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Quality management in higher education in Mozambique.

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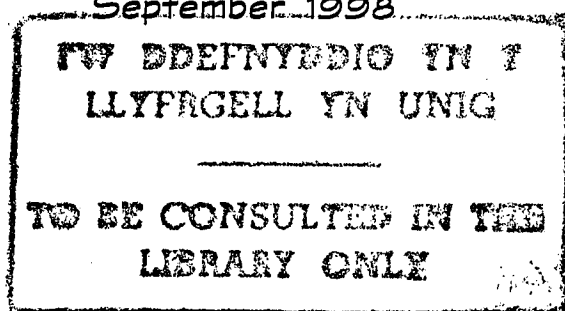
Quality Management In Higher Education In Mozambique

BY

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September 1998



This thesis is submitted for the degree of PhD
of the University of Wales



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Abstract

This thesis concerns ideas and practices about quality assurance systems, quality enhancement and performance indicators in higher education. The quality of higher education is important in a country's economic and social development and its enhancement is a major objective of any higher education system. There has been an increasing demand for institutions of higher education to be accountable and make their activities more transparent to their consumers and to society as a whole. Therefore, institutions have become more explicit about their aims and the methods used to achieve such aims. Also, the monitoring of inputs, processes and outcomes of a University has now become widely accepted.

The context for the study of quality management in higher education is the 'Eduardo Mondlane' University (UEM) in Mozambique. This thesis aims to analyse the quality assurance procedures currently in existence at 'Eduardo Mondlane' University (UEM), to examine recent and ongoing efforts to build capacity, to consider a range of options for increased efficiency and effectiveness, and to make recommendations for quality management at UEM. Examples of British Universities already engaged in quality assurance initiatives are analysed and their relevance to UEM is discussed.

This thesis comprises nine chapters. The first chapter contextualizes the thesis by considering the historical background to Mozambique. Chapters two and three discuss styles and strategies of managing quality, and ways of monitoring the performance of educational institutions. Chapter four examines arrangements in selected U.K. Universities for quality assurance. Chapters five to eight outline the methodology used to collect the research evidence and discuss the main results from the survey research conducted at UEM. Four main aspects of quality assurance at UEM form the focus of the research: the quality assurance of admission procedures, the quality assurance of teaching and learning, the quality assurance of student development and support, and a framework for quality enhancement. The concluding chapter presents a summary of the main findings as well as recommendations for quality enhancement at UEM. A list of performance indicators is provided along with suggestions for further research on quality assurance at UEM.

Introduction

1. Contextualization

The possibilities for future economic growth and social development in Mozambique are constrained by its presently limited capacity to produce technically qualified and professionally capable individuals. 'Eduardo Mondlane' University (UEM), the main Mozambican institution of higher education plays, and will continue to play, a vital role in Mozambique's economic, social and political development efforts. This thesis centres on quality assurance aspects of UEM that relate to such development efforts.

The University's recent growth in enrolments has proceeded more quickly than the capacity of its management systems to adjust to these changes. The extent to which the University can successfully carry out its development role for Mozambique will depend on its organizational effectiveness, its efficiency, and its structural flexibility in the face of rapidly changing circumstances.

The quality of higher education is important in a country's economic and social development and its enhancement is a major objective of any higher education system. Quality assurance, quality control and inspection are significant aspects of the assessment, maintenance and enhancement of quality. Quality assurance provides users of the education system with a guarantee that institutions, courses and graduates meet certain standards. Quality assurance at UEM is a major element of this thesis.

Quality has multiple dimensions that remain in constant change. It embraces, in general, three aspects: the goals defined (mission or purpose), the process for achieving the goals, and the outcomes, i.e., the extent to which the goals are achieved (Frazer, 1994).

This study aims to analyse current UEM performance, to examine recent and ongoing efforts to build capacity, to consider a wide range of options for increased efficiency and effectiveness, and to make recommendations for increasing capacity both in the shorter term and longer term.

2. Aims of the Thesis

The aims of this thesis are threefold:

- ▶ To review 'effective practice' in quality assurance Universities in the UK.
- ▶ To provide an analysis of current quality assurance practices at UEM.
- ▶ To provide recommendations about the process of quality assurance at UEM.

UEM is sometimes confronted with decision-making constraints due to the lack of appropriately organised and accessible information on key aspects of University performance. Thus the research will focus specifically on current UEM information on its systems in operation and produce proposals for its improvement. It will also analyse some areas identified as being worthy of consideration such as the quality assurance of admission procedures, the quality assurance of teaching and learning, the quality assurance of student development and support, and framework for quality enhancement at UEM.

3. Organization of the Thesis

This thesis consists of nine chapters. The first chapter examines the geographical, historical, social political and economic background of Mozambique and how various factors have affected the pattern of socio-economic development. The educational system, language policy and religion are also discussed followed by the origin and expansion of higher education in Mozambique. Particular consideration is given to Eduardo Mondlane University (UEM), Mozambique's largest institution of higher education. UEM is the case studied in this research.

Chapter two discusses styles and strategies of managing quality. It introduces the origin, concept and philosophy of Total Quality Management (TQM), and analyses the appropriateness of adapting TQM to higher education, discussing the most common problems associated with its adoption and the reasons for potential failure.

An increased emphasis has been given to monitoring the performance of educational institutions. Monitoring requires the production of relevant information which can broadly be of two types: descriptive accounts and quantitative measures. Much attention is given to the latter, designated as performance indicators (PIs). Chapter three gives an introduction to the use of performance indicators and the meaning of 'performance indicator' (PI). It examines the factors that might influence the selection of indicators and the importance of choosing the appropriate indicators. Some of the limitations in using performance indicators are presented. Examples of performance indicators in use in education are listed at the end of this chapter.

Chapter four examines the arrangements in UK Universities for quality assurance. Using the framework of 'Guidelines on Quality Assurance' published by the Higher Education Quality Council (1994), it presents current experiences of British Universities implementing quality assurance systems. Ten British institutions of higher education are considered.

Chapter five outlines the methodology used to collect the research evidence and analyses the strengths and weaknesses of such research methodology. Key questions are listed in this chapter, along with techniques and tools used in the research. A characterisation of the sample is given.

Chapters six and seven discuss the main results from the research conducted at 'Eduardo Mondlane' University (UEM) based on different forms of evidence (questionnaires, interviews, observation). Frequency results are presented to provide a basic characterisation of preferences, attitudes and ideas of students, academics, technical and administrative staff, deans of faculty and graduates. Chapter six analyses aspects of the quality assurance of admission procedures,

and the quality assurance of teaching and learning. Chapter seven explores the quality assurance of student development and support, and the framework for quality enhancement at UEM.

Results from multivariate statistical analysis of the data from questionnaires are presented in chapter eight. The statistical analyses were mostly performed using SPSS (The Statistical Package for the Social Sciences).

Chapter nine presents a summary of major findings, as well as recommendations in areas discussed in previous chapters such as: admission procedures, teaching and learning, and students support and development. A list of performance indicators is also suggested. This thesis concludes with recommendations for further research at UEM on quality assurance.

CHAPTER 1

The Mozambican Context of the Thesis

Chapter 1

The Mozambican Context of the Thesis

Introduction

This chapter examines the geographical, historical, social, political and economic background of Mozambique and how various factors have affected the pattern of educational and socio-economic development. The language policy, culture and religion of Mozambique is also discussed in this chapter. There is a specific focus on the education system, and how education policies have been linked to social, political and economic changes in Mozambique. The origin and expansion of higher education in Mozambique is subsequently discussed in this chapter.

Particular consideration is given to UEM, the largest institution of higher education in the country, its history, major issues that it has faced, the institutional infrastructure, the current situation of the institution, the 'Capacity Building Project' financed by the World Bank and the prospects for the future in UEM.

1. Mozambique: A General Characterisation of the Country

1.1 Location, Area, Administrative Division, Climate, Demography

Mozambique, a country possibly little known to many people, is an African state, independent from Portugal since 1975, located on the south-east coast of Africa, and bounded by the Indian Ocean to the east. Borders extend for over 4,480 kilometres, touching on six countries: to the north, Tanzania; to the west, (from north to south) Malawi, Zambia, Zimbabwe, South Africa (Transval Province) and Swaziland; to the south, South Africa again (Natal Province).

Mozambique has a total area of 801,590 sq.km - 784,090 sq.km of land area and 17,500 sq.km of inland water (Dallas, 1995). The littoral which is predominantly flat with small dunes, bays and river estuaries is ideal to develop port activities. The strategic location of Mozambique converted the country into a transport corridor that has been intensively utilised by neighbouring countries.

The country comprises eleven provinces, each one subdivided into districts. The eleven provinces are, from north to south: Cabo Delgado, Niassa, Nampula, Zambezia, Tete, Manica, Sofala, Inhambane, Gaza and Maputo. The capital, Maputo city, is also by law considered as a province (see map on next page).

The urban areas classified as cities are Maputo, Beira, Nampula, Nacala, Chimoio, Quelimane, Inhambane, Tete, Xai-Xai, Pemba, Lichinga and Chokwe. The capital and the largest city is Maputo. The second largest and economically important city is Beira.

The main rivers in Mozambique are from south to north: Limpopo, Save, Zambeze, Lúrio and Rovuma. Most of these rivers have hydro-electrical potential; moreover the Zambeze is the only navigable river. It runs 850 km in Mozambique's territory and had been used as a route for penetration in Mozambique's interior in the early years of colonisation. The Africa's largest hydroelectricity dam - the 'Cahora Bassa'- was undertaken here with a capacity to produce 18 billions of kilowatts per hour. (Reader's Digest, 1988).

The climate is tropical to subtropical, and three regional variants can be identified: 'tropical humid' in the north and centre of the country, with a dry season of four to six months; 'dry tropical' in the south with a dry season of six to nine months and 'altitude tropical' which covers the high mountains.

The rainy season occurs between October and April, registering an average annual precipitation in the north of the river Save (see map) between 800 and 1500 mm; in the mountains it reaches 2000 mm and the south shows a precipitation of 800 mm in the littoral and 400 mm in the interior. (Reader's Digest, 1988).

The humidity is high, reaching between 70% and 80%. Nevertheless, the daily figures vary between 10% and 90%. The annual average temperatures vary between 20° C in the south and 26° C in the north.

MOZAMBIQUE

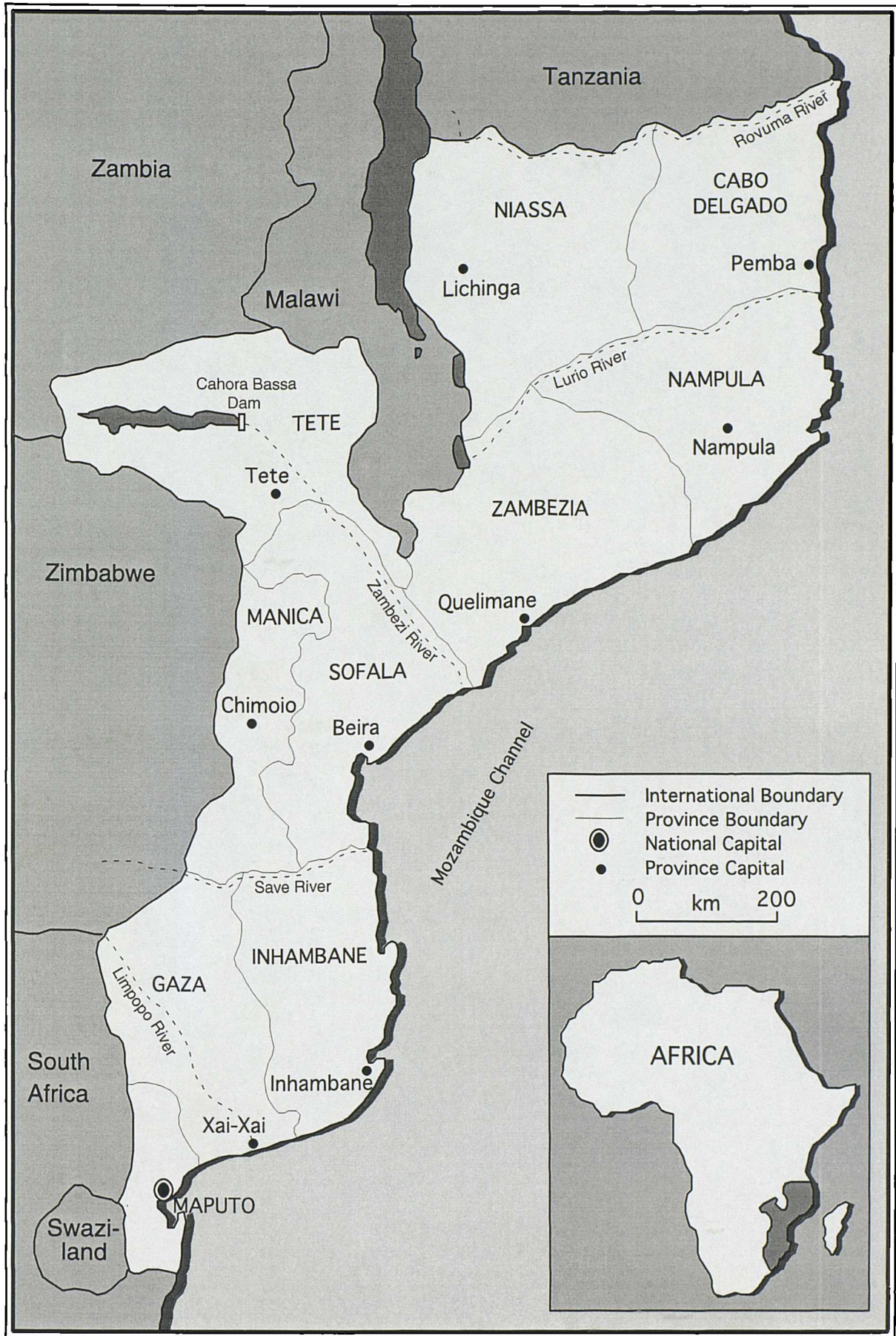


Figure 1.1 - Map of Mozambique

The Mozambican population in 1980, the year of the last census, was estimated at 12,130,000. The total population estimated in 1995 was 15.1 millions, with a mean density - (persons per sq.km) - of 19.6 (Dallas, 1995). The distribution of the Mozambican population related to the total area of each province is given in Table 1.1.

There is an inverse relationship between the area and the number of inhabitants. The biggest province is Niassa with 129,056 sq.km. However, this province registers the lowest density of people (4.3) per sq.km. Apart from Maputo-city, the Nampula and Zambezia provinces are the most populated and register the highest density in relationship to their area.

Table 1.1
Distribution of Mozambican Population

Provinces	Area (sq. km)	Total Population (1984)	Density Population/sq.km
Cabo Delgado	82.625	1.022.881	12.4
Niassa	129.056	557.935	4.3
Nampula	81.606	2.630.266	32.2
Zambezia	105.008	2.736.540	26.2
Tete	100.724	916.608	9.1
Manica	61.661	704.061	11.4
Sofala	68.018	1.169.007	17.2
Inhambane	68.615	1.089.604	15.9
Gaza	75.709	1.049.000	13.8
Maputo	25.756	504.651	19.6
Maputo (city)	602	903.621	1.501.0

Source: Direcção Nacional de Estatística, C.N.P., 1985

In general, the distribution of population among the provinces is related to the potential and actual development of agriculture. The provinces of Zambezia and Nampula which register the highest population density are potentially the richest in the country. The existence of different kinds of infrastructures is particularly important for the economy. This aspect is covered in the Economy section later in the chapter.

The gender distribution among the general population is almost equal with no substantial variation since 1980. In 1986, the ratio was 49% of males to 51% of females. Only in Maputo-city is there a higher rate of males to females (54% to 46% respectively).

Of the total population in 1995, the rural population accounted for the majority (70%), while the urban population was 30%. In terms of age (in reference to the year 1995), 71% of the Mozambican population were under 29 years old, 16% between 30-44 and 13% over 44 years old. The life expectancy is 43 years for men and 45 for women. Mozambique has one of the highest infant mortality rates in Africa. The number of deaths per 1,000 live births is 148 (Dallas, 1995).

1.2 Political History

1.2.1 Before Independence - *Colonial Period*

Mozambique was colonised by Portugal for five hundred years. The process of gradual colonisation of the country started in the 16th century with the control of trading enclaves along the coast and trade routes in the interior of the country. The Portuguese empire was essentially mercantile, obtaining high profits from gold and ivory, and recruiting slaves by force from the African principalities. This domination was strengthened by the establishment of privately owned agricultural estates dated from the 17th century, which were obtained by conquest or by concession from African chiefs, or by a grant from the Portuguese crown. In the 1880's, territorial domination was expanded when Portugal granted to three foreign charter companies (German, French and British) vast tracts of land in the north and centre of the country. These companies had no rights to economic exploitation, but they acted as foreign governments with colonial powers. The largest companies were: '*Companhia de Moçambique*', '*Companhia do Niassa*' and '*Companhia do Zambeze*'.

With the installation in Portugal of Salazar's dictatorial state in 1920, an effort was made to seal off the colonies from the influence and action of non-Portuguese interests, and to operate a protectionist policy with sole commercial links with the coloniser.

Colonial Mozambique therefore became subject to the domination of Portugal and its allies. Special conditions were offered to South Africa, which overtook Portugal as the main source of Mozambique imports and used local labour and ports for the needs of the South African economy. This alliance particularly affected the south of Mozambique which was turned into a labour reserve for the South African mining industry. Despite slavery being abolished in the 19th century, Mozambicans were compelled to do six months compulsory labour each year in South African mines. In central Mozambique (Zambezia province), the Portuguese allies invested in plantation agriculture and specialised in export crops, particularly sugar, sisal, tea and copra, with a workforce provided by the local population. In the north, peasants were subjected to forced labour especially cultivating cotton to supply the Portuguese textile industry.

The considerable exploitation and domination of Mozambique after the second world war by the Portuguese dictatorship, brought the first reactions and demands of Mozambican people for self-determination and freedom in the 1950's. These demands were brutally repressed by the Portuguese administration. As a result, a guerrilla war for liberation was started in 1960 by several movements inspired by African nationalist movements seeking Independence in former British and French colonies. The beginning of the internal struggle forced Portugal to redevelop links with international allies.

By 1962, small groups of political and radical intellectuals fighting colonial domination joined together and formed the Mozambique Liberation Front (FRELIMO). The main aim of this front was the elimination of colonialism. Two years after its foundation, it launched military action against the Portuguese administration, and by 1966 had achieved control of the north of Mozambique. The control of liberated areas led to an internal conflict within the guerrilla movement which culminated in the assassination of Dr. Eduardo Mondlane, FRELIMO's first President. In 1968, when FRELIMO's second congress took place, the goals of the movement were redefined to include national Independence and an end to exploitation. This was considered the first step in the movement towards socialism.

Faced by the intensification of the liberation war, the Portuguese government tried to increase settlements particularly among immigrant farmers, by offering them

very fertile fields in the south. However, these attempts to enlarge the settler Portuguese population and perpetuate their domination failed as the liberation struggle intensified.

At the beginning of 1970's, the liberation war affected half of the country, and many liberated areas in the north were controlled by the FRELIMO. There were desertions among Portuguese troops, and an increased distaste for the continuation of the war.

By the time the Portuguese dictatorship was overthrown in 1974, the national movement had accumulated experience and had strengthened their presence among the wider population. This presence was important because it could cut off attempts of neocolonisation by the new Portuguese government, particularly during the process of post war negotiations. A final peace agreement with Portugal was achieved in September 1974, putting an end to ten years of liberation war. The agreement defined the unconditional Independence of Mozambique and the establishment of a transitional government. This government was composed of Portuguese officials and representatives of the FRELIMO movement.

1.2.1 After Independence

The Independence of Mozambique was proclaimed on 25th of June 1975. The leftist national liberation movement was transformed into a Marxist party whose aim was to install a socialist system in the context of an underdeveloped society. The first constitution defined the country as a People's Republic with a single integrated political policy, a state controlled centralised economy based on agriculture and industry as an economically forward propelling factor. The 'people's democracy' within the process of socialist reconstruction of the country was embedded in the consolidation of the new forces in power.

In 1977, people's assemblies were created at all levels of administration in the country, culminating in a National Assembly. The National Assembly was the supreme organ of administration of the State and was composed of peasants and workers. According to the Constitution, the assemblies had the aim of ending the separation of powers under which the civil service and judiciary operate independently of elected political bodies.

In relation to international policy, Mozambique became integrated in the Organisation of the United Nations (UN) and adopted full sanctions against the illegal regime of Rhodesia (now Zimbabwe), and became a member of the Non-Alignment Movement. Under the international isolation of the apartheid regime in South Africa, Mozambique was a co-founder of the Front Line, an organisation of radical countries from the south of the African Continent, established to face aggression and destabilisation, and reduce economical dependence on South Africa. Full support was given to the liberation movements in Rhodesia, Namibia and South Africa. This brought the country to a constant process of destabilisation by the illegal regime of Rhodesia and the South African regime. A rebellious guerrilla group, the Mozambique Resistance Movement (RENAMO) was created by these regimes to cause disruption in Mozambique.

By 1980, a set of reforms was made by the Mozambican Government to reduce inefficiency and bureaucracy within administrative bodies and to rebuild the economy. However, with the increase in confrontation with South Africa and the RENAMO, the country entered into a deep economic and social crisis. This situation led to a security pact between Mozambique and the independent Zimbabwe (1980) in battling against the guerrilla movement.

South Africa's continuous pressure on Mozambique brought the two countries to a 'nonaggression and good neighbour pact', in which both sides agreed not to help opposition movements in each other's territories. Nevertheless, the RENAMO became stronger and more effective, increasing the destabilisation of the country and leading to a civil war which left more than 1 million dead, forced 1.7 million people into exile, displaced up to 4 million more and destroyed much of the existing infrastructure.

The decline of the economy and deteriorating social conditions of the people due to the civil war forced the FRELIMO party in power to introduce new reforms and radical changes. From a Marxist alliance between the workers and peasants, the party moved to an alliance of all social classes.

At the same time, further changes were introduced in the State. As a result of the crisis, a new constitution was approved by the National Assembly in 1990. This second constitution changed the characterisation of the State of Mozambique from a 'People's Republic' to a Democracy, and contemplated a multi-party political system and the first democratic elections for the assembly and government of the country. The economic system has also changed to a free market economy. As part of change in the country, a long process of negotiations with the guerrilla movement (RENAMO) operated with the aim of stopping the long civil war and of creating the necessary conditions to rebuild the country under the new constitution.

When the peace agreement was reached in October 1992 between the Mozambique Liberation Front (FRELIMO) which has ruled the country since Independence from Portugal and the opposition Mozambique Resistance Movement (RENAMO) the challenges facing the country were immense.

The first democratic elections took place in October 1994. FRELIMO regained power, has converted into a free-market democratic government and has launched a nationwide economic and social reconstruction programme. The RENAMO became the largest opposition party with 112 of the 250 seats in the new parliament (Dallas, 1995).

1.3 Economy

Mozambique's economy is mainly based on small-scale farming and has a considerable development potential. Because of its important geographical location, with an extensive Indian Ocean coastline, Mozambique has always been a major transportation hub. Therefore, the country's economy has been rapidly reinforced by the selling of services to neighbouring countries (i.e. railway lines, maritime ports and power lines). The industrial sector, as observed in many African countries, is poorly developed and is basically orientated to the processing of export goods, with consumer goods being relatively less important in the economy. In Table 1.2, a brief statement is given of the economy of the country during the colonial period (1973) and after Independence.

During the colonial period, the economy of Mozambique was based essentially on services sold to neighbouring countries. Two areas of service were developed, namely labour for the mines in South Africa and secondly, the railway and commercial ports. The railway and sea ports were developed to serve neighbouring countries: Swaziland, Zimbabwe, Malawi and Zambia, as well as South Africa. This economic sector was crucial to the achieving of a positive commercial balance in 1973.

After Independence in 1975, the economy of Mozambique started to decline, firstly from destabilisation by South Africa and Occidental countries, and secondly, by the imposition of sanctions by Mozambique on the illegal regime in Rhodesia. The sanctions were implemented just seven months after Independence, in February 1976, in accordance with the decision of the Security Council of the United Nations which established a general embargo on the illegal regime of Ian Smith in Rhodesia. In economic terms, this represented an enormous reduction in services (railway and ports), and an increase in destabilisation. Despite this, the balance of services registered in 1980 was positive. In this year, exports registered an increase, but were overtaken by the importation of petrol at high cost, and the importation of agricultural equipment.

Table 1.2
Economical situation of Mozambique since 1973.
From an economy of services to an economy of help.
(millions of American dollars)

	1973	1980	1985	1990
Exports	230	281	77	121
Imports	-345	-800	-424	-850
Balance of Trade	-115	-519	-347	-729
Service Income	217	171	107	162
Expenditure	-95	-75	-200	-389
Liquid Income of Service	122	96	-93	-227
Current Balance	7	-423	-440	-956

Source: Hermele, K. 1990

The deterioration of the economy ensued in the following ten years due to the destabilisation of the country by direct military action from the South African army

and by the guerrilla movement (RENAMO) whose main aim was to destabilise the country economically and socially. To minimise problems in the economy, the importation of goods was drastically reduced.

Although commercial links with Independent Zimbabwe were reestablished in 1981, the destabilisation of the country was at a high cost to services, further aggravating the balance of the economy. Starting with a small group of armed bandits acting along the border with South Africa, the conflict turned into a large scale civil war affecting all provinces. This had a tremendous negative impact on the fragile and already poor economic situation of the country.

At present, the economy of Mozambique is aggravated by an increase in the external debt which has made the country one of the poorest in the world. To counteract the critical situation in the economy, the Mozambican Government established a programme of economic rehabilitation (PRE) in 1987, based on a decentralised free market economic system, and turned to assistance from the international community and the International Monetary Fund (IMF). The main objective of the PRE is to re-establish the development of the economy by reviving agriculture, particularly small scale ventures, as well as restoring services and industry.

International financial assistance was accompanied by a package of conditions which aggravated the social situation particularly in urban areas. The government budget made significant reductions in education and health in contrast with the former period (1975-1986) when these sectors had priority in the budget.

In 1990, after three years of the implementation of the new economic system, the country registered a slight recovery in the economy. However, the main objectives of the PRE have been questioned. The continuation of the civil war increased the dependence of the country on international aid and blocked the full implementation of the programme and subsequent recovery of the economy. An optimistic future for the economy still prevails with progress having been achieved in the peace process. The economy still depends heavily on foreign assistance to keep afloat (see Table 1.3).

Table 1.3
Economic Structure: Mozambique

Economic Indicators	1991	1992	1993	1994	1995*
GDP at market prices MT billions	2,056.3	3,125.8	5,843.4	8,652.1	12,600
Real GDP growth %	4.9	-0.8	19.3	4.8	3.0
Consumer price inflation %	50.1	58.8	49.8	52.5	40.0
Population millions	14.4	14.8	15.6	16.6	16.9
Exports \$ millions	162	139	132	149.5*	170
Imports \$ millions	899	855	955	1,019*	1,090
Current account *** \$millions	-738	-739	-825	870**	-927
Total external debts \$ millions	4,486	4,934	5,012	5,491	n/a
External debt-service ratio %	17.6	17.9	27.2	23.0	n/a
Exchange rate (av; MT:\$)	1,434	2,517	3,874	6,039	7,300

April 12, 1996 (MT 11,063 : \$1) * Official estimates ** EIU estimate *** Excluding transfers

Source: Images, Words, Ltd., in Sunday, January 26, 1997

MT= Metical (Currency of Mozambique)

1.4 Language, Culture and Religion

One of the most crucial issues after Independence was the languages of the country. The fact that Mozambique has a considerable number of indigenous different 'languages'- (dialects) (See Table 1.4), none numerically dominant, and practically none written, compelled the government to choose Portuguese as the official language. In the early 1990s, the Portuguese language was spoken by 24.4 per cent of the population, including those who have it as their mother tongue (Machungo, 1994).

Even between the indigenous Mozambicans, communication is difficult because the dialect spoken in one region is not spoken in a neighbouring region.

Making a neutral language the official one seemed the most feasible solution, although in rural areas only 5% or less speak Portuguese and in urban areas only 40%. There is an imbalance between those who have access to the official language, and those who do not, and whether or not the imbalance will be changed in the near future is uncertain. With access to the official language goes an increase in power and status.

Table 1.4
Languages of Mozambique:
Geographical distribution and estimated number of speakers

Language	Main Provinces where languages spoken	Estimated number of speakers (1)
Makhwa (+Lomwe)	Nampula, Zambezia, Cabo Delgado, Niassa	6.600,000
Chwabo (Marenje)	Zambezia	1,067,130
Makonde	Cabo Delgado	360,000
Yao	Niassa	194,107
Mwani	Cabo Delgado	100,000
Nyanja	Tete, Niassa, Zambezia	423,000
Nyungwe	Tete	262,455
Sena	Sofala, Manica, Tete	1,086,040
Nsenga	Tete	141,000
Shona (Manyika, Ndau, Tewe, Korekore)	Manica, Sofala, Tete	968,923
Tonga	Inhambane	223,971
Chopi	Inhambane	760,000
Tsonga (Tswa, Changane, Ronga)	Inhambane, Gaza, Maputo	2,619,000
Koti	Nampula	41,287
Swahili	Cabo Delgado	6,104
Barwe	Manica	no figures available
Tawala	Manica, Tete	no figures available
Kunda	Tete	3,258

Main Source: Machungo, I. B. F. (1994)

(1) source: Afido et al. (1989)

However, there are issues that need considering in the choice of Portuguese as the instructional language:

- (1) It may create a divide between school and home (family). Some young children meet the Portuguese language for the first time when they go to school. These children may have consequent difficulties in attainment.
- (2) Parents are not able to help their children if the language of schooling is different from the home.

- (3) A divide between generations may also result.
- (4) Literacy in a foreign language does not necessarily create literacy for the masses.
- (5) There is a shortage of qualified teachers throughout the educational system. There are approximately 80% of teachers who do not have Portuguese as their first language (mother tongue) and do not feel confident to teach in a major second language.
- (6) It may perpetuate the culture of dependency.
- (7) Mozambican people may come to regard their own language as inadequate and therefore inferior.

Portuguese will continue to occupy the position of being the channel of communication, education and politics, because it has become a 'common denominator' language.

For a third world country that desires to develop economically, choosing a significant world language is very important. Although Portuguese is not a major language in the world, it is officially spoken in seven countries, namely Portugal, Brazil, Angola, Cape Verde, Guinea-Bissau, São Tomé & Príncipe, and Mozambique.

Though the Mozambicans faced the problem of choice of language as a means of communication, they have developed other forms of communication such as dance, music and various rituals. For example, there are different dances to express marriage, death and sickness.

The dominant religion of Mozambique has been the Catholic religion. Roman Catholicism expanded to cover three quarters of the country. Only in the north (because of the Arabic influence before the Portuguese colonisation) is the population predominantly Muslim.

1.5 Education

The colonial domination implanted an educational policy of deliberate maintenance of ignorance (which is common among colonial regimes) to secure the dominance of the occupied territories. Access to education was limited, and constraints on places were particularly strong in higher education.

The colonial education provided two distinct and discriminatory educational systems representing the colonial class distinction - one for whites and the 'assimilated' people, and the other for the indigenous people. The discriminatory character, based on a capitalist relationship of exploitation and colonial oppression, was linked to the structure of the educational system in all its aspects: economic, social, ideological, political, pedagogic and administrative.

The geographical situation of schools, the assimilationist ideology, and discrimination by economic and racial origin, were the main factors which obstructed school access for the majority of Mozambicans.

The main characteristics of colonial schooling which prevailed at the time of Independence were:

- (1) Two educational systems, one for the majority (schools for the indigenous people) directed by religious missions; and the other system reserved for the white population and the 'assimilated' people sponsored by private schools and the state.
- (2) School as a factor in social stratification.
- (3) Unity between religion and school.
- (4) No link between theory and practice.
- (5) A curriculum under the Portuguese model.
- (6) Schooling reserved for urban areas.
- (7) No adult education.

1.5.1 Who Had Access to Education Before Independence?

Access to education in colonial Mozambique was strongly limited. These limitations were deliberately imposed by the colonial power. The Portuguese in Mozambique chose not to develop an educated elite among the indigenous population. Education for the indigenous people during the colonial period was largely composed of religious and social indoctrination. The Roman Catholic Church played a vital role in Portuguese domination in Mozambique. The Church provided most of the education for indigenous people.

This marked distinction occurred strikingly at higher levels of education. A very insignificant number of Mozambicans (blacks) attended the University. On the other hand, the curriculum of religious schools may be characterised as inappropriate for the needs of Mozambican society. It had little or nothing to do with the indigenous people's culture and history. Instead, it reflected the colonial society and its desire to assimilate rather than educate. In Mozambique, such education was designed to teach the Portuguese language and culture, to convert people to Catholicism and to develop Portuguese nationalism. For example, Mozambicans learned the names of rivers, cities, and mountains in Portugal, but not in Mozambique; they studied plant life in Portugal without understanding their own botanical resources; they read about Portuguese kings and queens and about Portuguese participation in European wars, about life in the western world, but not of their own kingdom, resistance to colonisation or of African cultural experience (Barnes, 1982).

Mozambican society has the role of transmitting its way of life or 'culture' to the next generation, and part of this transmission is expected to be achieved by formal education schooling. The system of education is a process in any society to transmit to the new generation their experiences, knowledge and cultural values.

The way Mozambican society educates and prepares its people partly determines the economic, social and cultural development. Education is, therefore determined by the society, by its social organisation and by its characteristics, and then affects the evolution and development of society.

1.5.2 The Expansion of Education

As soon as the country achieved Independence in 1975, expansion of the educational system gained top priority. Racial and religious segregation was removed, and the numbers in schooling rapidly increased, especially in the lower levels of schooling. A great deal has been done to introduce Mozambican cultural content within the curricula, at least in history and geography.

All schools were nationalised after Independence and the Primary school population increased from 671,617 in 1975 to over 1.2 million in 1976 and 1.3 million in 1980. The Secondary school population rose from 26,354 in 1975 to 90,041 in 1980 (Direccão Nacional de Estatística, C.N.P., 1985). Such expansion was one of the first aims of the revolutionary government which believed firmly in education as an individual right and as essential for a new society - with equal opportunities and without any kind of discrimination. Education was to serve the liberation effort and the people as a whole. The dismantling of the educational system inherited from the colonial period now become a matter of urgency. Educational reform came as part of the general package of reforms and must be viewed as one component in a whole.

While the schooling opportunities increased dramatically, and in some cases doubled the number of students, the number of teachers decreased. The vast majority of teachers were Portuguese citizens and left following Independence. Their exodus created a teacher shortage in the era of reform.

The lack of trained teachers has been one of the greatest problems faced by the Mozambican educational authorities. This shortage of teachers was exacerbated by political and guerrilla activity.

The pressure on the educational system has not been uniform throughout the country; some regions are in a worse position than others. The physical destruction of primary schools averaged 45% in 1987, but in the provinces of Niassa, Zambezia, Tete and Maputo, the destruction rose to 57%, 74%, 82%, and 56% respectively. Similarly school attendance varied according to the kind of political pressure and destruction seen in each province; the more alarming figures are from Tete, Sofala, and Nampula.

Recently, the educational system has come under such pressure that it is near to collapse. In some areas, educational provision practically does not exist. For example, adult literacy classes which comprised 100,000 students in 1980, dropped since 1983 to less than 20,000 per year. At all educational levels, the drop-out rate is extremely high. For every 1,000 pupils registered in the first level of primary school, only 50 conclude the 4th class in 4 years. The average time for a pupil to end primary schooling is 15 years (Hermele, K. 1990).

The civil war and the economic programme-PRE (see the Economy section on pg.14) brought the educational system under strong pressure. In 1988, Niassa province closed the 5th and 6th classes of its primary schools due to lack of equipment. In Maputo (the capital), the primary schools operate in four 'turns', which not only exhaust the teachers but also limit the number of hours that each pupil spends in school and causes rapid deterioration in school buildings. The size of classes has also increased and the average is 60 pupils or more per class. With all these problems, the quality of schooling has recently deteriorated.

1.5.3 The National System of Education

A new educational system was implemented in 1983, eight years after Independence, moving from a Portuguese model towards a model which better suited the political, social and economic structures and culture of Mozambique. It comprises five sub-systems (see Figure 1.2) :

- (1) General Education, covering lower grades of primary education (1-5) and upper grades of primary education (6-7), general secondary education (grades 8-10), and pre-university education (grades 11-12);
- (2) Adult Education, intended to promote the literacy of those over 15 years of age and permit their entry into technical and vocational education, higher education and teacher training;
- (3) Technical-professional Education, comprising basic education (grade 8-10) and intermediate education (grades 11-12);
- (4) Teacher Training, at intermediate and higher levels (post grade 12); and
- (5) Higher Education, which includes the University (UEM), the Institute for Advanced Pedagogical Training (ISP), and the Institute of International Relations (ISRI).

The sub-system of general education, as seen in Figure 1.3, is central to the national system. It confers an 'integral formation and polytechnic base' to entry at each level of the different sub-systems. The contents of this sub-system constitute a reference point for all other sub-systems. This sub-system is composed of primary, secondary and pre-university schools. A primary school tends to divide into seven classes, subdivided into two levels, and it is compulsory for all Mozambican children aged 7-14 years to attend such primary schools.

There are four options when a person finishes primary school: to continue to general secondary school, to go to a technical-vocational course, to go to teacher training or to work. For those students who continue at general secondary school, there are three more classes. This level comprises students aged from 14 to 17 years.

After secondary school, students can go to technical-vocational middle schools, go on to a teacher training course, go to work, or continue to the next level which is two more classes of pre-university provision, preparing students for higher education.

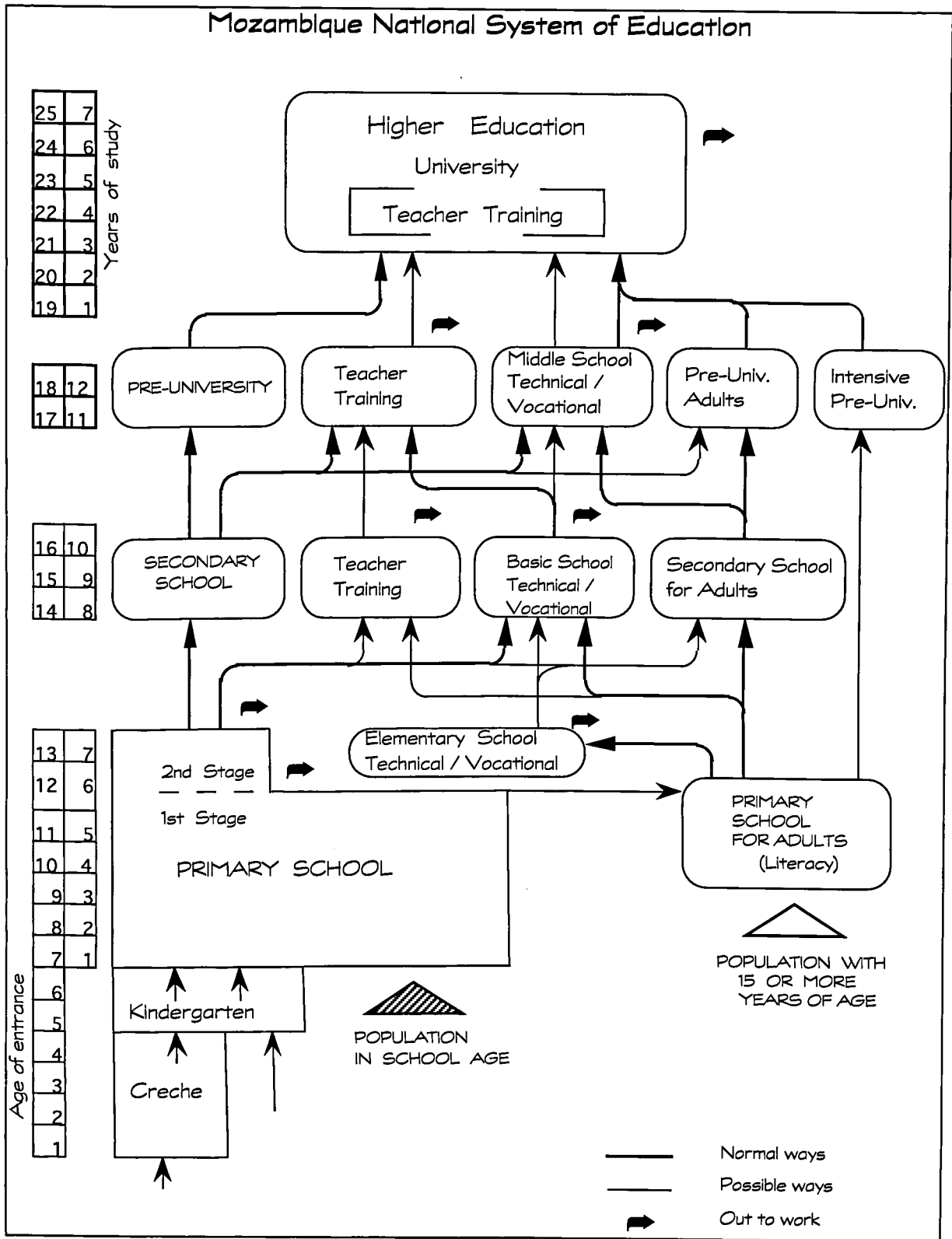


Figure 1.2- Mozambique National System of Education
 Source: Ministério da Educação, 1985

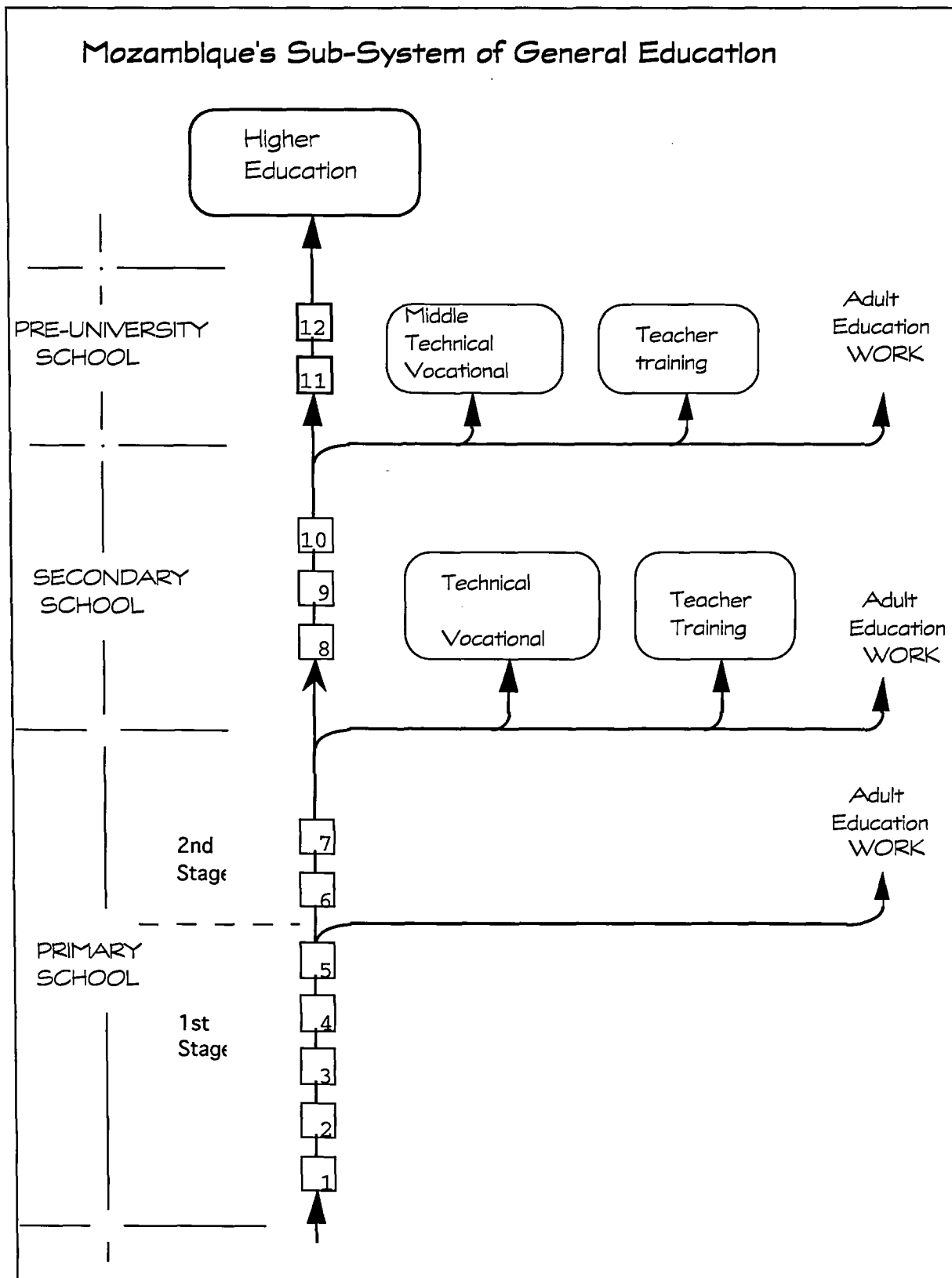


Figure 1.3 - Mozambique's Sub-system of General Education
 Source: Ministério da Educação, 1985

2. The Evolution of Higher Education in Mozambique: An Historical Note

The growth of Mozambican higher education can be divided into six different major periods: 1962-68, the founding of the first school of higher education; 1968-75, the transformation into an university and the expansion of courses; 1975-1980, the university transformation; 1980-1986, a rise in the population and the reform of curriculum; 1986-1990, new institutions of higher education; 1990-present, the crisis and the challenge.

2.1 1962- 1968: The founding of first school of higher education

There was no institution of higher education until the 21st of August 1962 when the first school of higher education was introduced and called 'Estudos Gerais Universitários de Moçambique' (in translation, 'General University Studies of Mozambique'). The objective of this institution was to provide a basic introduction, teaching only the foundational element of some courses.

The appearance of this institution in Mozambique occurred at the same time as the Mozambique Liberation Front (FRELIMO) was founded. During this period, the armed struggle was developing and there was an increase in protests against the Portuguese colonial system.

The subject areas approved for study at that time were: Pedagogical Sciences, Medicine and Surgery, Civil Engineering, Mining Engineering, Mechanical Engineering, Electrical Engineering, Chemical Engineering, Agronomy, Forestry and Veterinary Sciences.

Later, the following subject areas were added: Teacher Training courses for grade 8 and 11 (1965), Theoretical Mathematics, Applied Mathematics, Physics, Chemistry, Biology (1967), and Geology (1968).

2.2 1968-1975: Transformation into a University and the Expansion of Courses

The development of this institution meant that in December 1968, the General Studies Institute became a University - the University of Lourenço Marques - the name of the capital city at that time.

After 1968, the following courses were established: Romance Philology, History, Geography, Economics, Metallurgical Engineering and Mathematics.

With the establishment of some of the above courses and the integration of Romance Philology, History and Geography into the Faculty of Arts, courses such as Theoretical Mathematics, Applied Mathematics and Teacher Training were eliminated.

The community at the University reflected its social composition, the social and ethnic discrimination, and the disparity which characterised colonial society. That is, the Portuguese were favoured and privileged; indigenous Mozambicans much less so.

2.3 1975-1980: University Transformation

With National Independence in 1975, it became possible for the University to structure itself according to new political and social dynamics, accompanying the country's transformations as they unfolded. As a result, a gradual process of change in curriculum structure and content took place, and new courses were opened (Law, Educational Sciences and Forestry Engineering) and the university has expanded considerably.

In 1976, in honour of the first President of the Mozambique Liberation Front (FRELIMO) who was assassinated during the armed struggle, the University was renamed University 'Eduardo Mondlane' (UEM). This title has continued to the present.

