decision to enroll by course of study of responding graduates (percent)

	Manag.	Soc. Sc.	Engnr .	Total
Accessibility to home of parents	49	52	35	43
Desire to attend federal owned university	44	46	58	50
Relative accessibility of state owned university	21	19	16	18
Availability of scholarship	23	9	18	19
Availability /quality of accommodation	34	34	41	37
Attractiveness of town/state	21	30	25	24
Reputation of the school	75	65	80	76
Practice oriented study programme	59	63	69	64
Area of specialization offered if applicable	59	40	62	58
Admission standards and my final grades	51	70	54	55
Count (n)	(113)	(37)	(108	(258)

Question 2: How important were the following factors for your decision to enroll at the University or Polytechnic? Scale of answers from 1 = very important to 5 = not at all important.

On further examination of the factors for decision to enroll by year of graduation, the result shows that younger graduates were more concerned with these factors vis-a-vis choosing where to attend their higher education than the older ones. This is evidenced by their relatively higher score in almost all the factors.

Table 17: Factors for the decision to enroll by year of graduation (percent)

	85-87	88-90	91-95	Total
Accessibility to home of parents	35	48	47	43
Desire to attend federal owned university	51	47	52	50
Relative accessibility of state owned university	12	20	23	18
Availability of scholarship	18	21	18	19
Availability /quality of accommodation	37	34	41	37
Attractiveness of town/state	22	25	25	24
Reputation of the school	78	71	78	76
Practice oriented study programme	54	65	73	64
Area of specialization offered if applicable	57	50	67	58
Admission standards and my final grades	60	49	57	55
Count (n)	(87)	(85)	(86)	258

The analysis of the factors to enroll into higher institution carried out by gender reveals that females tend to give higher considerations to some of these factors in relation to their male counterparts. These include; accessibility of home of parents, (54%,41%), relative accessibility of state owned university (21%,17%) admission and final grades (57%,54%), attractiveness of town/state (33%,22%). Factors which were however considered in higher magnitude by the males than the females include availability/quality of accommodation (38%,22%), reputation of the school (78%,67%) practice oriented study programme (66%,53%) and area of specialization offered (61%,43%). These differences are however, not statistically significant (p>.005).

Table 18: Factors for the decision to enroll by gender of responding graduates (percent)

	Male	Female	Total
Accessibility to home of parents	41	58	43
Desire to attend federal owned university	51	43	50
Relative accessibility of state owned university	17	21	18
Availability of scholarship	19	20	19
Availability /quality of accommodation	38	35	37
Attractiveness of town/state	22	33	24
Reputation of the school	78	67	76
Practice oriented study programme	66	53	64
Area of specialization offered if applicable	61	43	58
Admission standards and my final grades	54	57	55
Count (n)	(194)	(56)	(250)

3.22 FACTORS FOR DECISION TO ENROLL (STUDENTS)

The result from the student survey on the analysis of factors for decisions to enroll is more or less consistent with the outcome of the graduate survey on the same items. The presentation of the result in order of dominance as revealed by the analysis is as follows; reputation of the school (74%), area of specialization (73%), practice oriented study programme (71%), admission standards and final grade (70%) and advice by parents (50%). Others which had relatively low positive responses include accessibility to home of parents (41%), availability/quality of accommodation (32%), attractiveness to home of parents (41%), etc.

The responses from the students survey, analysed under the three major factors mentioned earlier i.e. course of study, year of enrollment and gender indicated the following results.

As in graduate survey, students of engineering considered reputation of the school more than students of other disciplines. It is however, important to note that the analysis of these factors by course of the students do not show any distinct pattern as such.

Table 20: Factors for the decision to enroll by year of first enrollment of responding students (percent)

	87-89	90-92	92-94	Total
Accessibility to home of parents	23	41	52	41
Availability of scholarship	15	16	14	16
Availability /quality of accommodation	26	33	32	32
Attractiveness of town/state	18	22	27	23
Reputation of the school	87	78	72	78
Practice oriented study programme	73	72	72	72
Area of specialization offered if applicable	76	72	69	72
Admission standards and my final grades	66	68	79	69
Advice by parents / others	41	60	64	59
Count (n)	(40)	(325)	(53)	(418)

Question 2: How important were the following factors for your decision to enroll at the University or Polytechnic? Scale of answers from 1 = very important to 5 = not at all important.

3.22 FACTORS FOR DECISION TO ENROLL (STUDENTS)

On the result obtained in analyzing these factors by year of enrollment, the youngest set of students (those enrolled between 1992-1994), took more of the factors that bother around parental preferences into consideration. These include accessibility of home of parents and advice by parents. Other factors for which these young students responded more positively include, attractiveness of town/state and admission standards and final grades.

Reputation of the school, practice oriented study programme and area of specialisation were considered to be more vital by the relatively older students.

The result from the student survey on the analysis of factors for decisions to enroll is more or less consistent with the outcome of the graduate survey on the same items. The presentation of the result in order of dominance as revealed by the analysis is as follows; reputation of the school (74%), area of specialization (73%), practice oriented study programme (71%), admission standards and final grade (70%) and advice by parents (50%). Others which had relatively low positive responses include accessibility to home of parents (41%), availability/quality of accommodation (32%), attractiveness to home of parents (41%), etc.

The analysis of the responses by students decision to enroll based on their gender also shows that the females were more concerned with almost all the factors (excluding reputation of the school) than the males. This is consistent with the earlier findings from the graduate survey.

Table 21: Factors for the decision to enroll by gender of responding students (percent)

	Male	Female	Total
Accessibility to home of parents	32	55	41
Availability /quality of accommodation	28	41	33
Attractiveness of town/state	20	27	22
Reputation of the school	81	77	79
Practice oriented study programme	71	71	71
Area of specialization offered if applicable	70	79	74
Admission standards and my final grades	70	73	71
Advice by parents / others	54	56	60
Count (n)	(245)	(143)	(382)

Question 2: How important were the following factors for your decision to enroll at the University or Polytechnic? Scale of answers from 1 = very important to 5 = not at all important.

CHAPTER FOUR

ASSESSMENT OF KNOWLEDGE AND SKILLS ACQUIRED DURING STUDY AND OVERALL RELATIONSHIPS BETWEEN HIGHER EDUCATION AND WORK

The pertinence of the educational knowledge and skills acquired by graduates to their work place assignments is central to this survey. This is because given the background of rapid advancement and changes in technologies, university as well as polytechnic educations are responsively required to produce graduates who are adequately prepared to meet the challenges posed by changing technologies. This survey however addresses this issue only at a general level owing to the generic nature of the project as well the logistic impediments to an indepth assessment of needs and specificities.

We looked at the issue bearing in mind that different faculties prepare students for different areas of specialisation. The 7Engineering graduates were presented with questions that address their own field of study and likewise the Management Studies and Social Sciences graduates. The departmentalisation and specialisations applicable to graduates were similarly applied to the analysis of students.

4.1 ASSESSMENT OF KNOWLEDGE AND SKILLS ACQUIRED DURING STUDY (ENGINEERING)

Those of the engineering faculty responded to the questions on knowledge and skills acquired during study and the result of the analysis is given as revealed; From the survey it was observed that their is a general indication of a fair usage of the knowledge and skills acquired in school. on the usage of Scientific and technical knowledge, the responses are well over (60%) for they two categories of tertiary institutions except for use of natural and material sciences as well as ecology and conservation which in fact were not a major part of the learning of the category of graduates interviewed. On the use of experimental and practical working methods (systems analysis and electronic data processing applications) the result shows a relatively low positive response.

The relatively low response from graduates could suggest either that what they learnt were outdated compared to what currently obtains in their work places or that they were simply not sufficiently grounded in their school training. From the students responses therefore, it could be argued that the situation is receiving improved attention now.

Chart 5: Use of professional knowledge skills acquired during studies by type of institution of responding engineering graduates (percent)

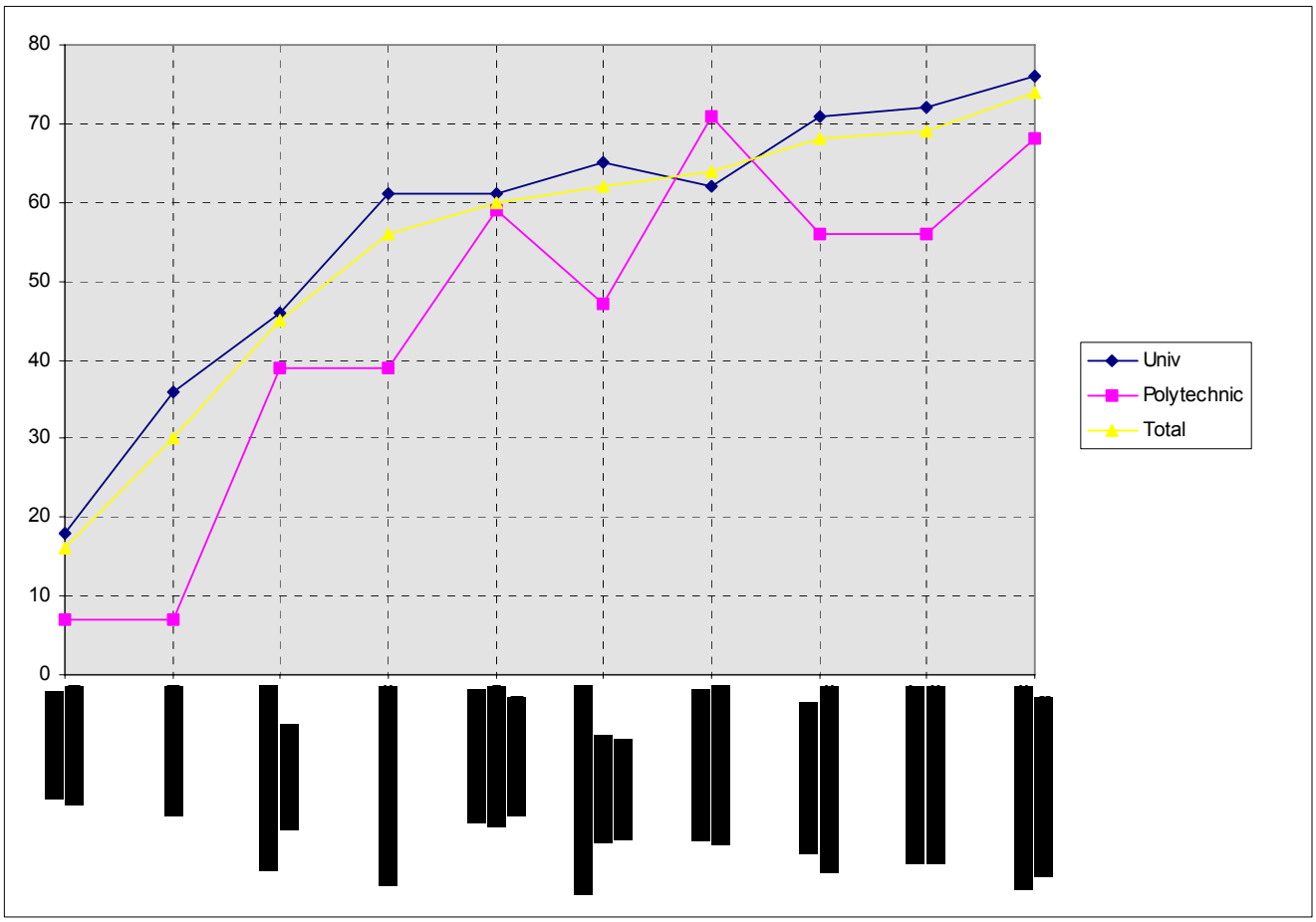


Chart 6: Use of professional knowledge skills acquired during studies by type of institution of responding engineering students (percent)

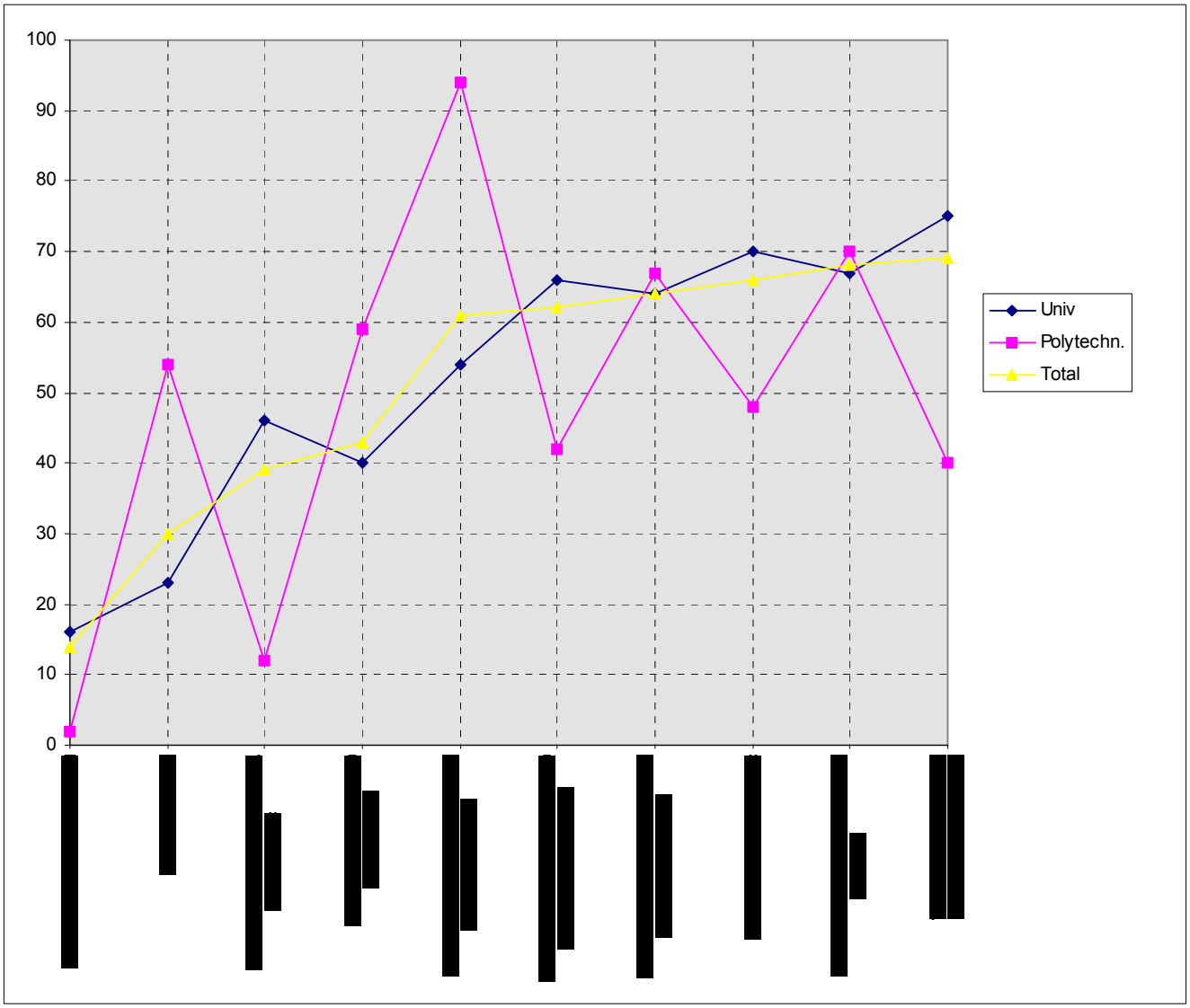


Chart 7: Use of professional knowledge skills acquired during studies by type of institution of responding management graduates (percent)