The year 1976 was noticeable for a considerable drop in the number of students at the University. From a student body numbering 2,433 in 1975 it was reduced to 877 in 1976, and dropped further until 1980 when it started to increase again (see

Graph 1.1 on pg. 42). A similar situation occurred at the secondary level of education. At the end of 1976, there were no more than 600 students in the last two years of the secondary school throughout the country. This was mainly due to the massive exodus of Portuguese and a few Mozambicans to Portugal, immediately after Independence.

The University played an important role in a process of intensive and rapid education of qualified persons to fill the gaps left by the Portuguese who were leaving the country in large numbers.

On the other hand, the economic and social development of the country also made it necessary for the University to take an active part in the accelerated training of teachers at various levels of secondary education throughout the curriculum. An emergency programme was devised commencing with the training of teachers for the 5th and 6th grades and later extended to the 7th, 8th and 9th grades.

Also in 1976, due to a lack of teachers at the pre-university level, the UEM created the Faculty of Preparatory Courses which prepared students for later enrolment in university courses. This programme lasted until 1980.

In 1979, the reduced number of students from secondary schools and the growing need to train teachers for secondary education compelled the University to stop offering some courses. According to the priorities established by the government, courses such as Biology, Geographic Engineering, Chemistry, Physics, Geology, Mathematics, Geography, History, Modern Languages, and Educational Sciences were temporarily closed. Also in 1979, the University ran a course on Management for people who were dealing with companies but had no relevant training or expertise.

During this period, three institutions of a scientific nature were integrated into the UEM, namely the Historical Archive of Mozambique, an institution devoted to the collection, treatment, conservation and display of historical documentation, supporting research with printed collections, cartographic, iconographics and sound recordings, the Natural History Museum and the Institute of Scientific Research which play an important role in the collection, preservation and display of objects, and provides a service for teaching and research.

2.4 1980-1986: A Rise in the Population and the Reform of Curricula

The Mozambican University was modelled on the Portuguese University system. In 1983, the University engaged in a process of moving from a position of strong dependency on colonialist models towards the development of models better suited the political and economic structures within which the country operated. It was considered that the University should Africanize its curricula, and its students should acquire at least some basic knowledge about indigenous Mozambican society. There was also pressure to teach subjects relevant to the economic development needs of the country.

In 1985 a curriculum reform was implemented that caused existing courses to be restructured. As a result, the three and four year baccalaureates ('Bacharelato') were made into five year degrees ('Licenciatura') with the exception of medicine with its seven year degree structure ('Licenciatura'). The 'Licenciatura' degree is of a standard inbetween a B.A./B.Sc. degree and an international Ph.D degree, but is lower than the standard of a Masters degree.

2.5 1986-1990: New Institutions of Higher Education

As soon as the number of students finishing secondary school started to increase, (see pg.21) there was a need to create new institutions of higher education because one University could not receive all the graduates from all the secondary schools of the country. New institutions of higher education appeared in 1986 and 1987, being respectively the Institute for Advanced Pedagogical Training (ISP) and the Institute of International Relations (ISRI). Recently two private institutions have been formed: the Catholic University of Mozambique, and the Politechnics and University Institute (ISPU).

However, the University still receives the largest number of students since the other institutions are very much orientated to a particular profession. The majority of the students attending courses in these other Institutes are already committed to working in a profession, for example, in schools (as teachers or administrators) in the case of the Institute for Advanced Pedagogical Training, and in foreign offices in the case of the Institute of International Relations).

Because of the big increase in the number of applicants and enrolments the University was persuaded to limit the number of entrants due to the shortage of equipment, teachers and other structural limitations. This entailed being more selective and competitive, as well as keeping to a quota established for each course.

2.6 1990-Present: The Crisis and The Challenge

Starting in 1990, a period of anxiety about the future of higher education ensued. It was also a period of crises in the economy of the country which obviously affected the University.

Attracting and retaining qualified and experienced staff became the biggest problem for the Mozambican University. UEM for example, witnessed the departure of its best teachers and researchers or their recourse to second and third occupations to supplement below subsistence incomes. The University was left with young, inexperienced and insufficient trained staff. This is particularly serious when one considers that such departures occur in those subjects which have been top priority, as it is the case of Engineering and Economics.

As the desire for higher education exceeds the possibilities of accommodation by the Mozambican system, it has forced the implementation of some selectivity on admissions through a competitive entrance examination. However, selection policies to achieve the right balance considering quality and representativeness were not easy to implement.

Some factors inhibit the development of research, and the most notable of these have to do with problems related to the teaching staff and to equipment that is available. The numerical shortage, both in quantitative and qualitative terms, of the Mozambican teaching staff has a consequence on the capacity to perform research. The lack of adequate equipment constitutes a serious obstacle to the development of research in areas like Agronomy, Engineering and Sciences. The investment in equipment for research has been very limited and even those resources made available in the last few years through projects of a larger scale have only allowed equipment of essentially a didactic nature.

The technical and administrative staff possess educational and training levels which are below those necessary for the adequate performance of their functions. The number of technicians with university training is almost nil, 3% have schooling beyond grade 9, and the majority of the staff (70%), have not proceeded past the 6th grade.

As a result of the low educational levels of university employees, the teaching staff spend a great deal of their time employed in tasks which would normally be conducted by technicians and other support staff.

These difficulties faced by the University in fulfilling its role compelled the UEM to define a global strategy to address all the above mentioned problems up to the year 2000. By doing this, the University was prepared to try to perform its functions more efficiently. This strategy was submitted to the government and to national and international organisations which have supported or might support the University in the future. (This strategy will be discussed in the following section)

3. The 'Eduardo Mondlane University' (UEM)

3.1 Major Issues Faced After the Independence

As previously stated, the Eduardo Mondlane University (UEM) was created in 1976, one year after national Independence, in honour of the first President of the Mozambique Liberation Front (FRELIMO) who was assassinated during the armed struggle.

Three goals were explicitly defined for the university by the newly independent government: (1) to provide skilled human resources for national development, (2) undertake research that contributes to the amelioration of problems affecting Mozambican society, and (3) disseminate university knowledge and experience to the benefit of the national community. A final objective, explicit in UEM admission policies, has been to create a diverse and representative student body that reflects the regional, cultural and gender composition of the nation.

Since Independence, the University has sought to evolve by developing a system of education that responds more and more to the practical necessities of Mozambique. As a result, various steps were taken to insure that the University's transformation in this regard was progressive. These steps include, the renewal of infrastructures and the democratisation of the structure of the University; a gradual change in existing course curriculum; and the introduction of a variety of legislation-establishing rules relating to the administration, organisation and structure of the University.

The departure of many Portuguese families from Mozambique after Independence resulted in a significant decrease in enrolment at the University between 1975 and 1978 (68%) and the drastic reduction in the number of secondary school teachers, without any possibility of replacing them in a short period of time. The shortage of secondary school teachers meant a lack of students ready for higher education.

The University played an important role during this 1975-1978 period. It took an active part in the accelerated training of teachers for the various levels of secondary education; participated in the training of students for entry into university courses; provided courses for unskilled managers of companies, and later, in 1983, the University prepared former combatants of the armed struggle and mature-age workers under a special programme so that they could pursue university courses. Students came into this programme at the primary school graduate level (6th grade) and, within three years, they had the equivalent level for further undergraduate entry to the University.

UEM has made remarkable progress in its efforts to become a national institution of higher learning. The number of indigenous teaching staff has risen from 5 in 1975 to 380 (in full-time regime) and 172 (in part-time regime) in 1996. The number of students has now reached 5200. Of this total, 24% are female, and a representation of students from all provinces of the country is evident. Significant number of mature-age students (30%) are also enrolled, who for various reasons did not have a chance to study when younger (UEM Annual Report 1995-96). In 1985, curricula were also revised to incorporate the national context and national interests.

In the mid-eighties, some necessary readjustments were made to the University. A curriculum reform (with more emphasis on the Mozambican context, and responding to the demands of the country) was implemented; this enabled the existing courses to be restructured. In the meantime, the number of students applying to the university started to increase, and those courses (e.g. Biology, Chemistry, Geology, Physics, Geography, History, Linguistics and Maths) which had been closed were gradually reopened, and in 1986, a course in Architecture and Physical Planning was established.

The UEM currently offers 21 courses for its 'licenciatura' degree (see pg. 29). The UEM does not yet offer graduate studies at the master or doctoral level. This is because a sufficiently qualified and stable staff has yet to be established and the material infrastructure necessary to bring about this kind of training is also lacking. Mozambicans who have reached this level of professional development have been required to receive their training in universities abroad, especially in Europe and the United States.

3.2 UEM's Administrative Structure

The 'Eduardo Mondlane' University has two main Consultative Councils: the University Council and the Academic Council. The Rector and Vice-Rectors are appointed by the State President on the recommendation of the University Council.

The Rector and Vice-Rectors are assisted in their task by a number of Central Offices which perform mainly administrative functions in different areas: pedagogic, academic registration, research, public relations, planning, and the administration of human, physical and material resources (see Figure 1.4).

The University Council is chaired by the Rector and includes the two Vice-Rectors, Directors of the Central Offices, Deans of Faculty, Directors of Centres and Museums, and the Students' representative. The University Council ordinarily meets twice a year and extraordinarily whenever the Rector deems it necessary. It has the overall responsibility for: recommending to the State President names for the Rector's and the Vice-Rector's post; instituting or rationalising university courses; approving the annual academic and financial plans as well as the long

term plans; examining the annual accounts; recommending after consultation with the Academic Council adjustments to UEM's Statutes; approving regulations and policies resulting from the Statutes; deciding on fundamental matters regarding the University's patrimony; appointing leaders for specific initiatives and appointing sub-commissions of the University's Council; and electing the president of the Council.

The Academic Council is chaired by the Rector and includes the two Vice-Rectors. It also incorporates representatives of different areas of expertise. The Academic Council like the University Council meets twice a year and extraordinarily whenever the Rector deems it necessary. This Council has the power and duty to: prepare an annual academic plan; encourage and promote research; be responsible for academic policy, the regulation and quality of courses, teaching and examinations; stimulate inter-faculty developments; determine policy and regulate the admission of students; recommend to the University Council the conferment of degrees; prepare, approve, and recommend academic plans and budgets; analyse postgraduate plans (doctoral); formulate and recommend reorganisation of academic departments and Faculties; make academic regulations; comment on and make recommendations to the University Council on proposed changes to UEM's Statutes; appoint committees and delegate certain of its functions to other committees or individuals; carry out any other function authorised by the University Council.

The Offices which report directly to the Rector (see figure 1.5) are the Rector's Office, the Planning Office, and the Public Relations Office. Also reporting directly to the Rector are the two Vice-Rectors (Academic Vice-Rector and the Resources and Administration Vice-Rector).

The Academic Vice Rector is in charge of the following departments: Academic Directorate, Academic Registry Directorate, Scientific Directorate, and the Documentation Services Directorate. (see figure 1.6).

The Vice-Rector for Resources and Administration is in charge of the following departments: Physical Resources Office, Human Resources Directorate, Social Services Directorate, University Press and the Assets and Material Resources Administration Directorate. (see figure 1.7)

In the 'Eduardo Mondlane' University, Faculties report to the Rector and are divided into departments which provide the courses. Departments are academic units whose role is: planning, organisation, coordination, the control of teaching, research and extension activity, teaching all the disciplines by internal faculty courses (and also providing courses in other Faculties where that discipline exists).

The Faculties and Departments at the University in Maputo are as follows:

- **Faculty of Agriculture and Forestry**
 - . Department of Production and Vegetable Protection
 - . Department of Rural Engineering
 - . Department of Forestry
- **Faculty of Architecture and Physical Planning**
- **Faculty of Arts**
 - . Department of Geography
 - . Department of History
 - . Department of Linguistics
- **Faculty of Economics**
- **Faculty of Engineering**
 - . Department of Civil Engineering
 - . Department of Chemical Engineering
 - . Department of Electronic Engineering
 - . Department of Mechanical Engineering
- **Faculty of Law**
- **Faculty of Medicine**
- **Faculty of Science**
 - . Department of Biology
 - . Department of Chemistry
 - . Department of Computer Sciences
 - . Department of Geology
 - . Department of Physics
- **Faculty of Veterinary Medicine**
- **UFICS (Unit for Training and Research in Social Sciences)**

UEM has Centres which are linked to the Faculties. Examples of these Centres are the Centre for Habitat Studies and Development which is linked to the Faculty of Architecture and Physical Planning; the Centre for Engineering Studies linked to the Faculty of Engineering; and the Centre of Studies of Population linked to the Faculty of Arts.

Also reporting directly to the Rector are the Historic Archive of Mozambique, Museums (the Natural History Museum, the National Currency Museum, and the Maputo Fortress), and Centres (the Centre of African Studies, the Electronic and Instrumentation Centre, the Computer Centre).

UEM's Administrative Structure

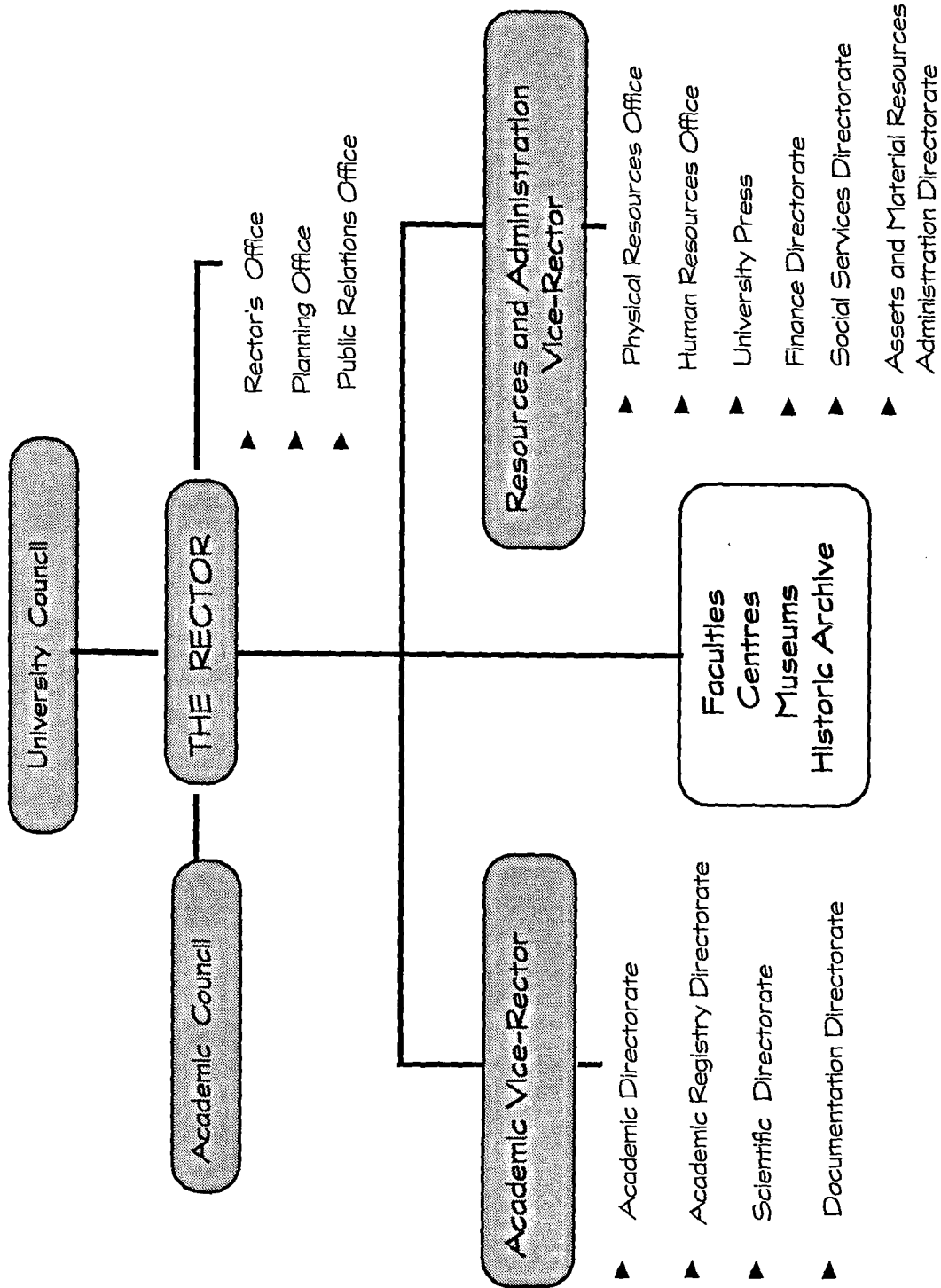


Figure 1.4 - UEM's Administrative Structure

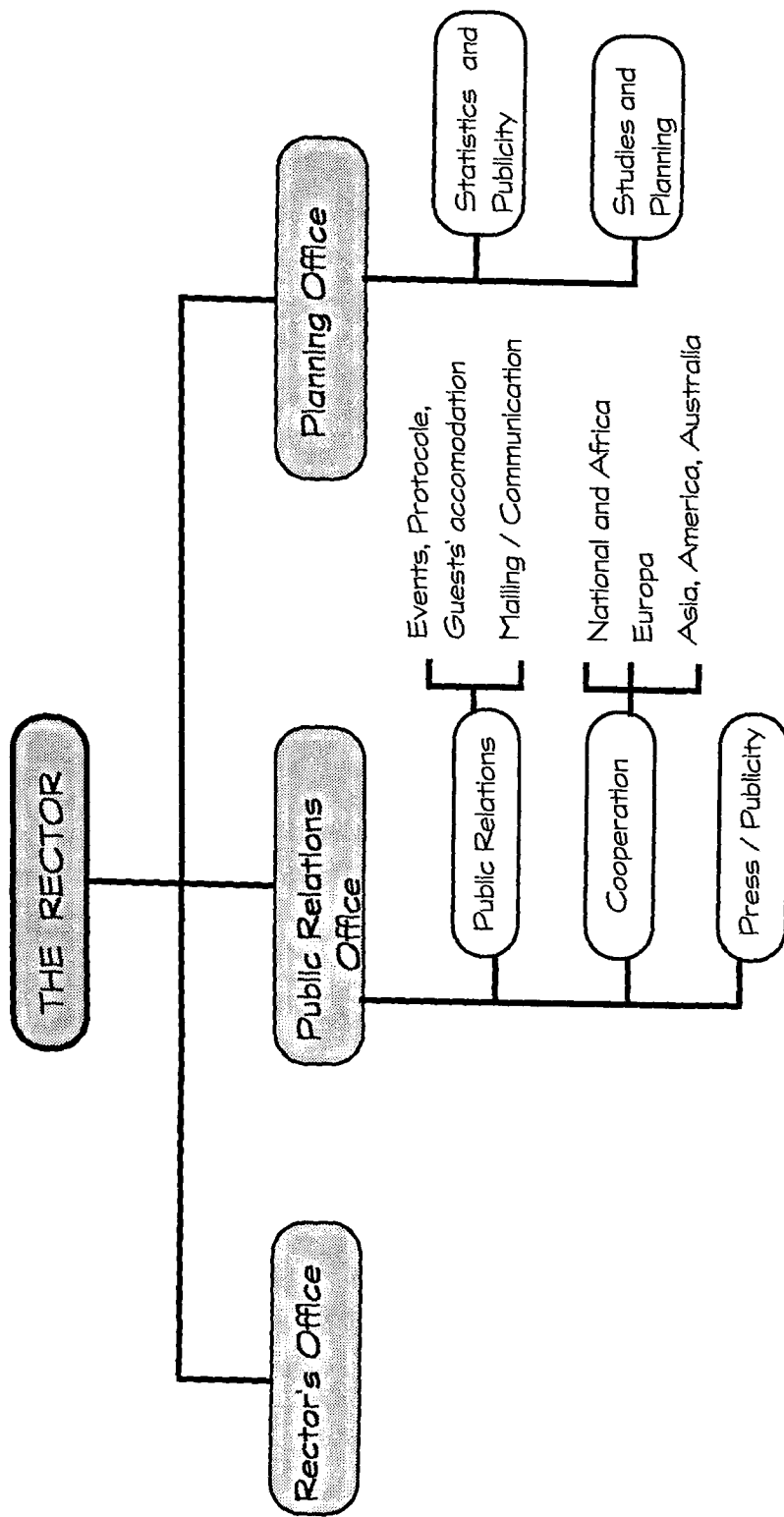


Figure 1.5- Offices which report directly to the Rector

Academic Vice-Rector's Structure

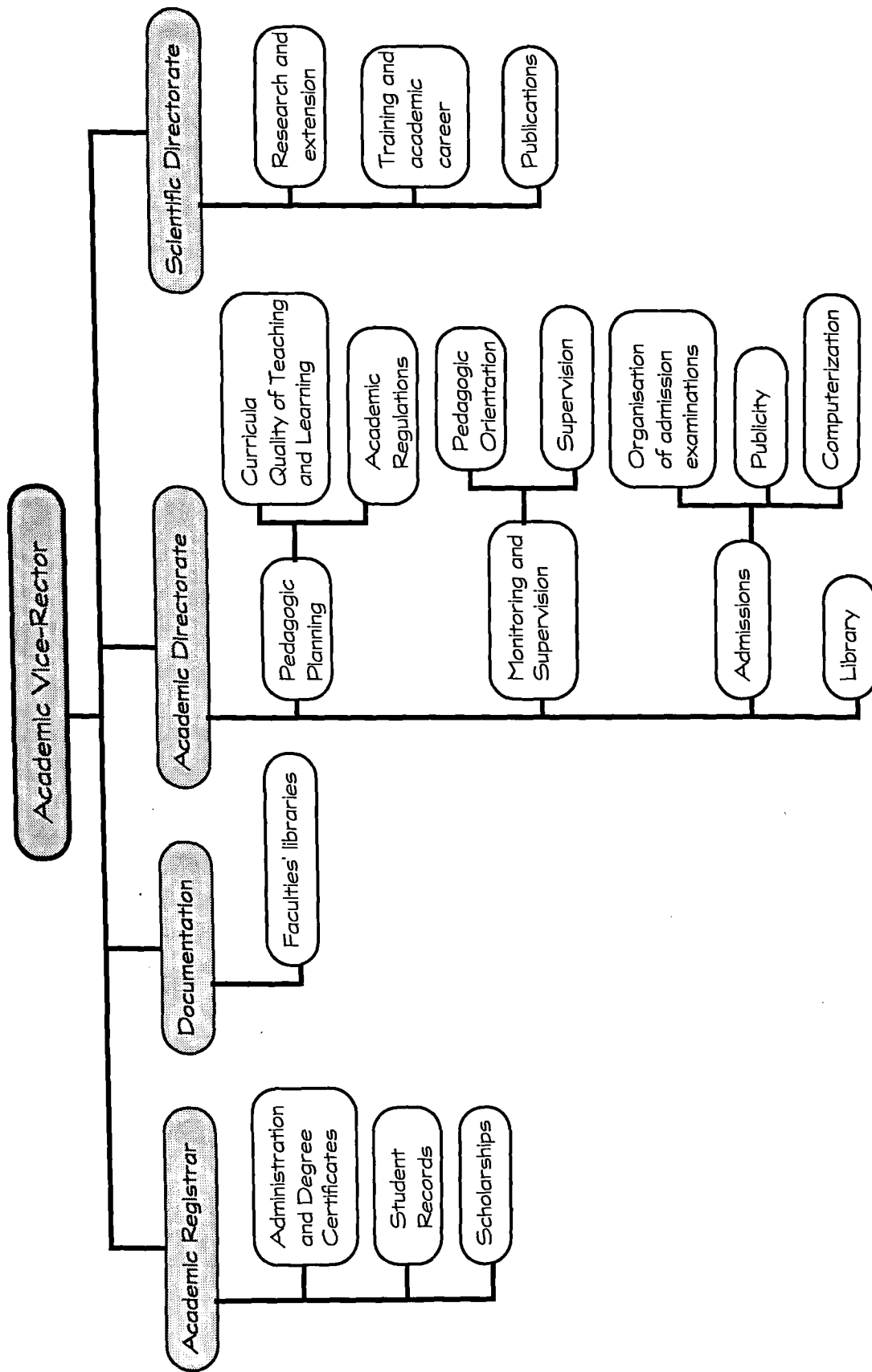


Figure 1.6 - Academic Vice-Rector's Structure

Resources and Administration Vice-Rector's Structure

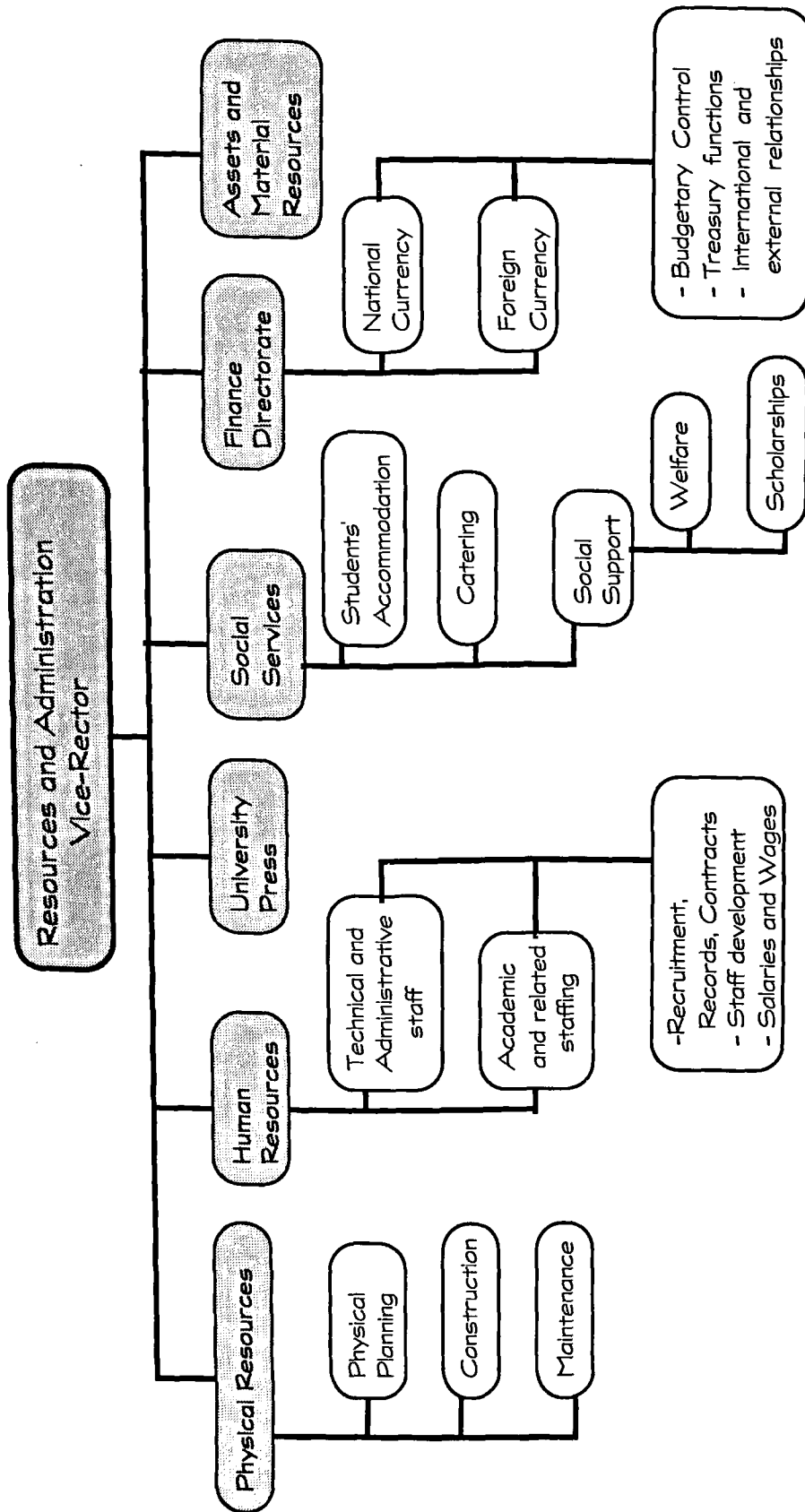


Figure 1.7 - Resources and Administration Vice-Rector's Structure

3.3 Teaching Staff Profile

The number of Mozambican teaching staff in UEM has increased systematically since 1975, reaching 80% in 1996 (UEM Annual Report 1995-1996). This growth is the result of efforts made to employ nationals who wish to pursue academic careers. Although the increase in Mozambican staff is significant, it is not yet numerically sufficient, since one third of all staff are still foreign nationals.

Aside from being limited in number, the Mozambican teaching staff currently appear to be insufficiently qualified. Of the academic level of the staff working in a full-time regime (a total of 380 in 1996), the majority (68%) hold a degree of 'Licenciatura', 22% have a Master degree, 9% have reached the Doctoral level, and 1% have a 'Bachelor' level degree. The number of 'licenciatura' and 'bachelor' holders is decreasing in favour of masters and doctoral degrees. Currently, 23% from those full-time teachers are pursuing Master's and Doctoral degree in foreign universities (UEM Annual Report 1995-1996).

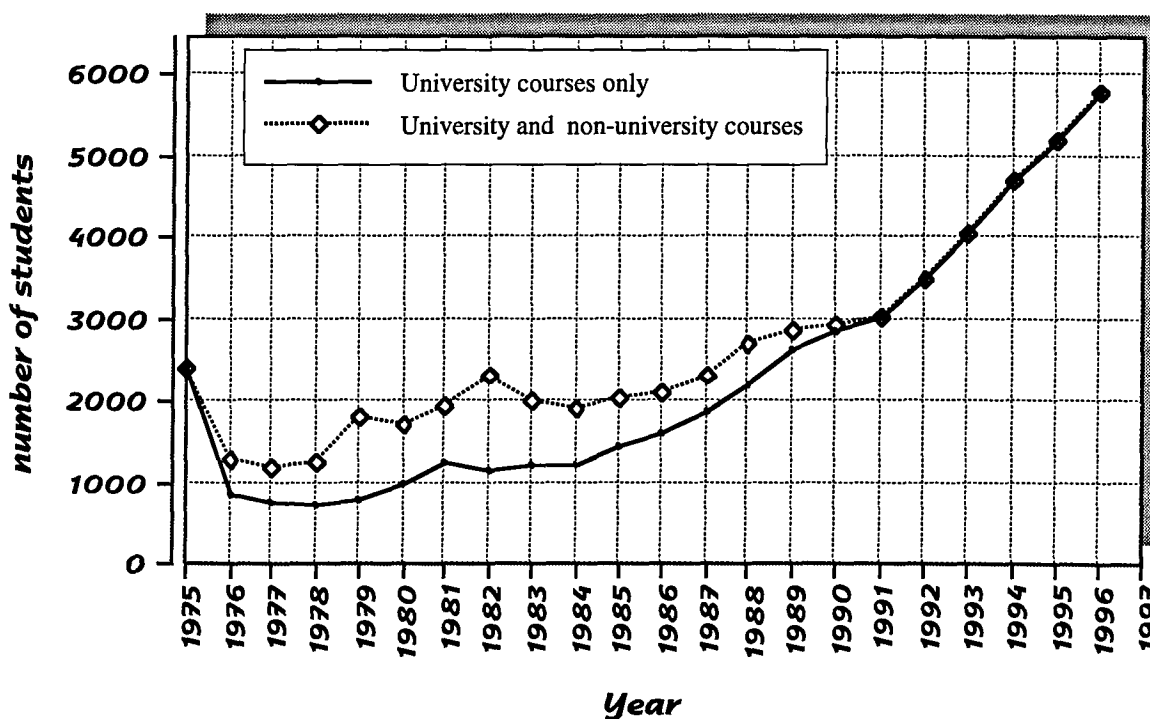
3.4 The Current Situation of UEM - Problems and Constraints

In spite of considerable progress made since Independence, UEM like other Universities of Sub-Saharan Africa, is presently facing numerous difficulties, inhibiting the University's ability to perform effectively and efficiently (Saint, 1992). The problems which have emerged are concerned with:

- a) the enrolments which are increasing faster than the capacity to plan for and respond to this growth. The result is overcrowding, a shortage of teaching materials and laboratories, deterioration of physical facilities, a strain on administrative systems, and reduced performance by staff and students;
- b) current patterns of higher education expenditure are unsustainable in a struggling Mozambican economy;
- c) enrolment and reduced funding have produced a general agreement that education standards are declining;
- d) the economic and cultural relevance of the University to national needs is a growing concern for both central government and citizens.

University enrolment grew by 107 percent between 1975 and 1996, rising from 2433 to 5200 students (see graph 1.1). Many people in Mozambique wish to acquire a higher education. This is largely due to successful efforts to make higher education accessible to all classes of the population, including those who, due to their families' occupation, education or income, formerly had little chance to obtain higher education. The demand will continue to grow in the immediate future, but the University cannot continue to absorb more than at present. Limitations on the number of entrants are currently enforced as a result of a shortage of equipment, teachers, and the physical capacity of the University, which remain almost as it was at the time of Independence.

**Graph 1.1 - UEM student population
1975 - 1996**



Source: UEM's Academic Registration Department

To secure the expansion of higher education in Mozambique, additional effort toward the further development of the higher education system will still be necessary in order to meet future demands. This effort requires increased effectiveness in teaching and learning, in use of available material and human resources, and in increased efficiency.

Higher education expenditure is unsustainable. The crisis in the economy of Mozambique affects higher education. More systematic attention to national capacity-building was given by the government in 1989, with the intention of doubling higher education's share of the overall education budget (comprising both recurrent and investment allocations) from 8.6% to 17.9% over the coming decade. In practice, this commitment has been honoured in excess, with higher education receiving around 21% of the education budget in 1990. However, this percentage is still far from enough to cover the growth in student demand and the needed expansion in human and material resources.

Educational quality, perhaps the most important aspect of any higher education system, is declining in Mozambique due to: a rapid expansion of the population; admission of students inadequately prepared for university programmes often with large gaps in their knowledge of essential subjects; teachers not well remunerated with a discrepancy between the salaries and working conditions offered by the university and those offered by the public and private business sector. The consequence of this gap is the migration of existing teachers to other professions, and difficulties in recruiting new staff. Teachers are forced to seek supplementary employment outside the University leaving them with less time for preparation and research; shortage of equipment and facilities (buildings, libraries, etc.) that confront students; and poor living conditions of the students in terms of housing, food and transport. Many students find themselves living in overcrowded conditions, with a poor diet and with no transport at all.

The relevance of University to national needs is a growing concern for both central government and citizens. In spite of the efforts that have been made by UEM to stimulate research, and in spite of the support contributed by other countries and international organisations, there are factors which inhibit the development of research. The most notable of these has to do with problems related to the quality of teaching staff and to the state of the equipment that is available.

Given all the difficulties encountered by the University in fulfilling its role in educating students, in the development of research activities, and in the extension

and consulting services, UEM decided to define a global strategy to address these difficulties.

In 1990, the leadership at Eduardo Mondlane University in Mozambique initiated an internal study of challenges faced by the institution in an effort to design a strategy for its stabilisation and development. The study sought to update and explain the University's mission to the Mozambican government at a time when economic policy and political chances were creating a new operating environment in Mozambique. The study responded to considerable donor assistance that was being given to the University by the World Bank without an institutional plan to guide its application.

A process of appraisal took place involving (1) internal discussions, (2) the establishment of working groups to address key issues, (3) careful prior discussion and agreement with the government on the overall financial implications of the plan, and on the concept of the greater autonomy that it proposed, and (4) a two-day consultative meeting with government, donors and private sector representatives at which the plan was presented and discussed.

This plan has generated numerous benefits for the university. It created a more open and supportive working environment based on an internal and external consensus. The plan itself has become an extensively used resource document for fund-raising purposes. The plan's proposal for more flexible donor funding produced some positive responses, and the University is now strengthening its accountability mechanisms (Commonwealth Secretariat, 1992). Finally, the study laid the foundation for a World Bank credit which will provide needed investment for institutional rehabilitation and development.

3.5 The Capacity Building Project

Mozambique Government officials, the World Bank, and donor representatives agreed during the December 1990 Consultative Group meeting in Paris that a major new initiative to build capacity was essential to ensure the successful implementation of the Economic and Social Recovery Program (ESRP), the realisation of the Priority Districts Program and the fight against poverty. To this

end, it was agreed that the World Bank, working in partnership with the Swedish International Development Authority (SIDA), would assist the Mozambican Government in developing a framework for analysing the existing capacity problems in Mozambique and propose measures to expand capacity in both the short and long term.

In addition, it was agreed that the Bank and SIDA would collaborate with the Government in a Capacity Building Sector Study that would go beyond the Framework Paper by examining in great depth the current lack of capacity, especially in Government; pinpointing the major constraints to increasing such capacity; and identifying a series of priority actions to overcome these constraints. The overall objective of the study was to formulate practical options and recommendations for improving Mozambique's capacity to plan and manage development activities, with an emphasis on increasing the number of local skilled personnel in the civil service.

The issues to be addressed at the UEM are the high undergraduate drop-out rate, the country's need for university graduates, and educational standards and quality. Student intake at Eduardo Mondlane University (UEM) has recently increased to 800 per year but because of poor student performance, the University has graduated only approximately 150 students annually. The most serious constraints to increasing the output of graduates include the shortage of qualified secondary school candidates to enter UEM, an insufficient number of qualified national teaching staff, scarcity of textbooks, library resources and laboratory equipment, and limited physical facilities.

While the cost of university education is relatively high when technical assistance is included, the quality of learning remains low. Only half of the students who enrol at UEM actually graduate, and most of these take 20-40% longer to do so than is normally necessary.

Staff recruitment and retention are other issues to be addressed. In recent years, opportunities in the private sector have begun to draw academics away from UEM, especially in economics and engineering. UEM salaries are significantly less than what comparable professionals can earn in the private sector.

3.6 Prospects For The Future - Aims and Ambitions

Possibilities for future economic growth and social development in Mozambique are heavily conditioned by its presently limited capacity to produce technically qualified and professionally capable individuals, and to use their talents effectively within public and private institutions in all parts of the country.

The strategy for UEM stabilisation and development presented and discussed in May 1991 covers various aspects related to the challenges that the institution faces to guarantee the quality of graduates that Mozambican society needs. The general objectives of this strategy are: (UEM: Present and Perspectives, 1991)

- a) to stabilise the institution by mitigating the crisis which has affected the Mozambican faculty, and some sectors of the technical and administrative staff;
- b) to improve the University's ability to respond to society's needs, the quality of its graduates, applied research, extension and consulting services;
- c) to increase the productivity of the institution by increasing the total number of students, and by significantly increasing the annual number of its graduates;
- d) to put forth a scholarship policy that preserves the characteristics of UEM as a national university. By promoting the enrolment of students from all parts of the country, the university can make a great contribution to national unity;
- e) to promote the improvement in the quality of life of students in regard to their housing, meals and transportation;
- f) to make the learning-teaching process more efficient by accelerating the process of graduate studies for the Mozambican staff;
- g) to accelerate the development of Faculties whose programmes are of fundamental importance to national socio-economic development;
- h) to guarantee the conditions necessary for the normal operation and development of other institutions integrated in the University;
- i) to improve internal management;
- j) to create conditions that relate to subsequent sustainable and balanced development.

4. Summary

Mozambique, a country situated in south east coast of Africa, was colonised by Portugal for five hundred years. After gaining Independence in 1975, Mozambique, like many other newly-independent African countries, has been involved in the difficult process of fundamentally reordering and restructuring national goals, values, priorities and practices.

A general characterisation of the country was presented in this chapter with background information on historical, social, political and economic issues. Education has been used as a tool for the transformation of society in the social, political and economic sectors to try to build a classless socialist society based on equality and democratic principles. Therefore, the implementation of a new educational system in 1983, moving from a Portuguese model towards a model better suiting the political, social and economic structures and culture of Mozambique was considered.

In this chapter, particular emphasis was given to higher education in Mozambique and to the University Eduardo Mondlane (UEM) - the main Mozambican institution of higher education. Since Independence, the University has been structured according to new political and social dynamics. There has been a gradual process of change in the University curricula, infrastructure and content, and there has also been pressure to teach subjects relevant to the development needs of the country.

Limitations in access to education for Mozambicans and an elitist education resulted in a minimal number of students at the University (as well as a lack of teachers) immediately after Independence, compelling the University to close some courses. Currently, the number of students completing the secondary schooling has risen to such proportions that the University has to limit the number of entrants due to the shortage of equipment, teachers and limitations in physical capacity.

In spite of considerable progress made since Independence, UEM is presently facing numerous difficulties, inhibiting the University's ability to perform effectively

and efficiently. The problems which have emerged are concerned with: (a) the increase of University enrolments which are not synchronised with the capacity of its management systems to adjust to this growth; (b) University expenditure is unsustainable in the current Mozambican economy; (c) declining education standards, and (d) the relevance of University to national needs is a growing concern for both central government and citizens.

In 1990, Mozambique Government officials, the World Bank, and donor representatives agreed that a major new initiative to build capacity was essential to ensure the successful implementation of the Economic and Social Recovery Program (ESRP), the realisation of the Priority Districts Program and the fight against poverty. Following this Capacity Building initiative, the University (UEM) began to take the lead in confronting its own problems and managing its relations with its donors. In May 1991, a consultative meeting was organised, at which the UEM presented to donors, Mozambicans drawn from a wide range of Government, academic, and private sector organisations, a well-conceived institutional stabilisation plan for the coming decade. The general objectives of this strategic plan were presented in this opening chapter.

The thesis now moves on to consider key aspects of modern management in higher education that are particularly relevant to progress and development in Mozambique. The next chapter considers Total Quality Management as a modern foundational approach to University Management that is relevant to 'Eduardo Mondlane' University.

CHAPTER 2

Total Quality Management ***(TQM)***

Chapter 2

Total Quality Management (TQM)

Introduction

How to manage for quality? This is one of the most important contemporary challenges faced by schools, colleges and universities. The aim of this chapter is to introduce the origin, concept and philosophy of Total Quality Management (TQM) and to determine whether it can be successfully applied to an educational context. Later in the thesis, some of the relevant ideas about TQM will be related to 'Eduardo Mondlane' University (UEM).

Theorists like Edwards Deming, Joseph Juran, and Philip Crosby provided some of the major contributions to the quality movement. Aspects of each contribution will be analysed, particularly the 14 points for management of Deming, the 85/15 rule of Juran, and the notion of zero defects of Crosby.

Because the origins of TQM are in business, and in particular in manufacturing, to understand the concept of TQM it is necessary to understand the 'hierarchy of quality' concept and the difference between other important quality ideas such as Quality Control (QC) and Quality Assurance (QA). The concern of 'quality' in manufacturing has recently influenced education. In adapting quality management for education, it is important to keep in mind certain differences between education and business. The key ideas behind TQM in education are discussed in this chapter as is the transportation of such business language into the education environment.

Finally, there is a discussion of how to implement a TQM programme as well as the most common problems associated with its adoption. The reasons for potential failure are also examined.

1. The Origins, Concept and Philosophy of TQM

Notions of quality improvement and quality assurance began to emerge after the Second World War. However, in Britain and the USA, these concepts only began

to attract attention on a large scale in the 1980s as companies started to ask questions about the superiority of the Japanese in gaining an increasing share of world markets.

There have been many 'Quality Theorists' who have contributed to, and promoted 'Quality Management'; among these are Frederick W. Taylor, Henri Fayol, Walter A. Shewhart, Joseph Juran, Peter Drucker, Philip B. Crosby, Kaoru Ishikawa, and W. Edwards Deming. Deming, an American statistician with a PhD in Physics, is probably the best known. Although Japan had been operating with his ideas since 1950, his influence as a management theorist has only recently occurred in the West.

Deming's contribution to the quality movement has been so great that it is difficult to discuss quality without recourse to his thinking. He began formulating his ideas in the 1930s while working on methods of removing variability and waste from industrial processes. He started work at Western Electric's legendary Hawthorne plant in Chicago, a company with 40,000 employees manufacturing telephone equipment. It was there that Deming met Joseph Juran, another main American contributor to the Japanese quality revolution. Later on, Deming moved to work at the US Department of Agriculture, and there he was introduced to Walter Shewhart, a statistician from the Bell Laboratories in New York. Shewhart had developed a series of techniques to bring industrial processes into what he called statistical control (Sallis, 1993). These techniques consisted of removing the sources of variability from industrial processes, enabling them to be more predictable and controllable. The aim was to eliminate waste and delay. Deming's initial contribution was to develop and advance the statistical methods of Shewhart. The statistical methods of Shewhart and Deming, now known as Statistical Process Control (SPC), combined with the insights of the human relations movement associated with Mayo and his colleagues, are the theoretical foundations of TQM (Sallis, 1993).

Deming first visited Japan in the late 1940s to work on their post-war census. He returned to Japan in 1950 when the Japanese Union of Scientists and Engineers (JUSE) held a seminar on statistical quality control for managers and engineers and invited him to lecture. Japan was devastated by its defeat in the Second

World War. Practically all of its industries were destroyed, and there was little food, clothing, or housing. Many Japanese people were close to starvation. What was evident was mainly poor quality imitations of other nations' products. The Japanese wanted to learn lessons from other industrialised nations. They wanted to reconstruct their industry.

In Deming's lectures, a clear and simple answer was given to Japan's dilemma. He told them to find out what their customers wanted. Then, knowing that, he suggested that they design their methods of production as well as their products to the highest standards. Deming believed that if this was thoroughly carried out, it would take the average company about five years to establish itself as a market leader (Sallis, 1993).

The quality revolution started in manufacturing and was followed by service industries and by banking and finance. The Japanese developed the ideas of Deming and Juran (who also visited Japan in 1954) into what they called Total Quality Control (TQC) and have subsequently both captured and created a lion's share of many markets. Much of this market's leadership is due to their concern for quality. Their most famous national writer on quality, Kaoru Ishikawa, has described the Japanese approach to TQC as 'a thought revolution in management' (Ishikawa, 1985, pg. 1).

In 1951, Japan established the Deming Prizes. These prizes are the highest awards in Japan relating to Statistical Quality Control and Total Quality Control. There are several Prize categories. Prizes are awarded to a large corporation, a division, a factory and to medium and small companies. There is also a Deming Prize for individuals who have made a considerable contribution to statistical theory. The checklist for the Deming Prize covers the following elements and provides a flavour of quality control (Ishikawa, 1985):

- a) Company's policy and objectives;
- b) its organisational structure;
- c) education in quality control, education of subcontractors, and education in statistical process control;
- d) the use of information, including statistical information;
- e) analysis of statistics and results; standardisation;

- f) control systems;
- g) quality assurance;
- h) quality audits;
- i) the effects of quality improvement, including the environmental impact, delivery dates, serviceability, profit, safety; and
- j) the future plans of the company, including its long-range plans.

After five years of winning the Deming Prize, companies can apply for the Japanese Control Medal, which was established in 1969. Toshiba, Toyota, and Komatsu are Japanese industries that have won this Medal. The impact of these prizes resulted in the establishment of the Malcom Baldrige Award in 1987, which is the American equivalent of the Japanese Deming Prize. The Award is designed to promote a carefulness in achieving quality; understanding of the requirements of quality; and sharing of information on successful strategies and the benefits derived during implementation. A more recent award was launched in Paris during the 1991 European Quality Management Forum's meeting. It is called the European Quality Award. The Award aims to recognise organisations who are playing exceptional attention to total quality, and to encourage others to follow their example. Organisations attempting to win this Award are assessed for: customer satisfaction, employee satisfaction, business performance, and the organisation's impact on society. Compared to the other two Awards, this one places more emphasis on the impact on society, resource utilisation and on business results.

In the 1950s and 1960s, American businesses could sell everything they made in a world desperate for their manufacturing goods. The emphasis of American and most Western manufacturing industries was to maximise output and profit which means that quality may have a lower priority. It is only since the late 1970s that major US companies have started to take the quality message seriously when consumers started to favour Japanese products (Sallis, 1993).