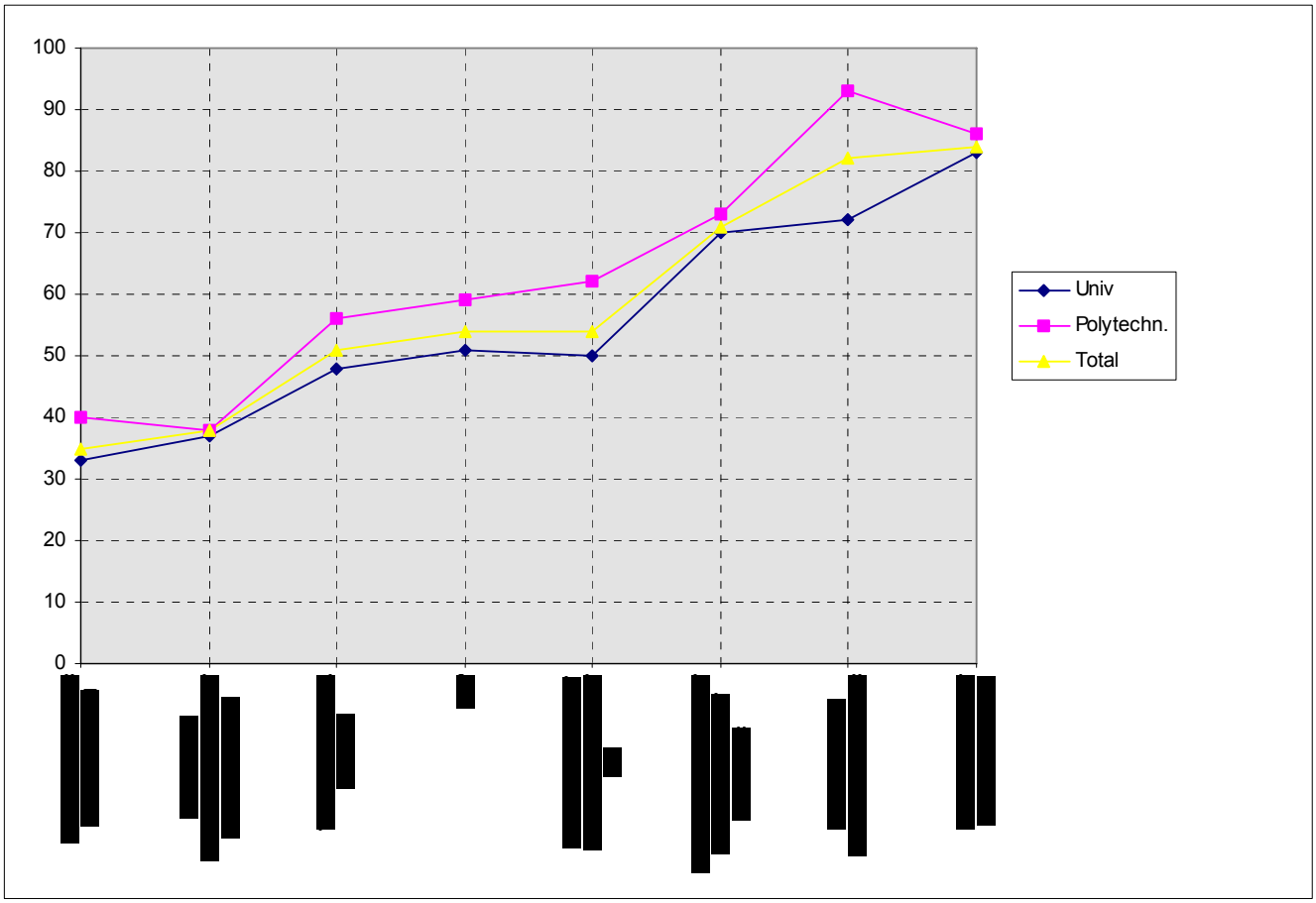


Chart 8: Use of professional knowledge skills acquired during studies by type of institution of responding management students (percent)

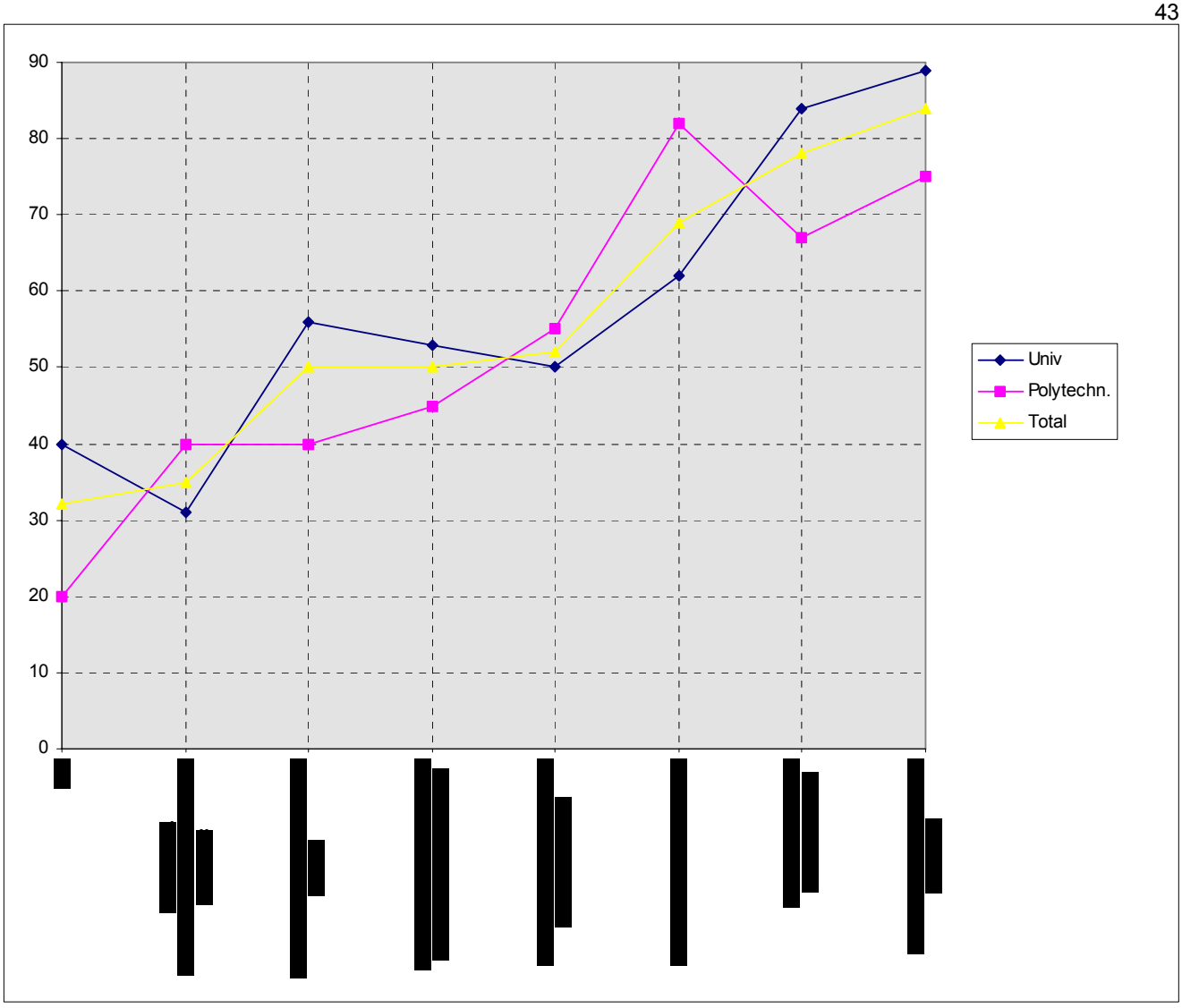


Chart 9: Use of professional knowledge skills acquired during studies by type of institution of responding social science graduates (percent)

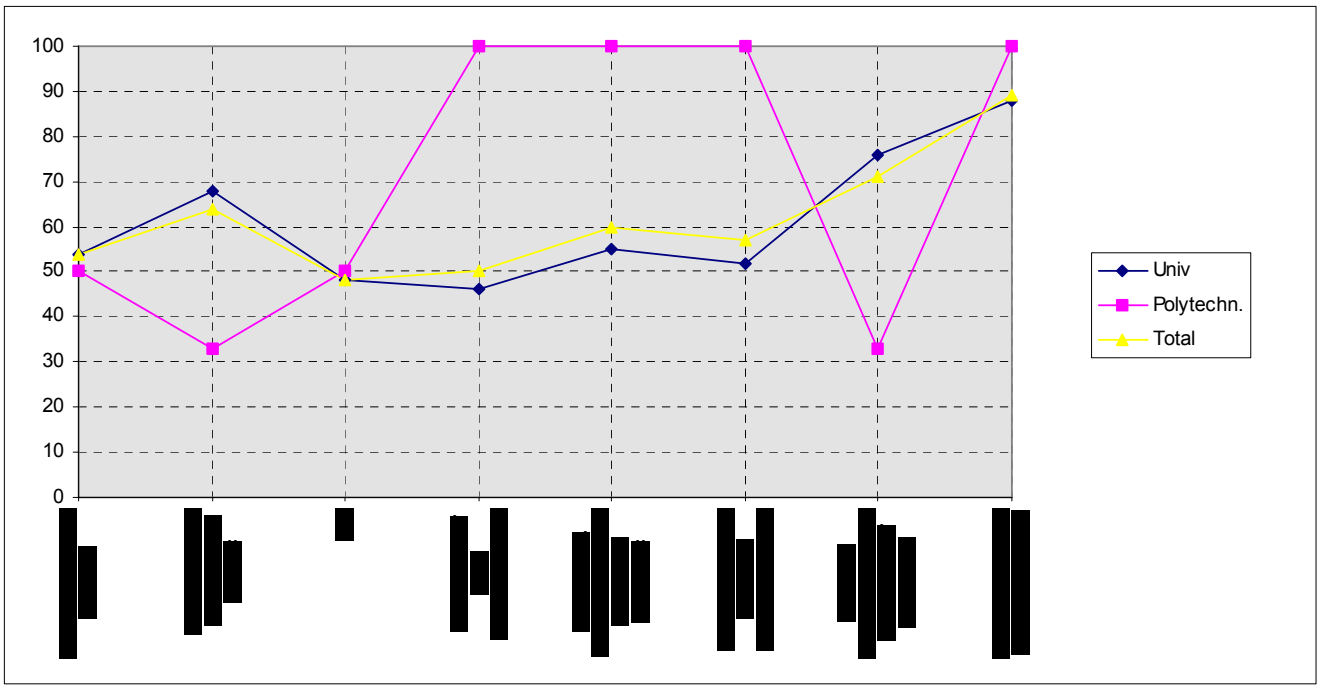
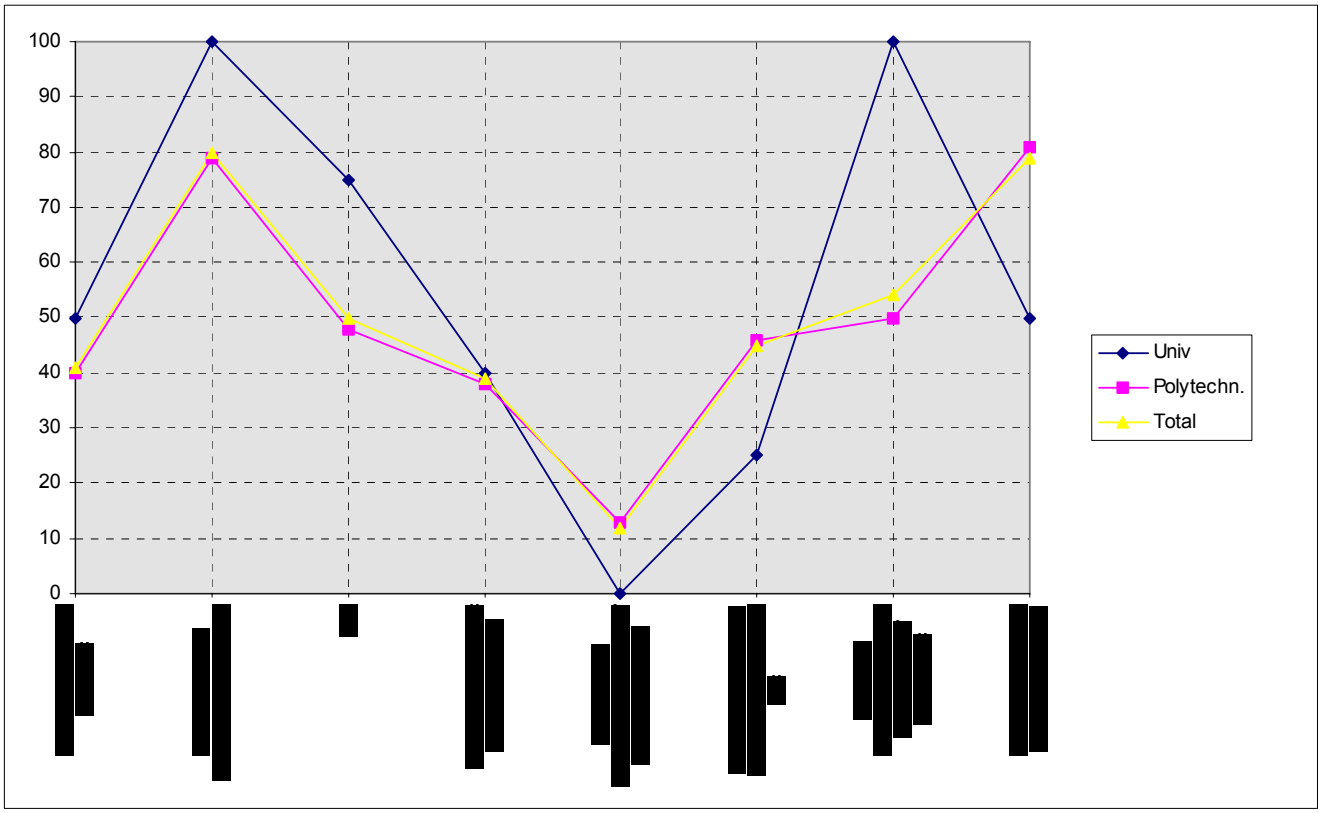


Chart 10: Use of professional knowledge skills acquired during studies by type of institution of responding social science students (percent)



4.2 ASSESSMENT OF KNOWLEDGE AND SKILLS ACQUIRED DURING STUDY (MANAGEMENT SCIENCES AND SOCIAL SCIENCES)

For the Management Sciences and Social Sciences a similar sets of questions were administered and responses from them also show some specific patterns of results. Management Sciences related questions received high positive responses for instances, on the use of economics and management studies 82% responded on the positive side. This is slightly the same with the responses on the knowledge of planning which scored 71%. The data set is slightly different from the responses of the students. Even though they responded highly on the use being made of economics and management studies, the issue of planning and design were not as sufficiently high (54%). This may be attributed to the fact that the student while on IT may have been exposed to higher management practices which include planning, and allocation of resources.

From the responses by the social sciences they make fair use of their studies - 54% on use of theories of social sciences and 60% positive response on the application of their knowledge to the analysis of social problems. Students on industrial training did not however respond highly on the issue of use of this knowledge on the conceptual diagnosis and analysis of social problems. The reason may be either that they were not properly exposed to the knowledge while in school or were not meaningfully challenged to use such (if acquired) at the industrial training work place.

OVERALL ASSESSMENT OF THE EXTENT OF RELATIONSHIPS BETWEEN HIGHER EDUCATION AND WORK (GRADUATES)

The overall assessment of the extent of relationship that exist between higher education and work were captured in the survey using the following items: extent of realization of expected career, extent of use of knowledge acquired during study and appropriateness of position to education. These items were also analyzed by type of institution, course of study , year of first enrollment and year of graduation

The result of the responses of the above mentioned indicators (i.e. the extent relationship that exist between work and study) based on type of institution shows that graduates of polythecnics recorded higher positive scores than the graduates of universities in the respective items viz; , extent of realisation of expected career (64%,57%), extent of use of knowledge(77%,72%) and appropriateness of position to education (55%, 54%). This suggests that the tertiary institutions are on the general note, meeting up with

the challenges posed by both technological and socio-economic development, even though a few specific areas may need to be thoroughly revised and up-graded. These scores are however not statistically significant by type of institutions (p>.005).

Table 22: Overall assessment of relationships between key aspects of job characteristics of responding graduates by type of institution (percent)

	Univ.	Poly.	Total
To what extent have you realized carrier expected during grad.	57	64	59
To what extent do you use know. acquired during study	72	77	73
To what extent is your position appropriate to your education	54	55	54
Count (n)	(175)	(77)	(252)

The result of the analysis reveals that those from management sciences realized their expected career plans more than graduates of the other disciplines . But on the use of knowledge and appropriateness of position to education, the result reveals a comparatively higher positive scores from engineering discipline.

Table 23: Overall assessment of relationships between key aspects of job characteristics of responding graduates by study by course of study (percent)

	Manag.	Soc. Sc.	Engnr .	Total
To what extent have you realized carrier expected during grad.	63	51	57	59
To what extent do you use know. acquired during study	70	71	77	73
To what extent is your position appropriate to your education	49	47	62	54
Count (n)	(112)	(35)	(109)	(256)

The analysis of the above items based on year of graduation shows that while older graduates affirmed that they make more use of knowledge they acquired during their study, the younger graduates considered their position more appropriate to their education .

Table 23: Overall assessment of relationships between key aspects of job characteristics of responding graduates by year of graduation (percent)

	85-77	88-90	91-95	Total
To what extent have you realized carrier expected during grad.	61	55	61	59
To what extent do you use know. acquired during study	78	69	73	73
To what extent is your position appropriate to your education	56	49	59	54
Count (n)	(87)	(86)	(83)	(256)

On a general note however, there exist a more positive response on the use of knowledge acquired during study (73%) compared to both extent of realization of career (59%) and appropriateness of study to position occupied in the work place (54%). This is consitent with the relatively high teaching quality of lecture and the fairly modest work environment observed earlier in the study.

The result of responses of students on the overall assessment of their industrial training experience was measured by the challenge to use skill and knowledge acquired during study , appropriateness of industrial training to study and extent of satisfaction with industrial training . The result shows a generally high level of relationship between their industrial training and course of study (education). This is evidenced by the high positive responses shown on these items by both universities and for polytechnic student.

Table 24: Overall assessment of relationships between key aspects of industrial training of responding students by type of institution (percent)

	Univ.	Poly	Total
To what extent have you realized carrier expected during grad.	85	86	85
To what extent do you use know. acquired during study	90	87	89
To what extent is your position appropriate to your education	79	86	81
Count (n)	(263)	(142)	(405)

Consequently, the students' responses on the above mentioned indicators show a fairly uniform pattern (above 80%) for the three major courses of study that we surveyed.

Table 25: Overall assessment of relationships between key aspects of industrial training of responding students by course of study (percent)

	Manag.	Soc. Sc.	Engnr .	Total
To what extent have you realized carrier expected during grad.	85	85	86	85
To what extent do you use know. acquired during study	83	91	88	89
To what extent is your position appropriate to your education	89	82	76	83
Count (n)	(81)	(252)	(43)	(376)

On the overall assessment of the relationship between industrial training and course of study taking into consideration the year of first enrollment into higher education, the result shows that while the score of the responses by older students (those who enrolled between 1987 - 1989) are higher on the appropriateness of industrial training experience to study, the later sets (those of 1992 -1994 years of first enrollment) recorded scores of higher magnitude in the challenge to use skill/knowledge acquired during study.

Table 26: Overall assessment of relationships between key aspects of industrial training of responding students by year of first enrollment (percent)

	85-89	90-92	93-94	Total
To what extent have you realized carrier expected during grad.	87	84	92	85
To what extent do you use know. acquired during study	97	88	88	89
To what extent is your position appropriate to your education	79	83	73	81
Count (n)	(39)	(315)	(51)	(405)

CHAPTER FIVE

EMPLOYMENT SITUATION AND CONDITION OF GRADUATES AND INDUSTRIAL TRAINING (IT) STUDENTS.