In 1980, a nationwide NBC documentary entitled, '*If Japan Can, Why Can't We?*' highlighted the leadership of Japanese industry in many US markets. Also in this programme, comments were made on the contribution of Deming to the Japanese economic success. Since then, business both in the USA and in western Europe has been inspired by the message of Deming and Juran, together with that of other quality experts including Philip B. Crosby and Armand V. Feigenbaum, although

the reality is that only a minority of companies have fully and seriously implemented TQM. Nevertheless, quality has been put firmly on many agendas (Sallis, 1993). Notwithstanding, there is a long way to go before TQM becomes the norm in, for example, industry and government organisations.

1.1 Deming's Philosophy of Quality

Edwards Deming sees the challenge of quality lying primarily in management. He believes that the main cause of industrial problems is the failure of management. He proposes, in his 14 points of management, a new way of looking at business life and, indeed, life in general.

14 Points for Management (Sallis, 1993)

- 1. Create constancy of purpose for improvement of the product and services, with the aim to become competitive and to stay in business, and to provide jobs.** Deming believes that organisations need to have long-term plans based on a vision for the future and new innovations. They should try to meet the constantly changing needs of their customers.
- 2. Adopt a new philosophy.** Organisations have to make and adopt new ways of working.
- 3. Cease dependence on mass inspection to achieve quality.** Inspection does not improve or guarantee quality. Deming argues that management should provide the staff with training in the statistical tools and techniques necessary for them to monitor and develop their own quality.
- 4. End the practice of awarding business on the basis of price.** For Deming the quality of the final product is dependent on the quality of the inputs. The total quality way is to develop close and long-term relationships with a small number of suppliers, and preferably a single supplier, and to work with them on the quality of components.
- 5. Improve constantly and forever the system of production and service, to improve quality and productivity, and thus constantly decrease costs.** It is the task of management to lead the improvement process and ensure that there is a continual process of improvement in operation.
- 6. Institute training on the job.** The greatest waste in an organisation is a failure to use the talents of its people properly. Training is a powerful tool of quality improvement.

7. **Institute leadership.** Deming says that 'the job of management is not supervision, but leadership'. This means a shift away from traditional management concerns with outcomes (performance indicators, specifications and appraisals) and a movement towards a leadership role which encourages improvements to the process of producing better goods and services.
8. **Drive out fear, so that everyone may work effectively for the company.** Security is the basis on which staff motivation depends. People genuinely want to do a good job providing they work in an environment which encourages them.
9. **Break down the barriers between departments.** People in different departments need to be able to work together as a team.
10. **Eliminate slogans, exhortations, and targets, asking for new levels of productivity without providing the workforce with the methods to do the job better.** Most of the problems in production are systematic and it is the responsibility of management to sort them out.
11. **Eliminate work standards that prescribe numerical quotas.** Quality cannot be measured by concentrating solely on the output of the processes. Working to numerical quotas often leads to cutting corners and to a diminution of quality.
12. **Remove the barriers that rob people of their right to pride in their workmanship.** This requires the abolishing of appraisal and merit ratings. Deming has taken a strong position against appraisal systems which he believes put staff in competition with each other and act against teamwork.
13. **Institute a vigorous programme of education and self-improvement.** When the staff are better educated, they will be in a better position to undertake quality improvements.
14. **Encourage everyone in the company to work to accomplish the transformation.** The transformation to a quality culture is everybody's job. It is also the single most important task of management.

1.2 Juran's Contribution

Joseph Juran also made a remarkable contribution to the Quality Revolution in Japan. He was most known for formulating the phrase 'fitness for use or purpose'. (Sallis, 1993). The idea behind this phrase is that a product or service can meet its specification and yet not be fit for its purpose. The specification may not comply

with what the customer wants. He believes that meeting specifications may be a necessary condition of quality but not a sufficient one. Like Deming, he argues that most quality problems can be traced back to management decisions. He argues that quality problems result from poorly designed processes over which management has 85 per cent of the control; he defines it as the **85/15 rule**. (Sallis, 1993).

Juran developed an approach to assist managers in planning quality which he called Strategic Quality Management (SQM). This is a three-part process based on staff at different levels making their contributions to quality improvement. Thus senior management has the strategic view of the organisation; middle managers take an operational view of quality; while the workforce is responsible for quality control. He emphasises that it is people who produce quality, and that quality is achieved through communication. It begins with quality policies and goals, moves on to plans to meet them and provides resources which enable progress to be evaluated and action taken. Finally, it motivates and stimulates people to believe in, meet the goal, and improve on it. Juran suggested that 'All quality improvement takes place project by project and in no other way' (Juran, 1989, pg. 78).

1.3 Crosby's Contribution

Philip Crosby's contribution has not been deemed as impressive as Deming and Juran, but he brought total quality into popular awareness. His name is associated with the idea that quality is free. Writing about quality, Crosby argued:

"It is not a gift, but it is free. What costs money are all the unquality things - all the actions that involve not doing jobs right the first time." (Crosby, 1979, pg. 1).

A controversial idea also associated with Crosby is the notion of **zero defects**. He argues that errors, failures, waste and delay can be eliminated if the institution has the will. He emphasises that the path to zero-defects is difficult but achievable.

The Crosby's quality programme consists of 14 steps:

- 1 - Management Commitment
- 2 - Setting Up a Quality Improvement Team
- 3 - Quality Measurement

- 4 - The Cost of Quality
- 5 - Building of Quality Awareness
- 6 - Corrective Action
- 7 - Zero Defects Planning
- 8 - Supervisor Training
- 9 - Zero Defects Day
- 10 - Goal Setting
- 11 - Error-Cause Removal
- 12 - Recognition
- 13 - Establishment of Quality Councils
- 14 - Do It Over Again

Crosby emphasises the continuing management of quality, but his fourteen steps to quality improvement have not had the same impact as those of Deming and Juran because they could be considered too doctrinaire and extreme, and not always appropriate to different company's cultures. Nevertheless, the basic messages of conformance, involvement, goal setting, resourcing and recognition are a significant contribution to quality control. (Crosby, 1979).

2. The Hierarchy of Quality Concepts in TQM

As well as providing a definition of quality, it is necessary to understand the difference between important quality ideas - Quality Control , Quality Assurance and Total Quality Management (Sallis, 1993).

Quality Control - QC- is the oldest quality concept. It involves the detection and elimination of components or final products which do not comply with standards. QC is usually carried out by quality controllers or inspectors whereby the product or service, or any part of the process associated with the production or delivery, is checked against a predetermined standard and rejected or recycled if below standard.

Quality Assurance - QA- unlike quality control, quality assurance is a before and during-the-event process. It emphasises the prevention of faults. Quality assurance is about consistently meeting product

specification or getting things 'right first time, every time'. Quality standards are maintained by following the procedures laid down in a QA system.

Total Quality Management - TQM - incorporates Quality Assurance, extending and developing it. TQM is about creating a quality culture where the aim of every member of staff is to delight their customers. It is about providing the customers with what they want, when they want it and how they want it. It means to meet and exceed customer expectations. Since the perceptions and expectations of customers are changeable, organisations have to find ways of keeping close to their customers to be able to respond to their changing tastes, needs and wants.

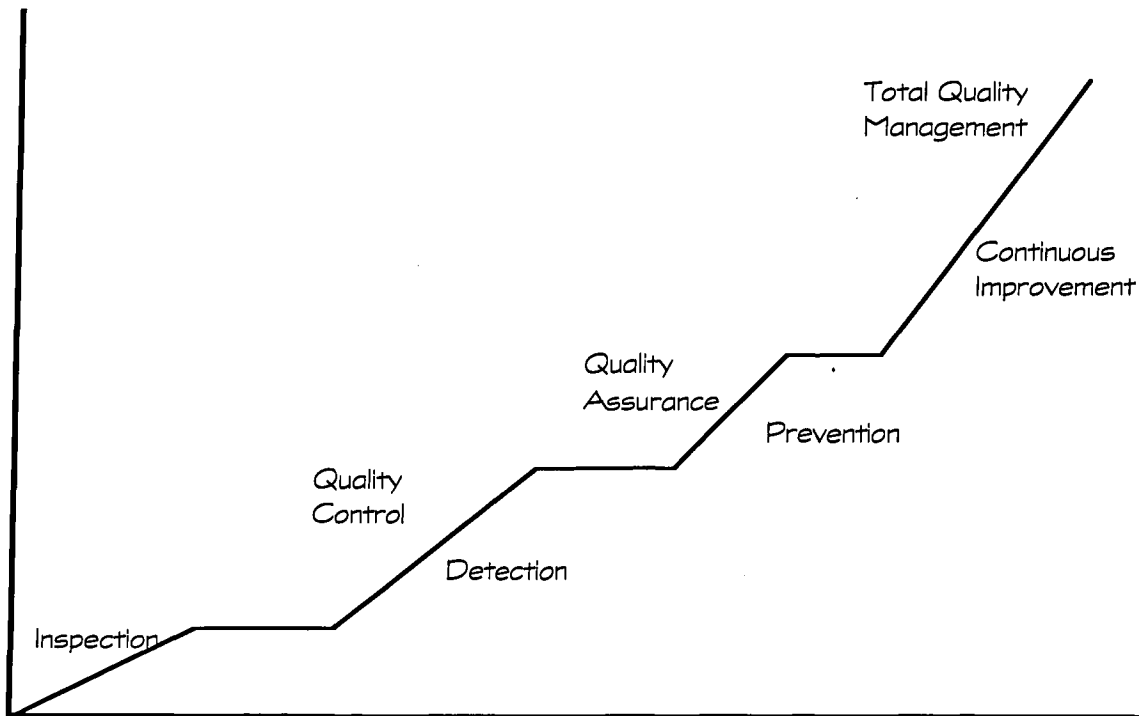


Fig. 2.1: The hierarchy of quality concepts (Sallis, 1993, pg. 27)

Quality Control or Quality Assurance (in its initial development) began with the notion that inspection has to be emphasised to prevent defective products. This practice of inspection still dominates the Western World, especially the USA. Japan on the other hand abandoned this approach shortly after the introduction of quality control to Japan in the postwar years. The Japanese believe that

inspection, even a strict one, cannot eliminate defective products. Therefore, instead of relying on inspection, one should produce no defective products in the first place, which means to control the factors in a particular process which cause defective products. This will save a lot of the money that is expended for inspection. (Ishikawa, 1985).

2.1 What Is Total Quality Management?

Total Quality Management, TQM, is exactly what its name implies. It is Total in a sense that it involves every part of the organisation - processes, results, services, products, suppliers, customers, internal and external relationships. It is Quality because it works to improve each product and process to which it is applied. It is Management because it is guided rational change that contributes to the organisation's bottom line. It is planned, led by top management, and aligned with strategic objectives.

TQM is a valuable philosophy as TQM can revitalise businesses and allow entire organisations to redesign and rethink themselves with quality as the goal.

Lewis A. Rhodes (in Doherty, 1993) gives a basic definition:

"Total Quality Management is a value-based, information-driven management through which the minds and talents of people at all levels are applied fully and creatively to the organisations continuous improvement." (pg. 305).

2.2 TQM - Some of The Misconceptions

what TQM is not:

- ▶ TQM is not inspection. It is about always trying to do things right first time and every time, rather than occasionally checking if they have gone wrong.
- ▶ TQM is not about working to someone else's agenda, unless the agenda has been specified by customers and clients.
- ▶ TQM is not something which only senior managers do and then pass their directions down the line.

The 'Total' in TQM indicates that everything and everybody in the organisation is involved in the enterprise of continuous improvement. The 'Management' likewise means everyone, because everyone in the institution, whatever their status, position or role, is the manager of their own responsibilities.

TQM programmes do not have to use the initials TQM. Many organisations pursue the philosophy under their own name. Some call it 'Assurance Shopping'. Others like the American Express uses the initial AEQL, which stands for American Express Quality Leadership, emphasising leadership rather than management. Total Quality Control, Total Quality Service, Continuous Improvement Strategic Quality Management, Systematic Improvement, Quality First, Quality Initiatives, Service Quality are some of the many titles used to describe what is basically TQM.

3. Characteristics of TQM

TQM is used to describe two notions. The first is a philosophy of continuous improvement. The second related meaning uses TQM to describe the tools and techniques, such as brainstorming and force field analysis, which are used to put quality improvement into action. TQM is both a mind-set and a set of practical activities - an attitude of mind as well as a method of promoting continuous improvement. (Sallis, 1993).

Any model of TQM can usually be expected to involve the following common core:

- recognising customers and discovering their needs;
- setting standards which are consistent with customer requirements
- controlling processes and improving their capability;
- establishing systems for quality;
- management's responsibility for setting quality policy, providing motivation through leadership, and equipping people to achieve quality;
- empowerment of people at all levels in the organisation to act for quality improvement.

(Dotchin and Oakland, 1992, pg.141)

3.1 Continuous Improvement

The process of installing quality improvement is a journey that never ends. TQM is not a set of slogans, but a deliberate and systematic approach to achieving appropriate levels of quality in a consistent fashion which meet or exceed the needs and wants of customers. Since customers' needs change constantly, the organisation must adopt continuous improvement to continue serving their customers better than the competition does.(Crosby, 1984).

To create a continuous improvement culture, managers have to trust their staff and delegate decisions to the appropriate level to give staff the responsibility to deliver quality within their own domain. Staff need the freedom to operate within a pattern of clear and known goals.

The Ishikawa diagram, known as the fishbone diagram (see Figure 2.2), illustrates the various causes affecting a process sorting out and relating the causes to each other (Sallis, 1993). For every effect, there will be a number of causes. This is useful to identify and explore the possible causes of a problem or look for the factors which could lead to an improvement.

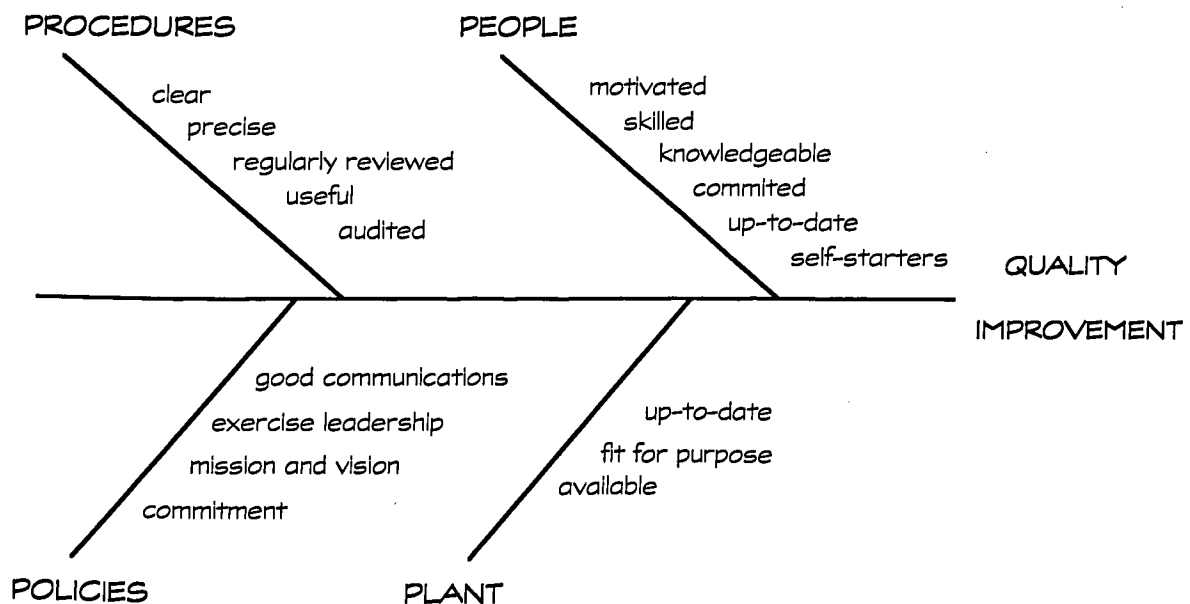


Figure 2.2: Ishikawa Diagram (Sallis, 1993)

TQM is accomplished by a series of small-scale incremental projects. The Japanese call this approach to continuous improvement : *Kaizen*. This is most easily translated as 'step-by-step improvement'. The essence of *Kaizen* is small projects which seek to build success and confidence, whilst creating a base for further improvement. The foundations of this thinking is linked to Joseph Juran's recommendation that the best way to tackle the 'elephant-sized' projects is to divide them into manageable 'bite-sized' assignments. Introducing improvement in this way increases the chance of success gaining confidence leading to a more adventurous perspective.

3.2 A Change of Culture

TQM requires a change of culture. This is difficult to actuate and takes time to implement. It requires a change of attitudes and working methods. Culture is one of the most significant elements in creating a quality environment. However, culture change is not only about changing the behaviour of staff. It also requires a change in the way in which institutions are managed and led. The latter is characterised by an understanding that people produce quality. Two elements are required for staff to produce quality. First, staff need a suitable environment in which to work. They need appropriate resources, procedures and systems which enable them to do their job effectively. Good and workable procedures do not produce quality, but if procedures are poor or misleading, it makes the delivery of quality extremely difficult. Second, to do a good job, staff need encouragement and recognition of their success and achievements. Staff need leaders who can appreciate their achievements and prepare them for greater success (Sallis, 1993).

3.3 Keeping Close to the Customers

The primary purpose of a TQM institution is to meet the needs and wants of its customers. Excellent organisations, keep 'close to the customer' and have an obsession with quality (Peters and Waterman, quoted in Sallis, 1993). They claim that growth and long-term survival come from marrying their service to expectations and customer needs.

Quality is what the customer wants and not what the institution decides is best for them. Without customers, there is no institution or purpose. A customer focus is

however, not itself a sufficient condition for ensuring total quality. TQM organisations need to determine strategies for meeting their customers' requirements.

3.4 Colleagues as Customers

The customer focus aspect of TQM does not just involve meeting the requirements of external customers. Colleagues within the institution are also part of the chain that leads to customers, and count on the internal service and cooperation of others to do their job effectively. Each member of staff gives and receives services. Thus internal customer relationships are crucially important to the efficiency and effectiveness of the institution. Individual members of staff have to identify the people to whom they provide services (Sallis, 1993). This is known as the 'next-in-line analysis' and revolves round these questions:

- Whom do you primarily provide a service to?
- Who relies upon what you do to carry out their job properly?

The people next-in-line are the direct customers, whether they are external to the institution or internal to it. It is important to find out what they want and to have a good idea of the standards they require. The standards may be contractual, but they may also be negotiable. The status and hierarchy is not important in this relationship, it is the standard of service provided that matters. The service provided to someone junior in the institution is as important as the service provided to the Headteacher, the Principal, or the Chair of Governors. (Sallis, 1993).

TQM is about listening and entering into a dialogue about peoples' fears and aspirations. The table below compares a quality institution with an ordinary one and highlights examples of the basic TQM tenets.

Table 2.1
The differences between a quality institution and an ordinary institution

Quality Institution	Ordinary Institution
Customer focused	Focused on internal needs
Focus on preventing problems	Focus on detecting problems
Invests in people	Not systematic in its approach to staff development
Has a strategy for quality	Lacks a strategic quality vision
Treats complaints as an opportunity	Treats complaints as a nuisance
Has defined the quality characteristics for all areas of the organisation	Is vague about quality standards
Has a quality policy and plan	Has no quality plan
Senior management leads quality	The management role is seen as one of control
The improvement process involves everybody	Only the management team is involved
A Quality Facilitator leads the improvement process	There is no Quality Facilitator
People are seen to create quality creativity is encouraged	Procedures & rules are all important
Clear about roles and responsibilities	Vague about roles and responsibilities
Has clear evaluation strategies	Has no systematic evaluation strategy
Sees quality as a means to improve customer satisfaction	See quality as a means to cut costs
Plans long-term	Plans short-term
Quality is seen as part of the culture	Quality is seen as another and troublesome initiative

Quality Institution (cont.)	Ordinary Institution (cont.)
Developing quality in line with its own strategic aims	Examining quality to meet the demands of external agencies
Has a distinctive mission	Has no distinctive mission
Treats colleagues as customers	Has a hierarchical culture

Source: Sallis, E.,1993

4. TQM In An Educational Environment

Franklin Schargel considered education as the third wave of total quality management. He said :

“The first wave of quality began when Deming brought the concept of quality to Japan in the 1950s; the second wave occurred when enlightened business leaders brought the idea of quality back to the United States in the 1980s. Now is the time for us to move to the third wave of quality - total quality education”. (Schargel, 1993, pg. 68)

4.1 Moving the Theory from Industry to Education

This concern with ‘Quality’ in the sense of performance, achievement or service has expanded from manufacturing industry, where it began, into service provisions and the public sector. Most recently, in some parts of the world, it has started to influence education.

In adapting quality management for education, it is important to keep in mind certain differences between education and business:

- The school is not a factory
- The student is not a ‘product’
- The education of the student is the product
- Successful completion of the product requires the student to participate as a worker, co-managing the learning process.
- Teaching and learning are two different processes.
- In industry, quality management requires every manager of every process

to identify a customer. If a process has no output for which there is a customer, why do it?

Educators are not used to the concept of 'customer'. They are apt to believe that the process should continue because 'we've always done it that way'. (Doherty, 1994).

There are many 'customers' for the product, that is, for the student's education:

- 1) The students.
- 2) Their parents, as they are the ones who, in general, pay for it through taxation.
- 3) Future employers, who will have to pay to obtain the benefits of the student's education.
- 4) Society in general, as represented by governmental agencies, which pay a varying fraction of the cost of the education, desires, therefore, that the student, as an adult, becomes a contributing member of society.

Myron Tribus (1994) believes that the objective of every school or university should be to provide, for each student, opportunities to develop quality in four categories: (1) *Knowledge*, which enables us to understand; (2) *Know-how*, which enables us to do; (3) *Wisdom*, which enables us to set priorities; (4) *Character*, which enables us to co-operate, to persevere and to become respected and trusted members of society. He considered these four components as the *contents* of education. Thus a theory of management for education should consider not only the contents but also the system, environment, style and processes required to deliver the contents. Nevertheless, because the contents will vary from school to school and community to community, the theory should address *how* the contents are determined.

4.2 The Key Ideas Behind TQM in Education

'TQM is a philosophy of continuous improvement, which can provide any educational institution with a set of practical tools for meeting and exceeding present and future customers needs, wants, and expectations'
(Sallis, 1993, pg. 34).

Some reservations have been expressed about applying TQM principles in education. Among the strongest is the idea of students as customers. Many people

do not like the importation of the language of business - 'customers' and 'suppliers' - into the practice of schooling. They claim that the use of these terms, especially when discussing pupils and students, can cause a great deal of controversy and are inappropriate to a public service such as education. Murgatroyd (1992) however, considered this argument inadequate in two respects. First, the language of business does indeed carry assumptions about the relationships between customers and suppliers- assumptions that are appropriate to the work of a public service for which the customers are paying and are being asked to pay more for (both in terms of taxation and user fees) over time. Second, the use of such language challenges a view of public service and nature of accountability in a way that is in keeping with the nature of devolved governance and devolved assets for schools. Schools are a key part of the service economy and need to be seen as such.

Sallis (1993), referring to the language of industrial TQM, claims that it is easy to lose the concept when the language is changed to that of education. Total quality is an idea which has to be communicated and a change of vocabulary may confuse or cause a loss of direction.

"For faculty, the notion of a buyer (the student customer) and a seller (faculty member) transacting a product (knowledge) for a price (tuition) is too crude and dispassionate a description of the educational enterprise" (Williams, G.,1993, pg. 231).

To some educationists, 'customer' has a specific commercial tone which is not applicable to education. They prefer to use client instead. Client, with its connotations of professional service is seen as more appropriate. Stakeholders is another term often used in this context. Others reject all such language and would rather stay with pupil and student.

School is an organisation that manages a chain of 'customers' (Schonberger, 1989). There are internal customers (those who work for the school) and external customers (those who demand services from the school). Teachers are the suppliers of services to pupils and parents; secretaries are suppliers of services to teachers; school administrators are suppliers of services to teachers; teachers

supply services to each other. There are also external suppliers of services to the school.

The key of a successful TQM culture is an effective internal / external customer - supplier chain. Contrary to traditional management, the role of senior and middle management in a TQM culture is to assist and empower teachers, support staff and learners, and not to control them. The inverted pyramid concept of management adapted from the ideas of Karl Albrecht (Murgatroyd & Morgan, 1992) is illustrated in Figure 2.3 The inverted hierarchy emphasises service-giving relationships and the importance of the customer to the institution. This up-side-down organisation does not devalue the role of senior managers as leaders. In fact, leadership is crucial to the success of TQM. It is only the total dedication of a dynamic leader that will create the enthusiasm and commitment to drive the strategy forward.

Murgatroyd and Morgan (1992) are of the belief that all of the relationships between customers and suppliers (whether internal or external) are mediated by processes. A process is a set of closely-related steps and activities required to perform a well-defined task, such as planning a course syllabus, admitting students to a degree programme and registration. They believe that teachers, secretaries, administrators are all engaged in managing processes, and quality comes through process improvements. The people best able to make process improvements are those close to the customer for that process. A system is a collection of processes designed to reach some overall objective. Thus, if quality improvement is to occur, everyone must have a clear understanding of processes and systems.

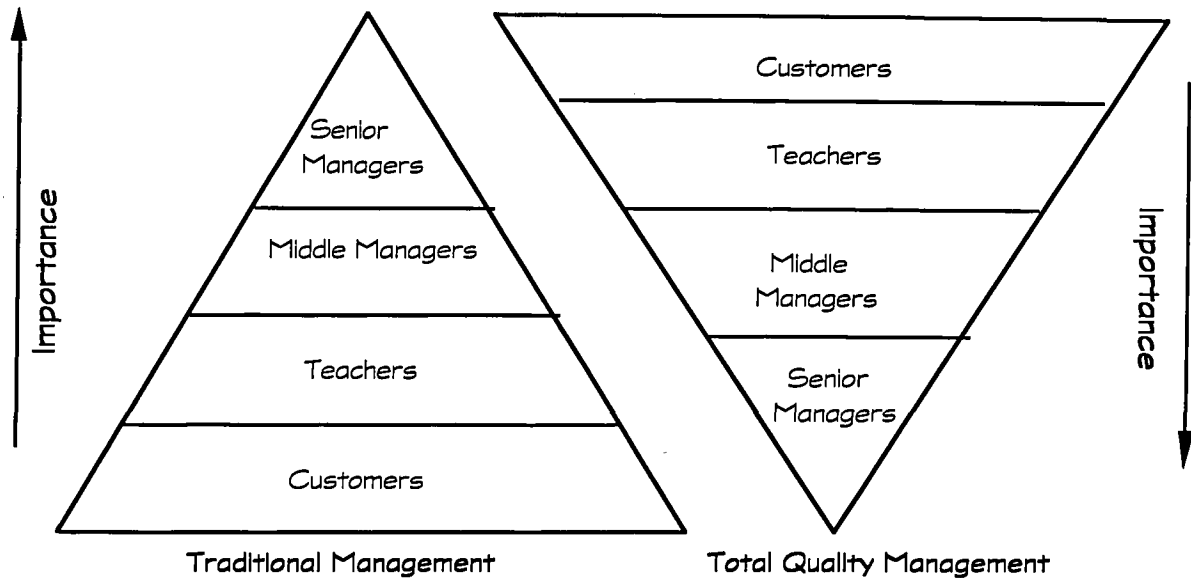


Figure 2.3: The Inverted Pyramid of TQM (Murgatroyd & Morgan, 1992, pg.55)
 Myron Tribus (1994) believes that a fundamental principle used in industry with quality management is the Process Principle which says that:

“The quality of the product is determined by the quality of the process which produces it. If you want to improve a product or service, concentrate on improving the process which produces it.” (pg. 101)

5. How to Implement TQM

The key word in TQM is management. Management here refers to a visionary leadership in that it involves empowerment, performance and strategy. Murgatroyd & Morgan (1992) for example, noted that, from the TQM perspective, there is the need to see leadership as a systematic basis for facilitating the work of others (empowerment) so that they can achieve challenging goals (performance) that meet or exceed the expectations of stakeholders (strategy).

What steps need to be taken to make TQM a reality? Murgatroyd & Morgan (1992) consider five critical ingredients of successful TQM educational organisation that are required to achieve sustainable quality improvement. These are:

1. Alignment within the organisation and commitment to a shared vision.
2. An extended understanding of the customer-driven and process-oriented basis for quality.

3. An organisation designed around teams.
4. The setting of particular challenging goals, which commit the organisation to significant increases in performance outcomes.
5. The systematic daily management of the organisation through the use of effective tools for measurement and feedback.

These steps will now be considered in more detail.

- 1. Alignment and commitment to a shared vision:** A statement of the organisation's core values guides each employee's work. Vision is an important concept in TQM. The vision creates alignment, and alignment is about everyone singing the same hymn from the same hymn sheet, because they have agreed and committed themselves to do so (Murgatroyd & Morgan, 1992).
- 2. An extended understanding of the customer-driven and process-oriented basis for quality in the school:** Organisations need to identify who their customers are, define their customers' needs systematically and commit themselves to meeting those needs.
- 3. An organisation designed around teams:** In effective organisations, teams are self-managing. They are able to determine their own procedures, subgoals, objectives and ways of working, providing that the goals teams set are balanced with the challenge goals of the organisation as a whole.
- 4. Challenging goals:** The idea of TQM is not to ask employees for small gains, but to ask for substantive changes in performance. The nature of performance challenges is important because a characteristic feature of successful TQM implementation is that challenging goals are set for the whole organisation where everyone can recognise the value of achieving them.
- 5. Systematic daily management of the school using effective tools for feedback and measurement:** Daily management is a key because it shows people what they personally must do, and what they should measure and control to keep the organisation running smoothly.

Murgatroyd & Morgan (1992) claim that without these elements, TQM is likely to be ineffective. Each of these features - shared goals, knowing the customer, the primacy of teams, developmental goals and effective feedback by measurement - can be regarded as a task that the management team of a TQM organisation has to achieve if it wishes to be successful. These five elements link to other implicit qualities known as the 3Cs of TQM:- culture, commitment and communication. Culture means the implicit rules, assumptions and values that bind an organisation together (Mills & Murgatroyd, cited by Murgatroyd,1992). Commitment extends to taking risks so as to achieve goals, as well as working systematically to keep others informed of the opportunities that exist for innovation and development. Communication within and between teams is powerful, simple and effective in a successful TQM organisation. A diagram of the elements of the model of TQM is shown in Figure 2.4.

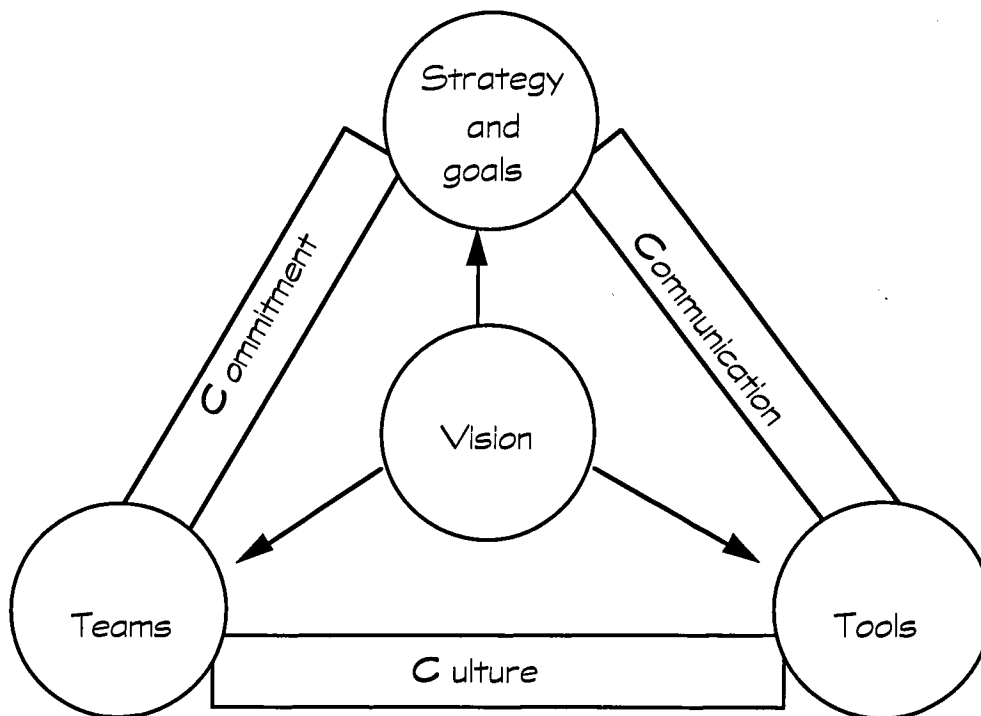


Figure 2.4: The TQM Model (Murgatroyd & Morgan, 1992, pg. 67)

Oakland (1993) believes that:

“For an organisation to be truly effective, every single part of it must work properly together towards the same goals, recognising that each person and each activity affects and in turn is affected by others”. (pg. 23)

Figure 2.5 shows Oakland preliminary analysis for quality planning.

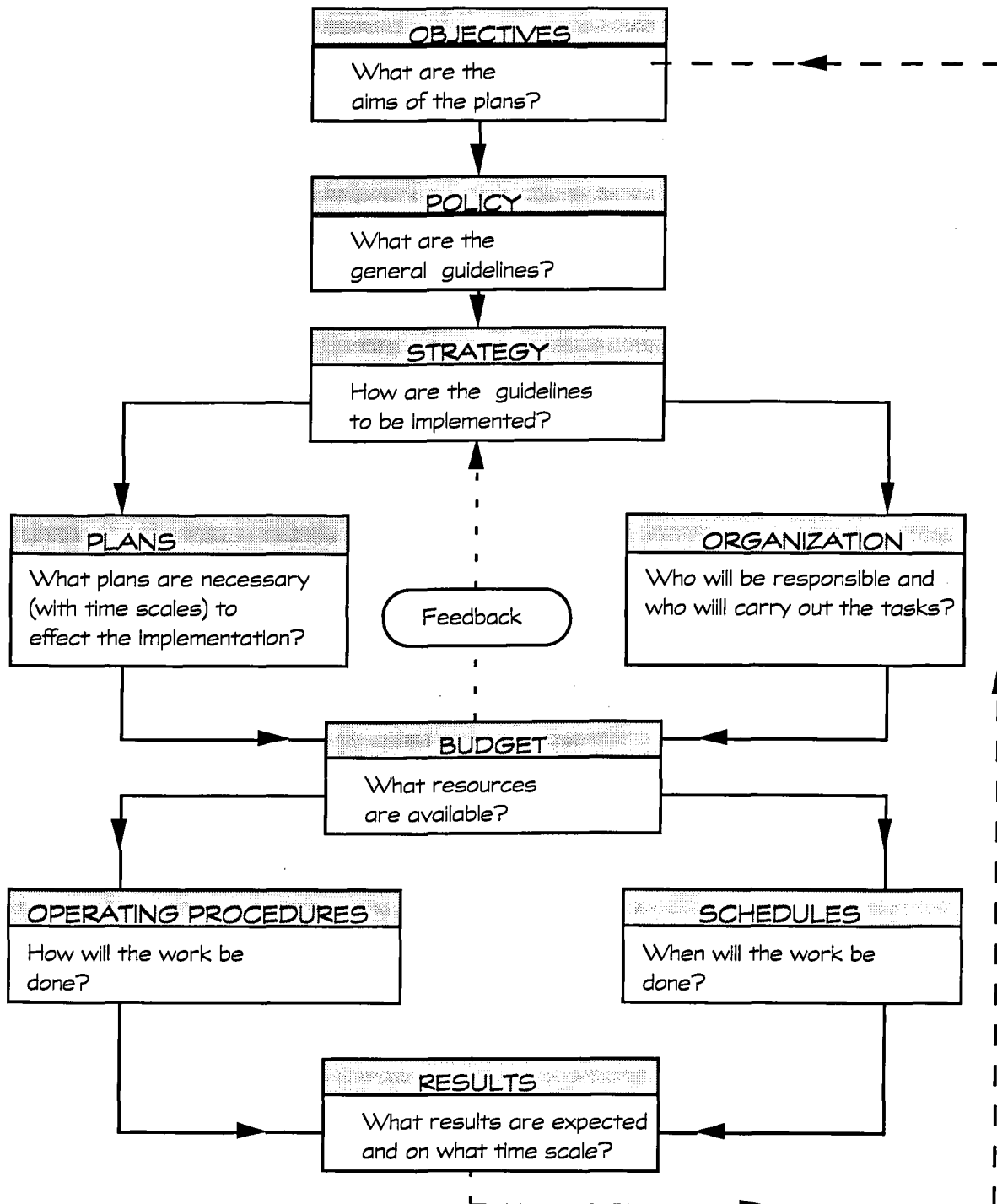


Figure 2.5: Preliminary Analysis for Quality Planning (from Oakland, 1993)

6. Problems of Implementing TQM

Implementing TQM is essentially about improving all customer-supplier processes with the consequence of enhanced performance as evidenced by performance indicators. It is not an easy task and the process of achieving goals and securing quality improvement is long and demanding. As Murgatroyd (1992) says, there are no ready made programmes for TQM, there are no short cuts for the development of teams nor for training team members in the thinking skills and systematic tools required for effective TQM implementation.

6.1 Why Does TQM Sometimes Fail?

When failures in TQM are identified, two major sets of reasons appear. The first can be referred to as the start-up problems. The second set of problems are concerned with the post-launch issues which TQM provokes. (Murgatroyd & Morgan, 1992).

6.1.1 Problems with the Start-up of TQM

There are four common problems in the start-up of TQM initiatives. These are:

- (1) lack of a visible enactment by the senior staff;
- (2) poor planning for the development of TQM;
- (3) lack of an adequate data-base on which to develop TQM initiatives; and
- (4) lack of appropriate skills within the organisation to secure TQM advantages. (Murgatroyd & Morgan, 1992).

These will now be considered in more detail.

(1) *A lack of visible commitment by leaders*: commitment is measured in terms of visible things, not in terms of oracy. Staff will look to the behaviour and actions of the senior team rather than the words spoken. If the senior management group does not show in their behaviour a genuine and extended commitment to quality, then it is unlikely to emanate from those below them. That behaviour includes: (a) how quality is demonstrated (recognition, rewards, promotion, work-load allocations, etc.); (b) the extent to which data leads to decisions in the organisation;

(c) the extent to which the tools and skills required for TQM are demonstrated by the senior team; and (d) the way in which recognition and rewards are distributed in the organisation. If no substantial behaviour change is noticed, then TQM will be seen as a rhetorical programme, not an action-oriented programme.

(2) Poor plan for TQM deployment: When TQM developments begin in an organisation, there is a tendency to quickly form teams and get the teams to start to work. A number of problems then arise. These include: (i) what should the teams focus on? (ii) do all teams need to do the same thing, or can teams work in their own way towards their quality goals? and (iii) do all the teams need to develop the same skills or can skill development be a team responsibility? These questions and many others like them, can delay effective implementation or stall TQM to a point where the teams no longer function effectively.

(3) Not having relevant data on which to build TQM initiatives: one consequence of not having good data at the launch of a TQM initiative is that the first step towards TQM will be to collect such data. This develops a connection between TQM and measurement, promoting the idea that TQM is about measurement. It is not. TQM is about continuous improvement and the search for quality; measurement and record-keeping help but do not deliver the achievement of the objectives. Using relevant data and information helps to make better management decisions. Not all data can be used: it has to be focused on a key aspect of the organisations performance. It is also important to have a reference point against which the information can be judged.

(4) Lack of appropriate skills: leadership skills are required for effective TQM implementation, as has already been considered.

6.1.2 Problems in the Post-launch of TQM

A variety of problems can be observed in the post-launch of TQM. Murgatroyd & Morgan (1992) mention five as the most common : (a) team mania - too many teams and not enough support; (b) measurement mania - too many measurements leading nowhere; (c) over-zealous selling of outcomes and very little initial achievement; (d) fixing problems without looking at processes; and (e) losing momentum.

(1) *Problems of team formulation and purpose* : teams are only useful as focal points for the development of competences, the promotion of shared understanding and the achievement of particular goals. Teams for the sake of having teams are likely to be counter-productive.

(2) *Problems of a paucity of process and performance data*: Measuring activities, processes or outcomes; benchmarking processes; and mapping processes are all activities that are time-consuming. Measurement for its own sake leads nowhere. A TQM initiative as a strategy for measurement and accountability will lead to a great many charts, tables, models and indicators, but may not change the processes or the outcomes of these processes. Measures should be used in a focused way. The idea is that measurement should serve the task of improvement.

(3) *Problems of the scope of a TQM strategy*: looking at TQM as 'the answer to our prayers, dilemmas and uncertainties' and as a means for solving all problems will lead to failure. TQM requires a great deal of effort. In a typical TQM organisation, a year might be taken in understanding a problem, six months spent in benchmarking the processes associated with the problem, and then a further year spent in making changes to the processes associated with the problem. Although TQM is sometimes presented as if it could make an immediate substantive difference, there are yet no quick fixes in TQM and such a 'selling' of TQM will lead to disaffection, since few critical processes can be changed quickly.

(4) *Fixing problems without fixing processes*: 'quick fix' solutions would make the overall problem worse. It is a fix for short term gains and longer term failure. Most major successes in TQM have come from stepping over the outcome barrier and rethinking the process. While keeping an eye on outcomes, it is important to understand process. Process improvement will often lead to sustainable outcome changes. (Schaffer & Thomson in Murgatroyd & Morgan, 1992).

(5) *Losing momentum*: people will make significant investments of time and effort in an activity if they know where it is likely to lead. If they do not know the aim or value of the task, momentum will be lost, and success will be low.

7. Summary

The idea of TQM was first developed in the 1930s by Shewart, Deming and Juran and implemented in Japan's industry in the post-war period. However, it was only in 1980, with Deming's NBC documentary entitled 'If Japan Can Why Can't We', that the dominance of Japan industry in many US markets, and the contribution of Deming to this economic success began to attract the Western world. The TQM revolution started in manufacturing and was followed by service industries and by banking and finance. TQM can be seen as a business philosophy, basically centred on customer satisfaction and continuous improvement. It is about providing the customers with what they want, when they want it and how they want it. TQM aims to meet and exceed customer expectations. The idea of customer-centredness is at the heart of the total quality approach.

Although the TQM initiative began in manufacturing industry, educational institutions have not escaped the influence of the quality movement. However, in adapting quality management to education, there are certain differences between education and business that are important to take in consideration. Educators for example are not used to the concept of 'customer'.

Implementing TQM is not easy and there is no magic formula even though there are some simple steps which can be followed. Clemmer, in Murgatroyd (1992), says that the failure rate for implementation is as high as 70%. This chapter has outlined the most common problems in implementing TQM which according to Murgatroyd (1992) can be related to the start-up of TQM as well as the post-launch of it.

One of the required features of successful TQM is the systematic daily management of the organisation through the use of effective tools for measurement and feedback. This includes the collection and systematic use of Performance Indicators which will be discussed in the next chapter.

CHAPTER 3

Performance Indicators

Chapter 3

Performance Indicators

Introduction

TQM as discussed in the previous chapter has been referred to frequently as a potential way of enabling the higher education sector to manage all aspects of 'quality' in higher education institutions which are under increasing scrutiny. Even if an institution decides not to follow the TQM route, it may nevertheless wish to devise a quality system to assure the quality of its service delivery. This will allow the institution to define and monitor its own systems and procedures against a set of defined measures and standards.

One of the more important tasks for managers in the 1990s has been to collect systematic information about the performance of the institutions that they are managing. As Fitz-Gibbon (1994) indicates, management in 1990s almost certainly implies the setting up of performance indicator systems.

Using statistical process control and statistical quality improvement techniques, performance indicators can locate problems and identify performance trends that suggest a need for management attention. Performance indicators are synthesised and reported using effective, efficient, and easily understood methods of presenting data.

The aim of this chapter is to examine the factors that influence the selection of indicators as components of an indicator system and the principles that will make these indicators more systematic.

The chapter starts with an introduction to the antecedents to the use of performance indicators and the meaning of 'performance indicator'. In the light of this analysis, the chapter examines the factors that might influence the way in which indicators and indicator systems are chosen. The importance of choosing the appropriate indicators is discussed.

Limitations in using performance indicators are examined, providing a critical edge to PIs. The chapter concludes by providing exemplification of performance indicators in use in education, using a model of analysing education from Dunkin & Biddle (1974).

1. Antecedents to Performance Indicators

Some of the current approaches to the management of education can be traced back to the work of the American engineer and economist F.W. Taylor in the early part of this century. Based upon his industrial experience, Taylor developed a theory of 'scientific management' which takes up notions of systematisation, standardisation and scientific investigation in order to improve efficiency and productivity. Although related initially to the industrial efficiency movement in the USA, and employed specifically by the Ford Motor Company, his thinking was rapidly transferred to education (Helsby & Saunders, 1993).

Current developments in educational management in England and Wales are using some of the principles of Taylorism. Littler (1978) defined Taylorism as 'the bureaucratisation of the structure of control'.

In the context of English, Scottish and Welsh education over the last few years, it is indeed possible to follow an increasing bureaucratisation of control, particularly through aspects of the 1986 and 1988 Education Acts. For example, a growing separation of educational 'planning' and 'doing', with the creation of central advisory and validating bodies such as the National Curriculum Council and the Secondary Examinations and Assessment Council, (now merged as SCAA) both ultimately subordinate to the Secretary of State for Education, but both having been given considerable influence over curriculum or assessment in schools. The various National Curriculum Subject Working Groups' task was to recommend to the Secretary of State standardised programmes of study, attainment targets and assessment tasks which might be prescribed for all schools (Helsby & Saunders, 1993). Such national standardisation enables performance indicators to be instigated (e.g. key stage assessment results at 7, 11 and 14 years of age).

Having prescribed uniform practices and operating procedures through the National Curriculum and its associated assessment system, the next step in the

Taylorism model would be to institute a separate monitoring system to determine effort-levels and compare performance. According to the Taylorism doctrine, the stabilisation of effort through incentive schemes assures calculability and predictability within the organisation (Helsby & Saunders, 1993). Thus, central to effectiveness in an organisation is the idea of performance indicators as a means of monitoring performance on the educational production line. Performance indicators are thus unwelcome to the traditional liberal educationalists, since they suggest a strictly functional and systems approach to the educational process, facilitating bureaucratic control and possibly leading to professional deskilling (Helsby & Saunders, 1993).

Another antecedent to the performance indicator is Tylerism which comes from the work of Ralph Tyler, an American evaluator. His thinking is commonly referred to as the 'objectives model' of the curriculum or 'behaviourism'. Tyler (1949) proposed that successful curriculum development should follow a number of stages including, most importantly, the clarification of aims; the translation of aims into objectives which expressed desired learner behaviours; the planning and implementation of learning programmes which were likely to produce those desired behaviours; the evaluation of actual student behaviours against the original objectives; and finally, the modification of learning programmes until the desired behaviours were produced. The measurement of precisely defined student behaviours relates to performance indicators at an individual and 'systems' level (when aggregated). Hence the consideration of objectives needs more detailed consideration.

Tyler (1949) turned attention towards the school curriculum and its improvement, extended the range of valid evaluation data far beyond student test results and encouraged teachers to think explicitly about what they were trying to do. His arguments were based upon the assumption that schools had a wide range of purposes, that teachers were competent and autonomous professionals, and that evaluation was not totally dependent upon psychometric measurement of a narrow range of student competences by outside experts.

Tyler wanted educational objectives to be both explicit and observable :

"One can define an objective with sufficient clarity if he can describe or illustrate the kind of behavior the student is expected to acquire so that one could recognize such behavior if he saw it". (pgs. 59-60).