One of the main objectives of this study is to examine the employment situation of graduates and IT students.

The employment situation takes into consideration the time and strategies of seeking for employment, the mode of procurement and the importance of different characteristics of occupation to the respondents.

5.1 TIME OF SEARCH OF EMPLOYMENT

The result of the survey shows that majority of the graduates seek for jobs before they finish national youth service corp (NYSC) (45%) while only (16%) seek for job after their NYSC. The prevailing situation reveals that it is during the NYSC that graduates get exposed to the outside world; hence they look out for job opportunities.

5.2 MODE OF PROCUREMENT OF JOB

The most frequently used method of procuring job for Nigerian graduates is evidenced from the survey. While (46%) of the graduates answered that they apply to vacant positions, all other strategies for seeking for employment share the remaining (54%). These include contacting unfamiliar employers (12%), contacts established with familiar employers (6%), personal connections/contacts (14%), same employers (16%). The pattern of responses for polytechnic graduates applied to the university graduates almost in the same way. Personal contacts with employers have a score of (25%). This is the second highest score and it is worth noting that this could stem from contacts the graduates made while they were undergoing Industrial Training. The reason for this observation is that most of the students reported that they mainly make use of personal contacts in procuring their industrial training employments. Personal contacts independent of family relationships have a score of (69%) while personal contact based on family relationships scored (25%), making them (94%) in all. From the above described survey result, it is obvious that why personal contacts worked most for students is because firms do not advertise for industrial training employment positions. Application to vacant positions worked more for graduates but their is marked aid in procuring employment based on personal contacts with employers which may have resulted from Industrial Training contacts.

Table 27: Strategies for seeking employment by type of institution of responding graduates (percent: multiple response)

	Univ.	Polytechn.	Total
Manpower allocation	2	1	2
Application to vacant position	46	46	46
Public employment agency	5	7	6
Private employment agency	7	3	6
Teaching staff of my alma mater	1	1	1
Contacts established with employers	5	8	6
Contacting employers without knowing about a vacancy		17	12
The employer offered me a vacancy	10	7	9
I set up my own business / was self employed		3	5
Joining the enterprise of my parents/relatives		1	1
Personal connections/contacts	22	11	19
Through parents / relatives help	10	6	8
I am working for the same employer	16	18	16

Table 28: Mode of procuring industrial training employment by type of institution of responding students (percent: multiple response)

	Univ	Polytechn.	Total
personal contacts	69	68	69
personal connection based on family r/ships	23	27	25
primordial r/ship	1	1	1
the organisation made a special request	1	0	1
help from lecturer	3	1	2
i was simply posted to the organisation	1	3	2
the org. was my employer b/4 my present studies	0	0	0

5.3 MAJOR AREA OF WORK ASSIGNMENT

Taking into consideration the differentiated courses considered in the survey, the Areas of work assignment is considered based on the course of study.

Engineering: The total areas of work assignment considered for the engineers is (20%) and these include engineering related and non engineering related jobs. The mainline engineering related jobs have a fair spread and relatively fair scores for both types of institutions. These include supervision of production/facilities (16% and 19%) respectively for universities and polytechnics, maintenance and repairs of production facilities (11% versus 14%), Research and development (13% versus 10%), Training/Teaching (7%: 14%), Data processing (9% versus 10%) and production (6% versus 14%). These culminate in a total of (62% versus 71%). The minorline engineering related jobs include preparatory/supervisory functions in construction (5% versus 0%), security/safety engineering (1% versus 0%). These and the former account for over 70% scores.

The scores show that most engineers are doing jobs which are related to their study. This goes to prove the high scores recorded for appropriateness of study and use of knowledge/skills on the job. The other lesser percentage responses were in other jobs which were not directly related to engineering like marketing, planning and organising, public relations, general office works e.t.c. This can be attributed to the fact that most engineering departments and firms need engineering skills in order to cope with the business administration aspect of the job for instance it will take only an engineer with a marketing skill to do well in marketing of machines and its component parts. There is therefore no clear cut demarcation in peculiar cases in which job is engineering or not. Work assignments can be on the same continuum for a discipline but this is not without a discipline oriented bias.

The wide spread evidences from the responses are brought about by a fair representation of the different aspects of engineers interviewed in the study. The study though did not have within its scope the task of doing the analysis discipline by discipline in each major course cohort.

Chart 11: Major area of work assignment of responding social science graduates (percent)

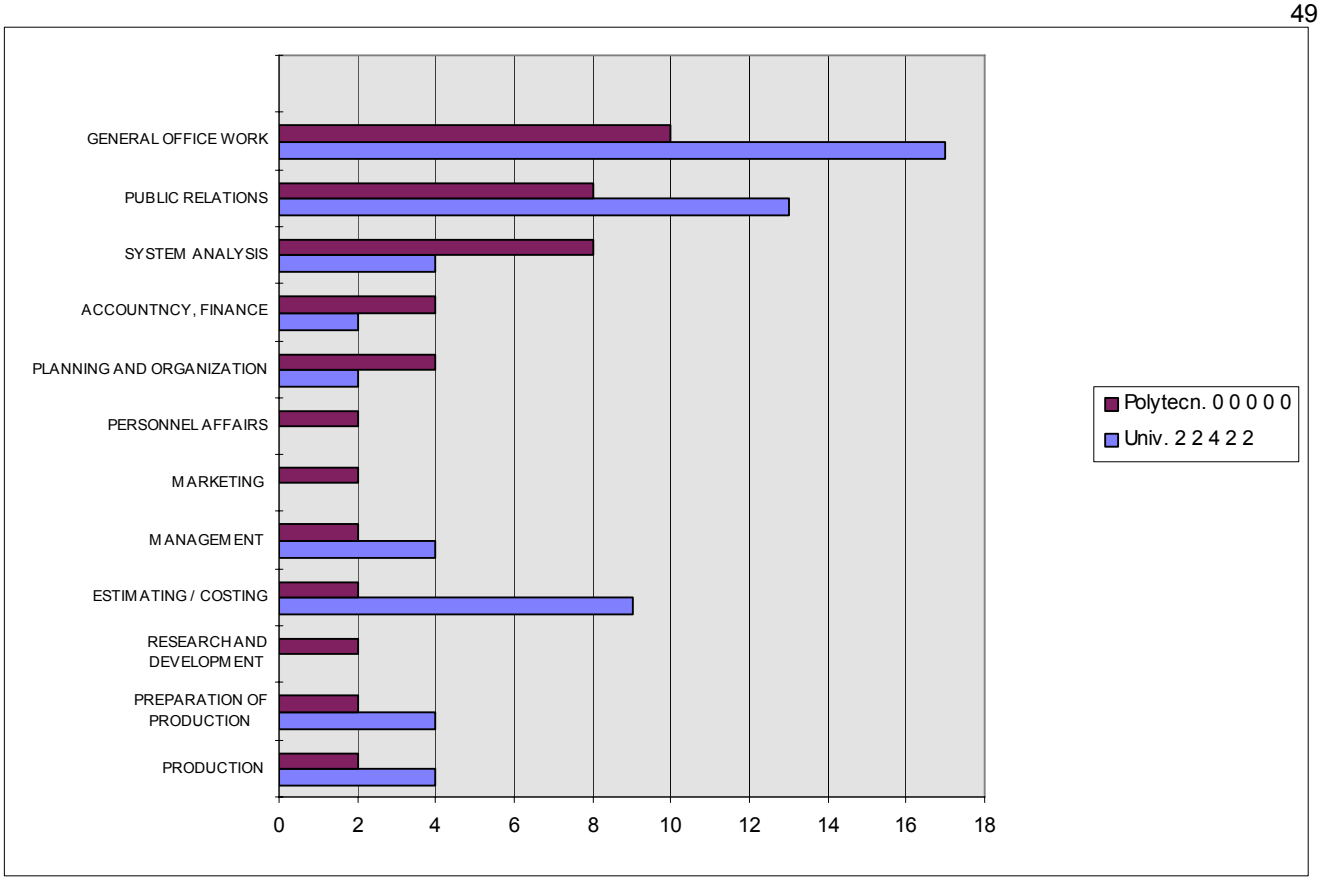


Chart 12: Major area of work assignment of responding management science graduates (percent)