Despite some comments that pointed to the dangers of creating an educational "strait-jacket" through the pre-specification of such objectives, supporters of behavioural objectives have argued that they can provide a basis for curriculum planning, clarify teachers' thinking, help them select appropriate strategies and be a starting point for systematic evaluation (Helbsy & Saunders, 1993).

MacDonald-Ross (1973) in his critical review of behaviour objectives nevertheless claimed the following advantages for behaviour objectives:

- They form the basis of the only well-worked out method of rational planning in education.
- They encourage educators to think and plan in detailed, specific terms.
- They encourage educators to make explicit previously concealed values.
- They provide a rational basis for evaluation.
- They prescribe the choice of instructional means.
- They form the basis of a self-improving system.
- The system eventually realises in practice the aims set in theory.
- Objectives serve as a medium of communication.
- Objectives can be made the basis for individualised instruction.

So, why define objectives? One main reason advanced for defining objectives is to provide a goals focus explicitly for all curriculum decisions. Once stated, objectives facilitate the selection and organisation of content, and when specified in behavioural terms they make it possible to evaluate the outcomes of the curriculum.

To draw up educational objectives is not to establish abstract aims, ideals, or ambitions. Such objectives do not refer to the pragmatic intentions of the teacher, but elaborate a list of intended behaviours of those who learn. Tyler (1949) considered it essential to state the objectives in such clear and definite terms that they can serve as guides in the making of test questions or other assessment techniques.

Tylerism did not have the degree of success in Britain that it had in the USA. This may have been because of cultural factors. Traditionally, British educational goals have been implicit rather than explicit, and have been more concerned with the transmission of existing culture rather than the creation of a new society (Helsby & Saunders, 1993).

Nevertheless, current preoccupations with the development of educational performance indicators strongly reflect aspects of Tylerism. This is particularly true where indicators are written centrally by those outside of schools (e.g. SCAA, ACAC in Wales), where they are based on the specification of explicit and measurable objectives or where they are strongly linked to ideas of accountability, value-addedness and the judgment of performance. Her Majesty's Inspectorate (HMI), for example, argue that a shared perception of purpose was essential to effective evaluation and teacher appraisal in order to avoid confusion and consequent lack of rigour and coherence in the exercise (HMI, 1995). The Chartered Institute of Public Finance and Accountability (CIPFA) acknowledged that its deliberations on performance indicators were set in the context of

"the widespread call to place more and better information about schools in the public domain, not least in order to Assist parents and others in educational decisions" (CIPFA, 1988, pg. 4).

The Further Education Unit (FEU) puts forward the argument that performance evaluation in further education should be:

"... based on the purpose for which the service exists and objectives agreed and periodically reviewed between providers and clients" (Helsby & Saunders, 1993, pg.65).

Finally, a recent Department of Employment publication on performance indicators for TVEI asserts that indicators should be:

"... explicitly related to programme objectives. The indicators should assist or

help assess progress towards identified and achievable ends”, and that the information generated should serve identifiable needs in the programme:

“Development and accountability needs exist at different ‘levels’ of the programme” (Helsby & Saunders, 1993, pgs. 64-5).

Interest in performance indicators probably reached a peak amongst British LEAs in the late eighties. The case for their introduction was made in several influential reports, including one by an accountancy firm which had been asked to explore the local management of schools (Cooper and Lybrand, 1988) and another by the Audit Commission, the local authority ‘watch-dog’ (Audit Commission, 1989). It was argued that performance indicators would become one of the key mechanisms through which the monitoring and accountability of schools would be assured (Riley & Nuttall, 1994).

Towards the end of 1989, Mrs. Valerie Rumbold, an Education Minister at that time, presented a long list of performance indicators for schools at a conference of the Industrial Society. The Minister argued that it was intended to take debates about schools’ effectiveness beyond examination results. She argued: “It is our job to make sure that parents recognise that there are other things going on in schools to prepare pupils for the world of work and life after school”. She went on saying: “The more we put across the fact that performance indicators go lot further than exam results - important though they are - the better we shall be’ (Rumbold, in DES, 1989, 382/89).

When monitoring the process of education and planning for the future, the institution needs to go through the process of identifying its goals and objectives, its criteria for a successful performance, and then decide upon a relatively small range of indicators for judging whether it is achieving its goals and objectives, and how well is performing (DES, 1989,382/89).

2. What is a Performance Indicator?

Few reports and papers on performance indicators define what a performance indicator actually is. In practice, a whole range of management statistics have been presented as performance indicators.

Considering the two words separately, an Indicator is an indication of something which may require further investigation. It is a starting point for more investigation. But indications of what kind of Performance? The key question is performance in what sense, judged against what (or whose) criteria? It does not seem to make sense to have an indicator of performance unless it is identified with stated goals and objectives.

Indicators can be classified as: A Simple Indicator, usually expressed as an absolute value or statistic data, A Performance Indicator, which needs a reference point, such as objectives, a baseline, or a comparative evaluation. A General Indicator, although not considered as an indicator in a restricted sense of performance indicators is mainly information brought in from outside the institution (opinions, results of surveys or general statistics). General indicators are normally used in more macro, systems-wide decision making (Cave M. et al., 1988).

Three quite separate definitions of a performance indicator can be discerned when Local Education Authorities (LEAs) and other institutions have developed their own performance indicators (Helsby & Saunders, 1993).

The first suggests that a performance indicator is simply a named area of activity in which evidence will be gathered. The general lack of criteria suggest that indicators tend to be used as a check-list for monitoring rather than for evaluation.

The second interpretation, equates a performance indicator with evidence of what has actually happened. In this case pre-specification is not necessary: actual outcomes provide ready-made performance indicators by which to gauge success. The emphasis here is upon summative judgments. Since the indicators only emerge at the end of a training programme, they cannot influence the development of that particular programme. The argument is, however, that they aid decision-making about the continuation or otherwise of approaches according to the perceived degree of success of the outcomes. In such cases, the criteria for judgment are likely to be defined by the decision-makers, and may be implicit rather than explicit.

Norris, in his paper to the symposium on Judging Quality in Education at the 1991 British Educational Research Association (BERA) conference, reduces the notion of a performance indicator to that of evidence or data.

“Generally speaking performance indicators are time-series data that reflect and record change across a number of significant dimensions relevant for judging the effectiveness and efficiency of a system in achieving its goals” (Norris, 1991, pg. 1).

The third usage is quite different from the other two because it is prescriptive, and sees a performance indicator as a prior definition of a desired state. This definition is closely linked with planning since it involves specifying in advance the details of educational targets or intended outcomes as well as formulating the criteria by which success in meeting those targets will be judged. In this process, value is placed upon the achievement of particular objectives, and the performance indicators tend to be used formatively or diagnostically to check on progress towards those ends in order to identify necessary programme adjustments.

A practical definition was put forward by Cuenin (1987) who states that a minimum requirements for a performance indicator is:

“Numerical values which provide a measurement for assessing the quantitative performance of a system. When the indicator shows a difference in one direction, this means that the situation is better whereas if it shows a difference in the opposite direction then this means that the situation is less favourable”. (pg. 124).

Fitz-Gibbon (1990) defines a performance indicator as an item of information collected at regular intervals to track the performance of a system.

Dochy and Segers (1990) refine this definition underlining three requirements. A first requirement is that performance indicators should be clearly related to the defined functions of the institution. A second requirement is that they are indicators of the extent to which institutional goals are achieved. A third requirement is that they should be a valid operationalization of what they intend to indicate, and that they can be measured and interpreted in a reliable and correct way.

The point about relating performance indicators to institutional goals is extremely important. Otherwise, the adoption and pursuit of inappropriate indicators could result in decisions being taken which conflict with institutional policies. For example, if an institution adopts 'improving entry qualifications' as a performance indicator, this is likely to conflict with policies of admitting more mature students or students with non-standard entry qualifications.

The general consensus is that indicators are designed to provide information about the prevailing state of a system. Nuttall (1994) provides an analogy to illustrate this concept of performance indicator. The instruments on the dashboard of a car can alert the driver to a problem or reassure him/her that everything is functioning well. A dial pointer moving into the red zone is only a symptom that something is wrong and further investigation is needed to allocate the cause. Thus, performance indicators only point out, or direct attention to something. If something is wrong, the indicator does not provide the diagnosis or prescribe the remedy; they simply suggest that there is a need for remedial action.

2.1 What Are The Purposes in Using PIs?

There are two main purposes for the use of PIs at University level that have to be considered (CNSA, 1991):

- ▶ For accountability (where often this relates to the need to report 'upwards' to a superordinate) For example, a department in a University may be accountable to the centre;
- ▶ for internal management (where one is more concerned with action directed towards the level(s) from which the indicative information was generated). For example, a department in a University may have its own internal PI system.

2.2 What is the Role of Performance Indicators?

Performance indicators are about providing transparency of the system within the institution and in the system as a whole. Five uses of performance indicators have been identified (Sizer et al, 1992):

- (1) Monitoring - that is the ability to register developments in the system which depends on the existence of information systems.
- (2) Evaluation - that is the ability to analyse the degree of goal attainment. This implies that the objectives which are to be evaluated can be defined in quantitative terms so the actual performance can be measured.
- (3) Dialogue - that is the improvement of mutual administrative relationships. The use of indicators can enhance the dialogue.
- (4) Rationalization - that is the achievement of a coherent policy making process. Indicators can play an important role in planning processes.
- (5) Resource Allocation - performance indicators can also be used as parameters in the resource allocation model.

2.3 What Are The Sources From Which PIs May Be Derived?

- (a) Data provided by the institutions which is already part of the administrative information system or arises from a further development of it (e.g. student entry qualifications).
- (b) Data based on client and provider perceptions collected by questionnaire instruments (e.g. student evaluation of courses).
- (c) Information collected through direct observation of the working of the institution. Such information can be provided by advisers or inspectors who have a major responsibility for monitoring, evaluating and reporting on the quality of educational provision offered by the institutions in the LEA.

Particular care has to be taken when it is proposed to use data in order to make comparisons between institutions, since one is not necessarily comparing 'like with like', given that there are different institutional missions, aims and objectives and different operating constraints. A simplistic use of data may lead to erroneous conclusions.

2.4 Kinds of Data Used for Performance Indicators

Fitz-Gibbon (1994) distinguished four kinds of data that may be used for performance indicators.

Raw data are simple to understand, but often difficult to interpret. For example, if we know that 10 per cent of students in a school attained an A at GCSE level in English, we know what this information means, but we do not know what it implies. The attempt to evaluate or interpret this information often leads to a second kind of data.

Comparative data. The 10 per cent gaining a grade 'A' in GCSE may be compared with the national rate at which 'A' grades are attained. This adds to the body of information, but interpretation and evaluation of the data can still be dubious. The comparison with a national average raises the question: Is it reasonable to expect this school to attain results in line with the national average? Or should its results be better? Should its results be worse? This kind of question leads to the third kind of data.

Residuals or context adjusted data. This kind of data is also called Fair comparative data or Contextualised data. A residual is defined as the difference between the result obtained and the result predicted from measurements of factors known to be correlated with the outcomes. A residual can also be the difference between expected and actual score based on a prediction from initial scores (e.g. KS2 results based on expectations from KS1). The results that could reasonably have been expected in an examination, for example, can be predicted from a knowledge of the pattern of results across many institutions in that subject, for that year, and a knowledge of the intake characteristics of students. The calculation of 'residuals' is basically what improvement remains after taking account of important factors which influence the results and over which the school and staff have little control, such as the prior achievement, ability and interest of students, social class and gender. If these are measured two years before an examination, they would form an important baseline against which to judge the examination results. The change above the expected charge from two years earlier is often called the value added, and the techniques of measuring value added are the techniques of

obtaining residuals. If the average residual is positive, it implies that students on the whole obtained higher grades than would have been predicted on the basis of their prior achievement and other factors that have been taken into account.

Residuals are as close as we generally get to fair performance indicators, but it must be emphasised that the residual still includes certain factors influencing the outcomes that are not measured and are not, therefore, taken into account.

Experimental Data. There is a fourth kind of data, which is rarely available in the system. If it were available it would provide relatively conclusive and fairer evidence of effectiveness. The fourth kind of data arises from randomised experimental assignment. In other words, if we ran clinical trials, as is done in medicine, the resulting data would be the Gold Standard Data, those derived from controlled experiments. It is sometimes said that experiments are impossible in education. This position is not always accurate. There have been controlled experiments, yielding very important cost-benefit analyses of various interventions, particularly in the area of early childhood education.

How, then, should educational managers approach the design of performance indicator systems? The system needs to be designed within the framework of a rationale. Goals have to be identified, and factors that have an impact on those goals also need to be identified so that we have the basis for producing fair performance indicators or residuals. Achieving these steps represents much, but there is one further important step to take: to add process variables in order to investigate possible ways of achieving improvements.

The institution choice of indicators could also change from time to time in order to reflect new priorities and intentions. When selecting PIs, the ease of collection and monitoring of data needs to be traded-off between the cost of collection and the benefit of the information obtained.

3. Principles for Developing Performance Indicators

The principles for developing and evaluating performance indicators vary according to political values, as well as to a particular policy context, the particular educational system and the particular level (national, regional or local).

Nuttall (1994, pg. 31) proposed the following principles:

- (a) indicators are diagnostic and suggestive of alternative actions, rather than judgmental;
- (b) the implicit model underlying the indicators must be made explicit and acknowledged;
- (c) the criteria for the selection of indicators must be made clear and related to the underlying model;
- (d) individual indicators should be valid, reliable and useful;
- (e) comparisons must be done fairly and in a variety of different ways (for example, with like groups, with self over time, and using dispersions and differences between sub-groups as well as averages);
- (f) the various consumers of information must be educated about its use.

In an attempt to seek a pluralistic view of indicators to ensure that the community has a real interest in them, Riley (1990) proposed the following set of principles:

- (a) The process of developing school indicators should ensure that all the partners in education have a sense of ownership in the indicators.
- (b) Accessible to all the partners in education.
- (c) Comparable throughout the authority (school district or local education authority).
- (d) Linked to school ethos and objectives.
- (e) Inclusive of both cognitive and non-cognitive outcomes.
- (f) Implementable.
- (g) Based on consumer evaluation of the education experience.

Figure 3.1 gives an illustration of the stages in the development of education performance proposed by Riley (1994).

Educational Indicators

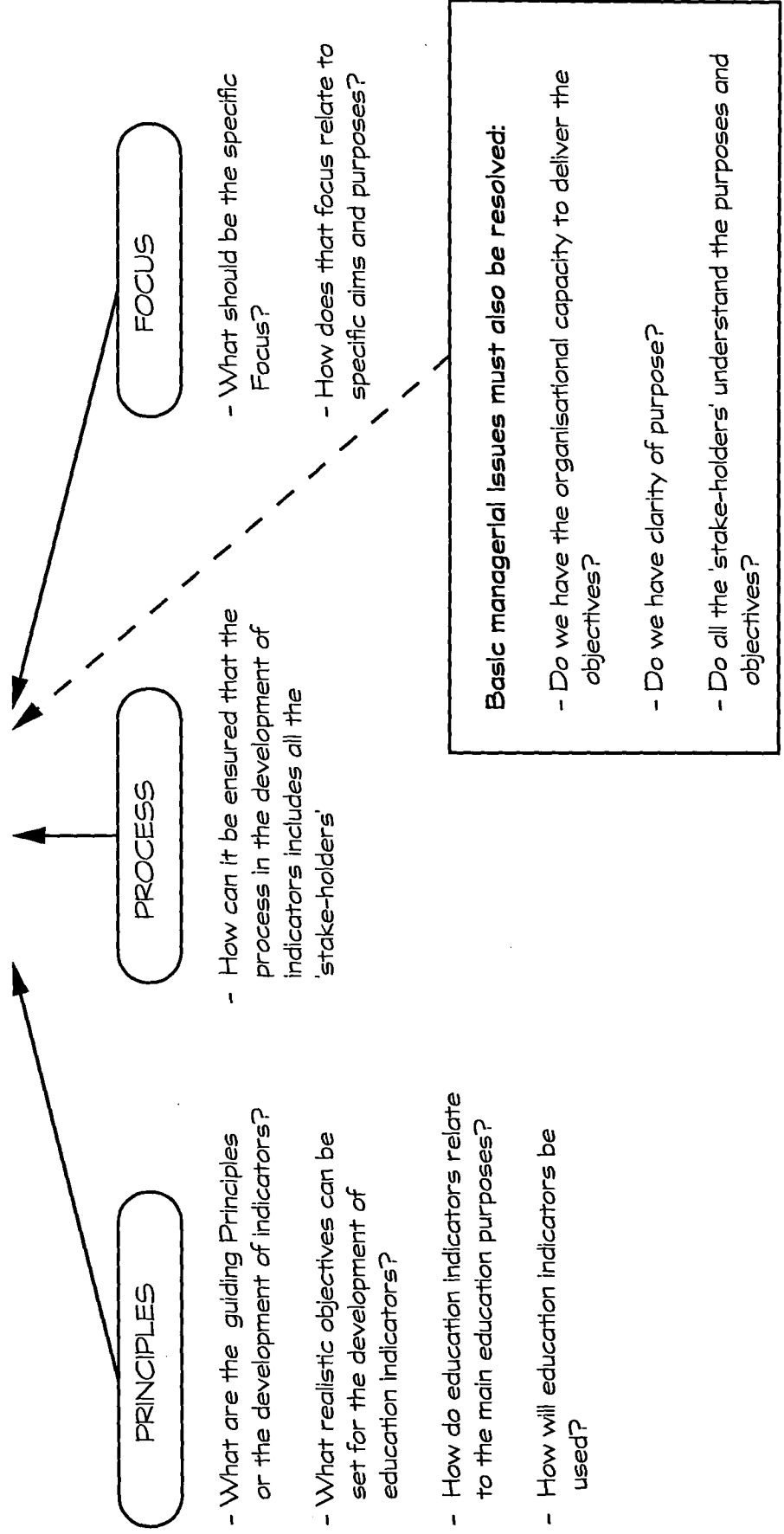


Figure 3.1: Stages in the Development of Education Indicators
 in: Riley, K.A. (1994, pg. 97)

The process for the development of the indicators framework is a vital ingredient in developing an effective system. Education goals and objectives need to be negotiated between the main stake-holders (Headteacher, advisers, officers, governors, students and parents) and then shared with a wider public. Establishing and clarifying the goals and objectives is a central learning process in itself which can help to improve the quality of the educational experience offered to pupils.

Jesson and Mayston (1990) identify three conditions which can be considered necessary for the development of a coherent set of performance indicators:

- (A) A clear conceptual framework within which the indicators are derived and associated set of purposes that they are intended to serve;
- (B) A selection process to determine which indicators are to be applied and how;
- (C) A specification of how the indicators fit into the management and decision process.

The prime attribute of information that is worthwhile is its 'decision usefulness', with an overall constraint that the benefit that follows from such 'decision usefulness' must exceed the costs of collecting and processing the information. In order to boost these benefits and the extent of the 'decision usefulness', two principal characteristics of the data to be collected are required (Fitz-Gibbon, 1990).

1. The first of these is reliability of the indicators presented. This quality in turn may be divided into:
 - (i) verifiability (i.e. the ability to check or audit that the quantitative values of the data or indicators presented are accurately reported),
 - (ii) representational faithfulness (i.e. that the indicator represents the phenomenon that it purports to represent),
 - (iii) neutrality (i.e. that there is an absence in the selection of data of any bias).

2. The second principal attribute of 'decision usefulness' is that of decision relevance, which is defined as 'the capacity for information to make a difference in a decision by helping users to form predictions about outcomes of past, present or future events or to confirm or correct prior expectations' (Jesson & Mayston, 1990, pg. 82). This attribute will be increased by performance indicators that display the following decision-relevant qualities:

- (iv) timeliness (i.e. achieving 'information available to a decision-maker before it loses its capacity to influence decisions')
- (v) predictive value (i.e. the ability to use the information to make predictions that are of value to the decision-maker), and
- (vi) feedback value (i.e. the ability to feedback the information into the decision process).

4. Choosing Performance Indicators

According to Fitz-Gibbon (in Ribbins & Burrige, 1994), one of the more important tasks for managers in the 1990s and beyond will be to collect systematic information about the performance of the units that they are managing. In other words, management in the 1990s almost certainly implies the setting up of performance indicator systems. The collection, analysis and interpretation of data are time-consuming activities. This will be time and money well spent only if the performance of the system is improved by the existence of the performance indicators. Thus, one of the most important characteristics of performance indicators is that their impact on the system should be beneficial.

The impact on the system may rest substantially on two actions taken by management: the particular indicators chosen, and the manner in which they are used.

4.1 How Are Indicators Chosen?

According to Nuttall (1994), there appear to be three basic sources of influence that interact in the creation of indicators: policy considerations, scientific / technical considerations, and practical issues.

Policy Considerations

Indicators should give information about current policy issues or about the attainment of particular goals or targets. For example, the targets set by an institution to reduce the number of drop-out requires the creation of relevant indicators.

McDonnell (1989) sees the policy context as playing two distinct roles in the design of an indicator system. First, it provides the major rationale for developing and operating such a system. Second, the policy context constitutes a key component of any educational indicator system because specific policies can change the major domains of schooling in ways that affect educational outcomes.

Technical Issues

There are usually problems in unambiguously defining aims, goals and 'missions' in a way that leads directly to clear measurement. One aim can generate dozens of different indicators. Most aims require detailed further definition, specification and clarification - for example, what sorts of skills, applied to what facts and concepts, constitute 'achievement in science'?

Two aspects need to be considered: how sufficiently do the measures represent aims, and how does the framework of aims and goals relate to the reality of the educational system? These two levels can often mean that the indicator set may be far from being an adequate representation of reality. For example, in the case of international indicators, it is almost impossible to develop a test that is an equally valid measure of each country's definition of achievement (Nuttall, 1994).

Practical Issues

To be useful to the policy-maker, indicators not only have to be relevant but they must also be timely, comprehensible and relatively few in number. Information

should be available in time to influence decisions. Restricting the number of indicators probably contributes to the gaining attention and being comprehensible, but may reduce the validity of the set of indicators as a framework that fully and fairly represents the education system.

Gray and Jesson (1990) put forward seven suggestions regarding the construction of performance indicators. First, performance indicators should directly measure or assess the institution's performance. Second, they should be central to the process of teaching and learning (as the prime objectives). Third, they should cover significant parts of institution's activities but not necessarily all or even most of them. Fourth, they should be chosen to reflect the existence of competing educational priorities. Fifth, they should be capable of being assessed for value as a management tool. Sixth, they should be couched in terms that allow institutions to be seen to have changed their performance; that is to have improved (or deteriorated). Seventh, they should be few in number, and after some experimentation over a period of years, be reviewed if necessary.

4.2 The Importance of Choosing the Right Indicators

The choice of performance indicators represents a signal from management as to the features of the system that are of most concern. The design of beneficial performance indicators is surely one of the most onerous and demanding responsibilities placed on management.

Not only must the choice of performance indicator be made carefully, but the conditions of reporting of the indicator may also be vital in determining the effect it has on the system. Fitz-Gibbon (1990) illustrates a general principle of importance in the design of monitoring systems. If the turn-around time of cross-channel ferries was closely monitored and was known to be closely monitored by those operating ferries, this monitoring would apply pressure on the crew. And if the frequency of dangerous events (such as setting sail with the cargo doors open was not monitored), then the implicit message would be a dangerous one.

5. Limitations of PIs

Measuring performance does not automatically improve performance. The evidence from the use of PIs in the University sector offers relatively little encouragement to those whose primary concern is the quality of courses. The statistics available to date, whilst being relatively 'hard' data, refer more to operational efficiency than to effectiveness (CNAA, 1991).

There are limitations in using Performance Indicators. Here are some of the limitations discussed by Riley (1994) and Rumbold (in DES, 1989, 382/89):

1. Indicators of 'what' - value judgment of 'success', 'effectiveness', 'outcomes'

What is lacking from the debate about PIs is the purposes which their use might serve, and an understanding of pluralism in educational debates about valuable processes and outcomes.

2. Possible over-emphasis on value for money, market, efficiency. A simplistic use of data on 'cost (or price) per student' may lead to erroneous conclusions about relative value for money when comparisons are being made between institutions offering the same degree programmes but in which there are marked disparities of sophistication and underlying research, and hence of baseline costs (CNAA, 1991).

3. Indicators as ends rather than means to evolution. PIs cannot by themselves give us insight into the future, nor suggest ways in which policies ought to be modified or improved. The value of the indicators depends entirely on how useful they are in the decision-making processes of managers. To be an indicator, a piece of information must be able to be used to inform decision-making.

4. Tell only part of the story. By their nature, PIs are a 'dipstick' measurement, a small sample of a whole. As a small selection of a universal set of PIs, they provide only partial enlightenment as to the health of a system.

5. PIs are only understandable in the CONTEXT of an individual institution (due to differences in clulture and environment). Considered in isolation, Performance

Indicators (PIs) are open to misinterpretation and misuse. They need to be understood in terms of the environment and ethos in which they are found.

6. Leads to unfair comparisons across schools and LEA league tables and possible self-fulfilling prophecies. It is not helpful to make comparisons between individual schools and colleges on the basis of raw examination results alone. Such information ignores socio-economic measures, and measures the progress of children who start at different initial levels. Other factors have to be recognised as affecting performance. What might be a modest achievement for some schools would represent performance of a high order indeed for others. The self-fulfilling prophecy is that once labels are attributed to schools, they may perform in ways that confirm those labels.

7. Spurious 'accuracy' of quantitative PIs. Relatively little attention has been given to aspects of course quality. The tendency is to convert qualitative information into numbers. With performance indicators, numbers and measurement predominate. Rich qualitative information often providing depth of explanation and understanding may be lost or ignored.

8. Institutions can be swamped with management information. There is a need to decide in advance on a limited number of key pieces of information which will help with monitoring and planning.

Helsby & Saunders (1993) considered four further principal objections to the use of PIs:

- (1) deprofessionalises teachers by reducing the professional power of them;
- (2) their use results in partial and distorted evaluations;
- (3) do not work as indicators of performance because causal relations cannot be demonstrated; and
- (4) performance indicators have little development value.

6. Examples of Indicators in Use in Education

Education indicators are part of the search for information about educational outcomes and part of an evaluative system. The belief which supports the development of education indicator systems is that the preparation of information will enhance the conditions for improvement (Riley,1994).

Education indicator systems are designed to strengthen monitoring and evaluation and provide accurate and comprehensive information as a basis for effective policy-making and improved educational outcomes.

There are numerous models of indicators which could be applied to educational context, each with very different features. 'Consultation Document on Performance Indicators for Schools' (CIPFA, 1988).

- The Economic Model where typical efficiency indicators could be:
 - pupil teacher ratios.
 - student participation rates.
 - cost per pupil.

- The Educational Model which takes a more qualitative approach. This model is more related to what goes on in schools and in individual classrooms. This includes:
 - the nature of teaching.
 - the nature and the quality of the learning process.
 - the adequacy and suitability of materials.

- The Political Model. Typical indicators preferred by politicians in this model might be:
 - level of community use of schools.
 - rises in national exam performance.
 - involvement in Parents and Teachers Associations / Governing Bodies.

- The Systems Model, which adopts a more comprehensive systems management approach, considers education as a system and then uses an input - output model to monitor its performance. This model is concerned with measuring the level and effectiveness of the education based on the resources given to education.

An example of a systems model will now be presented by reference to Dunkin and Biddle (1974) which consists of four central features: input, context, process and outcome (see figure 3.2).

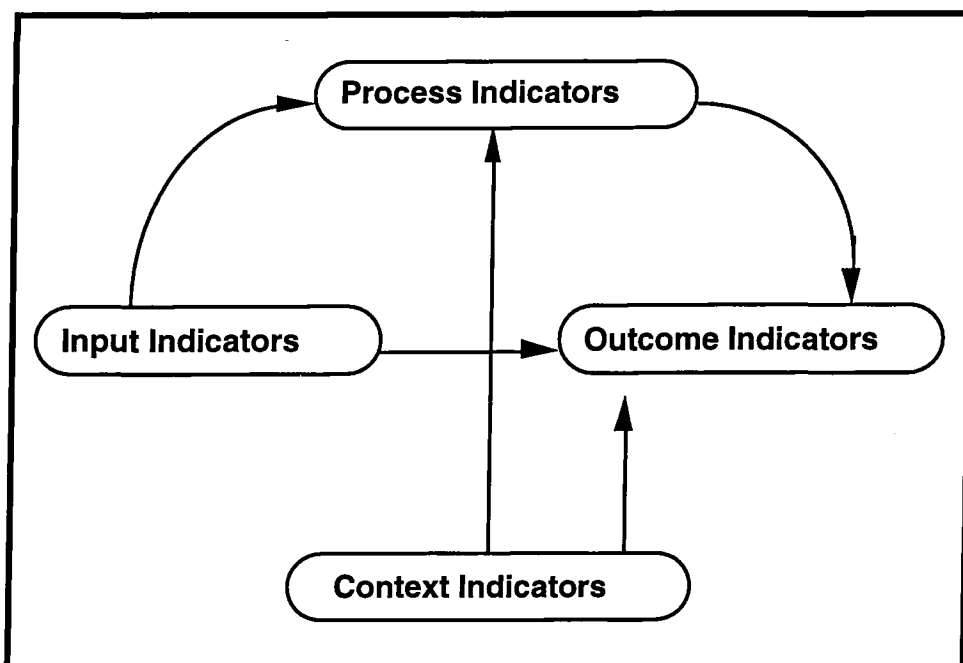


Figure 3.2: *A curriculum based model (from: Dunkin & Biddle, 1974)*

Input Indicators: represent the ingredients or characteristics of education which are many and complex. Examples of resource inputs to the delivery of a course are: staff, educational equipment and materials of various kinds, accommodation and student support services.

Input Indicators

- ▶ teachers characteristics: number, age, gender, experience, qualifications.
- ▶ students characteristics: number, age, gender, social class, level of entrance.
- ▶ admission rate: number of students admitted as a proportion of applicants.
- ▶ student-teacher ratio.
- ▶ non-academic staff characteristics: number, age, gender, experience, qualifications.
- ▶ funding available

Context Indicators : the setting in which the course takes place, the resources available (materials, equipment, technology), student accessibility to the course and the competence of the teacher to teach the course are essential aspects.

Context Indicators

- ▶ average class size in lectures, laboratories or workshop activities.
- ▶ average teacher workload (teaching hours per week)
- ▶ physical resources: libraries, buildings and equipment, maintenance.
- ▶ books and other material available
- ▶ living and study conditions for students.
- ▶ management .
- ▶ arrangements for special needs

Process Indicators: are concerned with what needs to happen within the institution, and especially within the teaching and learning situation, in order to achieve the desired outcomes. According to Helsby and Saunders (1993), process indicators generally refer to the strategies, interactions and methods that teachers use to support the learning of their students, or that educational managers use to achieve effective management.

Process Indicators

- ▶ quality of curriculum management
- ▶ tutorial work
- ▶ provision and use of tutorial time
- ▶ relationship: teacher / student
- ▶ attendance and punctuality: year groups, gender, course

Outcome Indicators: these relate to consumer issues such as value for money, fitness for purpose and professional development of the individual. A point to be made here is that outcomes must be understood and analysed against the quality of inputs. 'Outcomes considered in isolation of inputs, context and processes is simplistic and insensitive' (Waddon & Baker, 1991).

Outcomes Indicators

- ▶ graduates: number
- ▶ records of Achievement / Profiles
- ▶ average time required to produce a graduate compared with the time planned
- ▶ dropout rate : number of students who leave during the course without taking final examinations, as a proportion of students enrolled at the beginning.
- ▶ repetition rate : the number of students who repeat a stage of training as a proportion of the students enrolled in that stage in the previous year.
- ▶ pass rate: the number of students completing their courses successfully.
- ▶ research output
- ▶ publications per member of staff
- ▶ unit cost per student per year

Using this input-output model, here are some examples of indicators which according to the 'Consultation Document on Performance Indicators for Schools' (CIPFA, 1988) should be synchronised with basic principles, such as:

- (a) related to the institution aims and objectives;
- (b) reliable so far as possible, and able to be standardised;
- (c) as few as are needed to achieve their purposes;
- (d) as acceptable as possible to those who use them;
- (e) capable of conveying messages and throwing up warning signs.

Fitz-Gibbon (1996) suggests some widely applicable criteria to judge the usefulness of performance indicators, derived from a logical analysis of the features that performance indicators must have if they are to be valuable for system feedback. These criteria can be grouped into five main concerns: that the indicators shall be relevant, informative, acceptable, beneficial and cost-effective. Each set of criteria leads to the need to undertake certain actions as shown in the following table:

Criteria	Actions
<p>Relevant</p> <ul style="list-style-type: none"> ▶ Valued goals for identified units of management. ▶ Indicators refer to outcomes over which staff have influence. <p>Informative</p> <ul style="list-style-type: none"> ▶ Indicators are contextualised. ▶ Indicators are fed back to the relevant units of management. <p>Acceptable</p> <ul style="list-style-type: none"> ▶ Indicators are perceived to be fair. ▶ Indicators are accessible. ▶ Indicators are explained. ▶ Indicators are incorruptible. ▶ Indicators are checkable. ▶ Indicators change if the unit change its performance over time. <p>Beneficial</p> <ul style="list-style-type: none"> ▶ Behavioural implications of the indicators are beneficial. <p>Cost-effective</p> <ul style="list-style-type: none"> ▶ Indicators are of reasonable cost. 	<ul style="list-style-type: none"> ▶ Create consensus on goals. ▶ Locate units of management. ▶ Take account of context. ▶ Design good feedback procedures. ▶ Include alterable process variables. ▶ Keep checking validity and equity. ▶ Provide statistics with a human face. ▶ Check on impact use. ▶ Check costs and benefits.

7. Summary

The term 'performance indicator' has come from the world of industry and recently used in education.

Considering the two words separately as does Rumbold (1989), an indicator gives an indication of something which may require further investigation. But an Indicator of what? Performance. However, indicators are not ends in themselves. They must be interpreted in context. Considered in isolation, Performance Indicators (PIs) are open to misinterpretation and misuse. They must be always articulated with respect to goals and objectives. It should be noted that the indicators on their own are neutral in respect of validity: it is only when they are attached to purposes that estimates can be made of their validity. For example,

Staff Student Ratio (SSR) is a reasonable indicator of institutional efficiency, but not of teaching effectiveness.

One individual indicator only gives limited information. That is why it is necessary to develop a range or a system of indicators. This system needs to be more than a simple gathering of information. Information needs to be relevant to the aims, goals and objectives of the Institution, and of direct use and value in a policy making process.

What has been seen sometimes is an amount of statistical information without real purpose. Not all statistics or pieces of data are indicators. Some information is useful to judge the performance of the institution, but needs a reference point against which the information can be judged. Frequently errors in available statistical data and incorrect interpretation of these simple indicators may seriously affect their usefulness as a basis for designing appropriate interventions.

Performance indicators, if they are to be developed, need to be much more finely differentiated in terms of their purpose, their audience, their use and their source.

To summarise the current position, the growing demands for wider educational accountability, coupled with prevailing concerns for efficiency and cost-effectiveness, have led to an increasing emphasis upon the use of performance indicators. The import of this primarily economic concept from industry into education is symptomatic of the New Right's faith in market forces, competition and consumer choice as the key ingredients for success in the management of public services, and as a preferred alternative to the more traditional reliance upon professional judgment. Despite their obvious promotion, however, consensus on the definition of educational performance indicators remains elusive.

Having drawn the distinction between the use of Performance Indicators (PIs) in respect to institutional accountability within the general higher education system and their use in internal Quality Assurance / Quality Control processes, the thesis now addresses one of its central purposes - 'effective practice' in quality assurance in some Universities in the U.K..

CHAPTER 4

Quality Management in Higher Education: Examples of Some British Universities

Chapter 4

Quality Management in Higher Education: Examples of some British Universities

Introduction

The principal purpose of this chapter is to examine the arrangements in the U.K. Universities for quality assurance. The chapter therefore engages the practice of quality assurance in higher education. Evidence suggests that more and more institutions of higher education have been actively encouraged to introduce quality assurance systems. Universities are also attracted by the idea of quality enhancement which will improve, if not quality itself, then the management of quality.

Quality assurance developments started in United States and United Kingdom colleges in the late 1980s as part of a political movement concerned with: mission statements, quality assurance, quality management, quality enhancement, performance indicators, accountability (including accountability to the public), quality service, 'economy, efficiency and effectiveness', value for money, value addedness, productivity, benchmarks, targets, goals and objectives and appraisal, for example. Each term has become part of political, organisational and managerial language. A great deal has been achieved since the 1980s. Further education is the sector of education which pioneered many interesting quality developments, including, importantly, the adaptation of industrial models. However, the quality movement is still relatively new, and ideas and systems of quality assurance are still developing.

The development of quality assurance has made considerable progress in further education in recent years because there is a growing recognition that quality is the key to competitive advantage. In a world that is becoming economically increasingly competitive, producing education and training of the highest quality has become an imperative for developed and developing societies. Assuring high quality education and achieving quality enhancement have become a key part of education reform and development in further and higher education.

The term 'quality assurance' in education is used in different ways by different writers, and attempts at a precise definition are fraught with difficulty. The 1991 White Paper on Higher Education defines three components of quality assurance with respect to higher education:

- ▶ *Quality Control* : the mechanisms within institutions for maintaining and enhancing the quality of their teaching.

- ▶ *Quality Audit* : external scrutiny aimed at providing guarantees that institutions have suitable quality control mechanisms in place.

- ▶ *Quality Assessment* : external review of, and judgments about, the quality of teaching and learning in institutions.

This chapter now presents current experiences of British Universities implementing quality assurance systems. Ten institutions are portrayed using the framework of 'Guidelines on Quality Assurance' published by the Higher Education Quality Council (1994). These guidelines provide a checklist for quality assurance and control which institutions are able to use, elaborate and adapt according to their own traditions, cultures and decision-making processes.

1. Examples of Practice of Quality Assurance Arrangements

Ten British institutions of higher education are analysed, following a trawl of quality assurance procedures in forty institutions. One criterion for inclusion in this analysis were that they are fairly representative of U.K. universities and had Handbooks on quality assurance that were provided. However, another criterion for inclusion was institutions whose systems for quality assurance were relatively robust, detailed and mature.

The institutions selected were (1) from England; University of Sheffield, University of Portsmouth, University of East-Anglia Norwich, and Manchester Metropolitan

University; (2) from Wales: University of Glamorgan, Trinity College Carmarthen, Gwent College of Higher Education, and Coleg Normal Bangor (now part of the University of Wales, Bangor), and (3) from Scotland: University of Paisley and University of Glasgow.

2. Guidelines for Quality Assurance Systems

The Higher Education Quality Council (HEQC) was created in May 1992 by the Committee of Vice-Chancellors and Principals (CVCP), the Conference of Scottish Centrally Funded Colleges (CSCFC) and the Standing Conference of Principals (SCOP) under new arrangements for quality assurance introduced following the Further and Higher Education Act, 1992. Funded by subscriptions from individual universities and colleges of higher education in the United Kingdom, the HEQC mission is to contribute to the maintenance and improvement of quality at all levels in institutions of higher education in the United Kingdom. As a contribution to the attainment of its mission, a useful checklist for quality assurance was provided to help those institutions that wished to compare their present arrangements with the guidance provided in the guidelines document (HEQC, 1994).

The issues that should be addressed in a University's quality assurance policy according to HEQC (1994) are presented below, although the emphasis given to each item is at the institution's discretion, depending on particular needs and issues important in their scheme (see Figure 4.1). These issues are used in this chapter as a structure for analysing the ten different institutions' quality assurance systems.

According to the HEQC guidelines (1994), these are the aspects to include in a quality assurance scheme:

- **Establishing a framework for quality**
- **Reviewing quality assurance systems**
- **Admissions policies**
- **Admissions requirements**
- **Information for prospective students**
- **Pre-entry guidance**

- **The selection process**
- **Facilitating student entry**
- **External programme approval**
- **Internal programme approval**
- **Programme information for students**
- **Teaching and learning**
- **Evaluation of programmes of study**
- **Evaluation of teaching and learning**
- **Staff appointment**
- **Staff development and training**
- **Staff appraisal**
- **Postgraduate research students**
- **Student support services**
- **Student grievance**
- **Student progress**
- **Student assessment**
- **Appeals**
- **External examiners**

2.1 A Framework for Quality

The establishing of a framework for quality as well as ways of reviewing quality assurance systems are characterised in the guidelines (HEQC, 1994) as follows:

2.1.1 Establishing a framework for quality

An effective quality assurance and control system is characterised by agreement throughout an institution on purposes and methods of delivery of aims and includes a feedback loop to inform and improve the quality of educational provision (HEQC, 1994).

An effective quality assurance and control system is supported by wide participation, effective channels of communication, the collection of acceptable evidence, the acceptance of responsibility by staff and students, and an institutional commitment to staff development and training.

Universities Categories	Sheffield	Portsmouth	UJA Norwich	Manchester Metropolitan	Glamorgan	Trinity C. Carmarthen	Gwent	Coleg Normal Bangor	Paisley	Glasgow
ENTRY TO HIGHER EDUCATION										
Admission Policies	✓	✓	✓	✓	✓		✓			
Admission Requirements				✓	✓	✓	✓			✓
Information for Prospective Students		✓		✓		✓				
Pre-entry Guidance										
The Selection Process			✓			✓				
QUALITY OF THE STUDENT EXPERIENCE										
External Programme Approval		✓		✓	✓				✓	
Internal Programme Approval		✓		✓	✓				✓	
Programme Information for Students		✓			✓					
Teaching and Learning			✓		✓	✓				✓
Evaluation of Programme of Study										
Evaluation of Teaching and Learning			✓				✓			✓
Staff Appointment	✓									
Staff Development and Training	✓	✓	✓		✓	✓		✓		
Staff Appraisal	✓	✓				✓				
Postgraduate Research Students	✓	✓	✓							✓
Student Support Services	✓				✓	✓	✓			✓
Student Grievance	✓	✓			✓					
STUDENT OUTCOMES										
Student Progress			✓	✓			✓	✓	✓	✓
Student Assessment			✓	✓	✓	✓	✓		✓	✓
Appeals	✓	✓	✓		✓	✓				
External Examiners	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Figure 4.1 - Handbooks of Quality Assurance of the British Universities analysed

2.1.2 Reviewing quality assurance systems

Institutions should ensure that they review the operation and effectiveness of their quality assurance and control procedures, and that the means adopted reflect the particular approach to quality of each institution (HEQC, 1994).

To understand the way in which the components of a quality assurance system work in institutions, simple questions have been used by the Division of Quality Audit (DQA) such as:

- What are you trying to do?
- Why are you trying to do?
- How are you doing it?
- Why are you doing that way?
- Why do you think that is the best way of doing it?
- How do you know it works?
- How do you improve it?

2.2 Entry to Higher Education

There is a range of activities that relate to entry to higher education including admission policies and requirements; providing information to prospective students; offering pre-entry guidance; and operating various selection processes. The support given to institutions by the guidelines on quality assurance (HEQC, 1994) are presented below.

2.2.1 Admissions policies

Issues to be addressed in the admission procedures are:

- equality of opportunity for all applicants;
- those admitted to a programme of study should be able to fulfil the objectives of the programme and achieve the standard required;
- evidence by applicants of relevant personal, professional and educational experience;
- students' programmes of work can be completed in the designated timescale and proper supervision provided and maintained.

2.2.2 Admissions requirements

Institutions may wish to provide clear and accurate information on all the available admission routes and any associated requirements for entry to a programme of study.

2.2.3 Information for prospective students

Institutions may wish to provide a range of information that meets the needs of prospective students.

2.2.4 Pre-entry guidance

It is important to ensure that appropriate structures and provision operate to offer pre-entry guidance and support for prospective students.

2.2.5 The selection process

Institutions may wish to:

- make the details of its selection clear to applicants;
- ensure that the staff responsible for admissions are aware of entry policy and criteria;
- ensure that admissions staff are knowledgeable with the programme syllabus and available options;
- provide guidance to admissions staff on which students should be interviewed;
- ensure that the selection procedure used operates fairly for all types of applicants, regardless of their background;
- ensure that the staff are suitably trained to select all types of applicants and to make fair and sound judgments having regard to the admission criteria;
- ensure that satisfactory procedures are established for selecting applicants and that procedures are consonant with institutions policy.

2.2.6 Facilitating student entry

Quality assurance and student entry aims are required to ensure that institutions operate quality control mechanisms to monitor their admission and selection policies.

From the ten institutions of higher education analysed, eight universities addressed admissions procedures in their quality assurance systems. However, the emphasis given differs from institution to institution. For example, the University of Portsmouth (in their Quality Assurance Handbook, 1993) only mention the access and admissions as a component of their quality assurance system with no further details on regulations or other procedures.

The quality assurance system for Trinity College Carmarthen (1996) comprises a Quality Assurance Unit and a Process of Internal Validation and the Monitoring of Courses. The latter includes preparation of documents for internal validation, and arrangements for internal validation. This institution presents a validation and course development checklist with five main sections: (1) general aims and objectives of the institution; (2) the course; (3) assessment; (4) students; and (5) resources. The selection procedures and entry requirements are featured within the student section.

The Manchester Metropolitan University (1996/1997) has in its quality assurance system a 'Definitive Course Documentation' whose purpose is to provide an explicit and accurate statement of the approved course specification for a programme of study, so that the University and, where appropriate, external agencies can understand and use course information for archive or development purposes.

A Definitive Course Documentation is expected to cover the following information: basic course details, curriculum, regulations for the admission of students, regulations for the progression, assessment and reassessment of students, course organisation and management.

Concerning the regulations for the admission of students, The Metropolitan University (1996/1997), The University of Glamorgan (1995) and Gwent College of Higher Education (1993) consider that a student will be admitted to the beginning or to subsequent stages of the programme of study, by:

- identifying the knowledge and skills required at admission and relating these to the length, content and objectives of the programme;

- setting out the criteria and means by which the suitability of student for admission will be judged;
- setting out, where appropriate, the procedures to be used in assessing for the purposes of Honours classification any relevant previous work of students admitted with specific credit.

The University of Glamorgan also mentions that:

- regulations may provide for other circumstances to enable students with specific attainments and needs to be admitted to schemes, including entry at different stages of any particular scheme. For instance, students with appropriate credit might be permitted to complete their programmes of study in a shorter time than the norm.
- In some areas of study, degree schemes will be designed to build on other higher education qualifications, such as those of the BTEC, SCOTVEC and NCVQ approved courses. Where appropriate, scheme admissions regulations will take account of these qualifications.

The University of Paisley (1995/1996) considers the following issues in course validation: (a) the rationale of the course; (b) the aims and objectives; (c) the structure; (d) the content; (e) the admissions, progression and transfer of students.

With respect to the last issue, it mentions:

- The criteria for the admission of students in relation to the objectives, teaching methods and assessment, including where necessary consideration of issues relating to equal opportunities, and to the admission of students with special needs.
- The arrangements for students progression.
- The scope for students to transfer from and into the course at different stages.

In assuring quality, the school review body of UEA-Norwich (1995) includes the following aspects in their admissions practice:

- does the UEA Prospectus and school publicity material provide clear and accurate information about admissions procedures and associate requirements for entry?

- is there a continuing market demand for the degree and has the School succeeded in tapping it?
- are the admission staff for the degree aware of its particular entry requirements, the procedures and criteria for admission?
- are there appropriate mechanisms to ensure that the admissions policy and procedures are implemented effectively?

What Else Should be Presented?

The subject of equality of treatment in admissions procedures is a sensitive topic. Analysis of this topic is non-existent in almost all the universities analysed. A notable exception is Sheffield University (1995), which is committed to a fair and equal admissions for all prospective students. It is this University 's policy to treat all people equally irrespective of race, ethnic origin, language, gender, marital or parental status, sexual orientation, creed, disability, age, socio-economic class or political belief. Nevertheless, it fails to reveal any statistic information which proves that the policy is working or that there is a monitoring of this policy.