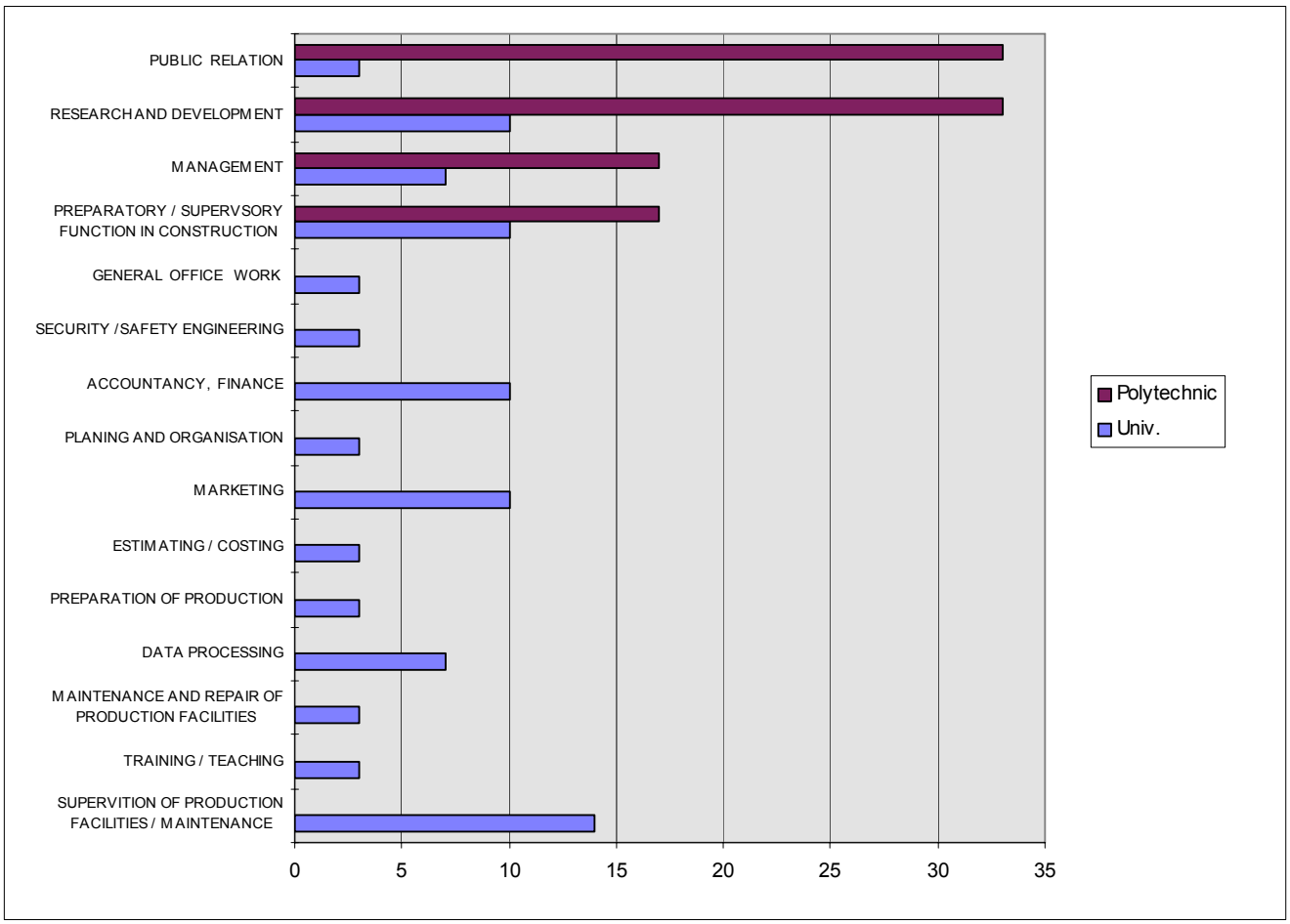
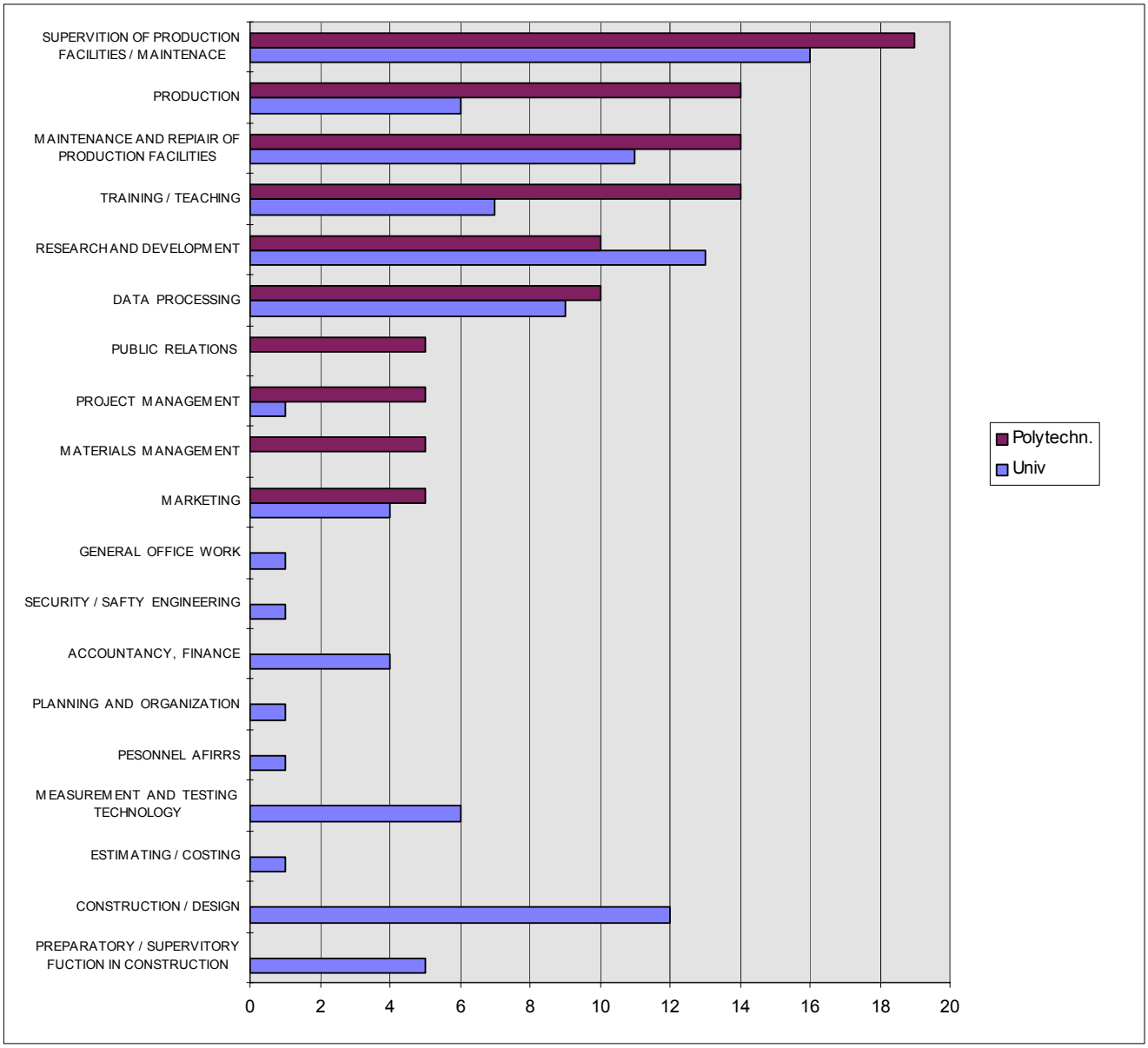


Chart 13: Major area of work assignment of responding engineering graduates (percent)



5.4 CRITERIA FOR RECRUITMENT BY EMPLOYERS

The recruitment criteria considered by the employers of labour as seen by the employees both from the students and graduates surveys are almost similar. Results of the survey show that study related factors are paramount in the minds of employers. (1) These are field of study, (82%: 94%) for university and polytechnic graduates, (93%:91%) for same on the students side; (2) Main focus study (57%: 75%) and (72%:76%) and (3) Grades while in school (51%:62%) for graduates only, while reputation of the school for students is (47%:51%). Beyond these factors, the next issue that seems to be significant on the criteria hierarchy is that of personality - (56%) for graduates and 43% for students. Other factors like religion, theme of thesis do not seem to matter to the employers. On the contrary previous work experience featured in a partial respect for graduates as factor of consideration especially in the survey for polytechnics. In all the measured issues, considerations as evidenced by the results of the survey show the main hierarchy of recruitment criteria in the order of importance described above.

Table 29: Recruitment criteria of the employer by type of institution of responding graduates

	Univ	Polytechn.	Total
Field of study	82	94	86
Main focus of subject area/ specification	57	75	62
Theme of thesis	14	6	11
Grades while in school	51	62	54
Reputation of my university/ poiytechnic	43	39	41
Previous work experience	37	56	43
Personality	55	59	56
Experiences abroad	10	5	9
My own world view, religion etc.	16	11	14

:

Table 30: Importance of factors for being taken by industrial training employer by type of institution of responding students (percentages)

	Univ	Polytechn.	Total
Field of study	93	91	92
Main focus of subject area/ specification	72	76	74
School examination graquipment	19	55	31
Reputation of my university / polytechnic	49	52	50
Reputation of my department	47	51	48
Previous work experience	17	24	19
Personality	43	46	44
My own world view	7	18	11

5.5 IMPORTANCE OF OCCUPATIONAL CHARACTERISTIC

The occupational characteristics are those vital attributes and motivational values that graduates and potential employees take into consideration in their quest for employment and career advancement or fulfillment.