Apart from a consideration of statistic information, there should be quality assurance within each department to show that there is fairness in interviewing procedures for selection, the equitable allocation of provisional grades ('A' level), as well as equality of opportunity for those with the highest grades during Clearing. Effective and equitable selection mechanisms are thus necessary in order to allocate students effectively within a differentiated higher education system.

"Each institution needs to define its niche within the overall system and choose its students accordingly. Some institutions will require higher degrees of selectivity than others. Efficient and objective selection procedures are needed to identify the most promising students in an equitable manner" (Salmi, 1992, pg. 6).

University access is a controversial political issue and produces a demand which often exceeds the supply of places. Selection policies and procedures must be seen as fair if university entry is to be accepted as legitimate. Considerations of quality and representativeness interact to produce specific selection policies.

Achieving the right balance is not easy. In the process, care is needed to ensure that student entry is representative and fair in terms of geography, culture and gender. There will be a risk of losing skills and talents in students and national cultural growth by not admitting to university all sectors of society.

Concerning course information documentation, the University of Glasgow (1991) and the University of Paisley (1995/1996), provide good examples of the aspects that should be incorporated: the place of the course in a degree programme, including necessary prerequisites; the aims and learning objectives of the course in terms of the attainment of knowledge, understanding and skills; a detailed outline of the course content; teaching hours; specifying the teaching method to be used; details of any course work and class examinations; policy on exemptions, where appropriate; details of course texts and required reading; methods of assessment; assessment regulations.

Faculties and Departments may wish to consider some or all of the following for inclusion (University of Glasgow, 1991): the location of the departmental buildings and notice board, the best nearby restaurants and other places of interest. A departmental Who's Who, duties of key staff and availability for 'open surgeries', description of what is meant within the department by various terms (e.g. essay, dissertation, tutorial, workshop, seminar), membership and terms of reference of staff/student committee(s), information on subject or professional clubs and societies, advice or tips on where to purchase good quality equipment at the best prices, how to answer examination questions, health and safety information, and emergency procedures.

2.3 Quality of the Student Experience

This section considers the aspects of the student experience that relate to the operation of programmes and support services offered by institutions, including: the external and internal approval of programmes; the programme information given to students; the quality of teaching and learning; the evaluation of programmes and of teaching and learning; staff appointment, training, development and appraisal; particular issues facing research postgraduate students; student support services; and grievance procedures.

2.3.1 External programme approval

Institutions may wish to offer guidance and support to staff regarding the external accreditation available for programmes, the advantages of securing such accreditation, and the procedures and criteria to obtain accreditation (HEQC, 1994).

2.3.2 Internal programme approval

When approving new academic programmes or modular framework, or revising existing programmes, institutions may wish to have quality assurance systems that reflect the structure of academic provision and maintain the quality of programmes and the standards of awards (HEQC, 1994).

Institutions may also wish to devise appropriate structures and procedures for the quality assurance of credit from prior learning, work-based and other experiential learning, together with mechanisms for assuring coherence within individual awards.

Institutions may further wish to state the nature of the information which should be included in new programme proposals and how such information is to be used by those charged with responsibility for developing and approving programmes.

In formal procedures to scrutinise programme proposals, institutions may wish to include:

- details on who will review the proposal, with external representation as appropriate;
- a framework for considering the programme proposal to include a mechanism to determine the academic credibility and resource implications of the proposal;
- arrangements, where appropriate, for external professional body interest to be included; and;
- details of the relationship and requirements of the Senate or Academic Board in the approval process.

2.3.3 Programme information for students

Institutions may wish to consider producing information for students on their chosen programme of study (HEQC, 1994).

The overall purpose of course approval procedures is to secure for students a high quality experience of higher education and to ensure that awards at a particular university are comparable with those awarded throughout Higher Education in the United Kingdom.

The University of Paisley is a good example of course approval because in its handbook for quality assurance, there is a detailed consideration of steps for the course approval. The definitions of the various stages in the validation, approval and monitoring and review of courses are set in the University of Paisley quality assurance handbook 1995/1996 and reproduced below for reference:

Validation : is the process whereby a judgment is reached as to whether a particular course or module designed to lead to, or contribute to, an academic award, meets the University's requirements for the standard of that award.

Approval : is the outcome of the validation process when a course or module is formally judged to satisfy the University's requirements.

Subject Health Review : is the quinquennial internal and external peer review of the academic health of the total taught and research provision in that subject area.

Monitoring : is the process by which a course or module is critically appraised at regular intervals, normally annually by the course committee and relevant Faculty, between successive reviews to ensure that the required standards are being maintained.

The authority for the approval of University courses is vested in the Senate of the University of Paisley which has ultimate responsibility for the validation, monitoring and review process. The general responsibilities of the Senate in connection with Validation and Review are:

- ▶ to ensure that courses are designed and operate in accordance with University's approved principles and regulations;
- ▶ to maintain the standards of the institution's awards and ensuring that no course continues to operate without adequate staffing and other resources;
- ▶ to establish and maintaining procedures for the regular monitoring of courses and subject health review;
- ▶ to ensure that once a course has been approved, any conditions for approval are implemented, and that any recommendations arising from the Validation process are fully considered and appropriate action taken;
- ▶ to ensure that reports of External Examiners are received, formally considered and that where necessary appropriate action is taken;
- ▶ to ensure that the documentation for each University course is maintained as stipulated in the Academic Standards Committee requirements for course documentation.

Procedures for new course proposals:

The University of Paisley requires three key stages for course approval:

1. Faculty Board approval
2. Policy and Resources Committee and Senate approval
3. Validation

1. Faculty Board approval

New programme proposals (and additions of new titles to existing programmes) should normally be submitted to the relevant Faculty Board. Faculty Boards have the primary responsibility for the management, delivery and monitoring of courses assigned to them.

In cases where courses are of a multi-disciplinary nature, where more than one Faculty Board may be involved, the proposal should be submitted through both Faculty Boards. Only exceptionally would proposals be directly submitted to the Policy and Resources Committee.

2. Policy and Resources Committee approval

Following Faculty Board approval, the proposal form should be submitted to the Registrar for the consideration of the Policy and Resources Committee to ensure that the proposal is consistent with the University's Strategic Plan, that the course has identifiable objectives and market, and that adequate resources will be available.

Courses are formally allocated to a Faculty by the Senate on the recommendation of the Policy and Resources Committee. If the proposal is approved by the Policy and Resources Committee and subsequently by Senate, the designated Course Leader is notified and a Validation event is organised.

A Drafting Team (which is normally appointed by the Faculty Board) is responsible to prepare the course documentation for a new course or to charge the Course Committee for existing courses to take this role. The Course Committee should include the proposed Course Leader, key syllabus developers and deliverers and may also include professional advisers and experts in particular educational areas.

3. Validation

Procedures exist for the approval of courses with alternative modes of delivery such as: Franchise courses, distance learning, joint courses with other institutions (including overseas), and university courses offered off campus, which because of their complexity, require additional guidance and appropriate approval procedures.

Documentation for validation of new programmes must be prepared in accordance with the University requirements, taking full account of the University's regulations for the admission and assessment of students and for the standards and

conferment of awards. The document should form a single volume with header/ footers stating the title of the programme and year of validation. A standard format should be used, having in the front page of each document basic course data as shown in the following frame.

<i>Title of Programme of Study :</i>		
<i>Academic Award(s), Duration and Mode of Delivery :</i>		
		<i>(i.e. Optional / Compulsory</i>
		<i>Sandwich Degree 4 years</i>
		<i>Sandwich Honours Degree 5 years</i>
		<i>Full-time Degree 3 years</i>
		<i>Evening Provision, Distance Learning)</i>
<i>Named Exit Awards and Duration:</i>		
<i>Department Responsible:</i>		
<i>Faculty Responsible:</i>		
<i>Campus for delivery:</i>		
<i>Other Contributing Departments:</i>		
<i>Course Leader:</i>		
<i>Date of original Validation:</i>		
<i>This version of course commences (month and year):</i>		
<i>Date of First Conferment</i>		
<i>Previous version of course concludes session:</i>		
<i>(i.e. last cohort)</i>		
<i>Student Intake:</i>	<i>Max:</i>	<i>Min:</i>
<i>Period of Registration:</i>	<i>Max:</i>	<i>Min:</i>
<i>Relationship with Professional Body:</i>		

Other documentation should also be considered like the course structure with a table giving the names of the modules offered and indication as to options and possible pathways; a glossary of terms for those courses using technical vocabulary; the aims and objectives; regulations (admissions requirements); course administration; assessment regulations; resources and research; staff lists and recognised teachers of the University.

Following the organisation of documentation comes the validation event where a range of issues are explored such as:

- General Considerations
- Guidance on Human Resources: quality of the staff, their qualifications and experience, and the calibre of leadership at all levels are of paramount importance.

- Guidance on Other Resources: the physical resources needed to sustain the course including relevant library and computer provision, media resources, specialist laboratory and studio facilities and specialist equipment, need to be examined.
- Guidance on the Course: the following issues should be considered in the validation of the course itself. The relative importance of particular issues will depend upon circumstances:
 - (a) *the rationale for the course*
 - (b) *the aims and objectives of the course*
 - (c) *the structure of the course*
 - (d) *the content of the course*
 - (e) *the admissions, progression and transfer of students*
 - (f) *the assessment of students*
 - (g) *the management of the course*
 - (h) *policy*
- Guidance on Schemes of assessment and Examinations

The outcomes of the validation can be as follows, with 'recommendations' and 'observations' attached to the decision:

- (a) approval without time limit subject to the University's monitoring requirements.
- (b) approval for a specific period: it may be decided that approval will be limited to less than five years, for example, where the course is in a new or rapidly developing field of study, or because major changes are in prospect.
- (c) conditional approval: approval may be conditional upon the fulfilment of certain requirements by a specific date.
- (d) refusal / withdrawal of approval: approval may be refused / withdrawn if there is evidence that the course does not meet minimum acceptable standards.

A formal report on the Validation meeting is prepared by the representative of the Registrar's Office and confirmed by members. The Academic Standards Committee then recommends approval to Senate as the validating authority.

Where the report requires alterations to the proposal, the Faculty Board in consultation with the Registrar's Office is responsible for ensuring that such modifications are incorporated within a final Definitive Course Document.

The Definitive Course Document is then lodged with both the Registrar's Office and the University Library.

The attainment and maintenance of standards and the motivation of students are, to a significant degree, dependent on the quality of teaching. It is important therefore, that staff should not only be properly qualified and experienced but should also be encouraged and supported to enrich their teaching through participation in research and related academic or professional activities.

In the first part of this analysis, the following aspects will be considered: teaching and learning, evaluation of programme of study, and evaluation of teaching and learning. In the second part, aspects such as staff appointment, staff training and development and staff appraisal will be discussed.

2.3.4 Teaching and learning

Institutions may wish to consider how different teaching strategies bring about their intended student learning objectives and enable students to take maximum responsibility for their own learning (HEQC, 1994).

2.3.5 Evaluation of programme of study

According to the guidelines, institutions may wish to encourage the adoption of a variety of ways to ensure that programmes of study are running as planned. These might include ad-hoc, day-to-day checks on details, annual monitoring and formal review processes.

In the evaluation of programmes of study, the following points need to be taken into account:

- the organisation and location of the programme (e.g. modular programme, work-based / franchise programme);
- the frequency of evaluations and who conducts them;
- the relationship to external review procedures;

- a mechanism to review or monitor programmes;
- what happens as a result of the evaluation;
- a mechanism for final endorsement of the review.

2.3.6 Evaluation of teaching and learning

Institutions may wish to consider how best to review the effectiveness of teaching and students learning, and where appropriate, to develop further approaches to evaluation. (HEQC,1994)

The UEA - Norwich (1995) is here considered as an example in this teaching and learning category of quality assurance. The University defined, in its strategic plan for the year 2000 (approved by the Council in February 1995), the strategies and targets for teaching and learning. While recognising that there is no single prescription for achieving high quality teaching and learning, the following factors are likely to indicate high quality teaching and learning, with each factor subject to local variation and emphasis on subject basis. Thus high quality teaching and learning at UEA-Norwich:

- is based in a a set of clearly defined and carefully explained aims and objectives for each degree course and unit of teaching;
- takes account of the needs, abilities, experience and expectations of students, engages with students at an appropriate level of understanding, explaining the material plainly and helpfully;
- motivates students to learn by generating an enthusiasm for the subject;
- encourages students to study independently, taking responsibility for their own teaching;
- uses teaching aids and techniques that are appropriate to the degree course and unit of teaching;
- encourages and facilitates student participation in the learning process through classroom-based activities such as group discussions and problem solving and collaborative project work;
- uses valid and fair methods for the assessment of students;
- provides high quality, constructive feedback to students on their work;
- is directly linked to Faculty research, thereby making students aware of the continuing development of the subject;
- is reflective and self-critical.

Guidelines are provided which are intended to give Schools the necessary framework for an effective review and evaluation of the quality of teaching and learning. These guidelines are designed to ensure:

- (1) that the teaching, learning and assessment process is conducted in a satisfactory manner and achieves a given standard;
- (2) that appropriate action is taken by a School when significant problems or difficulties are identified and/or when standards are at risk;
- (3) that the quality of teaching and learning is evaluated in the context of the criteria for high quality teaching and learning mentioned above.

The issues to be addressed when monitoring and evaluating units of teaching or degree courses are:

- Who reviews units of teaching?
- To whom do they report?
- What criteria are used and in what form are they available?
- How are the procedures conducted?
- When are the procedures conducted?

Figure 4.2 illustrates the levels of responsibility in assuring teaching quality at UEA-Norwich.

Assuring teaching quality: levels of responsibility

University of Norwich

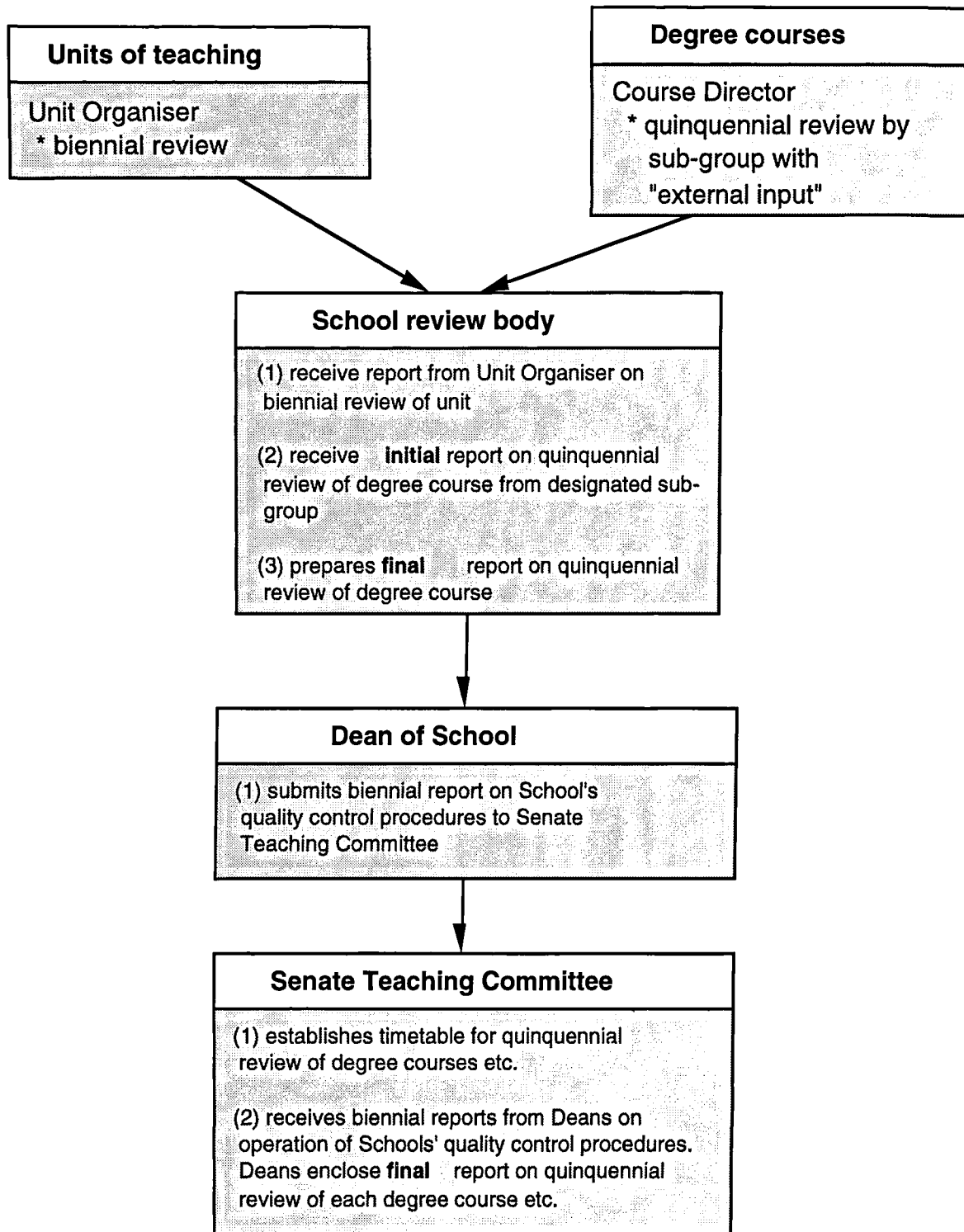


Figure 4.2: Assuring Teaching Quality: levels of responsibility - University of Norwich (1995)

The **biennial review** of a unit should be conducted by the Unit Organiser at least once every two years, and all staff who have contributed to the teaching of the unit since the last review should be consulted.

In the review, the Unit Organiser should include all aspects of planning, organisation and delivery of the unit, referring to appropriate statistical indicators and other relevant data, such as: (1) student numbers (initial number and actual completion); (2) weekly class contact hours; (3) student performance/assessment results; (4) student feedback; (5) any reference to the unit in external examiners' reports; (6) the content and structure of the unit and methods for the assessment of students, with particular reference to any changes introduced.

Following the review, the Unit Organiser should submit a written report to the School's review body which will look for evidence of high quality teaching and learning, including:

(a) organisation and teaching

- is the content and structure of the unit clearly explained with well-defined aims and objectives, both knowledge-and skills-based where appropriate?
- is the teaching well-organised?
- is effective student feedback on the unit sought at any early stage of delivery so that the structure and content may be modified where appropriate and practical, during the later stages?

(b) student learning

- does the teaching of the unit offer effective methods for promoting and assessing student learning?
- are the students motivated and encouraged to study independently?
- are opportunities provided for students to acquire and develop transferable skills?

(c) assessment of students

- are the assessment methods and arrangements clearly defined at an appropriate level and effective in assessing the students' achievement of the unit's aims and objectives?
- is there regular and constructive feedback to students on their work?

Having considered these aspects, the School review body should then make evaluatory comments, where appropriate, and make recommendations. The School review body should also refer matters requiring further discussion to the appropriate body within the School which may in turn refer certain general issues to a higher level of authority within the University.

The procedures for Schools' quality control are examined biennially by the Teaching Committee of the Senate which, with respect to *units of teaching* expects Deans of School to write a report on:

- (a) the operation of their School's quality control procedures over the past two years, confirming that all units of teaching have been formally reviewed, and that such reviews have included the systematic monitoring and evaluation of teaching quality.
- (b) any action taken to maintain and enhance teaching quality within the School.
- (c) any action taken or planned to correct areas of weakness or difficulty within certain units of teaching.
- (d) examples of positive outcomes from the School's monitoring and evaluation teaching quality, including any evidence that:
 - (i) teaching quality and/or student learning has been enhanced, for example through innovatory teaching and/or assessment methods.
 - (ii) students have acquired both general and a range of specialist skills.
 - (iii) students, professional bodies and employers have expressed increased satisfaction with the curriculum, its delivery and outcome.

The Teaching Committee expects Deans to submit a progress report in the following year on any action proposed in (c) above.

The **quinquennial review** at UEA, which applies only to degree courses and related programmes of study, should be conducted by a small group established for each degree course (or related degree courses) by the School's review body. The scale of the review will vary between Schools, depending on their size and academic organisation. The subgroup's membership should include the Course Director(s) whose degree course is under review and relevant expertise external to the School.

The Course Director is responsible for the initial provision of information to the subgroup, including appropriate statistical indicators and other relevant data such as: (1) admissions issues ("input measures"); (2) curriculum organisation and delivery ("process measures"); (3) outcome issues ("output measures").

On completion of the review, the subgroup should present an initial report to the School's review body on all aspects of planning, organisation and delivery of the degree course(s). The review body will look for evidence of high quality teaching and learning including:

(a) Admissions

- ▶ does the UEA Prospectus and School publicity material provide clear and accurate information about admissions procedures and associated requirements for entry?
- ▶ is there a continuing market demand for the degree and has the School succeeded in tapping it?
- ▶ are the admissions staff for the degree aware of its particular entry requirements, the procedures and criteria for admission? Are there appropriate mechanisms to ensure that the admissions policy and procedures are implemented effectively?

(b) Organisation and teaching

- ▶ does the degree course have well defined aims and objectives which are explained to the students? Are those aims and

objectives achieved? Do they meet the needs of students and equip them for subsequent employment?

- ▶ is the degree course well organised with a clearly defined academic coherence? Is its structure and content regularly monitored, reviewed and updated by the Course Director, in consultation with the appropriate Faculty? Is an appropriate range of units available to students? Is the course informed by current research, scholarship and other developments in the subject?
- ▶ where applicable, what quality control mechanisms have been established to monitor the student learning experience during the required period of study abroad and how effective are they? How are the aims and objectives of the period of study abroad achieved?

(c) Student learning and assessment

- ▶ does the degree course encompass a range of effective methods of promoting and assessing learning with students having access to a variety of learning opportunities and experiences, with appropriate academic support and advice?
- ▶ does the degree provide opportunities for the development of: (i) subject-specific and transferable skills, (ii) independent learning abilities?.
- ▶ is the overall student workload regularly monitored, reviewed and, when necessary, adjusted by the Course Director, in consultation with appropriate Faculty?
- ▶ are the methods and arrangements for student assessment clearly explained to students? Are they effective in assessing achievement of its aims and objectives?
- ▶ does the teaching and learning take place in a well designed and supportive environment, characterised by the effective deployment of equipment (including IT facilities where appropriate), library resources, advising and other student support systems?
- ▶ is there evidence that students feedback on the degree course is taken seriously? How is it obtained and assessed and by whom is it discussed?

(d) Student achievement

- ▶ is systematic account taken of students' and external views (e.g. external examiners, professional bodies, accrediting agencies, employers) when internal value judgments and policy decisions are taken about:
 - (i) the curriculum, its delivery and outcomes;
 - (ii) evidence of student and employer satisfaction?
- ▶ is student achievement comparable with that of students on similar degree courses elsewhere, with students acquiring both general and a range of special skills?

The School review body at UEA, after taking full account of the input from the source(s) external to the School, should prepare a final written report on each degree course/related programme of study. In this final report, the School review body should make comments, and where appropriate make recommendations, to indicate where action is being taken to maintain standards and is currently not considered adequate, and refer matters requiring further discussions to the appropriate body within the School, which may, in turn, refer certain issues to a higher level of authority within the University. The final report shall be submitted for consideration by the Teaching Committee of the Senate.

The procedures for Schools' quality control are examined by the Teaching Committee of the Senate which, with respect to *degree courses*, expects Deans of School to write a report on:

- (a) the operation of their School's quality control procedures over the past two years, enclosing the final written reports on those degree courses/related programmes of study whose quinquennial review has been undertaken within that period, and confirming that such reviews have included the systematic monitoring and evaluation of teaching quality.
- (b) any action taken to maintain and enhance the quality of the organisation, delivery and student achievement on a degree course/programme of study reviewed during that period.

- (c) any action taken or planned to correct any areas of weakness or difficulty identified in a degree course/programme of study reviewed during that period.
- (d) examples of positive outcomes from the quinquennial review of a degree course/programme of study during that period.

The Teaching Committee expects Deans to submit a progress report in the following academic year on any action proposed in (c) above.

A slightly different variation on this theme is to be found in the University of Glasgow Quality Assurance Handbook, 1991. A checklist of criteria for the evaluation of teaching is provided:

Teaching Materials

- hand out material
- course guides and handbooks
- laboratory manuals
- reading lists
- problems and activity sheets
- computer program
- video material

Development and Design of Courses

- the coherence of course structure
- clarity with which course objectives are formulated - and especially negotiated or contracted with students - so that they are clear about what is required to attain particular standards of achievement.
- scheduled activities which promote students' critical engagement with course content.
- professional /academic appropriateness of course content in terms of its significance, currency and appropriateness for the level of the course and/or the particular students enrolled.
- in-course assessment activities: the quality of feedback to students; the extent to which assessment promotes understanding.
- assessment procedures for grading/certification: appropriateness and fairness.

- appropriateness of the amount of work expected of students.
- extent to which the course takes into account students' entry ability and expectations.

Course Management

- quality of information systems relating to the course elements covered above, and its availability to course participants - and others with valid interests.
- professionalism exhibited in matters of punctuality, coping with unforeseen circumstances, liaison with departmental and institutional 'managers', record keeping, etc.

Classroom Presentation

- clarity of communication with students
- explaining of concepts and ideas
- use of examples and analogies
- structuring and organisation of sessions
- use of visual material, demonstrations
- maintenance of students' interest
- relation of each session to the course as a whole

Out of Class Consultation

- availability to students on a group or individual basis for consultation/counselling
- communicating availability to students
- appropriateness and efficacy of one-to-one interactions

Student Learning and Achievement

- facilitation of good quality learning by students via the activities outlined above, as evidenced by project/assignment work and examination performance
- projection of a properly caring attitude to students: i.e. a concern that they grow positively as individuals, come to understand subject matter, develop integrity and inquiring and critical attitudes

Extra-Departmental Contributions to Teaching

- published articles on teaching
- published texts and other teaching materials
- engagement in research projects related to teaching
- acquisition of teaching development grants
- involvement in subject-teaching associations and other professional educational organisations
- participation in teaching development workshops, conferences.

The University of Glasgow (1991) believes that different groups have different functions in the evaluation of various aspects of teaching. For example, in considering the list above, students are perhaps best placed to assess classroom presentation, whereas teaching/lecturing peers, including the head of department, are better placed to assess the contribution made to student learning and achievement and extra-departmental contributions to teaching. Other items can be assessed by both students and peers. Thus, emphases are given to students' feedback (whether via questionnaires, class discussion or staff/students committee) which should be one major component of the evaluation. Peer and head of department assessment will often concentrate more on the content of teaching, as evidenced by aims and objectives, course descriptions and examination questions.

Departments have a responsibility to be particularly careful in monitoring and evaluating the teaching of postgraduate students, research assistants and any other teaching assistants or demonstrators with limited teaching experience. Such teaching should normally be under the supervision of an experienced member of academic staff. Departments, or the University as a whole, should provide adequate training for teaching assistants and full information on how the course component with which they are involved fits into the course as a whole.

2.3.7 Staff appointment

Institutions should, as mentioned in the guidelines, ensure that their appointments take into account the competence and aptitude of staff with regard to the teaching requirements of their post.

The University of Sheffield (1995) is the only institution from the ten analysed which provides guidelines for the recruitment and selection of staff. These guidelines have been produced to give a helpful point-by-point guide to the existing recruitment and selection procedures and to the modifications which have been incorporated to reflect good employment practice under the University Statement of Policy on Equal Opportunities, the CVCP's guidelines and under the law.

For **recruitment** of staff, the guidelines include: advertising and further particulars, application forms, and monitoring. The **Selection** of staff for any post within the University should incorporate the following points of good employment practice: short listing, interview panels, monitoring and recruitment analysis. The first two should be the responsibility of more than one person.

The Staff Training and Development Unit (which exists within the personnel department) will offer training programmes to all staff involved with the recruitment and selection of staff. All staff with involvement in the employment of personnel are strongly advised to attend such courses in order to receive training in all aspects of current legislation as it relates to the recruitment and selection of staff.

2.3.8 Staff development and training

As in the guidelines, this aims to promote systems and procedures for quality enhancement that encourage and sustain a culture in which all students and staff contribute to a process of continuing improvement.

The University of Sheffield (1995) believes that its staff are its most valuable resource. Their competence, commitment and capacity to change are fundamental to the successful achievement of its current and future goals. Staff development is viewed as having two main functions:

- to enable all staff to achieve individual work and career goals
- to enable staff to make an effective contribution to the achievement of departmental and university goals.

This is the scope of staff development and training in the University of Sheffield:

- (1) Facilities for development and training will be available to all staff, including those working on a part-time or contract basis.
- (2) The University will encourage and support staff to undertake courses and programmes which are relevant to their individual work and career needs and to those of the University's strategic goals. These include:
 - (i) basic, intermediate and advanced level qualification training,
 - (ii) continuing academic and professional development,
 - (iii) development/training in areas related to the organisational needs of the University.
- (3) The University recognises that it has a responsibility to respond to those needs identified through the Staff Appraisal scheme and proposes to work towards the provision of individual training plans for staff arising from appraisal, agreed and approved annually.
- (4) The University is concerned to encourage staff to undertake training activities in those areas which will help them to work effectively in the context of current and future changes.

The University's Staff Training and Development Unit will provide:

- an annual programme of short courses, seminars and other activities available to all staff,
- advice and guidance on external training provision,
- a consultancy service to departments, units and groups of staff wishing to organise their own specific training and development programmes.

Where relevant training is not available within the Sheffield University, staff will be encouraged to undertake appropriate training provided externally. Attendance on relevant training/development programmes will be also supported by:

- reimbursing fees and other reasonable costs incurred by staff undertaking work related training and development.
- approving a minimum of 3 days time-off per annum for individual members of staff undertaking training.

In relation to current changes affecting higher education on (4) above, the University will encourage and support staff to participate in training and development, particularly in the following areas: induction (new staff); information/updating on University changes; management of resources; equal opportunities; appraisal; development in teaching and learning; enterprise and personal skills; teaching and learning skills; research funding; quality assurance; media and public relations; communications and interpersonal skills; interviewing skills; reception and customer skills; computer applications; and word processing and keyboard skills.

2.3.9 Staff appraisal

According to the guidelines on quality assurance (HEQC, 1994) an appraisal system needs to:

- be explicit regarding its role in relation to staff development and career progression;
- be confidential and supportive;
- specify the procedures, materials and information that will be used in the appraisal;
- specify all the possible outcomes of the appraisal process;
- identify who will conduct the appraisal;
- provide appropriate training for appraisers and appraisees; and
- recognise the contribution of teaching for academic staff in the appraisal.

In discussing the procedures for the Staff Appraisal, the University of Sheffield (Quality Assurance Handbook, 1995) provide some details on the procedures for: the selection of appraisers; the choice of appraiser for each appraisee; the appraisal of Departmental appraisers; the appraisal of Heads of Academic Department; the appraisal in administrative departments; and the appraisal of senior officers.

A document 'Staff Appraisal at the University of Sheffield', available from the Personnel Department, provides guidance on preparation for the annual appraisal interview, the interview itself, and actions to follow from the interview.

Trinity College Carmarthen (1996) in Wales, is one of the institutions analysed where a Staff Appraisal Scheme has been implemented in order to increase the involvement, commitment and responsibility of staff for their own development and to raise the quality of performance to cope with change and aid decision making.

At Carmarthen, the system is an 'open system' where staff participate in their own assessment. The aims of the system, as in its Handbook (1996) are:

- to provide feedback on individual performance
- to provide a basis for self-evaluation
- to establish and monitor objectives and targets
- to diagnose training and career development needs
- to discover individual and departmental potential
- to maintain equity in treatment of staff
- to relate training and development more directly to work issues.

Responsibility for staff appraisal in this institution tests with both the managers and the employees. On one hand, the managers have to ensure that for all employees working for them, annual assessments of achievement are carried out and action plans completed and processed. The employees on the other hand are encouraged to participate fully in the process and will be expected to make positive contributions to both their own development and to the aims of the College.

The role that students evaluation of programmes has on staff appraisal is not considered by any of the Quality Assurance Handbooks reviewed.

2.3.10 Postgraduate research students

Although the majority of quality assurance procedures are common to all students, there are some specific areas that are unique to postgraduate research students as a result of different aims, methods of working and outcomes of postgraduate courses.

Institutions may wish to have guidelines on postgraduate research students that are known to students and supervisors. According to HEQC (1994), these guidelines include:

- procedures for the appointment of one or more supervisors who are suitably qualified for the proposed research area;
- specification of rules and responsibilities of the supervisor(s) and the student, especially with regard to guidance, extent of contact and progress;
- guidance on the resources and facilities available to postgraduate research students;
- guidance to supervisors and students on reporting arrangements and the requirements for formal reports;
- procedures and requirements for conversion from master's degree to doctorate;
- procedures for the change of a supervisor;
- grievance and appeals procedures;
- details of training available for supervisors;
- mechanisms for monitoring and ensuring that the various Faculty and department arrangements for postgraduate research students are in accordance with policy.

Research students require training and development in a range of skills in addition to their chosen field. This may include training in skills related directly to their research (e.g. research planning and methodology; computer literacy), in transferable skills (e.g. presentation skills, reporting writing, project management), or in tutorial/seminar delivery if the student becomes involved in teaching in the institution. Thus, institutions may also wish to provide training for postgraduate research students appropriate to their needs.

This consideration of research students and their supervision is presented in detail by two of the ten institutions' reviewed. All the others either give little information or did not mention specific quality assurance mechanisms for research students.

The University of Glasgow (1991), for example, considers that the decision to admit a student to a programme of research should be taken by the appropriate Faculty committee on the recommendation of the appropriate Head(s) of Department. The written recommendation by the Head of Department to admit a student will normally take into account the candidate's qualifications, the availability of

resources (including suitable accommodation), the necessary provision from learning support services, the suitability of the proposed programme of work for the level of degree proposed and the supervisor's experience.

All research students should be given a written statement of the responsibilities and duties of a research supervisor and of a research student and should be required to signify in writing their acceptance of their duties.

At the University of Glasgow, many individual Faculties and departments provide their own statements of the responsibilities of supervisor and student.

The responsibilities of the supervisor should include:

- a) giving guidance on the nature of research and the standard expected, the planning of the research programme, literature and sources, Faculty and departmental requirements, attendance at taught classes, requisite skills and techniques, arranging instruction as necessary, and warning about plagiarism;
- b) discussing with the student the type of guidance and feedback that the student finds most helpful;
- c) maintaining contact through regular meetings; the schedule of meetings should be agreed with the student and reviewed periodically;
- d) being accessible to the student between arranged meetings;
- e) giving detailed advice on the necessary completion dates of successive stages of the work so that the whole may be submitted within the scheduled time;
- f) requesting written work as appropriate and returning such work with constructive criticism in a reasonable time;
- g) arranging for the student to present work to departmental or other internal seminars and, where possible, at conferences;
- h) arranging for the student to have practice in oral examinations;
- i) ensuring that the student is aware of any inadequacy of progress or in the standard of work;
- j) in the case of overseas students, advising about language training, where necessary;

- k) providing regularly, as agreed by Faculty, a formal report to the Faculty and the head of department on progress made, the standard of research work undertaken and an estimated date for submission.

The responsibilities of the student should include:

- a) discussing with the supervisor the type of guidance and feedback the student finds most helpful;
- b) agreeing a schedule of meetings with the supervisor and attending arranged meetings;
- c) taking the initiative in raising problems or difficulties, however elementary they may seem;
- d) attending taught classes and other forms of instruction as required by the Faculty or the department;
- e) maintaining the schedule of work agreed with the supervisor;
- f) presenting written material, as requested by the supervisor by agreed dates;
- g) providing regularly, as agreed by the Faculty, a formal report to the Faculty and the head of department including on each occasion an estimated date of submission;
- h) deciding when to submit, taking due account of the supervisor's opinion.

Responsibilities for safe working in the case of science based Faculties can be added to this list.

A similar list of responsibilities for supervisors and research students is presented by the University of Sheffield in its "Notes and Guidance for Research Students and Supervisors" (1993-1994) which includes regulations for the following areas:

- (1) General regulations for Higher Degrees which apply to the PhD, the MD and to all Master's degrees except the MEng and the Postgraduate Diplomas where a specific provision is made.
- (2) Regulations for the degree of Master of Philosophy.
- (3) Regulations for the degree of Doctor of Philosophy.

- (4) Preparation and format of theses for research degrees.
- (5) Allowances towards expenses in attending meetings of learned societies.
- (6) Patents
- (7) Intellectual property rights.

2.3.11 Student support services

Institutions will wish to offer a range of student support services appropriate to the needs of students, and to establish quality assurance and control systems to ensure the suitability and effectiveness of these services (HEQC, 1994).

An integral part of improving students' participation in, and achievement of, a higher education programme is the range of support that they receive. This may be related to educational provision or to areas associated with social and welfare matters.

A range of student support services are listed by the University of Sheffield (Quality Assurance Handbook, 1995) in the students' charter which is seen as an important part of their quality assurance procedures. Each student service is subject to quality assessment. In the case of the Academic Services (library and the computing), questionnaires elicit views from students and staff. The University and the Students' Union collaborate in the conduct of an annual student evaluation of the student services which include the following areas:

- Academic Services: all students will have access to comprehensive library / computing facilities and appropriate support which will enable them to fulfil the requirements of their courses or research.
- The Careers Advisory Service: provides a full range of vocational guidance, placement services and information, designed to facilitate entry into the world of work.
- The Counselling Service: provides a professional counselling service to all students and support staff involved in the welfare of students.
- The details of any schemes of University administered financial support, such as Access Funds, will be publicised widely.
- The University Health Service: provides general medical services, which will be available to all students registered.

- Housing Service: provide information to all students on the availability, cost and standards of accommodation, both University and private. The University will offer accommodation to all first year undergraduate students.
- The University and the Union will make appropriate provision for the particular needs of international students, in terms of information and advice, and in operation of the various student services.
- Child Care Services will be offered for students with children to enable them to pursue their academic courses.
- The University will respond effectively and appropriately to the special needs presented by students with disabilities.
- Appropriate and accurate information and advice will be available to all students on a wide range of issues through the Student Advice Centre.

2.3.12 Student grievance

Institutions may wish to operate widely known and understood policies and procedures to deal with students complaints.

Complaints may relate to aspects of teaching, management, misleading promotional material, maladministration of a programme, relationships with other staff and students and to levels of services. Therefore, institutions are required to inform students about academic regulations and the disciplinary procedures they operate.

From the institutions analysed, it is observed that procedures have been formulated for making complaints related to both academic or non-academic matters, and students are expected to act responsibly when making a complaint in accordance with the agreed procedures.

2.4 Student Outcomes

Student outcomes refers to the achievement of a student throughout a programme and to the level of performance of the student at the end of the programme.

2.4.1 Student progress

Institutions may wish to have procedures to ensure that students receive regular, frequent and prompt feedback on their progress and performance in relation to their chosen programme of study (HEQC, 1994).

At the UEA-Norwich (1995), all students are assigned to an Adviser (undergraduates) or a supervisor (postgraduates), a Faculty member available to give informed advice on academic issues and, when required, on non-academic issues. For this purpose students are required by General Regulations on Attendance and Progress "*to see their Adviser at the beginning and end of each semester and at such other times as the Adviser may determine*". This ensures that marks are communicated to students by their Adviser, thereby providing an opportunity for academic progress to be discussed. A policy statement on the role of the undergraduate Adviser was approved by the Senate in June 1994.

Some departments of the University of Glasgow (1991) write to all students on a regular basis to give them a written record of their progress. The University considers that all students should be kept aware of their progress and how such students measure up to expected standards.

2.4.2 Student assessment

Institutions may wish to ensure that students have taken into account issues relating to programmes of study and to the needs of students, and to operate appropriate procedures for the conduct of assessment. (HEQC, 1994)

Postgraduate research students are informed of examination procedures, including nomination of examiners, the examination process and the possible outcomes. (HEQC, 1994)

According to the CNA (1993), the purpose of assessment is to enable students to demonstrate to examiners the extent to which they have fulfilled the objectives of their programme of study. However, other purposes have been pointed by some institutions who think that assessment is an integral part of students' learning experience affecting their motivation and providing them with insight into the extent they have fulfilled objectives and their capability to utilise their own learning.

2.4.3 Appeals

Institutions may wish to have a clear, formal and well publicised procedures on appeals for all students. (HEQC, 1994)

Appeals differ from student grievance in the way that they relate to decisions on student assessment. Institutions allow students a right to appeal on specific grounds against a decision made by the Board of Examiners.

An Academic Appeals Procedure, widely available to all students, was approved by the Senate of the UEA-Norwich in June 1994 to ensure that academic decisions about students are taken fairly. This procedure provides students with certain rights to protect their academic interests, setting out the procedures to be followed by a student (undergraduate or postgraduate) wishing to appeal against an academic decision and the grounds on which such an appeal may be made.

2.4.4 External Examiners

Institutions may wish to ensure that they operate an effective system for external examiners and pay particular attention to the selection and appointment of external examiners and the nomination of moderators as well as to contractual arrangements; the role of external examiners; the form of the external examiner reports; and the arrangements for review and implementation of the external examiner recommendations (HEQC, 1994).

The role of External Examiners can focus on assessment matters and occasionally also on course development issues. The purpose of assessment should be to enable students to demonstrate that they have fulfilled the objectives of the course and achieved the standard required for the academic award concerned. To those ends, assessment should be undertaken by examiners who are impartial and who are competent to make judgments about the performance of individual students in relation to the particular cohort, and ensure comparability across institutions. The specific responsibilities of External Examiners are to ensure equity and fairness in the decisions reached in respect of each student being assessed and that the standards of awards are being maintained. Recently, External Examiners' roles have sometimes been extended to include assessment of course content and learning strategies, and not just student assessment.

A system for External Examiners is found in all ten institutions analysed. Some of the institutions describe in detail the system used in respect to external examiners; others refer the issue to the University regulations.

The Manchester Metropolitan University, for example, although referring to detailed regulations for External Examiners which are in the document "*Regulations for the Academic Awards of the University 1993/94*", in its quality assurance handbook 1996/1997 features: the context; procedures for the approval and appointment of external examiners; briefing of external examiners; criteria for appointment; the role, rights and responsibilities of external examiners; the scheduling of meetings of boards of examiners and attendance of external examiners; external examiners' reports; confidentiality; the place of external examiners in validation and review; the extension of appointment or reallocation of duties of existing appointees; and BTEC (Business and Technical Education Council) external examiners. All these aspects are also seen in the quality assurance handbook of the University of Glamorgan (1995).

3. Teaching Quality Assessment

Before the 1990s, there was no particular central control or interest in the quality of teaching in Universities in U.K.. Cross-institutional evidence came from external examiners. Recently changes in Universities in U.K. have meant a central focus on the quality of teaching and learning, and in the late 1990s on raising the standards of teaching and learning. The reasons are:

- a) the enormous expansion on students numbers;
- b) more mature aged students;
- c) modularisation;
- d) more students from Europe;
- e) the need to become increasingly competitive in world wide markets;
- f) Polytechnics and some Colleges of Higher Education becoming Universities.

Under the Further and Higher Education Act 1992 and the Further Education (Scotland) Act 1992, the Higher Education Funding Councils for England, Scotland and Wales were established. They are non-departmental public bodies operating within policy and funding contexts set by the Government. The task of the Councils is not only to distribute funds made available by their respective Secretaries of State for the provision of education and the undertaking of research by higher education institutions in England, Scotland and Wales, but also to assess the quality of that provision.

The Higher Education Council for England (HEFCE) assesses the quality of higher education in England for which it provides funding. It also undertakes quality assessments in Northern Ireland Universities by arrangement with the Department for Education Northern Ireland (DENI).

The Scottish Higher Education Funding Council (SHEFC) conducts assessments of the quality of educational provision within Scottish higher education institutions. The council advises on the future development of its process of quality assessment of teaching and learning in Scotland's higher education institutions.

The Higher Education Funding Council for Wales (HEFCW) is an executive Non-Departmental Public Body established in May 1992 under the Further and Higher Education Act 1992. The Council administers the funds made available by the Secretary of State for Wales to support education, research and associated activities in Wales' higher education institutions. It also provides funding for the University of Wales Registry. The funding for further education in Wales is the responsibility of the Further Education Funding Council for Wales (FEFCW), a separate non-departmental public body. HEFCW and FEFCW have a joint Executive and the Welsh Funding Councils (WFC) is an umbrella title for both bodies.

General purposes of quality assessment in U.K. Universities are:

(see <http://www.shefc.ac.uk>)

- to inform Council of the quality of teaching and learning in the subjects offered by institutions of higher education which it funds;

- to publish reports of assessments which highlight the strengths and weaknesses of teaching and learning within the various subject areas;
- to inform potential students, employers and the public on matters relating to the quality of teaching and learning; and
- to help to disseminate good practice and thereby to encourage continuous improvements in the quality of educational provision.

According to the HEFCE (<http://www.niss.ac.uk/education/hefce/qar/assess.html>), the main features of the quality assessment method are:

Assessment against aims and objectives. Quality assessment measures the extent to which each subject provider is successful in achieving their set aims and objectives.

Assessment of the student learning experience and student achievement. Quality assessment examines the wide range of influences that shape the learning experiences and achievement of students. It covers: direct observation of classroom/ seminar/ workshop/ laboratory situations, the methods of assessing students' work, students' work and achievements, the curriculum, staff and staff development, the application of resources (library, IT, equipment), and student support guidance.

Assessment by peer review. The Assessors are academic and professional peers in the subject. Most are members of the academic staff of U.K. Higher Education institutions.

Combination of internal and external processes. The subject provider produces a self-assessment report based on the subject aims and objectives and then, a three day assessment visit is carried out by a team of specialist assessors.

Published reports. Reports are published which describe the provision (and state the outcome) of the assessment process according to a four-point scale defined as follows:

Excellent - satisfactory in all and outstanding in most aspects;

Highly Satisfactory - satisfactory in all aspects and with areas of particular strength;

Satisfactory - satisfactory in most aspects; overall, strengths outweigh weaknesses;

Unsatisfactory - unsatisfactory in several aspects; overall, weaknesses outweigh strengths.

Table 4.1 is a summary based on nearly 2,000 reports by assessors working for the Higher Education Funding Councils in England and Northern Ireland (HEFCE), Scotland (SHEFC), and Wales (HEFCW). (see <http://www.niss.ac.uk/education>).

Each report focuses on a single department and sets out to “*examine the wide range of influences that shape the learning experiences and achievements of students*” (Daily Telegraph, August 20th, 1997).

The influences are judged under six headings:

- 1) nature of the curriculum;
- 2) the quality of teaching and learning;
- 3) students’ entry and exit qualifications;
- 4) pastoral support offered to students;
- 5) learning resources available;
- 6) the steps the department is taking to improve teaching.

In the table, Universities are ranked according to the proportion of inspected departments that have been graded excellent or awarded under a new system at least 22 out of a total possible of 24 marks. Table 4.2 gives a list of Universities where no departments were graded ‘excellent’. The figures in brackets represent the number of departments inspected.