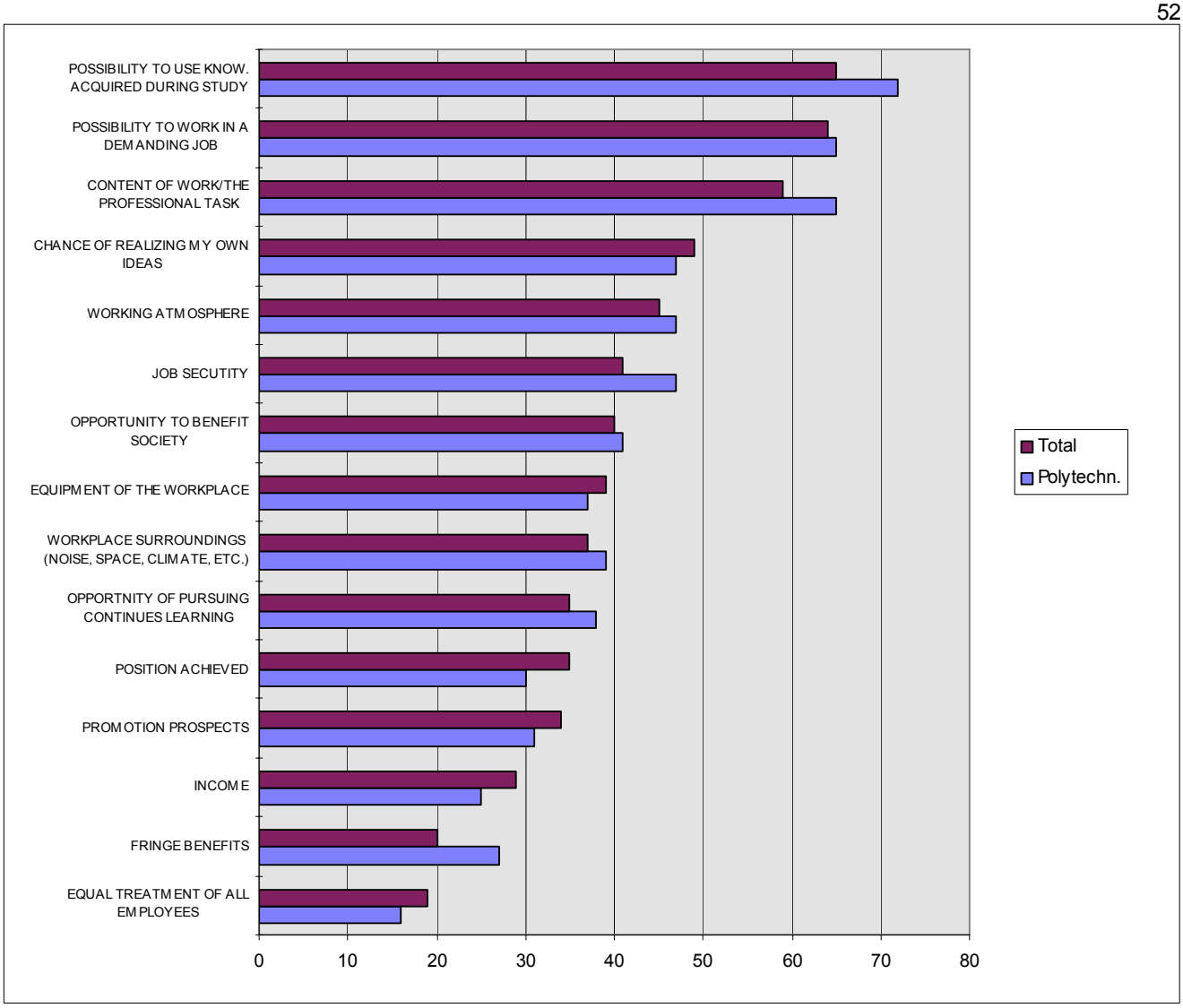
Following our findings, majority of our respondents place a prime premium or importance on the prospects and possibility to use acquired knowledge - (65%:95%) for graduates and students respectively. Availability of lots of personal time and chances of political influence did not matter much to either category of respondents. This is buttressed by their dismal scores - (12%:16%) for graduates and (30%:33%) for students. Other factors of occupation mattered fairly well to both sets of respondents. The issue of financial rewards was suprisingly not rated highly from the responses given by the graduates (44%). This shows that for an occupation to be deemed as considerably good enough, a robust combination of factors arc put into consideration other than finance. These include; good working atmosphere, good career prospects, clear and well ordered tasks, opportunity of pursuing continuous learning, etc.

On the aspect of extent of satisfaction with their jobs, the students survey appraises the overall extent while the graduates survey, examines each aspect or factor of occupational satisfaction differently. The students seem to be substantially satisfied with their IT jobs. This is demonstrated by the responses from the survey which have recorded results on extents of satisfaction with IT experiences as follows; Management Sciences (76%), Social Sciences (83%), and Engineering (82%).

From the graduates survey report, majority of the respondents (65%) acknowledge that their jobs afford them satisfactory opportunities of utilizing the knowledge they acquired in school, further conceding that their jobs are commensurately demanding. Content of work was also seen to be good enough (59%). The result of facilities needed at the workplace indicates that of poorly equipped workplaces, (39%). Issues of work atmosphere, job security, chances of realising own ideals and opportunity to benefit the society all recorded quite modest scores from the survey (40% and above). Incidentally, the issue of remuneration or financial benefits were not all together good. Graduate employees did complain of poor remuneration in their work places and the statistical summaries indicate that fringe benefits (20%), income (29%), promotion prospects (34%) are disappointing. In particular, graduate employees promotion does not come at expected intervals. Similarly, most graduates expressed their inability to pursue continuous learning. It is evident from the survey that only 35% of the graduates responded in the affirmative on this issue.

Overall, the study reveals a gross job dissatisfaction among graduates and the phenomenon is attributable to a combination of factors as seen from the study results. See chart.

Chart 14: Satisfaction with characteristics of professional situation by type of institution of responding graduates (percent)


POSSIBILITY TO USE KNOW. ACQUIRED DURING STUDY
POSSIBILITY TO WORK IN A DEMANDING JOB
CONTENT OF WORK/THE PROFESSIONAL TASK
CHANCE OF REALIZING MY OWN IDEAS
WORKING ATMOSPHERE
JOB SECUTITY
OPPORTUNITY TO BENEFIT SOCIETY
EQUIPMENT OF THE WORKPLACE
WORKPLACE SURROUNDINGS (NOISE, SPACE, CLIMATE, ETC.)
OPPORTNITY OF PURSUING CONTINUES LEARNING
POSITION ACHIEVED
PROMOTION PROSPECTS
INCOME
FRINGE BENEFITS
EQUAL TREATMENT OF ALL EMPLOYEES
0
10
20
30
40
50
60
70
80
Total
Polytechn.

5.6 EMPLOYMENT TURNOVER

On the change of employment, the survey shows that 4 out of every 10 graduates have changed their jobs: (16%:9%) of the university and polytechnic graduates admitted having changed job once, (16%:13%) have changed twice while (17%:10%) have changed more than twice. Considering the mean number of years of the responding graduates (6.4) one might infer a relatively high rate of employment turnover within the graduates rank. Several factors seem to be responsible to this. By far, the most obvious factor as shown by the survey is that of income which ironically low scores in the the responses of graduates to the different characteristics of their occupation that they are satisfied or dissatisfied with.