Table 4.1

Percentage of 'Excellent' in Teaching Quality Assurance

Cambridge	92.3	Exeter	38.9	Sheffield Hallam	18.5
York	90.0	Queen' s Belfast	38.9	East London	16.7
Oxford	78.6	Strathclyde	38.1	Nottingham Trent	16.7
Imperial	75.0	Loughborough	37.5	Thames Valley	15.4
LSE	75.0	Newcastle	37.5	Central Lancs	14.3
Warwick	66.7	Swansea	37.0	London Guildhall	14.3
UCL	65.0	Brunel	35.7	Huddersfield	13.3
Durham	61.1	Aberystwyth	35.3	Goldsmiths'	12.5
Sheffield	61.1	Essex	33.3	Lampeter	12.5
Open University	58.3	Oxford Brookes	33.3	Portsmouth	11.8
Southampton	57.1	Surrey	33.3	Central England	10.0
Nottingham	55.6	Sussex	33.3	Birkbeck	8.3
Lancaster	52.9	Liverpool	33.3	Heriot-Watt	8.3
Bangor	50.0	Northumbria	33.3	Abertay Dundee	7.7
St. Andrews	50.0	Aberdeen	30.4	Leeds Met.	7.7
Edinburgh	46.4	Q. Mary & Westfield	30.0	Manchester Met.	7.7
Birmingham	45.0	Reading	29.4	North London	7.7
Glasgow	44.8	Leicester	28.6	South Bank	7.7
Bristol	44.4	Stirling	27.8	Teesside	7.7
Leeds	44.4	Ulster	26.7	Hertfordshire	6.7
Cardiff	43.8	Plymouth	25.0	Robert Gordon	6.7
King's London	42.9	Kent	25.0	De Montfort	6.3
UMIST	42.9	Dundee	24.0	Westminster	6.3
West of England	42.9	Coventry	23.1	Derby	5.9
Manchester	41.7	Glamorgan	23.1	Glasgow	5.6
East-Anglia	40.0	City	22.2	Caledonian	5.6
Bath	40.0	Greenwich	21.4	Wolverhampton	
Hull	40.0	Keele	21.4		
		Aston	20.0		
		Anglia	20.0		
		Kingston	20.0		
		Royal Holloway	20.0		

Source: Daily Telegraph , August 20th 1997

Table 4.2

Departments with no grades of 'excellent'

Bournemouth	(8)
Brighton	(9)
Humberside	(9)
Salford	(10)
Bradford	(11)
Middlesex	(12)
Staffordshire	(13)
John Moores	(14)
Luton	(15)
Paisley	(15)
Sunderland	(15)
Napier	(17)

Source: Daily Telegraph , August 20th 1997

Regarding the ten British institutions of Higher Education analysed in this chapter, it is observed that Sheffield was placed among the 10 first institutions with 61.1% followed by Bangor, Glasgow, and East-Anglia with 50.0%, 44.8% and 40.0% respectively. The University of Glamorgan was positioned in the second group (with 23.1%), while Portsmouth and Manchester Metropolitan were classified within the third group (with 11.8% and 7.7% respectively). The University of Paisley had 15 departments inspected but none of them were graded 'excellent'. Gwent College of Higher Education and Trinity College, Carmarthen are not fully in the higher education sector, and therefore were not similarly assessed.

Table 4.3 presents for each of the institutions studied, information on the total number of departments assessed. This total is then broke down into three categories: Category 1 (Cat.1) with the number of those graded excellent or highly satisfactory; Category 2 (Cat.2) with the number of those graded satisfactory or approved; and Category 3 (Cat.3) with the number of departments graded unsatisfactory.

Table 4.3
Quality Assessment 1992/93 - 1997

Universities	Number of Assessments	Cat.1	Cat. 2	Cat.3
England				
Portsmouth	12	1	11	-
Manchester Metropolitan	8	1	7	-
East-Anglia (Norwich)	12	4	8	-
Sheffield	16	9	7	-
Scotland				
Glasgow	29	26	3	-
Paisley	15	9	6	-
Wales				
Glamorgan	14	4	10	-
Trinity College, Carmarthen	2	-	2	-
Bangor*	19	9	10	-
Gwent College of HE	not in the sector			

Source: Internet - Quality Assessment Reports by the HEFCE, SHEFC and HEFCW

Key:

Cat.1 = Excellent or Highly Satisfactory;

Cat. 2 = Satisfactory or Approved;

Cat. 3 = Unsatisfactory

* Coleg Normal integrated with Bangor University from August 1996

4. A Critical Perspective

Universities in the U.K. have, in the last decade, been developing Quality Assurance systems. Some appear to be at an early stage of evolution; others have made some progress. The current progression in the development of quality assurance systems in U.K. higher education reflects an increasing level of understanding of the structures and processes required to sustain a self-regulating system in a climate of increasing consumerism and accountability.

It is observed that institutions are not simply copying the approaches and methodologies issued in the guidelines prepared by the HEQC (Higher Education

Quality Council), but are adapting and developing both the concept and the practice of academic quality assurance to suit their own traditions and cultures, their own purposes and quality objectives. This is an early stage in the development of a robust and mature Quality Assurance systems. Therefore some quality assurance practices are still under transformation and evolution.

The analysis of the ten Universities presented in this chapter shows that these institutions are still below HEQC expected 'standards' in some or many of their quality assurance procedures. There are areas where quality assurance is lacking and needing development. Institutions are sometimes aware of the importance of these areas in their quality assurance systems, but the current arrangements and procedures are not always seemingly efficient and effective in meeting HEQC guidelines. Such limitations are now considered.

The first area where quality assurance is limited is the admission policies and selection procedures. A fair and equal admissions for all prospective students should be a matter of concern in admission policies. However, this aspect is omitted in the quality assurance handbooks of almost all the institutions analysed. The University of Sheffield is the exception, but fails to reveal strategies or use of statistical information to demonstrate that its admission policy is working or that there is a monitoring of equality in its admission policy.

Apart from a consideration of statistic information, there should be quality assurance within each department to show that there is fairness in interviewing procedures for selection, the equitable allocation of provisional grades (e.g. at 'A' level), as well as equality of opportunity for those with the highest grades during Clearing. Effective and equitable selection mechanisms are thus necessary in order to recruit and allocate students effectively within a differentiated higher education system.

Institutions have different ways of selecting their students. Some Universities can afford to be more selective than others, and explicit, rational and objective selection procedures need to identify the most promising students in an equitable manner. Care is also needed to ensure that student entry is representative and fair in terms of geography, ethnicity, socio-economic groupings and gender. There will

be a risk of losing the skills and talents of excellent students, and not aiding national economic and cultural growth by not admitting to university all sectors of society.

The second area that needs further development is the evaluation of programmes of study (i.e course reviews). The introduction of a robust review system is a valuable development which will help to inform teachers and those with institutional responsibilities for quality. One should not be misled into assuming that effective learning in terms of exam achievement necessarily reflects a well delivered course. The evaluation of courses has most often been achieved from within this limited perspective. Little attention seems yet to have been paid, however, to the quality and efficiency of the teaching itself, the effect on the students and their learning, and the extent to which the stated aims and objectives of the courses are being achieved.

In the course review system, institutions should examine ways of evaluating the results and effects of the teaching they provide, in addition to studying available performance indicators on courses. The quality of courses must be monitored to ascertain that they are meeting agreed standards and to aid course development.

Quality assurance monitoring data derived from students as well as external examiners and employers on course provision and teaching should be more thorough and systematic. Although this issue is referred to in some of the quality assurance handbooks reviewed, there are still some universities where this practice does not appear to exist. The involvement of students throughout the development and evaluation of courses should be encouraged and appropriate reliable and valid ways of obtaining their views should be devised. Feedback from employers and professional bodies could be also promoted as part of course evaluation within institutions.

The third area where there are current limitations is staff appraisal which does not seem to have been widely or successfully implemented in the institutions analysed. The staff of a higher education institution are a key resource. Academic staff, in particular, account for a significant component of the budget of higher education institutions and have a major role to play in achieving the objectives of

the institution. The performance of academic staff, both as teachers and researchers and also as managers, determines, to a large extent, the quality of the student experience of higher education and has a significant impact on student learning and thereby on the contribution that such institutions can make to society. The role that student evaluation of programmes has on staff appraisal is not considered by any of the Quality Assurance Handbooks reviewed.

The fourth area that requires more development is the progress and assessment of students. In the institutions analysed, it was observed that, although some institutions are now developing ways to ensure that students receive regular information on their progress, students are often called to account for their learning at the end of their courses by a single examination. This approach can pose considerable stress for students. The monitoring of students' progress could be sought more systematically throughout a course in order to encourage students to work consistently through a course and make it easier for a lecturer to guide a student's progress through formative feedback.

A fifth area is covered by all institutions in their quality assurance handbooks, and that is the role of external examiners. Nevertheless, institutions are not consistent in approaching this matter. For example, the documentation that external examiners receive should be standardised in order to ensure equity and fairness in the decisions reached in respect of each student being assessed and in the standards of awards that are granted. Recently, external examiners' roles have been extended to include assessment of course content and learning strategies. Thus the documentation that external examiners receive should include the following:

- 1) course document;
- 2) student handbook;
- 3) course assessment regulations;
- 4) the assessment scheme for items of work submitted for assessment;
- 5) general institutional regulations regarding assessment;
- 6) a statement of expected duties;
- 7) a statement of the rights and powers of the external examiner;
- 8) a framework for writing the external examiner's report.

All institutions should be encouraged to participate in quality assurance processes at other institutions in order to help develop comparability between institutions and to enrich their own institution's quality assurance systems.

4. Summary

The term quality assurance is derived partly from manufacturing and service industry, and partly from health care. Relatively new to education generally and higher education in particular, the adoption of quality assurance for education has, however, been rapid and pervasive.

Assuring high quality education and achieving quality enhancement have become a key part of education reform and development in further and higher education, and ideas and systems of quality assurance are still developing.

The United Kingdom Higher Education Quality Council (HEQC) which is funded by subscriptions from individual universities and colleges of higher education has the mission to contribute to the maintenance and improvement of quality at all levels in institutions of higher education in the United Kingdom. As a contribution to the fulfilment of its mission, a set of guidelines on quality assurance has been developed in order to assist institutions in their quest to maintain and enhance the quality of educational provision for students. The information provided by the guidelines gives support to institutions in developing their own systems.

The guidelines (HEQC, 1994) provide a checklist of issues that should be addressed in a University's quality assurance policy, although the emphasis given to each item is at the institution's discretion, depending on particular needs and issues important in their scheme. The checklist includes: establishing a framework for quality; reviewing quality assurance systems; admissions policies; admission requirements; information for prospective students; pre-entry guidance; the selection process; facilitating student entry; external and internal programme approval; programme information for students; teaching and learning; evaluation of teaching and learning; staff appointment; staff development and training; staff appraisal; postgraduate research students; student support services; student grievance; student progress; student assessment; appeals and external examiners.

This checklist was used as reference to analyse the quality assurance systems of ten British Universities, namely: University of Sheffield, University of Portsmouth, University of East-Anglia Norwich, Manchester Metropolitan University, University of Glamorgan, Trinity College Carmarthen, Gwent College of Higher Education, Coleg Normal Bangor, University of Paisley and University of Glasgow.

The analysis concentrated on the quality assurance handbooks of all ten Universities. It was found that although the Universities refer in their quality assurance system to a range of aspects of the checklist, the approach to each aspect listed varies. Some aspects are considered in more detail in some institutions than in the others, and in certain cases they are omitted. Regarding individual aspects of the checklist, examples of good practices were found and presented in this chapter.

Quality assurance is a process that has been gradually considered as high priority among British Universities. The results of quality assurance processes should feedback into the institutional processes of academic and resource planning. Thus in discussing priorities among a range of issues, the outcomes of quality assurance processes might well be a significant criterion in exercising choice and developing priorities.

The involvement of the students throughout the development and evaluation of courses has been encouraged by some British Universities and appropriate ways of soliciting their views have been formulated. This relates quality assurance to parts of TQM, where consumerism and responsiveness to clients has developed in importance.

This completes the first part of the thesis which has provided an examination of quality management ideas and practices that are relevant to 'Eduardo Mondlane' University (UEM). It now proceeds to the research part of the thesis which was informed by the ideas and practices considered in the first four chapters of this thesis.

CHAPTER 5

University Eduardo Mondlane

(UEM)-

A Case Study:

Research Methodology

Chapter 5

University 'Eduardo Mondlane' (UEM) - A case Study: Research Methodology

Introduction

This chapter aims to outline the methodology used to collect the research evidence and analyse the strengths and weaknesses of such methodology in conducting the study.

The chapter starts with an introduction to the research issue in which key questions are listed. A brief description of the institution studied is then presented along with a consideration of the sample used for research.

The techniques and tools used in the research are also discussed in this chapter. It concludes by showing how the data were processed and analysed.

1. The Research Issue

The quality of national education is important, and its enhancement is a major objective of all governments. Quality assurance attempts to provide users of the education system with a guarantee that institutions, courses and graduates meet certain standards.

Quality in higher education can be described in a number of ways. It can be represented in terms of outcomes - degree results, first employment records, non-completion rates and the like; or it can be seen as the effectiveness of the process of facilitating learning, through regular checking on the serviceability of teaching and support services; or it can be viewed as a function of the standard of entering students, in an attempt to ensure that access to further learning will be invested in those who have already shown that they have acquired a firm foundation on which to build further (HEQC, 1995).

However, quality is articulated within an institution, and its assurance requires *a priori* that there should be explicit objectives; and a means of checking that mechanisms and processes to achieve objectives are effective, with the opportunity to correct any shortcomings which are hindering that aim.

Effective quality assurance is a crucial institutional responsibility. Indeed, the tightening of control over resources for course provision means that rigorous quality assurance systems will come to play an even more important role in ensuring that academic standards are maintained and raised in the future. Thus an Institution might well need to explore means of quality assurance.

In implementing its objectives, the 'Eduardo Mondlane' University, UEM, believes that it is imperative to improve its relationship with the Government and with other Mozambican and foreign institutions who finance it, or in any other way support its activity.

Under the open management that UEM wishes to institutionalise, it needs to take appropriate steps to increase its accountability in return for greater flexibility in the management of governmental and donor funds.

UEM is sometimes confronted with decision-making constraints due to the lack of appropriately organised and accessible information on key aspects of university performance. Thus the research will focus specifically on current UEM quality systems in operation and produce proposals for improvement. It will also analyse a number of general principles to be identified as being worthy of consideration such as: the system of quality assurance, the operation of the system, personnel involved in quality assurance, the integration of validation, review and monitoring.

Careful planning of an institution's programme of validation and review will be essential. More than before, the quality assurance process will need to be managed prudently.

This research aims:

- ▶ To review 'effective practice' in quality assurance in some Universities in the U.K.
- ▶ To provide an analysis of current quality assurance practices at UEM.
- ▶ To provide recommendations about the process of quality assurance developments at UEM.

It is hoped that the key factors to be analysed in this study will allow the identification of any deficiencies in quality assurance at UEM. On the basis of this identification, remedial action can be proposed.

2. Key Questions

Four aspects of UEM procedures have been incorporated into this quality assurance research study:

- (1) The quality assurance of admission procedures
- (2) The quality assurance of teaching and learning
- (3) The quality assurance of student development and support
- (4) A framework for quality enhancement

Within these four areas, specific issues are examined. Such issues are formulated as questions listed in the next pages. Alongside each question is the source(s) of evidence that will seek to address such issues.

RESEARCH AREA ONE - THE QUALITY ASSURANCE OF ADMISSIONS PROCEDURES

Question 1- Are the entrance requirements designed to ensure fairness and equal opportunities in admissions?

Source of evidence:

Interview with administrators - Academic Directorate
Students' questionnaire: Section G

Question 2- Are students provided with clear, accurate and consistent information on available admission routes and entry requirements?

Source of evidence:

Interview with administrators: Academic Directorate
Students' questionnaire : Questions A10, B2
Researcher's observation

Question 3- What mechanisms are used by UEM to obtain feedback and comments from new students on the usefulness of the pre-entry information and guidance for applicants?

Source of evidence:

Researcher's observation
Interviews with administrators

Question 4- Do the admission examinations indicate that students are sufficiently prepared and qualified to gain admission to UEM?

Source of evidence:

Interview with administrators: Academic Directorate
Students' questionnaire: Questions B19, C2, C5
Academic Staff's questionnaire: Questions E3, E4
Deans' questionnaire: Question D1

Question 5- Does the admission procedure result in an optimal size to students' entry to UEM?

Source of evidence:

Interview with administrators: Academic Directorate
Documents

Question 6- What were students' main reasons for choosing their courses?

Source of evidence:

Students' questionnaire: Question A11

RESEARCH AREA TWO - THE QUALITY ASSURANCE OF TEACHING AND LEARNING

Question 7- Do the students consider the teaching and learning strategies appropriate for delivering effective education?

Source of evidence:

Students' questionnaire: Questions B1, B3, B5, B6, B7, Section G

Academic staff's questionnaire: Questions A6, A7, B3, Section I

Graduates' questionnaire: Questions A1, A4

Researcher's observation

Question 8- To what extent do the qualifications of staff assure the required effectiveness in human resourcing?

Source of evidence:

Interview with administrators

Academic staff's questionnaire: Question H9

Technical and Administrative Staff's questionnaire: Questions B1, C3, D9, Section E

Researcher's observation

Documents

Question 9- What factors affect academics' motives for teaching in higher education?

Source of evidence:

Academic Staff's questionnaire: Questions G1, G2, G3

Question 10- Is the distribution of academic staff time appropriate for efficient and effective delivery of teaching and learning?

Source of evidence:

Academic Staff's questionnaire: Questions A3, A10

Students' questionnaire: Section G

Question 11- What mechanisms, procedures and activities are used in UEM in order to maintain and improve the quality of provision for teaching (the teaching performance and training for academic staff) and learning?

Source of evidence:

Interview with administrators

Academic Staff's questionnaire: Questions A11, A12, A13

Researcher's observation

Documents

Question 12- How effectively are course objectives matched by the content of curricula?

Source of evidence:

Students' questionnaire: Question B4

Academic Staff's questionnaire: Questions B1, B2, B4

Deans' questionnaire: Questions B1, B2

Question 13- Are course objectives congruent with teaching styles? Are teaching approaches related to desired outcomes in students?

Source of evidence:

Students' questionnaire: Question B13, Section G

Academic Staff's questionnaire: Question A8

Question 14- Within the existing budget, is there sufficient allocation of resources to support staff and educational development?

Source of evidence:

Interview with administrators

Academic Staff's questionnaire: Questions C1, C3-C7, F1--F9

Researcher's observation

RESEARCH AREA THREE - THE QUALITY ASSURANCE OF STUDENT DEVELOPMENT AND SUPPORT

Question 15- Are students equipped with the knowledge and skills to access and use the range of learning resources available including libraries, information technology, audio-visual services, together with study skill support?

Source of evidence:

Students' questionnaire: Question B12, C1

Academic Staff's questionnaire: Question E5

Question 16- Does the institution ensure that assessment rules, regulations and criteria are published in a full and accessible form and made easily available to students and staff?

Source of evidence:

Interview with administrators

Researcher's observation

Question 17- Are assessment criteria, assessment strategies and assessment methods appropriate to program aims and intended learning objectives/outcomes?

Source of evidence:

Students' questionnaire: Questions B15, B16, Section G

Academic Staff's questionnaire: Question D4

Researcher's observation

Question 18- To what extent do examinations enable a fair and equitable assessment system?

Source of evidence:

Academic Staff's questionnaire: Questions D1, D2, D3

Question 19- Are there appropriate mechanisms for regular feedback to students on their progress?

Source of evidence:

Interview with administrators

Researcher's observation

Question 20- Are students satisfied with the Support Services available at UEM?

Source of evidence:

Students' questionnaire: Section D

Interview with administrators

Researcher's observation

Question 21- Do students show commitment to attaining the academic standards which have been defined for their programme of studies?

Source of evidence:

Students' questionnaire: Question C6

Academic Staff's questionnaire: Question E6

RESEARCH AREA FOUR - A FRAMEWORK FOR QUALITY ENHANCEMENT

Question 22- What mechanisms are proposed to ensure quality? What changes should be made?

Source of evidence:

Interview with administrators

Students' questionnaire: Question E2

Academic Staff's questionnaire: Questions G4, G5

Technical & Administrative Staff's Questionnaire: Questions C1- 4
Deans of Faculty questionnaire: Question D1

Question 23- What are the main reasons for students dropping out at UEM and what mechanisms might reduce the dropout rate in UEM?

Source of evidence:

Students' questionnaire: Question E1, Section G

Academic Staff's questionnaire: Question E7

Deans of Faculty questionnaire: Question D5

Question 24- Are there effective communication channels for quality assurance within organisational structures, and are they established to ensure that roles, responsibilities and lines of communication in relation to all aspects of quality are delineated?

Source of evidence:

Interview with administrators

Students' questionnaire: Section G

Academic Staff's questionnaire: Questions F10, F11

Technical & Administrative Staff's questionnaire: Questions A4, A5

Deans of Faculty questionnaire: Question E1

Researcher's observation

3. Contextualization of the Research: A Description of the Institution

The 'Eduardo Mondlane" University (UEM), is Mozambique's main institution of higher learning and plays a vital role in the country's educational, economic, social and political development efforts.

A detailed characterisation of UEM is presented in chapter one as well as the history of higher education in Mozambique.

The following table provides some basic data characterising the UEM. The data have been taken from the 1995/1996 UEM Annual Report.

Faculties	10
Students	5200
Graduates in 1995/96	220
Mozambican teaching staff (full-time)	380
Mozambican teaching staff (part-time)	172
Educational level of Mozambican full-time staff	
PhD	34
Masters	82
'Licenciatura'	259
Bachelors	5
In undergoing training	89
Expatriate teaching staff	137
Technical / administrative staff	1474

The number of students has tended to increase in recent years, rising from 3038 in 1990 to the present figure of 5200 (a 71% increase in five years). However, the institution is facing numerous challenges to guarantee the quality of graduates that Mozambican society needs. These challenges have to do with a scarcity of qualified staff, instructional and learning resources, academic achievement, research, consultancy, technical and administrative mechanisms, students' living conditions and financial resources (UEM, Present and Perspectives, 1991).

Under the 'Capacity Building Project of UEM' that aspires to improve life and work conditions in the institution, the need to monitor carefully the quality of teaching (and the University performance in general) has become increasingly evident.

From recent studies, some of them under the auspicious of Capacity Building project, recommendations have been made about effectiveness and efficiency, and UEM structural flexibility. The main recommendations concern:

- ▶ Staff retention
- ▶ Efficiency of the teaching and learning process
- ▶ Diversity of student intake and regional representation
- ▶ Management system and structural flexibility
- ▶ Quality and employment, and the relevance of graduate output to the employment market
- ▶ Research and consulting services
- ▶ Student Dropout and Repetition

UEM defined certain aims and objectives to be achieved within a specified period of time (1991-2000). Some have been planned for a short time whereas others for a middle and long term.

4. The Sample

The sample upon which the research was conducted was drawn from six categories of the UEM population: students, academic staff, technical and administrative staff, deans of faculty, graduates and administrators. The sample was chosen to represent 15% of the total number in each category. All faculties were involved in the study except the faculty of social sciences which is a new faculty and still in its first years of operation.

The tables in the next pages present (for each category) the total population, its breakdown by faculty compared with the sample, the questionnaires distributed and the questionnaires returned. Personal characteristics form an important context for understanding the findings of this study. Therefore, the socio-economic characteristics of students, academics, technical and administrative staff and graduates are also presented in the following tables.

Due to lack of space to display the occurrence of all given ages in tables 5.2, 5.4, 5.6, and 5.8, age distributions are presented in groups. However, in order to get a more accurate characterisation of the sample, graphs are presented for students, academics, technical and administrative staff and graduates, showing the distribution and frequency of each age.

Interviews, which were used to gain evidence from the administrators in central offices, involved eight of the twelve administrators. Their departments were: the registration department, the academic department, the social services department, the scientific department, the public relations department, the planning department, the human resources department, and the finance department.

4.1 The Students

Table 5.1
Students' Sample

Faculty	Total (*) Population	Initial Sample (15%)	Questionnaires	
			Distributed	Returned
Agronomy	540	81	100	58
Architecture	178	27	30	5
Arts	489	73	90	47
Economics	669	100	130	101
Engineering	1229	184	240	82
Law	647	97	120	58
Medicine	422	63	80	48
Science	765	115	150	49
Veterinary	189	28	35	27
Total	5128	768	975	483 (**)

(*) Source: UEM Annual Report 1995-1996

(**) Total includes 9 students who did not mention their faculty

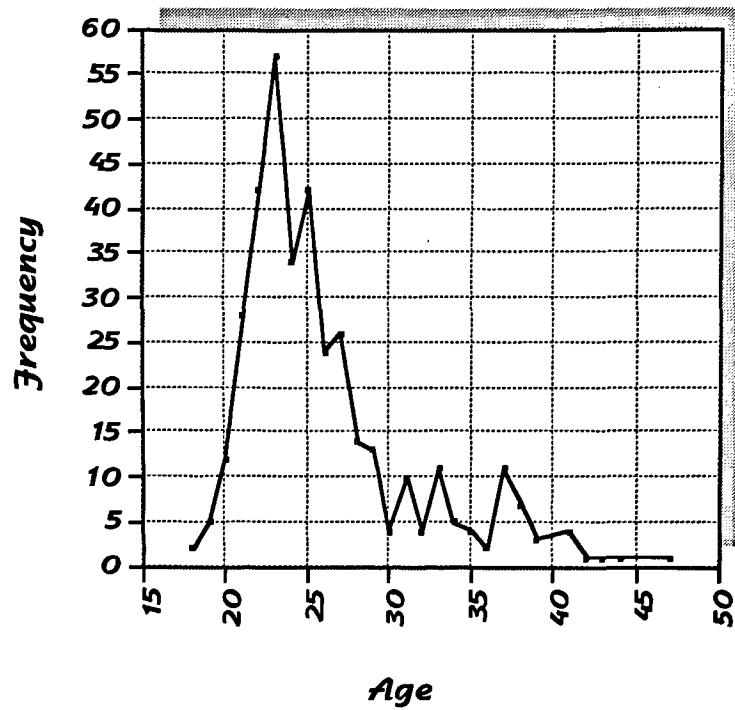
Table 5.2
Characteristics of the students surveyed

Characteristics	Frequency	Percentage
Age		
Under 21	19	5.2
21-25	203	55.2
26-30	81	22.0
31-35	34	9.2
36-40	22	6.0
40 +	8	2.2
Gender		
Male	279	69.6
Female	122	30.4
Marital Status		
Single	326	80.9
Married/ co-habiting	68	16.9
Divorced/separated	9	2.2
Nationality		
Mozambican	399	98.5
Other	6	1.5
Area where family live		
Rural	141	29.5
Urban	337	70.5
Family income		
Low	219	46.5
Medium	199	42.3
High	3	0.6
Don't know	50	10.6
Mother tongue		
Portuguese	72	15.7
Other	388	84.3

Characteristics of the students surveyed (cont.)

Province where born		
Maputo	182	38.6
Sofala	46	9.7
Gaza	41	8.7
Inhambane	63	13.3
Manica	12	2.5
Tete	33	7.0
Niassa	6	1.3
Zambezia	32	6.8
Nampula	35	7.4
Cabo Delgado	18	3.8
Abroad	4	0.8

Graph 5.1 - Age Distribution of the Students' sample



4.2 The Academic Staff

**Table 5.3
The Academic Staff Sample**

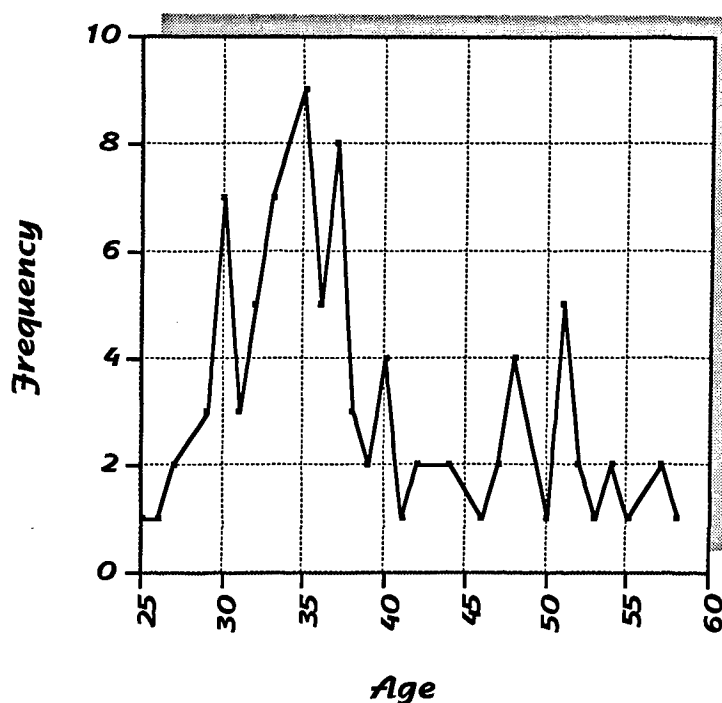
Faculty	Total (*) Population	Initial Sample (15%)	Questionnaires	
			Distributed	Returned
Agronomy	39	6	20	20
Architecture	27	4	5	3
Arts	53	8	15	11
Economics	41	6	15	5
Engineering	110	17	35	16
Law	38	6	10	2
Medicine	91	14	15	2
Science	124	19	35	27
Veterinary	42	6	10	9
Total	565	86	160	95

(*) Source: UEM Annual Report 1995-1996

Table 5.4
Characteristics of the academics surveyed

Characteristics	Frequency	Percentage
Age		
25-30	14	16.1
31-35	24	27.6
36-40	22	25.3
41-45	5	5.7
46-50	8	9.2
50 -55	11	12.6
55 +	4	4.6
Gender		
Male	72	80.0
Female	18	20.0
Nationality		
Mozambican	60	66.7
Other	30	33.3
Category		
Associate Professor	9	10.1
Assistant Professor	17	19.1
1st Assistant	14	15.7
2nd Assistant	28	31.5
Trainee Assistant	20	22.5
Other	1	1.1
Job title		
Course Director	3	4.2
Head of Department	6	8.5
Lecturer	48	67.6
Chief of Unit	7	9.9
Regent	1	1.4
Trainee	1	1.4
Other	5	7.0

Graph 5.2 - Age Distribution of the Academics' sample



4.3 The Technical and Administrative Staff

**Table 5.5
The Technical and Administrative Staff Sample**

Faculty	Total (*) Population	Initial Sample (15%)	Questionnaires	
			Distributed	Returned
Agronomy	81	12	20	17
Architecture	20	3	4	0
Arts	46	7	17	17
Economics	27	4	5	5
Engineering	96	14	30	19
Law	23	4	6	5
Medicine	86	13	20	6
Science	188	28	45	45
Veterinary	95	14	30	19
Other Offices	805	121	125	82
Total	1467	220	302	225

(*) Source: UEM Annual Report 1995-1996

Table 5.6
Characteristics of the Technical and
Administrative staff surveyed

Characteristics	Frequency	Percentage
Age		
Under 21	1	0.4
21-30	79	35.3
31-40	79	35.3
41-50	37	16.5
51-60	22	9.8
60+	6	2.7
Gender		
Male	143	61.9
Female	88	38.1
Marital status		
Single	86	37.4
Married/co-habiting	132	57.4
Divorced/separated	7	3.0
Widowed	5	2.2
Nationality		
Mozambican	234	100.0
Other	0	0.0
Place of work		
Faculty	132	56.9
Center	2	0.9
Central Offices	31	13.4
Social Services	67	28.9
Field of work		
Administration	86	37.2
Laboratory	29	12.6
Library	23	10.0
Social Services	44	19.0
Support Services	33	14.3
Security	1	0.4
Other	15	6.5

Graph 5.3 - Age distribution of the Technical and Administrative Staff sample



The following table shows the graduates' sample. This table is different from the previous tables because there were no graduates at the time the researcher did the field work. Thus the graduates' questionnaires were administered by the academic registrar. The table presents all that was practically possible.

4.4 The Graduates

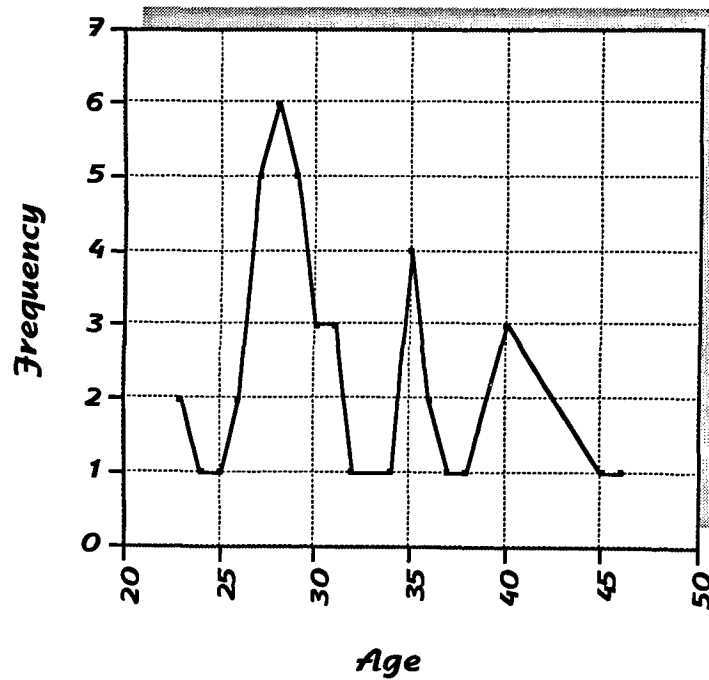
**Table 5.7
Graduates' Sample**

Area of Graduation	Total (*) Population	% of Total	Questionnaires Returned	% of Quest. Returned
Agriculture	55	20.9	8	16.7
Architecture	21	8.0	1	2.1
Biology	11	4.2	2	4.2
Physics	10	3.8	1	2.1
Geology	7	2.7	0	0.0
Chemistry	3	1.1	0	0.0
Computer Sciences	10	3.8	4	8.3
Economics	1	0.4	0	0.0
Law	28	10.6	6	12.5
Civil Engineering	6	2.3	3	6.3
Electronic Engineering	10	3.8	1	2.1
Mechanic Engineering	7	2.6	0	0.0
Chemical Engineering	5	1.9	1	2.1
History	20	7.6	4	8.3
Geography	9	3.4	5	10.4
Linguistics	19	7.2	4	8.3
Medicine	36	13.7	7	14.6
Veterinary	5	1.9	1	2.1
Total	263	100.0	48	100.0

Table 5.8
Characteristics of the Graduates surveyed

Characteristics	Frequency	Percentage
Age		
23-25	4	9.3
26-30	21	48.8
31-35	9	20.9
36-40	7	16.3
41+	2	4.6
Gender		
Male	25	53.2
Female	22	46.8
Nationality		
Mozambican	45	95.7
Other	2	4.3

Graph 5.4 - Age Distribution of the Graduates' sample



5. Research tools used

The research study, which ran from 6th January to 9th April 1997, was conducted at 'Eduardo Mondlane' University (UEM) in Mozambique using a mixture of research instruments: interviews, questionnaires, documentary evidence and observation field work incorporating students, academic staff, technical and administrative staff, deans of faculty, graduates and administrators.

Permission was initially required to conduct the study. Therefore, an appointment was made to see the Vice-Rector for Academic Affairs at which the researcher explained the nature of the study. After obtaining the necessary permission, an official letter was prepared, signed by the Vice-Rector and sent to all faculties and administrative offices (Appendix I for the Portuguese version, and Appendix VIII for the English version).

Due to research time limits and the geographic situation of the institution studied, it was not feasible to run a pilot study. Ideally, a pilot study would have been conducted, which could have helped the researcher obtain information on: the time needed to complete the questionnaires; the clarity of the questions; any objections to answering any questions; major topics omitted; the layout of the questionnaires; and to gather comments which would have enabled an improved final version of questionnaires.

5.1 Interviews

Interviews are an important research tool because of their adaptability, the possibility to follow-up and expand on initial answers, the ability to probe responses in depth and investigate complex motives and feelings (whereas a questionnaire is often more superficial). Moreover, the tone of voice, facial expression or a hesitation in response can provide information that a written response would omit. Also, a response in an interview can be developed and clarified. Nevertheless, the problem with interviews is their time-consuming nature, and since this study was limited in time, this technique was only used for administrators. A semi-structured interview approach was adopted where a skeleton framework for questions is established prior to the interview.

This framework was prepared allowing the researcher to cover the main aspects of the study (see the list of issues and questions earlier in this chapter). The researcher made arrangements with the university administrators to conduct the interviews. Hence an appointment was made with all administrators involved, explaining briefly the points to be discussed in the interview and how long it would take. No written questions were provided which made the conversation evolve without any restriction on sequence.

The interviews were carried out in an informal manner which allowed the respondents to shape and extend their answers. All interviews lasted approximately two hours and topics were covered with adequate time to cover all areas comprehensively. Notes were taken during the interview and, in some cases, immediately after it.

The structure of the interview

The interview contained two parts, the first part referred to general aspects which were applied to all departments. The second part concerned more specific information according to the interviewees field of work. Each part contained several sections. In part one, the sections included: structure of the department, aims and functions, short term plans of the department, characterisation of the department's human resources, building and equipment, financial resources, procedures for decision making, policies (concerning training, recruitment, extra compensation), working relationships with other departments and self-assessment. In part two, each department had role-specific questions.

In the registration department for example, questions were raised about the adequacy of the system in relation to statistical information on students, students flow rates and students performance. In the academic department of the administration, questions related to characterisation of students, entrance requirements, admission standards, student activities and students attitudes. Other matters also raised in this department were the characterisation of academic staff, the policies concerning salaries, promotions, teaching loads, conferences, staff development and training, the teaching and learning process, curricula and assessment and their implementation, academic regulations, educational resources and costs.

Questions referring to accommodation and students' living conditions, student loans, medical assistance, leisure activities, counselling services, and other welfare aspects were asked in the social services department. Aspects covered in the scientific department interview were: the research policy, information about research projects that had been conducted in recent years, the funding for research, standards of the research performed compared with that of the region and internationally, percentage of staff involved in research activities, the topics under research and their link to national problems, and the publication of research results.

In the public relations department, questions were raised about the relationship between UEM and other academic institutions, areas in which cooperation with other institutions is centralised (teaching research, exchange of teachers, teacher training, library, equipment), and the faculties involved. It was also asked which faculty and which areas had been prioritised for external relation activity and why.

In the planning department interview, specific questions referred to the system used to deal with the institution's statistical information, the annual report of UEM, the statistical analysis produced by the department, and the use of the department's work for planning purposes. Specific questions for the human resources department comprised the adequacy of the information system which deals with UEM personnel, the up-to-dateness of the information, and the training of personnel. Finally, in the finance department, interview questions were asked on the main finance resources of UEM, the distribution of budget and the management of those resources.

In all interviews, administrators were asked to indicate aspects on which the department would like to improve. They were also asked to give additional comments/suggestions and criticisms on aspects that were not covered in the interview.

5.2 Questionnaires

Five different questionnaires were compiled: (1) a questionnaire for students, (2) a questionnaire for academic staff, (3) a questionnaire for technical and administrative staff, (4) a questionnaire for deans of faculty, and (5) a questionnaire for graduates. Copies of these questionnaires, in Portuguese and English, are found from Appendix III to Appendix VII, and from Appendix X to Appendix XIV.

The study intended not only to obtain findings from the five groups from the overall University population, but also to make comparisons between them and to investigate particular topics in detail. To achieve this, each group received a 'group specific' questionnaire in which detailed information was sought on specific areas where that population had expertise. The questionnaires predominantly used multiple choice questions, although open-ended questions were also included.

The origins of the questions were varied, including many items newly designed for this research. A few items used in the questionnaires were taken from instruments used by some British universities in their quality assurance mechanisms.

The questionnaires were initially written by the thesis author in English. Discussions between the researcher and her supervisor regarding the layout, style, technical accuracy, structure and wording led to a series of edits - some eight to ten drafts for each questionnaire. After agreement on the English version, each questionnaire was then translated into Portuguese, the official language in Mozambique. The Portuguese version may be seen in Appendices III to VII, and the English version in Appendices X to XIV.

The translation into a different language brought some difficulties. Words do not always have the same meaning or impact in both languages. Some examples follows:

Example 1- The verb 'play' in English may be used for play in the playground, play music, play football or other sport. In Portuguese, there are three different verbs for each example given above, so it would be: *brincar*, *tocar*, and *jogar*.

Example 2- The word 'challenge' in English does not have the same impact as it has in Portuguese or at least in the way it is used in the context of the questionnaires.

Example 3- 'The balance between theory and practice'. In English this relationship is well expressed by the word "balance". In Portuguese language, 'balance' is associated with a swinging or rolling sheet balance.

Example 4- The adverb 'fairly' when positioned by the word sufficient means slightly less than sufficient. In Portuguese, one can translate "fairly" as sufficient, so making it difficult to find the Portuguese adverb .

Example 5- English words like 'background' and 'dropout' were not translated in the questionnaires into Portuguese because these words are better identified in English than by the translation.

The researcher contacted by phone each faculty and arranged a meeting with the dean or his/her representative. In those faculties with departments, arrangements were made with the heads of each department. The date and time was in most cases suggested by the researcher and, depending on availability, was then sometimes rearranged. The meeting aimed to explain briefly the intentions of the research and appeal for cooperation.

The students' questionnaires were given to their representatives, who then distributed them to their colleagues. There is one student representative for each year of study who is chosen by their colleagues. The same procedure was used with the technical and administrative staff. The chief of the faculty's general office took responsibility for distributing and collecting the questionnaires. Deans of Faculty and heads of department were responsible for the distribution of questionnaires to academics. A letter of explanation of the aims of the research was attached to each questionnaire (see Appendix II for Portuguese version, and Appendix IX for English version). Confidentiality and anonymity was promised in each questionnaire.

A period of ten days was given for return of the questionnaires but, in reality, it took approximately 25 days to gather in most of the questionnaires.

An outline of the substance of each questionnaire follows:

5.2.1 Questionnaire for Students (see Appendix X)

This questionnaire was divided into seven sections: (A) the background, (B) attitudes towards the course, (C) academic performance, (D) living conditions, (E) some general matters, (F) personal details, (G) other comments.

Section A

This section inquired about the background of the students in terms of province where they were born, the area where they lived, family income, religion, the mother tongue, foreign language spoken, and the school they attended before entering University. Students were also asked about the time they had to wait since leaving school before coming to the University and the reasons for waiting, if that was the case. Justification for choosing the course, who sponsored the studies and the type of scholarship if they had one, were aspects that were also examined in this section.

Section B

This section was the largest one in the questionnaire and it focused on students' attitudes towards the course. Questions were raised about the level of satisfaction or dissatisfaction in their training, and the clarity of the aims of the course. Students were asked to show their level of satisfaction or dissatisfaction on different issues such as: teachers, curriculum, materials, evaluation, teaching methods and the administration of their faculty. They were invited to give their opinions about the course content, the number of lectures, seminars, practical and assignments, as well as the balance between theory and practice in the course. Also in this section, students indicated their overall view of the teaching quality of the course in each year of study. Students also named for each year of study, the subject that they regarded as the best taught as well as the one regarded as the least well taught. The materials provided and their level of up-datedness, the resources used by them to understand the courses, and the most preferred form of

teaching were also matters in which students gave their opinion. Finally, this section focused on the assessment regulations, their clarity and the methods of assessment most preferred by the students, their feelings about learning English and the level of interest in the basic semester programme 'BUSCEP', for those involved in it.

Section C

This section related to academic performance. A list of the students' main activities was provided and students were required to indicate the time they spent on each of them. Students were also invited to express their feelings on the level they attained in the basic disciplines in secondary school, on the admission examinations and how motivated they were to pursue their courses.

Section D

This section concerned living conditions: where the students lived, their level of satisfaction or dissatisfaction with the place they lived, and the transport used to go to the University. Those living in University residences were invited to give their opinion on aspects related to the facilities provided by the University such as: cleaning, laundry, catering, the health service, and leisure activities.

Section E

Section E referred to general matters such as the dropout and repetition rates which are regarded as high in UEM. Some arguments were listed to justify the present rates, and students were invited to give their opinion by agreeing or disagreeing with those arguments. If they felt that better reasons could be presented, they were asked to give them at the end of this section where students were asked to present their comments on ways of reducing the dropout and repetition rates. Also in this section, students were asked to select one thing that could be improved at UEM among the following: curriculum, study rooms in faculties and University residences, printed materials/books, laboratory equipment and facilities, sports facilities and leisure, medical assistance, academic regulations, and library collections.

Section F

Personal details were required in this section such as the students' faculty, course and dates attended, date of birth, gender, marital status, and nationality. Such personal details enabled comparisons to be made of these sub-groups with responses to other Sections.

Section G

In this section, students had the opportunity to provide comments /suggestions or criticisms on aspects related to their training and about any other matter which was not covered in the questionnaire.

5.2.2 Questionnaire for Academic Staff (see Appendix XI)

This questionnaire was divided into nine sections: (A) teaching, (B) curriculum, (C) materials, (D) assessment, (E) students, (F) facilities, (G) general matters, (H) personal details, (I) other comments.

Section A

This section focused on teaching. Academic staff were asked to indicate the subjects that they taught how long they had taught in the University, the number of classes taught per term, and if the area they taught was the same as their specialisation or the area where they attained their highest degree. Within a list of activities - preparation for lectures, teaching, correcting papers, personal research, consulting, advising students, administrative work - academics were invited to indicate the distribution of their time. Also in this section, teachers gave their opinion on the scheduling of lectures, laboratory work and seminars and the time needed to cover the course content. The form of teaching most preferred by the teachers was another aspect investigated in this section. Teachers were asked to comment on the participation of students during the lessons as well as the time they reserved to meet students outside the lecture. Because some faculties in UEM are involved in assisting teachers to improve their skills, teachers were invited to comment on the usefulness of these initiatives.

Section B

Section B concentrated on the curriculum, requesting appraisal of how appropriate or inappropriate is the curriculum to the aims of the course, if its content satisfies the course objectives, the balance between theory and practice, and the sequencing on the course. Here teachers are asked if remedial courses were offered to students to make up deficiencies in secondary education and to comment on the effectiveness of those courses.

Section C

The evaluation of materials was discussed in this section. Academics indicated the main sources they draw upon for their teaching materials, the resources used by the students and the textbooks for the course. They were also asked to comment on the literature or reading lists for the subjects they teach and their up-to-dateness. The library conditions in terms of the amount of materials (books, periodicals) as well as other learning support materials/resources for those involved in laboratory work was also investigated.

Section D

This section related to assessment. Teachers indicated how often they assessed their students, what is the general format of their tests/examinations as well as the emphasis given to them. Academics also gave their opinion on how the assessment methods enabled students to demonstrate that they have fulfilled the objectives of the course.

Section E

Section E was about perceptions of students. The number of students who normally attend the lectures and the number of students in laboratory sections was investigated. Teachers were asked to rate the preparation of the students entering the University and their beliefs about admission standards. They also commented on students' study habits and their motivation to learn. Some arguments for the high dropout rate in UEM were presented in this section, and teachers were invited to show their attitudes by agreeing or disagreeing with those arguments or by suggesting others.

Section F

The provision of facilities was the main focus in this section. Conditions of the lectures rooms, classrooms, seminars and laboratories; the teaching aids provided and their quality; the equipment available in the laboratories and the status of that equipment in terms of up-to-dateness and maintenance were all issues approached in this section. Teachers indicated what sort of teaching space they had, the computing facilities in their department, and the overall maintenance of faculties' facilities. This section also asked teachers to describe the relationship between the people of the department they worked in, as well as the relationship between the department and the central administration.

Section G

Other general matters, such as the reasons for being an academic, what they most enjoy about the profession, together with the disadvantages of their chosen profession were the focus of this section. A list of changes that should be made to assist University teachers was suggested and teachers were invited to express their agreement or disagreement. Academics were also asked to indicate from a list of different aspects that could be improved in UEM, one aspect that they considered as an urgent reform. Finally, respondents were asked to indicate the number of papers which have been accepted as publications (in local and in foreign journals) and the number of conferences attended in the last three years (in Mozambique and abroad).

Section H

Personal details were required in this section. Academics gave information about their faculty, department, date of birth, gender, nationality, category, present job title, where they obtained their first degree, and the highest degree they had been awarded.

Section I

Additional comments/ suggestions and criticisms could be written in this section on aspects that were not covered in the questionnaire.

5.2.3 Questionnaire for Technical and Administrative Staff

(see Appendix XII)

This questionnaire was divided into five sections: (A) attitudes towards the place of work, (B) educational qualifications and training, (C) general matters, (D) personal details, (E) other comments.

Section A

This section concerned the attitudes of staff towards their place of work. Technical and administrative staff were required to give their level of satisfaction or dissatisfaction with their work and other aspects such as: policies in promotion, conditions of work, management, salary, transport and social services. They were also asked to describe the relationships in their office between colleagues, and between the administrators and other staff. Finally, comments were made on the clarity of the regulations for the technical and administrative staff.

Section B

This section examined educational qualifications and training. Technical and administrative staff were asked about their academic qualifications and their involvement in additional training provided by the UEM. They were expected to comment on the effectiveness of those courses.

Section C

Other general matters were examined in this section. A list of different aspects that could be changed in order to assist the technical and administrative staff was provided, and the staff were asked to agree or disagree with the suggestions. They were asked to indicate their opinion by agreeing or disagreeing with a number of suggested possible improvements in UEM. The same procedure was used to obtain staff's opinion on aspects thought to affect the quality of work such technical and administrative staff. This section ended by asking the technical and administrative staff to comment on changes that might increase their quality of work.

Section D

Personal details were required in this section. Technical and administrative staff gave information on their place and field of work, category, present job title, date of birth, gender, marital status, nationality, how long they had been working in UEM and how long they had been doing the same or a similar job.

Section I

Additional comments/suggestions and criticisms could be written in this section on aspects that were not covered in the questionnaire.

5.2.4 Questionnaire for Deans of Faculties (see Appendix XIII)

This questionnaire was divided into six sections: (A) recruitment and employment of academic staff, (B) quality of output and graduates, (C) management, (D) general matters, (E) other specific aspects, (F) other comments.

Section A

In this section, Deans of Faculty were encouraged to give their opinion on aspects relating to the recruitment and employment of academic staff, the chances to recruit local qualified staff and the reasons for not recruiting if that was the case. Deans indicated the percentage of expatriate staff in their faculty as well as the plans for replacement of these, if any. Deans were also asked to comment on retention of their staff and the teaching performance of their present staff.

Section B

Quality of output and graduates was the focus of this section. Deans of Faculty commented on the quality of their graduates in terms of preparation for employment in fields relevant to the training they received. Deans were expected to give reasons if they believed that the graduates were not well prepared.

Section C

This section referred to management. Deans of Faculty were requested to indicate

aspects for which their faculty were directly responsible, such as: recruitment of teaching staff, recruitment of support staff, admission and/or selection of students, design of curriculum, adaptation of curriculum, preparation of teaching and training materials, design of examinations or tests, purchase of books and equipment, purchase of consumable materials and scheduling of classes. Deans were also asked if they were responsible for collecting and maintaining records on: selection and admission of students, students' performance and examinations, faculty staff and support staff, curricula, course programs, examinations, examination-grades, faculty staff and support-staff salaries, expenditure on consumable materials, and capital expenditure. Concerning faculty planning, Deans of Faculty indicated the kind of planning they preferred and the actual planning structure used by the faculty. Finally, Deans of Faculty revealed if any financial analyses (e.g. trends in cost / student, cost / graduate) were used in the management and planning of the faculty.

Section D

General matters were elicited in this section. Deans were expected to point out improvements that could be made to the training of students in their faculty. They were also expected to rate the dropout and the repetition in their faculty, indicating the year in the course which showed the highest rates. Some arguments were provided to substantiate students dropping out, and Deans of Faculty were asked to express their opinion by agreeing or disagreeing with them.

Section E

Deans of Faculty were asked to describe the relationship in the faculty between: teachers and students, teachers and technical and administrative staff, students and technical and administrative staff, teachers and directorate, technical and administrative staff and the directorate, the relationship between their faculty and other UEM faculties, and the relationship between central offices and their faculty.

Section F

Additional comments/suggestions and criticisms could be written in this section on aspects that were not covered in the questionnaire.

5.2.5 Questionnaire for Graduates (see Appendix XIV)

This questionnaire was divided into five sections: (A) views about the course, (B) the research project, (C) present/future job, (D) personal details, (E) other comments.

Section A

This section concerned the graduates' views about their course. They were asked to express their level of satisfaction or dissatisfaction with the training given, and indicate if they were applying in their work what they had learned in the course. Graduates were asked about the type of knowledge they think was primarily needed for performing efficiently in their jobs. A list of some potential deficiencies in the training was provided and graduates were asked to point out those that applied to their situation. The level of satisfaction or dissatisfaction with the present job, the contact with UEM after graduation, and career aspirations, were also elicited in this section.

Section B

Graduates' research projects were the subject of this section in which graduates were required to indicate from where they got their ideas for the projects, the methods used to pursue their projects, the time spent, and their level of satisfaction or dissatisfaction. In cases where the graduates did not present a research project, they were asked to indicate the reasons for not doing so.

Section C

This section considered the present / future job of the graduates. Questions were raised about the occupation (if it was in their field, related to their field, or not related to their field of study in UEM), about the employer (government, industry, general/technical education, UEM, private or other), and about their function in the work (administrator, technical, researcher, or other). Graduates were asked how long they took to find their jobs, how did they obtained the job, how much they

earned per month (at present and what was expected after graduation). For those who already obtained a job before entering UEM, were asked to indicate if they were willing to continue in the same job.

Section D

Personal details were requested in this section such as: area of graduation, date of birth, gender, nationality, the sponsor of their studies, time taken to graduate, and their final mark.

Section E

Graduates were invited in this section to add additional comments/suggestions and criticisms about the training they received and other aspects that were not covered in the questionnaire.

6. Limitations

Various limitations which need to be discussed were observed when compiling and conducting the study. Some are related to the research issues addressed, some refer to the methods used and others to the procedures to analyse the data. All social research has various limitations, irrespective of the methods used. The results of research must be viewed in full knowledge of such limitations.

(A) *Researcher effects.* The researcher works in the central office of the University studied and this may have influenced people's reaction in responding the questionnaires. Furthermore, in conducting the interviews, it was difficult to interview close colleagues or people with whom the researcher has a professional relationship. Interviewees may have taken for granted that the researcher shared a common knowledge and experience about the institution, and therefore they did not mention such information in their answers. They may have also assumed that the researcher shared their views, or believed that the researcher held a particular point of view.

Opinions given in such circumstances are not always reliable. Some people do not think carefully about the questions, some may be trying to impress and give the answers they think that the interviewer is expecting.

(B) The presence of the researcher for the administration of the questionnaires. Even though each questionnaire had an accompanying letter explaining who was conducting the study and the objectives of it, spoken presentation can have a different effect on how questionnaires are completed. In this study, guidance was provided by the researcher to the representatives of each target population. These representatives were the ones who presented the questionnaires, and the attitude of the presenter towards this particular study may have influenced the quantity and quality of the responses.

(C) No pilot study. Due to a limited period of time (three months) and the geographical situation of the institution studied, there was no pilot study. In the case of questionnaires, this pilot study would have been helpful because it is very difficult to imagine how respondents might interpret the questionnaires differently. It is only when the returns came in that the researcher realised that some respondents had misunderstood occasional questions.

Issues that could have been answered in a pilot study were: how long it takes to complete the questionnaire? Were any of the questions unclear or ambiguous? If so, which and why? Was there an objection to answering any of the questions? Was there any major topic omitted? Was the layout of the questionnaire clear/attractive? Responses such that to these questions would enable a revision of the questionnaire and an improved version may have reduced the non-response rates.

(D) Anonymity, confidentiality and personal details. In most cases, people were worried about anonymity and confidentiality and this is often crucial in obtaining frank and honest responses. All questionnaires administered had a section for personal details which was considered by the respondents as a way of finding out who wrote the questionnaire. Some respondents were intimidated by this section and others refused to answer the questionnaire. There should have been clear instructions that this information would only be used to analyse answers statistically.

(E) *Technical problems of questionnaires.* Some technical problems were observed which could partly have been prevented if a pilot study had taken place: (i) The translation was not always exact in meaning or did not have the same impact in Portuguese as it has in the English. (ii) There was no definition of terms used. Even questions that seem perfectly reasonable produce sometimes ineffective answers. For instance: 'What is your mother tongue?' - which produced answers such as the language of their mother. Or to give another example, 'Do you know any foreign language?' 'Foreign' is a term which has widely different meanings depending on one's frame of reference: responses vary for other local languages different from the family language and the Portuguese language. Concerning the family income, alternatives given in the questionnaire were: low, medium, high, and don't know. Again no explanation was given to what was considered as low, high or medium income. (iii) None of the questionnaires had instructions and the responses showed that there was a need for that. (iv) The questionnaires were designed using closed questions in favour of the open-ended ones. Although closed questions are easy, quicker to answer and the quantification straightforward, there are some disadvantages in using them such as the loss of spontaneity and expressiveness. Oppenheim (1966) mentions the introduction of bias by "forcing" the respondents to choose between given alternatives and by making them think of alternatives that might not have occurred to them. (v) Free answers obtained in a pilot study could have been turned into multiple choice ones. For instance: 'Province where you born' - a list of the provinces could have been listed. Another example is: 'Where do you live in Maputo?' and again this could fall into three categories - in the city, in the periphery of the city, or far from the city. (vi) The personal details section was too extensive and detailed. Age, for example, is often considered to be in a sensitive category and rather than asking respondents to give their date of birth, it would be better to ask them to indicate the category (e.g. 20 or younger, 21-24, 25-29, 30-34, 35 or older). The question about faculty, department/course, place of work although important as background material, could have been omitted in the questionnaires on account of that they were distributed by faculty, then by department and by course. Another unnecessary question refers to marital status. There was no need to know whether the respondents are separated, divorced, or living with a partner.

(F) *Sample.* In order to gather a sample which was representative of the University population, six groups were selected: students, academics, technical and administrative staff, graduates, Deans of Faculty and administrators. Sub-groups were then specified and the sample was drawn in the appropriate proportion from each sub-group. From, for example the students' group, the faculties were considered as sub-groups. Therefore, from 5128 students, there was a sample of 81 from the Faculty of Agronomy (out of 540), 27 from the Faculty of Architecture (out of 178), 73 from the Faculty of Arts (out of 489), and so forth. The same procedure was applied with the other groups except for the administrators group in which interviews were conducted with heads of departments in UEM's central offices. The sample for each sub-group represented 15% of the total population of a particular group (see tables 5.1, 5.3, 5.5, and 5.7). Efforts were made to select as representative a sample as possible for each sub-group, but not everyone selected was willing to cooperate. Therefore, sampling was subject to the willingness and availability of the population.

(G) *Generalisation of results.* One of the major interests of this research is that it has distinct groups of population for comparison purposes. However, the results from each group studied may not be generalised due to the inexact representativeness of the sample. Generalisation can only properly occur when the sample is an exact representation of the population. Since there was non-response in the samples, generalisation to the wider population is constrained.

(H) *The timing of the study.* The timing of the study can have a marked impact upon responses. This study was conducted seven months after a ten day students' strike which caused damage of a material and social nature. Students were probably affected in their responses by this strike on questions related to scholarship grant, students' living and study conditions, and transport which were all reasons for striking.

7. Summary

A research study was conducted at 'Eduardo Mondlane' University (UEM) in Maputo aiming: to provide an analysis of current quality assurance practices; to provide recommendations about the process of quality assurance developments; and to provide details of a system or systems of quality assurance for UEM.

This chapter described the methodology used to collect the research evidence as well as the limitations to conduct the study. The first part of this chapter examined the research issue followed by a list of the key questions related to different aspects of UEM quality assurance procedures such as: the admission procedures, the quality assurance teaching and learning, student development and support and the framework for quality enhancement.

To contextualize the research, a description of the institution studied was given with information on the number of: faculties, students, graduates, Mozambican teaching staff (full-time and part-time), educational level of Mozambican full-time staff, expatriate teaching staff and technical and administrative staff.

The sample and a detailed information of the tools used were also discussed in this chapter. The chapter finished with a consideration of the limitations of the research.

The thesis now moves on to examine and analyse results from the research at UEM.

CHAPTER 6

Research Analysis of the Quality Assurance of Admission Procedures and Teaching and Learning at the 'Eduardo Mondlane' University, Mozambique

CHAPTER 6

Research Analysis of the Quality Assurance of Admissions Procedures and Teaching and Learning at the 'Eduardo Mondlane' University, Mozambique

Introduction

This chapter aims to analyse the results originating from the research conducted at 'Eduardo Mondlane' University (UEM). The chapter will be divided in accordance with the questions listed in chapter five. The research areas analysed will be in two sections, Section 1 - the quality assurance of admission procedures, and Section 2 - the quality assurance of teaching and learning. In the following chapter (chapter seven), Section 3 - the quality assurance of student development and support, and Section 4 - a framework for quality enhancement at 'Eduardo Mondlane' University will be examined.

In an attempt to produce relevant analyses of current quality assurance at UEM, each question will engage one or more of the following aspects: a) a brief historical background of the issue addressed so one can easily contextualize the present situation; b) the source of evidence to analyse the question, and some quotations to illustrate any qualitative evidence; c) statistical information based on computer analysis using the SPSS program; and d) discussion of the results - this is present for all results. It is important to note that the results are based on different forms of evidence (questionnaires, interviews, observation) and the use of these varies from question to question, according to relevance and availability.

SECTION ONE - THE QUALITY ASSURANCE OF ADMISSIONS PROCEDURES

Question 1: Are the entrance requirements designed to ensure fairness and equal opportunities in admissions?

Admission policies in UEM have passed through different stages (see chapter 1). At first, immediately after Independence (1975), there was a sharp reduction in the number of students enrolled at the University resulting in an insufficient number of students to fill the quota desirable for each course. Then developed the opposite

situation, with the number of students becoming extremely high in comparison with the actual capacity of the University.

Access to University has been considered contentious with regard to standards, because all students leaving the secondary level of education had their place guaranteed at the University. However, their first choice could not be granted if they did not attain the appropriate mean score in admission. They therefore might instead be allocated to their second choice, or the third course choice, or even forced on to any other course. Thus issues of fairness and equal opportunities in selection have been raised.

These procedures resulted in an imbalance between the courses. Those considered the best students went for the more prestigious courses such as Engineering, Law and Economics, and thus were granted their first choice. Courses such as Agriculture, Biology, Medicine, and Veterinary Science tended to be composed of students who had been granted their second choice. The remaining courses (Physics, Chemistry, Geology, History, Linguistics and Geography) tend to end up with the 'poorer' students receiving their third choice. Sometimes students were forced on to these least popular courses.

As the number of applicants started to increase, there was an instantaneous doubling of University enrolments without any accompanying extended provision or the expansion of resources. New methods of entrance were introduced in 1991 (*'Diploma Ministerial 86/90'*) focusing on qualitative goals without forgoing the principle of representing all social classes in the University. Thus, admissions are organised in the following way: there is an established quota for each course; two periods of admission; each student independently of their group (student, mature student or foreign) can apply for one course in the first period of admission and two courses in the second period of admission; and admission tests are allocated according to the course chosen. Table 6.1 sets out for each course the nucleus subjects in which candidates set admission tests.

In order to answer the question posed for this research (Are the entrance requirements designed to ensure fairness and equal opportunities in admissions?) evidence was collected by interviews with the Academic Directorate (see chapter 5) and from open-ended responses from the students' questionnaire.

Table 6.1

UEM courses and subjects in which students have to take entrance examinations

Faculty Courses	Subjects
Faculty of Arts	
History	Portuguese, History
Geography	Geography, History
Linguistics	Portuguese, History
Social Sciences	Portuguese, History
Faculty of Engineering	
Civil Engineering	Mathematics, Physics
Electric Engineering	Mathematics, Physics
Mechanical Engineering	Mathematics, Physics
Chemical Engineering	Mathematics, Physics
Faculty of Agriculture and Forestry	Mathematics, Chemistry
Faculty of Economics	Mathematics, History
Faculty of Law	Portuguese, History
Faculty of Architecture	Mathematics, Design
Faculty of Sciences	
Biology	Biology, Chemistry
Physics & Meteorology	Mathematics, Physics
Geology	Mathematics, Physics
Computer Sciences	Mathematics, Physics
Chemistry	Mathematics, Chemistry
Faculty of Medicine	Biology, Chemistry
Faculty of Veterinary	Biology, Chemistry

The Academic Director pointed out that a key component of a selective procedure is a competitive entrance examination. Efficient and objective procedures are needed to identify the most capable candidates for University admission in an equitable manner.

In the interview the Academic Director said:

“Os estudantes não serão forçados a frequentar um curso que não tenha sido escolhido por eles”

(students will not be forced to pursue a course which has not been selected by them).

In section G of students' questionnaire (see Appendix III for Portuguese version and Appendix X for English version), there were twenty-one students who commented on entry into University. For example, one of them said:

"Deveria haver maior exigência nos exames de admissão"

(There should be more demand on admission examinations).

Another student made the following comment:

"Deveriam considerar também as notas do ensino pré-universitário para efeitos de admissão à Universidade"

(Pre-university classifications should be considered for admission into University)

The University is currently committed to a fair and equal admission policy for all students, and is trying to ensure that the admissions process is free of discrimination. The choice of the course is the responsibility of the students, and when choosing a course, they must take into account their educational background, the requisites of the course intended, and the established quota. Students should not choose a course when they do not have suitable admission requirements and when the number of applicants is too large (document: "*Exames de Admissão à Universidade - Regulamento*", 1991).

There has been increasing emphasis on the demand for quality, and this includes the quality of student intake. Thus, since 1995, admissions occur when candidates have higher cumulative marks (10 or more on a scale of 0-20) in all core disciplines. In 1993-94, students were admitted when the mean of the disciplines was higher than 8 on a scale of 0 to 20. In the previous situation, students were admitted in some courses with marks below 8. Table 6.2 compares the average marks of those admitted to UEM in three academic years (1991-92, 1993-94 and 1995-96). Marks are given by subject on a scale of 0-20.

Table 6.2
Average Marks of the Admissions by Subject
Years 1991-92, 1993-94 and 1995-96

Subject	1991-92 (*)	1993-94		1995-96	
		1st Exam	2nd Exam	1st Exam	2nd Exam
Portuguese	9.9	9.9	9.5	11.2	11.5
History	9.4	8.9	8.4	11.1	12.2
Geography	10.3	10.8	12.4	12.0	10.7
Mathematics	8.2	10.5	11.2	12.0	11.2
Physics	11.1	9.1	9.0	11.3	13.1
Chemistry	15.2	9.0	9.9	11.6	12.1
Biology	12.4	13.8	11.7	10.7	12.0
Design	11.1	9.3	8.1	10.3	10.5

Source: UEM's Annual Reports 1991-92 to 1995-96

(*) The exams were set in one period only.

The standards of schooling in secondary education and particularly in pre-university schools vary widely and the general level is not good, especially for schools in the north. Thus, although students want their results from secondary school to be considered for admission purposes, they cannot be considered until all pre-university schools reach the standards demanded for University entrance.

Question 2: Are students provided with clear, accurate and consistent information on available admission routes and entry requirements?

The University has not entered into the practice of producing written information specifically for students. It is, however, increasingly clear that this has been considered by the UEM administrators as an area of increasing significance and some publications are beginning to emerge.

In July 1996, there was an advertisement in the main newspaper and this seems to have become standard practice at the beginning of each academic year. This advertisement, which fills one page of the newspaper, contains information on what courses are on offer at the University, the number of places available in each course, the requirements for each course, the subjects in which students have to take entrance examinations, the calendar and place where the admissions

examinations will be set and documents needed for registration. The same information is posted on the notice board at the general office of the academic directorate and at the registry.

Part of the evidence to answer this question (Question 2) comes from the students' questionnaire (question A.10). Responses show, as in the table below, that a total of 56.6% of the students said they know a little, very little or nothing at all about University courses. Those who said they know a fair amount or even a lot (43.4%) may not get their knowledge about the courses through the information provided by the University.

Table 6.3

Question A.10 Students' questionnaire
How much did you know about University courses before you came into the University?

valid percentage				
a lot	fair amount	a little	very little	nothing
4.2	39.2	25.3	22.3	9.0

missing cases = 0.8%

The similar opinion of five students as given in the questionnaire is that:

“Deveria haver mais apresentações e seminários nas escolas pré-universitárias sobre os cursos da Universidade”

(There should be more talks and seminars in pre-university schools about the University courses).

One student said the following, and this was fairly representative of 11 students who expressed concern about the lack of information on UEM's courses:

“Deveria haver maior divulgação dos cursos ministrados para evitar decepções.”

(There should be a wide dissemination of courses offered to avoid disappointment).

Another piece of evidence comes from question B.2 on the students' questionnaire where students were asked how clear are the aims of the course. Answers indicate (see table 6.4) that 55.1% said that such aims were clear or very clear, and a

quarter indicate that the aims are fairly clear. Only 18.4% said that they are unclear or very unclear.

Table 6.4

Question B.2 Students' questionnaire
How clear or unclear are the aims of the course for you?

valid percentage				
very clear	clear	fairly clear	unclear	very unclear
12.3	42.8	26.5	16.5	1.9

missing cases = 0.8%

From the researcher's own observations when on the fieldwork, it was noticed that the staff at the enquiries desk (in faculties, departments or central offices) are not always sufficiently knowledgeable to answer the students' concerns. What should be done (if such staff are not able to deal with students' query directly), is to refer them to a more informed person, and this hierarchical structure needs to be widely understood and disseminated.

Information about the University should provide all students with the understanding they need, in a timely and efficient fashion. Providing clear written information can be difficult, therefore faculties and departments should be guided when preparing relevant information for students. Overall, the current information provided is in need of better presentation, revision and editing to communicate well.

Question 3: What mechanisms are used by UEM for obtaining feedback and comments from new students on the usefulness of the pre-entry information and guidance for applicants?

Evidence to answer this question comes from the researcher's field enquiries and observations which revealed that there is no mechanism to obtain the feedback and comments from students about the usefulness of the information provided.

Some information has been produced recently in order to assist students arriving at the University. However, there are some important details missing (e.g. fees and expenses; payment of fees; what transport to use to get to the Faculty; procedures

for obtaining University accommodation; libraries opening hours; photocopying facilities; entertainment) that would probably be highlighted if there was feedback from students.

The 1996 students' guide '*Guia do Estudante*' for example, has seven sections with an Introduction containing a brief welcome to new students and a description and history of the institution. The first section presents the Rector, his role and a list of the Central Offices who support him in his work. The second section provides a list of all faculties, and for each of them information on courses offered, duration, the Dean's name, location, telephone and fax number. The third and fourth sections present respectively a list of the centres and museums within the University, their main functions, the name of the director and the address. The fifth section focuses on libraries with brief information on the total numbers of libraries in the University, reading rooms, their capacity and the number of titles. Section six presents the students' support services where a list of all residences and their respective location is given. The medical centre, its opening hours, address and telephone number is also presented in the guide followed by the University restaurant, meals service and the period in which the meals are served. This section ends with information on scholarships (types of scholarship, criteria for distribution, duration, criteria for cancellation and its consequences). The last section of the guide focuses on Students' Associations - The Association of University Students and The Students' Association for Sports - the names of the leaders and functions of each Association. On the last page of the guide, a list of names and addresses of Central Office personnel is provided. The academic calendar of the year is presented on the back cover of the guide.(UEM, 1996d).

Overall, the information provided reveals a growing evolution in the quality and relevance of written information for students. It would benefit from more careful editing and standardisation of format. The present guide contains little guidance for students because the approach is very superficial. A paragraph from the fifth section of the guide which features libraries serves to illustrate the point. It is the only paragraph in this section.

"Ao dispôr dos estudantes da UEM está todo um conjunto de 16 bibliotecas distribuídas pelas diversas Faculdades e serviços da UEM, com um total de 20

salas de leitura e com uma capacidade de 561 lugares, e servem como locais de consulta de fontes literárias e de estudo. As bibliotecas possuem cerca de 215.000 títulos”

(UEM's students have available 16 libraries spread through faculties and UEM's offices, with a total of 20 reading rooms, with a capacity of 561 places. They serve as a place to consult academic sources and a place of study. The libraries have around 215,000 titles).

When further versions of the students' guide are developed, UEM may wish to consider some or all of the following for inclusion: accommodation, transport, fees and payment of fees, scholarships, health services, welfare, the Students' Association, the students' laundry, leisure activities and useful addresses for further information - the welfare adviser, the Students' Association leader, the registrar, the academic director. All the information should be given in a friendly manner and not be legalistic in tone and style.

A guide is different from a Prospectus where more elaborate information is required. The Bangor University Prospectus, for example, contains information on general issues such as: admissions, accommodation, students' support and recreation, learning resources, scholarship awards, post-graduate opportunities, maps and an index of courses offered. Then there is a presentation of each Faculty and each course with detailed information on admission requirements, the names of the Dean of Faculty and the Head of each School, course structure and career opportunities. At UEM, a first Prospectus was produced in 1991, but this practice was not continued. Students did not want to buy the prospectus because of the vast information on courses in which they were not interested. Presently, the information on faculties and courses can be found in separate booklets (one for each Faculty), and general information is given in the Students Guide.

Departments should, for each of their courses, produce documentation giving full information on the course (e.g. necessary prerequisites; the aims and learning objectives of the course in terms of attainment of knowledge, understanding and skills; a detailed outline of the course content; teaching hours; details of any course work and examinations; details of course texts and required reading; methods of assessment; and any other information that the department judges useful).

Question 4: Do the admission examinations indicate that students are sufficiently prepared and qualified to gain admission to UEM?

Until 1991, when students started to take admission examinations, students were admitted automatically into a university course. Students were given an entrance test but this did not influence their entrance into the university. Once in their courses, it was observed that, in general, their preparation in secondary school was insufficient. It was also observed that such preparation differed from school to school. Thus, a special programme was established at UEM called BUSCEP aiming to improve the achievement level of incoming students so they were better prepared to pursue their studies. The programme, which takes six months, involves the Faculties of Agronomy, Sciences, Engineering, Medicine and Veterinary covering pre-university subjects only (e.g. Physics, Mathematics, Chemistry, Biology, Design and English language). Subjects such as History, Geography and Portuguese, although pre-university subjects, are not covered by this programme because the Faculties (Faculty of Arts, Economics, Law, Architecture, and Social Sciences) who have them as required subjects are not involved in the programme.

Evidence to examine this fourth question comes from students' questionnaire (question C.2) where they were asked if they felt that the level attained in secondary school was sufficient to undertake their course. Answers reveal (as in table 6.5) that 46.4% of the students felt that the level attained in secondary school is sufficient to undertake their university course. Over one in three students said they were not sure, and only 14.7% considered themselves insufficiently prepared to undertake their university courses.

Table 6.5

Question C.2 Students' questionnaire
Do you feel that the level attained in the basic disciplines in secondary school is sufficient to undertake your course?

valid percentage		
Yes	Not sure	No
46.4	38.9	14.7

missing cases = 4.1%

Students involved in the BUSCEP programme were asked (question B.19) what they thought about the basic semester (BUSCEP). Responses indicated that 64.8% of the respondents considered that the programme was very interesting.

In order to compare the level of those students admitted to the University, question C.5 on students' questionnaire asks: "Compared with other students taking the admission examinations, in which position were you when admitted to your course?". Responses show that 45.0% of the students said that they were positioned within the average, 32.0% said that they were better than average, and 17.8% said that their position was near the top or at the top. Only 5.2% indicated their position as below the average or near the bottom.

Regarding the judgments of lecturers about admission standards, (see questionnaire for academic staff - question E.4) more than half considered the standards as adequate or good, but 34.4% pointed that the standards were low or very low.

Table 6.6

Question E.4 Academics' questionnaire
Do you feel that the admission standards are?

valid percentage				
very good	good	adequate	low	very low
0.0	23.0	42.5	26.4	8.0

missing cases = 8.4%

When asked to rate the preparation of the students to handle the material upon entering the University (question E.3 of academics' questionnaire), responses show (see table 6.7) that more than half of the lecturers (69.9%) rate the students' preparation as poor or very poor and only 2.2% as good.

Table 6.7

Question E.3 Academics' questionnaire
How do you rate the preparation of the students to handle the material upon entering the University?

valid percentage				
very good	good	fair	poor	very poor
0.0	2.2	28.0	59.1	10.8

Missing cases = 2.1%

Deans of Faculty were asked to give their opinion by agreeing or disagreeing on a number of measures that would improve the training of students in their Faculty (see question D.1). Point five of the question asks their opinion on admission requirements for students. Results reveal that four of the six respondents agreed or strongly agreed that the University should raise admission requirements for applying students.

Evidence from the Academic Directorate indicates that the BUSCEP programme will be maintained until pre-university grade education can be significantly improved. No other realistic charges are feasible in the foreseeable future.

Question 5: Does the admission procedure result in an optimal size to students' entry to UEM?

The number of students entering University is still very high for UEM's capacity. However, with the new admission policies, there are some courses which fail to reach their established quota. This is because students will not be admitted to a course, even if there are places available, unless they reach the prescribed standard.

The University is now reaching a point where the number of students has to stabilise. Thus, new forms of selection and new policies for admission are expected to increase the quality rather than quantity of students.

Evidence from Annual Reports (1991 to 1996) show that since the introduction of admission examinations (1991), the number of places offered is still higher than the annual quota of admissions and the number of candidates is significantly

greater than the places available (see table 6.8), with that ratio increasing substantially between 1993 and 1996.

Table 6.8
Applications and Admissions to UEM 1991-1996

Year	Places offered	Candidates	Candidates per place	Admissions
1991-92	806	1727	2.1	705
1992-93	810	1520	1.9	716
1993-94	763	2323	3.0	754
1994-95	755	3125	4.1	705
1995-96	890	4311	4.8	747

The table shows that the number of candidates has more than doubled since 1991, while the number of places offered has only increased by 10.4% and actual admissions by 6.0%.

The following graph shows the courses in which the number of places offered were not filled because the candidates did not have the required admission qualifications.

Graph 6. 1 - Percentage of places taken 1995-96

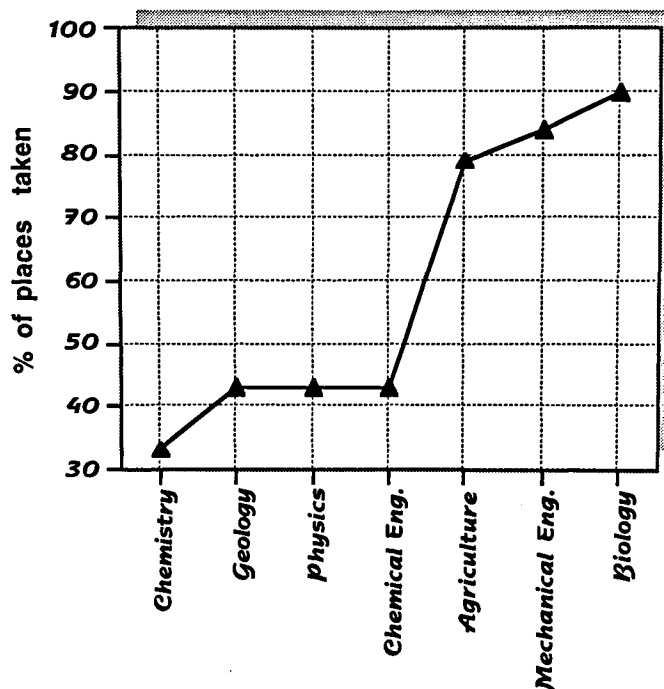


Table 6.9 illustrates the distribution per course of candidates, places offered, those admitted and the number of students enrolled in 1995-96 academic year.

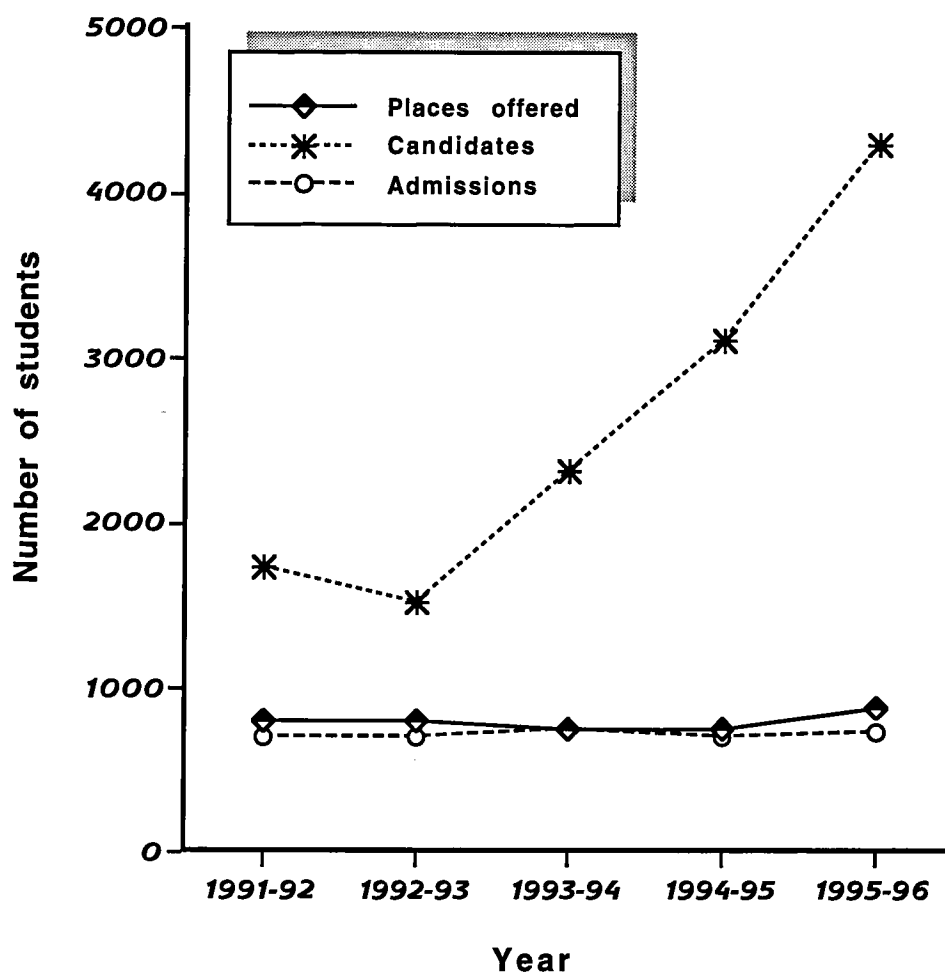
Table 6.9
Places, Candidates, Admissions and Enrolments
(year 1995-96)

Course	Places	Candidates			Admitted	Enrolled
		1st Exam	2nd Exam			
			1st Option	2nd Option		
Physics	30	16	21	56	18	16
Computer Science	30	143	140	81	30	28
Biology	30	49	43	117	25	23
Chemistry	30	20	12	98	6	6
Geology	30	38	59	93	26	24
Civil Eng.	35	158	56	29	35	33
Electrical Eng.	50	186	139	94	50	46
Mechanical Eng.	45	59	112	126	45	42
Chemical Eng.	35	24	46	61	30	27
Agronomy	100	264	274	139	54	53
Veterinary Science	25	61	81	115	28	25
Law	100	671	690	348	101	101
Economics	100	542	527	124	72	71
History	25	27	74	247	27	27
Geography	25	36	25	26	4	5
Linguistics	30	30	81	271	35	27
Medicine	70	187	165	58	72	69
Architecture	25	86	76	19	12	14
Social Sciences	75	418	126	257	77	72
Total	890	3015	2747	2359	747	709

Source: UEM's Annual Report (1995-96)

From the table, it is observed that courses in more demand are Law and Economics, followed by Social Science, Computer Science and Engineering (Civil and Electrical). Nevertheless, when comparing the admissions with the enrolments, the table reveals that 38 of those admitted did not enrol. The reasons are unknown but it is possibly because they did not get financial support by the time of registration.

Graph 6.2 - Applications and Admissions to UEM 1991-1996



The graph shows the proportion of candidates compared with the admission and the places available. It is observed that the number of candidates is well above the number of places offered.

This situation implies that University admissions may have to become more selective. It is unlikely that UEM will expand its capacity, which is already overcrowded, but rather may need to optimise the quality of its intake into all courses in a manner that is fair and provides equality of opportunities and access for all candidates.

Question 6: What were students' main reasons for choosing their courses?

As demand for higher education increased in Mozambique, UEM was forced to introduce some selectivity on University admissions. One of the components of this selective process was a competitive entrance examination aiming not only to improve the quality of entrance but also to allow students to pursue the course of their own choice.

With the students having the right of choice when entering higher education, it is important to analyse what influenced their choices. Evidence was collected from students' questionnaire (question A.11). In the question five main reasons were given such as: own interest, family's advice, friends in the same course, employers' interest, and did not choose. This last option was introduced because in the past as mentioned in chapter one, most students did not have the chance to choose their own courses. In the questionnaire, students were expected to indicate as many reasons as appropriate. Table 6.10 shows that the mainly reason which students most frequently mentioned for choosing their courses was 'own interest' (80.8%). The second most frequently cited reason was 'family's advice' (10.4%). However, it is clear that students' choice of course was affected by a mixture of academic and subjective reasons. Twenty nine students mentioned other reasons than those listed in the questionnaire which can be grouped into five distinct attitudes and orientations towards their studies. These were: a) no places available in their first option course therefore decided to go for second options with lower degree of selectivity; b) the only course offering a place; c) already had a technical degree in the same field; d) vocational nature of the course; e) long-term job and career prospects.

Table 6.10

Question A.11 Students' questionnaire
Why did you choose your course?

		valid %	
		Yes	No
own interest	(0.6)	80.8	19.2
family advice	(0.6)	10.4	89.6
friends in the same course	(0.6)	5.2	94.5
employer's interest	(0.6)	6.0	94.0
did not choose	(0.6)	5.2	94.8
other	(93.8)	96.7	3.3

Note: The percentage of missing cases is given in brackets

When students were asked (see key question 2) whether they knew about University courses before they started their courses, the majority said that they knew very little or nothing at all. This results indicate that without prior information about University courses students will find difficult to make their choices.

SECTION TWO - THE QUALITY ASSURANCE OF TEACHING AND LEARNING

Question 7: Do the students consider the teaching and learning strategies appropriate for delivering effective education?

The process of teaching and learning at UEM has adjusted to accompany the rapid changes that have occurred in Mozambican society. Curriculum reform was implemented in the mid-eighties enabling the courses to be restructured, thus giving more emphasis to the Mozambican context, and responding to the economic and political demands of the country.

The enhancement of effective education at UEM would derive from staff recruitment and development, the ability to draw upon recent and relevant research by lecturers, the provision of excellent material resources, and close partnership with other institutions and with professional colleagues.

However, UEM's current educational standards appear to be declining due to the rapid expansion of University population, the admission of students who still have gaps in their knowledge of essential subjects, teachers with insufficient teaching skills, teachers not well remunerated and therefore not sufficiently motivated, shortage of equipment and facilities, and the poor living and study conditions of the students. Teachers have less time for teaching preparation and research as the salaries frequently force them to seek supplementary jobs outside the University.

Teaching and learning is an area in which student feedback can be of a particular value in the evaluation and enhancement of course quality. Students are the immediate 'consumers' of higher education, they are well-placed to put forward their perceptions of: teaching quality, the achievement of the course aims, the resources available, and their capacity to deal with the work expected of them. This practice has not been used in UEM, and student participation may be enhanced when feedback interaction is encouraged.

In order to answer the question posed for this research (Do students consider the teaching and learning strategies appropriate for delivering effective education?), evidence was collected from the students' questionnaire (question B.3) in which they were asked to indicate their level of satisfaction or dissatisfaction on issues related to teaching and learning such as, teachers, curriculum, materials, evaluation, teaching methods and administration of their Faculty. Results show, as seen in table 6.11, a generic ambivalence on almost all items listed in the questionnaire. However, dissatisfaction with materials is strong (76.3%). It is also observed that a relatively large percentage of respondents opt for a 'don't know' answer. This 'neutral' answer may reflect, in some cases, lack of knowledge, or in other cases, not having a particular viewpoint on the issues.

Table 6.11

Question B.3 Students' questionnaire
How satisfied or dissatisfied are you with:

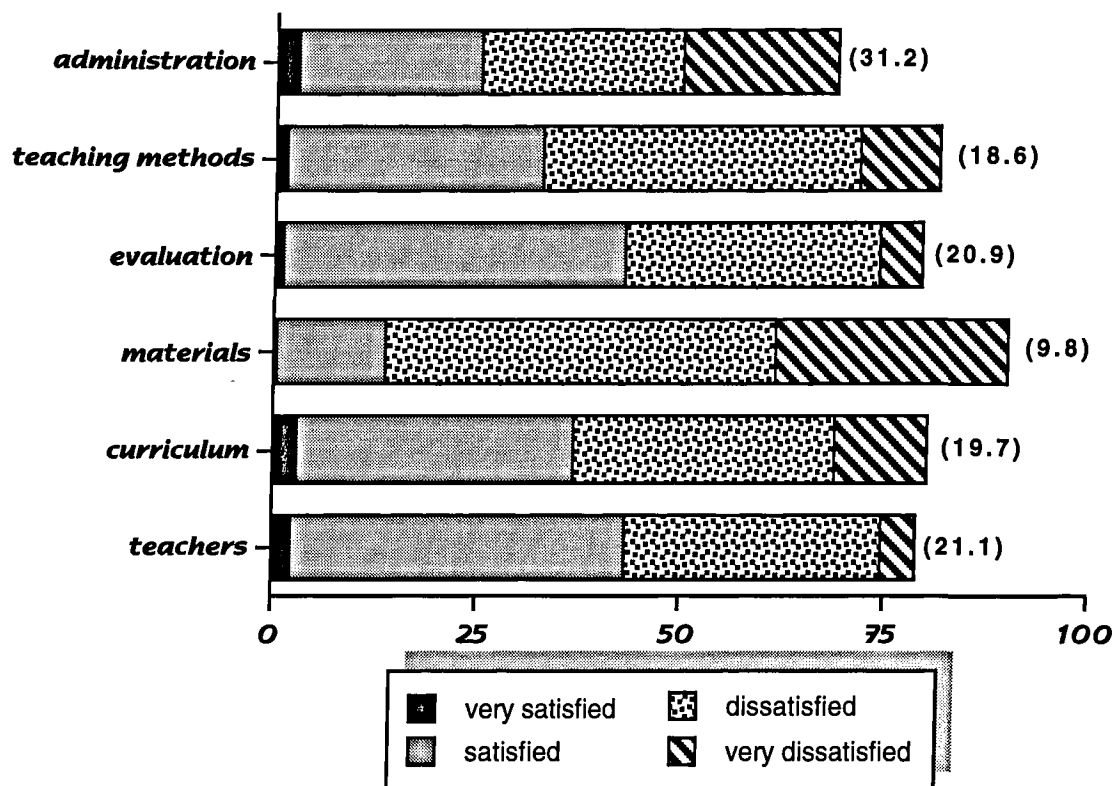
		valid percentage				
		very satisfied	satisfied	don't know	dissatisfied	very dissatisfied
teachers	(0.8)	2.3	41.1	21.1	31.3	4.2
curriculum	(2.3)	3.0	33.9	19.7	32.2	11.2
materials	(3.1)	0.6	13.2	9.8	47.9	28.4
evaluation	(2.7)	1.1	41.9	20.9	31.1	5.1
teaching methods	(2.9)	1.5	31.1	18.6	39.0	9.8
administration of your Faculty	(1.9)	2.7	22.2	31.2	24.9	19.0

Note: The percentage of missing cases is given in brackets

The following graph illustrates the proportion of dissatisfaction ratings compared with satisfaction for each aspect of teaching and learning. The numbers in brackets represent the percentage of 'don't know' answers not included in the graph.

The notable elements of dissatisfaction in the graph, are helpful because they suggest where there could be immediate change to reverse the 'dissatisfaction' trend. The University should consider using a variety of teaching and learning strategies which encourage students to think for themselves, using peer group interaction and by the increased application of theory to practice. The UEM recognises that fieldwork and research studies are essential components of University courses. The integration of theory and practice is at the heart of the successful outcomes achieved by students in their work, and is important in fostering a more healthy economy.

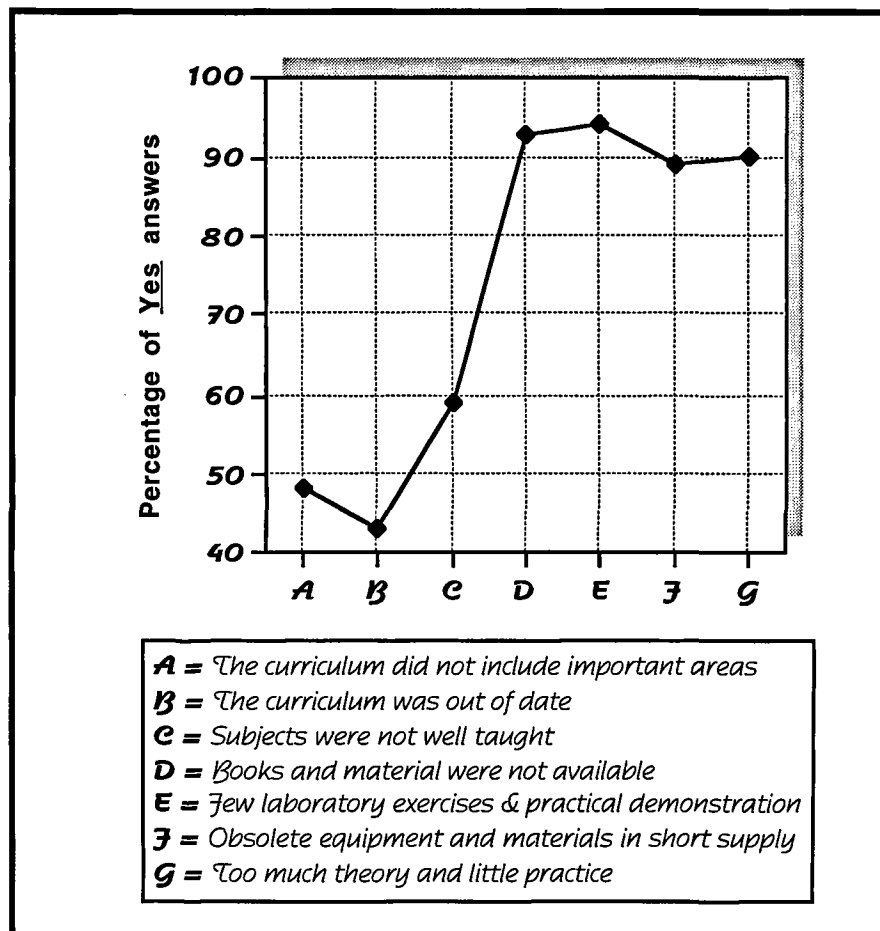
Graph 6.3 - Level of satisfaction or dissatisfaction of students on teaching and learning issues



However, the crisis in the country's economy which considerably affected the University, has made it difficult to change the culture and ethics of the University, due to the low motivation of lecturing staff for change.

Other evidence was collected from graduates' questionnaire (question A.4) which asked graduates to indicate within a given list of various teaching and learning issues the ones which applied to their situation while in the course. Graph 6.4 illustrates the results.

**Graph 6.4 - Which of the following applies to you?
(Graduates' responses)**



As observed in the graph, the responses from graduates indicate that they had few laboratory exercises and practical demonstrations and that in most cases books and materials were not available. It is noticeable however that few graduates regarded the curriculum as out of date.

Academics' comments on teaching and learning (as found in the academics' questionnaire) suggest that the UEM should revise the programmes of study by modernising them, using evolutionary educational policies.