Table 31: Employment turnover of responding graduates by type of institution (percent)

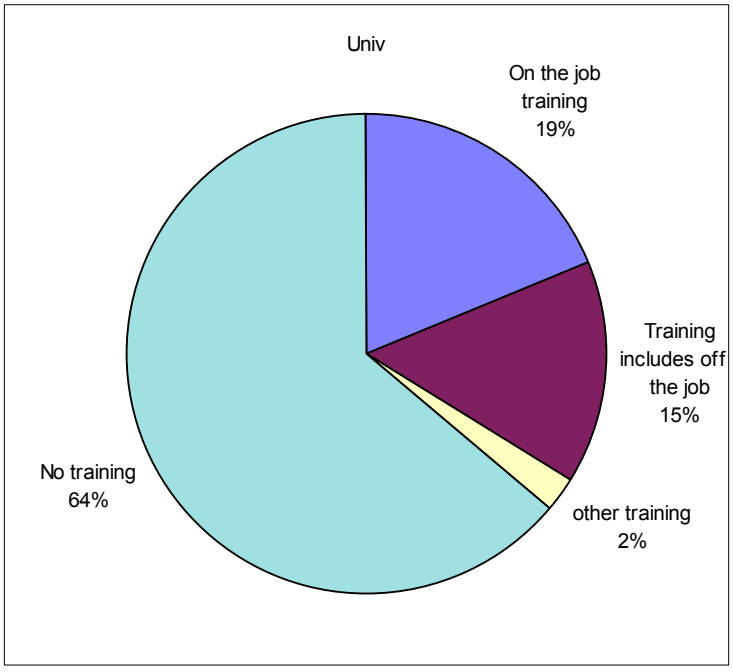
No of changes	Univ.	Polytechnic
0	61	62
1	16	9
2	16	13
3	11	7
4	5	3
5	1	0

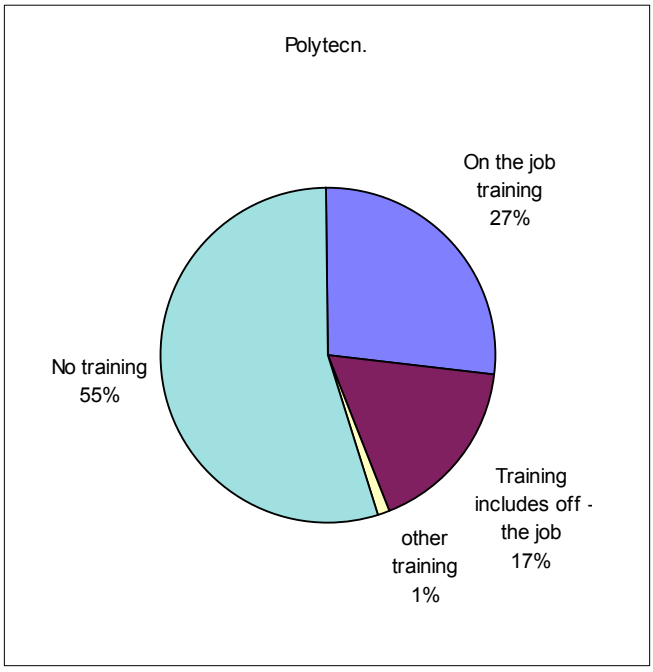
5.7 INITIAL TRAINING AFTER GRADUATION

On the training the employers offer the graduates or require them to initially undergo, the graduates employees' survey show that majority of them do not undergo any additional training other than their formal education and school training. From our findings 64% of university and 55% polytechnic graduates responded along the preceding observational trajectory. The few who are involved in any training at all were trained mainly on the job (19%:27%). Those who are involved in off the job training are fewer, (15 percent: 17 percent) while other training is almost inapplicable (2 percent: 1% percent) for the employing organisations considered.

The issue of inapplicability of an initial or immediate post recruitment training might be a bias of the manufacturing sector in Enugu and Anambra States - a sector that is practically dominated by medium scale industries. In other more industrial locations and States in the country such as Lagos, Rivers, Delta, Ogun and Oyo States that have a large concentration of large scale manufacturing, oil and allied industries, the practice of an immediate post recruitment training of graduate employees is evidently high (see MAN, 1995). This is to enable the latter cope with the imperatives and dynamics of changing technological and organisational complexities which the school curricular and training may not have sufficiently grasped.

Chart 15: Training after graduation by type of institution of responding graduates (percent)




Polytecn.
On the job training 27%
Training includes off - the job 17%
other training 1%
No training 55%

CHAPTER SIX

SUMMARY OF RESEARCH FINDINGS

This study has generated a number of striking findings, both expected and unexpected. Some of the findings reinforce what could pass as commonplace knowledge while others are quite radical and unanticipated. By and large, the findings have not shown any significant biases between the universities and polytechnics. Consequently, on most of the issue areas that cut across the graduates and students questionnaire, our findings are also similar with barely minor incremental or decremental nuances in statistical scores.

Reading through the conceptual aspects of this study beginning from the problem statement through literature review, one can more thoroughly appreciate our findings in the light of what is logically expected and what is radically unexpected. The findings can just be summarised as follows without bothering to isolate them in a dichotomous spectrum:

(1) Some of the study environment including teaching quality of lectures, contacts with fellow students and academic advise offered are quite high for both graduates and students of university and polytechnics. Other aspects such as availability of teaching equipment, teaching materials, stocking of libraries recorded low scores. Off study infrastructural facilities such as quality of buildings, accommodation and catering facilities recorded poor scores too.

(2) The dominant factors that influenced the decisions of applicants and potential students to enroll in specific higher education institutions are the reputation of the school and area of specialisation/practice oriented study programme.

(3) There is relatively a tremendous application or usage of the theoretical knowledge and skills acquired in the course of school education in meeting the demands of work place assignments. A simple corollary of this point is that most of the graduates and IT students are appropriately employed in fields and assignments pertinent to their areas of study. Graduates of engineering however recorded poor scores in the use of such practical skills as systems analysis and electronic data processing (computer) whilst IT students of social sciences background are not sufficiently skilled in the empirical diagnosis and analysis of social problems.

(4) Compared to IT students, graduates are less dynamic in seeking employment opportunities. Whereas most graduates merely apply to existing vacancies as their main employment seeking strategy, IT students more aggressively adopt multiple methods including personal contacts, family connections and relationships, mentor's recommendations etc.

(5) The employers principal recruitment criteria as perceived by their graduate employees are field of study/area of specialisation, level of pass or school grade, reputation of school and employee's personality - in that order.

(6) The occupational characteristics that most significantly motivate graduates and potential employees in their quest for employment and career advancement is the possibility of making adequate use of their repertoire of acquired knowledge and skills. Although financial remuneration is reportedly poor from the survey, the issue of attractive remuneration is not considered a very important motivational characteristic by the respondents. Ostensibly, there is a modest threshold of financial reward and comfortability beyond which remuneration may seize to be a source of job satisfaction for employees. This is partly supported by Herzberg's motivator-hygiene theory (Dessler, 1980:180).

(7) Respondents demonstrate a high degree of satisfaction with the different aspects of their IT experiences.

(8) There is a high rate of employment turnover within the graduates rank and this is paradoxically linked to the issue of income which respondents ranked low as a motivational factor. Explicably, their income averagely fall below what could be desired in Herzberg's phraseology as "a minimum threshold of job satisfaction".

(9) Beyond their formal education and school training, graduate employees are rarely compelled by their employers to undergo an immediate post-recruitment training or re-training, contrary to all informed tendencies and probabilities.

Concluding Remarks

Generally, it is evident that graduates apply their intellectual skills and knowledge well enough in industries. Students on the other hand are faced with the challenge of handling some electronic gadgets and facilities during their IT period which the school environment may not have sufficiently exposed them to at the time of undertaking the industrial training. Contrary to our expectation, most of the work places are not well equipped with the much talked about modern facilities and technologies. It is apparent that the technological structure of industrialisation in Nigeria move in a highly correlated direction with the technical cand pedagogic structure of higher education. The inadequacy of modern facilities are evident in both. There is therefore a need for mutual and comprehensive capacity building in both our industries and higher education profiles especially in the areas of general infrastructures, linking theories to practical skilling and computer technology. As a means of achieving the desired comprehensive capacity building in both our industires and higher education profiles, we hereby make the following specific recommendations:

1. There is a need for improved funding of higher education institutions in order to enhance their overall capacity for the provision of vital equipment, study facilities and off study infrastructure, thereby strengthening their study provisions and conditions profile.

Funding of study provisions and conditions, of necessity has to be project specific and government should in collaboration with the Nigerian Universities Commission (NUC) and National Board for Technical Education (NBTE) establish an audit/monitoring unit to periodically assess what the school administrations have accomplished vis-a-vis any disbursed funds. This mechanism would help to check misappropriation and mismanagement of funds in institutions of higher learning.

2. Curriculum planning and development in higher education should be more board based and trans-disciplinary than hitherto. Sufficient emphasis should be placed on multiple and practical skills acquisition (eg computer and language skills) or practice oriented study. There is the need to revise study curriculum at least every two years to keep abreast of technological and socio-cultural changes.

3. Lecturers particularly, those of the engineering and related fields should be encouraged and motivated to take short term "sabbathical" leaves to work in industries. In fact, the Foundation for the Promotion and Commercialisation of Indigenous Technology (FOPSIT) established by the Federal Government in the wake of SAP could be revived to act as liason between higher education institutions and industries with a view to securing placements for lecturers willing to spend short term working leaves (about 3 months to one year) in industries. This would engender a robust cross-fertilisation of ideas and practical skills between high education and industries, thereby reinforcing the desired collaboration between the two.

4. Finally, we urge the Federal Ministry of Education to take the necessary initiatives to fully implement the recommendations of the Report of the Commission on the Review of Higher Education in Nigeria (1991). Of paramount importance is the establishment of a one year bridge programme in the Universities through the collaboration of Universities, Polytechnics, NUC and NBTE to enable well qualified HND holders to pursue studies for higher degrees (ie master's degree programme) and make them eligible for registration with the appropriate professional bodies. When this and other recommendations of the Commission (see pg. 12) are implemented, they would go a long way to reduce the identity crisis within the polytechnics arising from a wrong perception by them of their role in national development.

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