Throughout the course, students could be required to complete a variety of assignments including essays, literature reviews, practical write-ups and oral presentations. However, this practice is seldom used in UEM courses. The sharing of work with other students develops individual presentation skills and expands

knowledge of particular topic areas. New strategies for learning rather than concentrating on expository teaching may raise standards.

Lecturers and fieldwork tutors could encourage the students to develop a problem-solving approach to their work, helping to integrate theory and practice. Overall, the quality of work carried out in practical research or fieldwork by students is unsatisfactory and represents one of the weak features of UEM.

Another piece of evidence to address this question comes once more from students' questionnaire (Question B.5) in which students were asked to comment on the number of lectures, seminars, practical and assignments on their courses. Responses show (as seen in table 6.12) a consensus that they fall in between 'about right' and 'far too few'. However, when comparing the percentage of responses in the last two categories - 'too few' or 'far too few'- it is observed that assignments present the highest percentage of too few responses (83.9%), followed by seminars (62.8%), practicals (60.7%), and lectures with only 48.0%.

Table 6.12

Question B.5 Students' questionnaire
Were there a suitable number of lectures, seminars, practical and assignments on the course?

		valid percentage				
		far too many	too many	about right	too few	far too few
lectures	(2.9)	6.2	7.2	38.6	22.0	26.0
practicals	(1.4)	1.5	2.9	34.9	33.8	26.9
seminars	(3.7)	0.6	2.6	34.0	34.6	28.2
assignments	(7.2)	0.9	1.6	13.6	25.9	58.0

Note: The percentage of missing cases is given in brackets

Further evidence comes from academics' questionnaire (question A.6) in which academics were asked to give their opinion about the scheduling of lectures, laboratory work and seminars. Responses show that 39.8% of the academics indicated that the scheduling is fairly efficient. Over one in three academics said that it was efficient and only 14.0% said that the scheduling of lectures, laboratory work and seminars was inefficient or very inefficient.

Academics were also asked (question A.7 on academics' questionnaire): 'How adequate or inadequate is the class contact/lecture time to cover the course content?' Results indicate that the highest proportion of respondents (80.9%) said that the class contact/lecture is adequate or very adequate to cover the course content and 19.1% said inadequate or very inadequate.

When asked to give their opinion on the balance between theory and practice in their courses (question B.6 in students' questionnaire), results show that over half of the respondents (58.2%) are of the opinion that the balance is poor or very poor (see table).

Table 6.13

Question B.6 Students' questionnaire
In your opinion what is the balance between theory and practice in the course?

valid percentage				
very good	good	fair	poor	very poor
4.0	18.0	19.7	37.9	20.3

Missing cases = 1.3%

Academics were asked the same question (see question B.3 on academics' questionnaire) and responses show, as in the table below, that they also admit that the balance is poor, even though 37.6% regard the balance as good or very good and 20.4% as fair.

Table 6.14

Question B.3 Academics' questionnaire
In your opinion, what is the balance between theory and practice in the course?

valid percentage				
very good	good	fair	poor	very poor
11.8	25.8	20.4	38.7	3.2

Missing cases = 2.1%

A total of 106 students expressed a personal (free response) opinion on aspects of teaching and learning. The similar opinion of 58 of these students was summed up by one student:

“Os currículos são no geral muito teóricos”
(Curricula are in general very theoretical).

Another student said the following, and this was fairly representative of a group of 32 students who commented on subjects taught in the course:

“Há muitas disciplinas que são irrelevantes para o curso. Deviam-se eliminar as disciplinas com pouca importância e concentrar naquelas de especialidade”
(There are subjects which are irrelevant to the course. Subjects less important should be eliminated and concentrate more on specialised areas).

Another student said:

“ Os currícula deveriam estar mais ligados às necessidades e realidade do país”
(Curricula should match the needs and reality of the country).

The graduates’ questionnaire (question A.4) showed evidence that a large proportion of respondents (90.2%) shared the opinion that there was too much theory and too little practice in their courses.

Further evidence comes from students’ questionnaire (question B.1) in which students were asked how satisfied or dissatisfied they were with their training. Responses show (as in the table) that 67.3% of the students are satisfied or very satisfied with their training.

Table 6.15

Question B.1 Students’ questionnaire
How satisfied or dissatisfied are you with your training?

valid percentage				
very satisfied	satisfied	don't know	dissatisfied	very dissatisfied
11.1	56.9	16.9	13.8	1.3

Missing cases = 1.0%

There is an inconsistency in these results. On question B.3, students revealed dissatisfaction with most aspects of teaching and learning, but when it comes to overall assessment of their training (question B.1), students' responses show a general level of satisfaction.

In order to understand this inconsistency, a different analysis is made concentrating this time on different years of study. Evidence comes from question B.7 where students were asked to indicate the overall teaching quality of their course in each year of study.

Table 6.16

Question B.7 Students' questionnaire

Please indicate your overall view of the teaching quality of your course in each year of study.

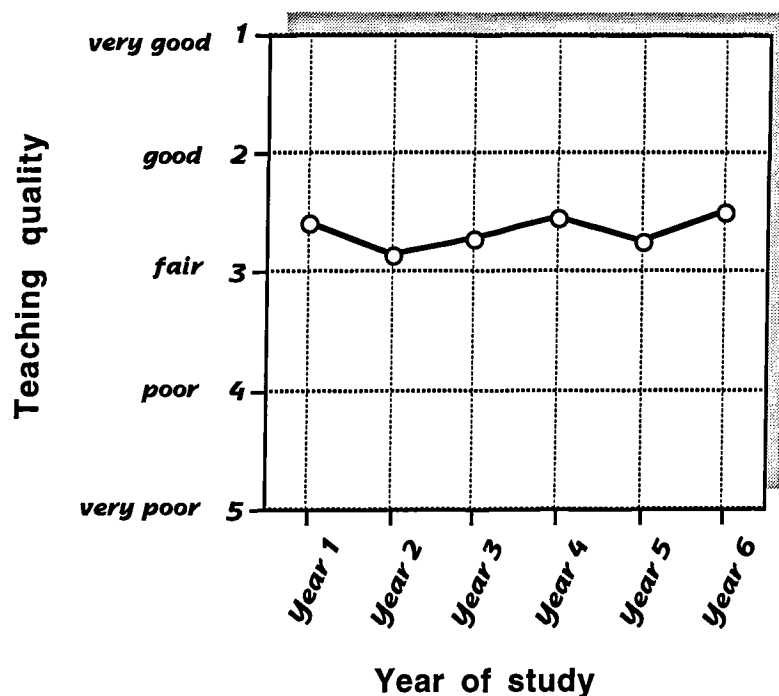
		very good	good	fair	poor	very poor	missing cases
Year 1	F	61	151	178	51	14	28
	%	(13.4)	(33.2)	(39.1)	(11.2)	(3.1)	
Year 2	F	11	93	208	39	12	120
	%	(3.0)	(25.6)	(57.3)	(10.7)	(3.3)	
Year 3	F	8	90	130	20	7	228
	%	(3.1)	(35.3)	(51.0)	(7.8)	(2.7)	
Year 4	F	12	78	62	17	3	311
	%	(7.0)	(45.3)	(36.0)	(9.9)	(1.7)	
Year 5	F	5	17	19	8	3	431
	%	(9.6)	(32.7)	(36.5)	(15.4)	(5.8)	
Year 6	F	0	1	1	0	0	481
	%	(0.0)	(50.0)	(50.0)	(0.0)	(0.0)	
Year 7	F	0	0	0	0	0	483
	%	(0.0)	(0.0)	(0.0)	(0.0)	(0.0)	

F = Frequency; % = valid percentage

Responses reveal, as in the table, a general high percentage of answers on the 'good' and 'fair' options. However, if we reduce the ordinal 'very good' to 'very poor' scale to a numerical dimension (1 to 5), and use average scores for each year, a slightly different outcome is observed.

The following graph illustrates the students' perception of the teaching quality in each year of study using a numerical dimension.

Graph 6.5 - Students' perception of teaching quality



In the graph, students perception of teaching quality is, in general, in between the two and three mark, i.e. between 'good' and 'fair'. However, when comparing the different years of study, year two is the closest to mark three ('fair') showing the lowest rating of the quality of teaching, whereas years six and four show the highest rating of teaching quality.

A question about satisfaction or dissatisfaction with the training given by UEM was raised in graduates' questionnaire (question A.1). The responses from graduates indicated a high degree of satisfaction with the training given to them in their courses. 75.0% were either satisfied or very satisfied with their training, 16.7% were dissatisfied and 8.3% said 'don't know'.

The quality of the total student experience of higher education is determined by the quality of practice at all levels in the institution, from the total institutional level, through programme level, teaching by individual staff, and in learning by the

individual student. The above results suggest that such student experience is not currently being engendered by current policies and practices at UEM, and this section has begun to show where constructive changes are possible.

Question 8: To what extent do the qualifications of staff assure the required effectiveness in human resourcing?

In Mozambique, colonial authorities invested little (even not at all) in indigenous human resource development. Thus, at the time of Independence in 1975, when the vast majority of experienced administrators, technicians, and skilled workers abandoned the country as part of the Portuguese exodus, Mozambique was confronted with a major shortage of trained workers ranging from basic workers to senior technicians and managers.

Since that time 1975, the Mozambique Government has made important steps in rebuilding its human resource base, by improving access to education at all levels and by promoting adult literacy.

The 'Eduardo Mondlane' University has been forced to recruit foreign staff to assure the continued functioning of the institution. Efforts have been made to develop indigenous staff in order to reduce the gap between Mozambicans and expatriate staff working at the University. The number of indigenous teaching staff at UEM has risen from just five in 1975 to 380 (full-time) and 172 (part-time) in 1996. Although numerically insufficient (since one third of all teaching staff are still expatriate), this significant increase in Mozambican staff is an impressive achievement.

In order to answer the question posed by this research: "To what extent do the qualifications of staff assure the required effectiveness in human resourcing?" academics were asked to indicate the highest degree they had obtained (question H.9). Responses reveal (as shown in table 6.17) that the highest proportion of academics (41.7%) earned the 'Licenciatura' degree (see pg. 29), followed by 32.1% with a Masters degree, and 26.2% with a PhD.

Table 6.17

Question H.9 Academics' questionnaire
Highest degree earned

Grade	valid %
BA or BSc	0.0
'Licenciatura'	41.7
Master	32.1
PhD	26.2

Missing cases = 11.6%

Evidence from UEM's Annual Report 1995-96 suggests that there has been an increase of 58% in the number of Masters degrees compared with the previous year. UEM is continuing to make efforts to promote training and post-graduate qualifications among its staff, not only to improve their performance, but also as a means of staff retention. Thus, in 1995-96, 89 (23.4%) of the 380 Mozambican lecturers were undergoing further training (from Annual Report 1995-96).

The 'Eduardo Mondlane' University employs a large number of non-academic staff (a total of 1474 in 1995-96) who generally provide domestic, civil and student welfare services, campus maintenance, and University security. Question B.1 of the technical and administrative staff questionnaire asks them to indicate their highest educational qualifications. Responses reveal that only 18.4% had completed secondary school (grade 11), and 6.1% were University graduates (BA or BSc and 'Licenciatura' degrees). The majority of respondents (37.7%) have less than grade 9 (meaning in most cases, a primary school level education).

Table 6.18

Question B.1 Technical and Administrative Staff questionnaire
What is your highest educational qualification?

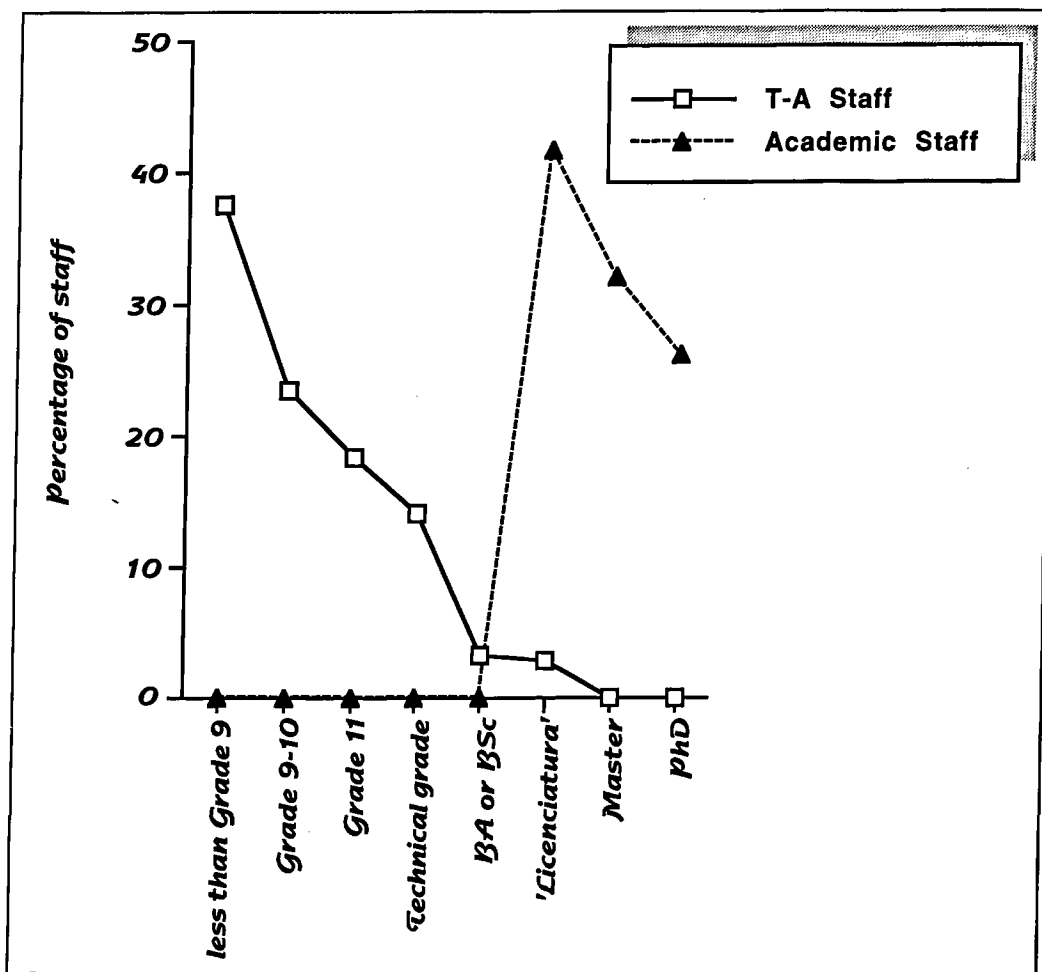
Grade	valid %
less than Grade 9	37.7
Grade 9-10	23.6
Grade 11	18.4
Technical Grade	14.2
BA or BSc	3.3
'Licenciatura'	2.8

Missing cases = 10.5%

Because there are no post-graduate programmes in Mozambique, staff development generally requires sending people abroad for training. This is a costly investment particularly for Mozambique, an in-debt country with considerable foreign borrowing problems. Consequently, University staff development is often at the mercy of foreign donors who supply most of the funding for further training. Such training policies give preference to academic staff over technical and administrative staff.

The following graph illustrates the predictable difference in educational achievement between academic staff and the technical and administrative staff.

Graph 6.6 - Educational qualifications of academic and technical and administrative staff



Source: Questionnaires of academics and technical and administrative staff

However, new approaches are taking place at UEM which aim to promote training for managerial and technical staff. Within the confines of UEM's Capacity Building Project funded by the World Bank, the University is seeking to reduce this unfavourable trend. UEM's technical and administrative staff are currently taking part in short, medium and long-length specialised courses, including information technology, resource management, safety in laboratories, English language learning and financial management.

In one of the interviews, one Administrator said:

“O sentimento é que o desenvolvimento do corpo tecnico-administrativo não está a acompanhar a formação dos docentes”

(The feeling is that technical and administrative staff development is not on par with academics' training).

Another Administrator said:

“Preciso de mais gente e mais qualificada. Gostaria de fazer análise económica e financeira que não está a ser feita devido à incapacidade técnica do staff”

(I need more and better qualified people. I would like to engage in economic and financial analysis which has not been done because of the lack of technical knowledge of the staff).

A total of 53 members of the technical and administrative staff expressed their concern (in a free response format) about educational qualifications and training. Responses reveal their feeling of being hindered in terms of opportunities for training and further education.

A member of the administrative staff said:

“O pessoal técnico e administrativo deveria ter também a chance de prosseguir os seus estudos”

(Technical and administrative staff should also have the chance to pursue their studies).

Another individual from the technical and administrative staff said:

“Não formar indivíduos já prestes a reformar”

(Do not train people who are close to retirement).

The current system of technical assistance exhibits a number of serious weaknesses. Therefore, in order to support technical and administrative areas in faculties and offices, UEM has recently (since 1993-94) contracted students (from level two onwards) to carry out some specific tasks.

From the researcher's own observation and in interviews with administrators, there was an indication that the number of technical and administrative staff was extremely high, insufficiently qualified and tending to be older than younger in age. On the other hand, people seem to stay in the same working area doing the same job for decades, with limited chances for individual advancement. Evidence comes from the technical and administrative staff questionnaire (question D.9) which asks how long they have been doing the same or similar job. Results show that the highest proportion of respondents (33.0%) indicate that they have been doing the same job for more than 10 years (see table 6.19).

Table 6.19

Question D.9 Technical and administrative staff's questionnaire
How long have you been in a paid employment doing the same or similar job as you are doing now?

Period of time	valid %
Less than 6 months	1.3
6 to 11 months	4.3
1 year	6.5
2 years	4.8
3 - 4 years	18.7
5 -7 years	18.3
8 - 10 years	13.0
More than 10 years	33.0

Missing cases = 3.0%

Another piece of evidence comes from the technical and administrative staff questionnaire (question C.3). Part of this question asks their opinion on aspects that are considered to affect the quality of the work of the technical and administrative staff. Despite 24.9% missing cases, the question provides some insight into the problem of educational qualifications. Answers reveal that 72.5% agree or strongly agree that their inadequate qualifications affect the quality of their work at UEM.

To conclude addressing this question: Mozambique does not have post-graduate education opportunities nor local training programmes for many professional categories. The costs of sending individuals abroad are high, both in terms of financial cost when supported directly by the government, and in terms of opportunity cost if the donor-funded scholarship is not used effectively or if the newly-acquired skills of the returning individual are not exploited. It is also important to assess common training needs across the institution in order to identify alternative methods of providing the necessary training.

Question 9: What factors affect academics' motives for teaching in higher education?

UEM is hard pressed to be even moderately competitive in the Mozambican labour market in areas of current high demand such as economics, agriculture, engineering, law and medicine. The salaries and benefit packages for public and private employers outside UEM are far better than those provided by the University. Benefits generally include a combination of housing, utilities, car, petrol, payment of income taxes, and overseas training courses. In some cases, a portion of a salary is paid in foreign exchange.

Thus, the University is not in a position to compete with other employers in recruiting and retaining staff. Given this circumstance and the shortage of skilled professionals in the country, it is more likely that the University will continue to see its academic staff leave the institution or engage in outside activities to supplement their University salary.

So, what factors affect academics' motives for teaching in higher education? Evidence to answer the question comes from the academics' questionnaire (question G.1) which asked academics why they choose to be academic. A list of seven reasons were given in the questionnaire and academics were expected to indicate as many as were appropriate. Responses reveal (as seen in table 6.20) that the most frequently cited reason was because they enjoy teaching and because they wanted to do research. Another reason indicated by 22.3% of the respondents was the University ethos and atmosphere. The less popular reasons were: 'could not find other work' (5.4%) and 'for the money' (6.4%).

Table 6.20
Question G.1 Academics' questionnaire
Why did you choose to be academic?

		valid %	
		Yes	No
enjoy teaching	(1.1)	71.3	28.7
want to do research	(1.1)	71.3	28.7
like the University atmosphere	(1.1)	22.3	77.7
for the prestige /position	(1.1)	10.6	89.4
for the money	(1.1)	6.4	93.6
conditions of work	(1.1)	8.5	91.5
could not find other work	(2.1)	5.4	94.6
other	(83.2)	75.0	25.0

Note: The percentage of missing cases is given in brackets

Another piece of evidence, also from academics' questionnaire (question G.2), refers to what academics enjoy most about their profession. A list of five choices was given in the questionnaire so that academics could indicate the one(s) which applied to them. Table 6.21 shows that teaching and research are the areas academics most enjoy in their profession. However, academics showed discontent with their prestige/position in society as well as their payment.

Table 6.21

Question G.2 Academics' questionnaire
What do you enjoy most about your profession?

		valid %	
		Yes	No
pay	(1.1)	8.5	91.5
teaching	(1.1)	70.2	29.8
research	(1.1)	81.9	18.1
University atmosphere	(1.1)	19.1	80.9
the prestige/position in society	(1.1)	5.3	94.7
other	(90.5)	55.6	44.4

Note: The percentage of missing cases is given in brackets

Further evidence was collected from the academics' questionnaire (question G.3) which asked academics to give their opinion on the disadvantages of their chosen profession. A list of certain aspects was provided on the questionnaire and respondents had to express their opinion by agreeing or disagreeing with such items. Responses reveal (as seen in table 6.22) that a large proportion of respondents opt for a neutral answer. On the other hand, there were also a sizable proportion of missing cases. However, a large proportion of respondents agree or strongly agree that the pay scale is a disadvantage of their chosen profession.

Table 6.22

Question G.3 Academics' questionnaire
What are the disadvantages of your chosen profession?

		valid percentage				
		strongly agree	agree	neither agree nor disagree	disagree	strongly disagree
pay scale	(12.6)	55.4	18.1	7.2	9.6	9.6
teaching load	(33.7)	7.9	12.7	36.5	31.7	11.1
research	(34.7)	9.7	12.9	19.4	32.3	25.8
the University atmosphere	(37.9)	13.6	8.5	27.1	37.3	13.6
administration	(32.6)	21.9	26.6	26.6	23.4	1.6
department atmosphere	(36.8)	10.0	8.3	21.7	41.7	18.3
the work load	(29.5)	4.5	26.9	29.9	28.4	10.4
other	(92.6)	100.0	0.0	0.0	0.0	0.0

Note: The percentage of missing cases is given in brackets

Question 10: Is the distribution of academic staff time appropriate for efficient and effective delivery of teaching and learning?

UEM currently faces a serious problem of staff retention. Salaries are often insufficient to meet basic family subsistence even with pay from full-time University employment. The result has been the loss of University staff (frequently the most talented) and a lack of return on the substantial investment of time and resources in their professional training. In cases where staff remain linked to the University, there is tendency for them to restrict their time to teaching the required sessions in order to work in other income-supplementing activities. This procedure, which has become a common practice in UEM, results in less time available for preparation of lectures, student advising, research, and participation in University administration and policymaking.

The University is well aware of this problem and some efforts have been made to find solutions. These include benefits for staff such as housing, transport, petrol, and overseas training courses. The University cannot compete with other employers in the effort to recruit and retain staff because the University salary scales are tied to the overall civil service pay scales. Although the government recently recognised the particular nature of University contributions by approving special salary supplements for academic staff, salary levels are still firmly related to government pay scales.

To address the question posed (Is the distribution of academic staff time appropriate for efficient and effective delivery of teaching and learning?), evidence was collected from the academics' questionnaire (question A.3) in which they were asked to indicate how much of their time was dedicated to different academic activities such as preparing lectures, teaching, correcting papers, research, consulting, advising students and administrative work. Responses reveal (as in the following table) that, in general, there is a different amount of time dedicated to each of the activities listed in the questionnaire.

Table 6.23

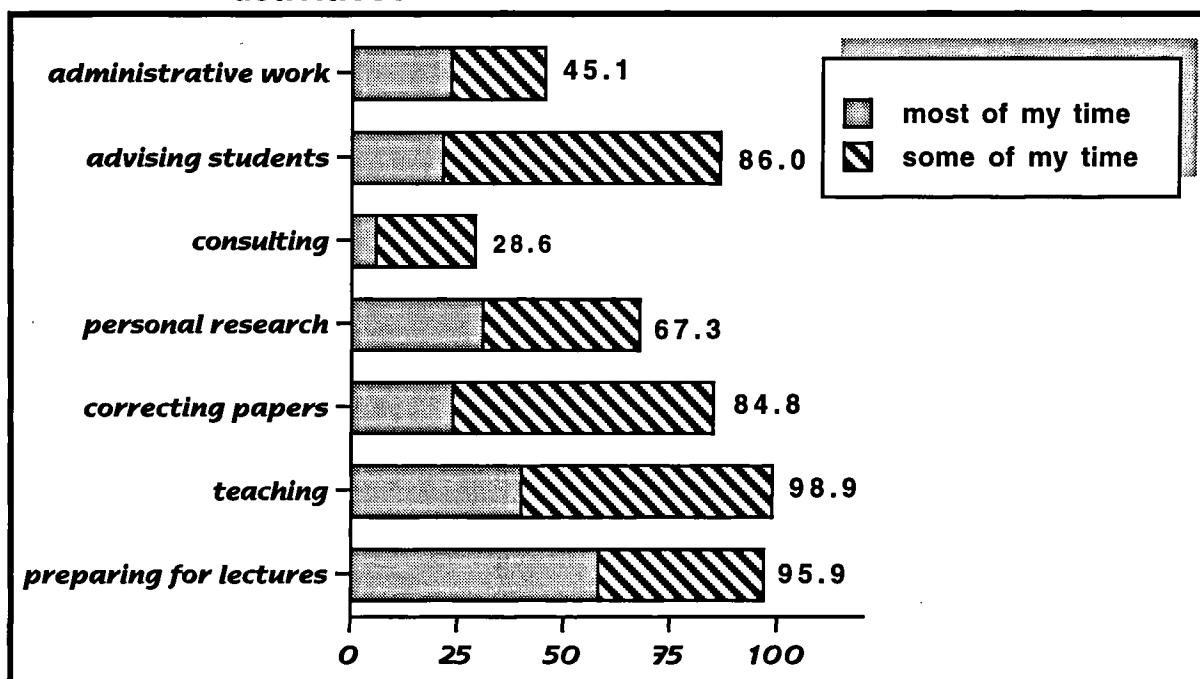
Question A.3 Academics' questionnaire
How much of your time is dedicated to the following activities?

		valid percentage			
		most of my time	some of my time	a little of my time	none of my time
preparing lectures	(0.0)	57.9	38.9	3.2	0.0
teaching	(3.2)	40.2	58.7	1.1	0.0
correcting papers	(3.2)	23.9	60.9	14.1	1.1
personal research	(0.0)	30.5	36.8	29.5	3.2
consulting	(4.2)	5.5	23.1	36.3	35.2
advising students	(2.1)	21.5	64.5	11.8	2.2
administrative work	(4.2)	23.1	22.0	36.3	18.7

Note: The percentage of missing cases is given in brackets

When comparing the amount of time allocated to the seven activities listed in the questionnaire, it is observed (as in graph 6.7) that a large proportion of time (98.9%) goes for teaching followed by preparing lecturers with 95.9%. The activities where lecturers dedicate less of their time comprise administrative work (45.1%), and consulting (28.5%).

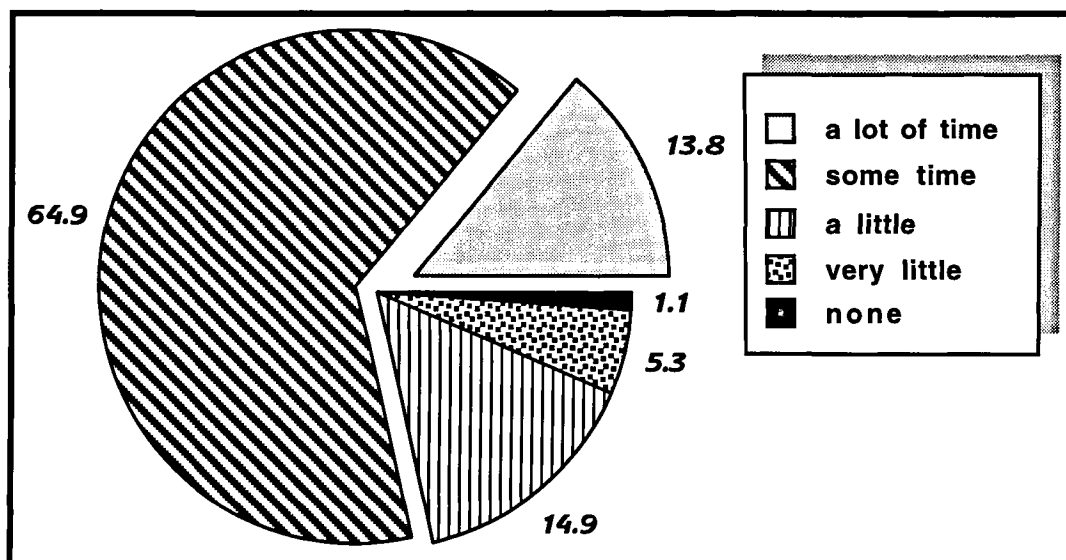
Graph 6.7 - How much of your time is dedicated to the following activities?



Percentage of academics who answered 'most of my time' and 'some of my time'

Another piece of evidence also comes from the academics' questionnaire where lecturers were asked (question A.10) to indicate their availability to meet and assist students outside lectures. Responses reveal that over half of the lecturers (64.9%) have some time available to assist students outside their lectures, and 13.8% have a lot of time available (see graph 6.8).

Graph 6.8 - Academics' availability to assist students outside the lectures



Missing cases = 1.1%

Students however, often claim that lecturers do not have enough time for them and although this issue was not addressed in the students' questionnaire (due to lack of space), a number of students (a total of 140) commented on academic staff performance (in a free response format). Commenting on the time dedicated to students outside the lectures, one student said the following, and this is fairly representative of 53 students replies:

"Os docentes deveriam dedicar mais tempo aos estudantes"
 (Lecturers should dedicate more time to students).

Another student said:

"Gostaria que os docentes tivessem mais tempo para dedicar aos alunos pois trabalham em muitos sítios e nós somos a última opção"

(I would like lecturers to dedicate more time to students because they work in so many places and for them, we are the last option).

There are certain matters that one should bear in mind when looking at the distribution of lecturers' time. Those with considerable experience of University teaching will need less time in preparing their lectures than those who are fairly new to the profession. The nature of the discipline can also affect the time needed for preparation. For example, some subjects require laboratory or practical work preparation time. On the other hand, there are those who have a strong research interest, dedicating more of their time to research activities than those whose interests mainly lie in teaching. Thus, the pattern of each lecturers' weekly timetable is based on interests as well as demands, and on personal inclinations as well as departmental demands.

Question 11: What mechanisms, procedures and activities are used in UEM in order to maintain and improve the quality of provision for teaching (the teaching performance and training for academic staff) and learning?

The development and training of staff plays an important role in quality enhancement. Thus, in UEM, considerable emphasis is given to encourage and support staff to undertake courses and programmes which are relevant to their individual work and career needs, and relevant to the University strategic goals. The University encourages staff to undertake training activities in those areas which will help them to work effectively in the context of current and future changes. These include: postgraduate level qualification training; continuing academic and professional development; development/training in areas related to the organisational needs of the University.

Staff development is thus an important area of quality assurance, and is viewed as having two major functions: (1) to enable all staff to achieve individual work and career goals; and (2) to enable staff to make an effective contribution to the achievement of departmental and University goals.

UEM currently has 89 of its 380 Mozambican teaching staff undergoing training. The following table gives information about the number of academics undergoing such training by Faculty, and the degrees for which they are studying.

Table 6.24
Mozambican teaching staff undergoing training
(Academic year 1995-96)

Faculty	Total	Degree		
		Masters	Doctor	Other
Agriculture	23	11	11	1
Architecture	0	0	0	0
Science	15	8	6	1
Law	1	1	0	0
Economics	8	4	4	0
Engineering	15	10	5	0
Arts	16	6	10	0
Medicine	4	3	0	1
Veterinary	4	3	1	0
Social Sciences	1	0	1	0
Other Offices *	2	1	1	0
TOTAL	89	47	39	3

Source: UEM's Annual Report 1995-96

* Includes staff working in administrative offices but with academic status

In interviews with central offices' administrators when considering the training of teaching staff, one Director of a central office department said:

“As faculdades não têm um plano claro de formação dos seus docentes. O resultado é que algumas disciplinas não são leccionadas porque o professor está em plano de formação e não houve um plano de substituição desse docente”

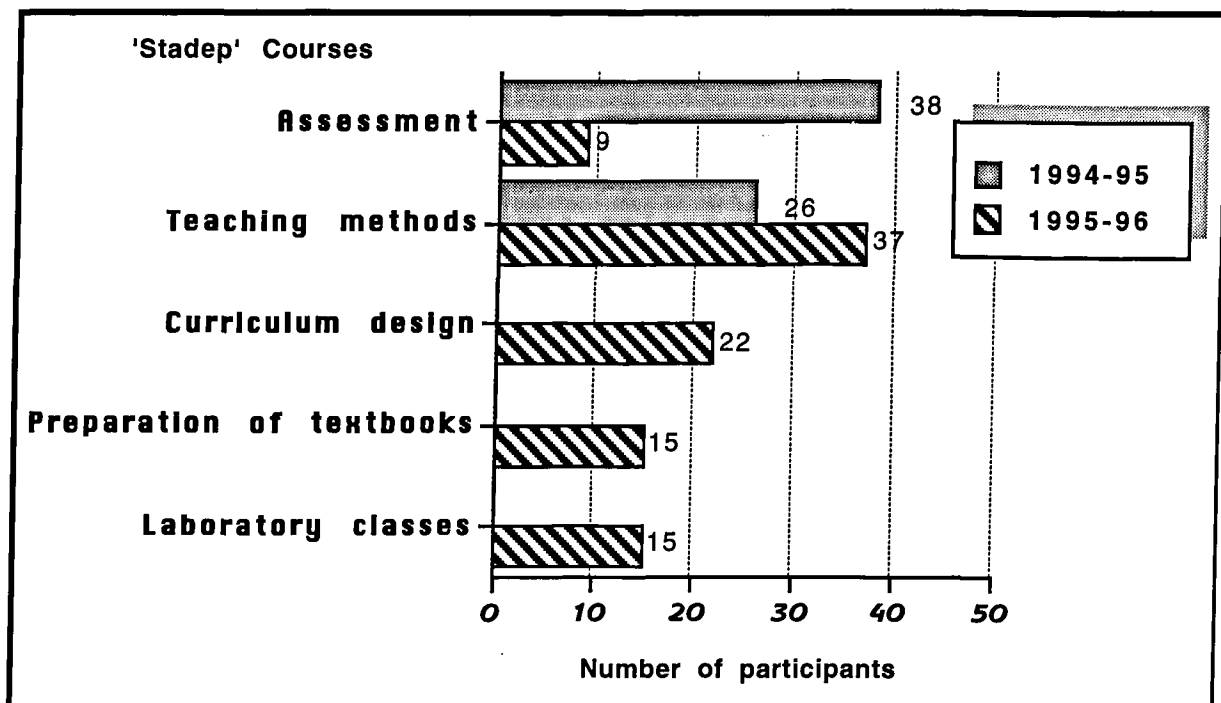
(The faculties do not have a clear training plan for its academic staff. The result is that some subjects are not covered because the teacher is undergoing training abroad and there is no plan for substitution).

Despite schemes to achieve higher academic qualifications, academics often are lacking in teaching skills. Inexperienced staff require induction and an introduction to teaching skills, assessment techniques, student learning and programme design. On the other hand, experienced staff require updating in teaching knowledge and skills (e.g. ways to teach large classes, new assessment

techniques, teaching of personal/transferable skills). The lack of readily available textbooks in Portuguese results, in most cases, in teachers having to prepare textbooks for students. In 1989, UEM set up a project called STADEP (Staff Development Project) aiming to promote and improve the quality of teaching and learning. The project consists of different courses which cover issues such as the preparation of textbooks, teaching methods and assessment. To meet academics' needs, STADEP expanded its activity, setting up in 1995-96 two new courses - curriculum design and laboratory classes.

The STADEP project started in the faculties of Engineering and Sciences. It was then expanded to the faculties of Veterinary, Biology and Mathematics, and since 1994, three other faculties joined the programme - the Faculty of Agriculture and Forestry, the Faculty of Architecture, and the Faculty of Medicine. UEM academic staff with less teaching experience and without a formal teaching qualification are required to participate in at least one of those courses. The following graph illustrates the participation of academics in 'STADEP' courses in 1994-95 and 1995-96.

**Graph 6.9 - Number of participants in 'STADEP' courses
(1994-95 and 1995-96)**

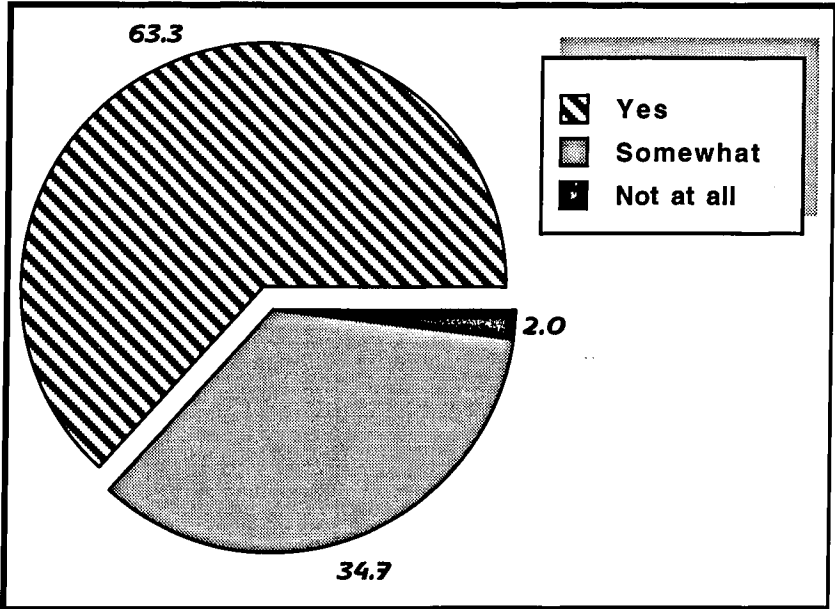


Source: UEM's Annual Report 1995-96

Responses from the academics' questionnaire (question A.11) confirm that this programme is functioning in most faculties. In this question, academics were asked if there were workshops or classes in their Faculty to assist teachers to improve their teaching skills. Almost three quarters (71.4%) of the respondents said 'yes' and only 28.6% said 'no'. When asked if they had ever attended one of the workshops/courses (question A.12), over half of the respondents (64.8%) said 'yes'.

Question A.13 of the same questionnaire asked those who answered 'yes' to question A.12: 'did you find the workshops or classes helpful?'. Responses reveal (as shown in the following graph) that 63.3% said that the courses were helpful, 34.7% said somewhat helpful, and only 2.0% did not find the workshops or classes helpful at all.

Graph 6.10 - Academics' responses to question A.12:
'Did you find the workshops or classes helpful?'



Missing cases = 48.4%

From the researcher's observations, there appears to be a lack of unanimity about the appropriateness of this training programme for academic staff. While the perception of the academic administrators is that most of the staff do attend the courses- at least to some extent- the view of the staff is different. While some academics regard the courses as worthwhile, others think that the courses do not

always seem to meet their needs. There are those who attend the courses just to get promotion. In the light of this, the STADEP project may wish to look at the content of its programme, and the University may wish to reconsider the obligation of staff to attend those courses.

UEM may also wish to provide other types of training and development with regard to institution-wide activities, such as: admissions and selection techniques, management skills, committee work, counselling, publicity, and quality assurance processes.

Question 12: How effectively are course objectives matched by the content of curricula?

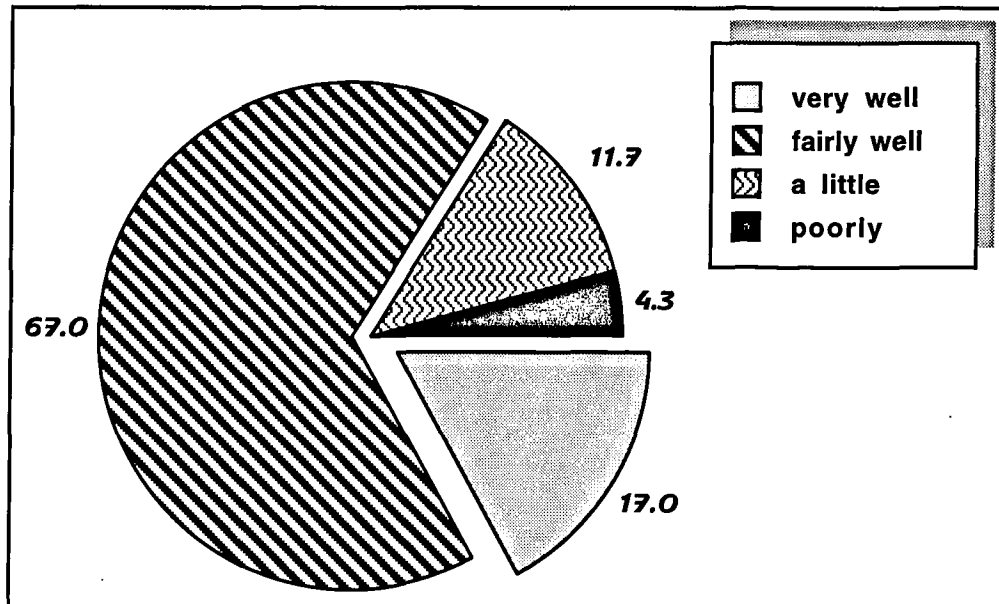
Mozambican University curricula were modelled on the Portuguese University system until 1985 when a reform took place aiming to adjust UEM's curriculum so that students should acquire at least some knowledge about indigenous Mozambican society. There was a pressure to teach subjects relevant to the economic development needs of the country. Course structures and content were then developed in accordance with these guidelines.

In 1995, a curriculum improvement programme was effected to tune the curriculum to new demands of Mozambican society. Most courses are now operating under a reworked curricula, except the courses in Economics and Management which are still under revision (1995-96 UEM's Annual Report).

The content of curricula provides the essential background against which course quality can be judged. This curricula should be based on clarity in educational objectives. Aims and objectives should generally precede decisions about content and assessment. Curriculum evaluation is often based on such aims and objectives.

In the research, evidence was collected from academics' questionnaire (question B.2) which asked academics if the content of curriculum satisfies or do not satisfies the course objectives. Responses indicate (as shown in graph 6.11) that over half of the respondents (67.0%) said that the content satisfies 'fairly well' the course objectives, 17.0% said that it satisfies 'very well', and 4.3% said that the content of curriculum 'poorly' satisfies the course objectives.

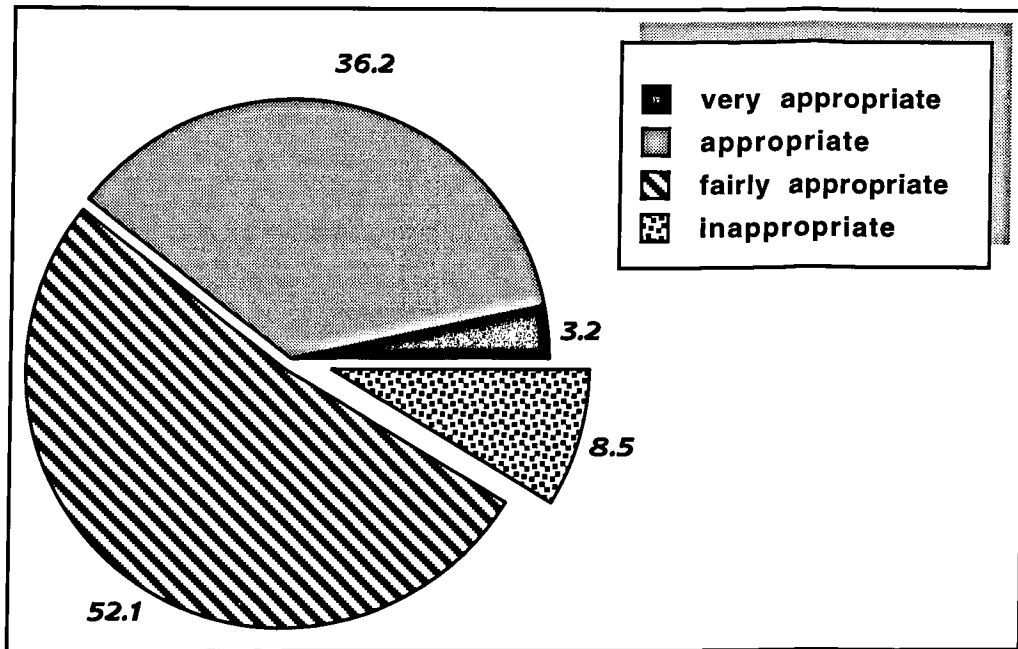
**Graph 6.11 - Does the content of curriculum satisfy or not satisfy the course objectives?
(Academics' responses)**



Missing cases = 1.1%

Academics were also asked to indicate in the questionnaire (question B.1) how appropriate or inappropriate is the curriculum to the aims of the course. Responses show (see graph 6.12) that (in a five point scale option of very appropriate, appropriate, fairly appropriate, inappropriate and very inappropriate), over half of the academics (52.1%) regard the curriculum as 'fairly appropriate' to the aims of the course. 39.4% of the respondents view the curriculum as 'very appropriate' or 'appropriate' to the aims of the course.

Graph 6.12- How appropriate or inappropriate is the curriculum to the aims of the course? (Academics' responses)



Missing cases = 1.1%

Students were also asked (question B.4) to give their opinion about the course content. Three characteristics of curriculum content were given and students were expected to give their opinion by agreeing or disagreeing with each of them. Responses show (as in table 6.25) that a relatively large percentage of respondents do not have a particular viewpoint about the issue because they opt for a 'neither agree or disagree' answer. Nevertheless, students were more likely to agree or strongly agree that the course content is sufficiently challenging (59.2%), that the topics taught are appropriate to the course (63.7%), and that it stimulates student interest in the area (52.4%).

Table 6.25

Question B.4 Students' questionnaire
What is your opinion about the course content?

		valid percentage				
		strongly agree	agree	neither agree nor disagree	disagree	strongly disagree
1. It is sufficiently challenging	(5.6)	18.0	41.2	31.8	7.5	1.5
2. Topics taught are appropriate to the course	(3.1)	10.3	53.4	25.4	9.8	1.1
3. It stimulates student interest in the area	(4.8)	8.7	43.7	28.0	14.3	5.2

Note: The percentage of missing cases is given in brackets

Furthermore, an important aspect that can be addressed in this section is the sequencing of contents within the curriculum. Based on the objectives defined, and the students' knowledge and abilities, it is important to create a logical sequence of learning and not to organise the contents in a haphazard or irrational manner. That means: (i) consolidate on what has previously been taught (ii) what to teach first (iii) what follows and in what order, so that a certain objective can be achieved, and (iv) revising the content of a session.

Establishing a sequence in a curriculum can be seen primarily as that of putting the content and materials in a logical order. One of the problems of curriculum organisation is to establish a sequence to achieve cumulative learning. Question B.4 of academics' questionnaire shows some evidence in respect of such matters in the UEM curriculum. Academics were asked how satisfactory or unsatisfactory is the sequencing on their courses. 71.7% of the academics who responded said that the sequencing of contents is satisfactory or very satisfactory (see table 6.26).

Table 6.26

Question B.4 Academics' questionnaire
How satisfactory or unsatisfactory is the sequencing in your courses?

valid percentage				
very satisfactory	satisfactory	don't know	unsatisfactory	very unsatisfactory
7.6	64.1	10.9	17.4	0.0

Missing cases = 3.2%

Another source of evidence comes from the Deans' questionnaire (questions B.1 and B.2). The first question asked: 'Are graduates from your Faculty prepared satisfactorily for employment in fields relevant to their training?'. Answers reveal that of the six respondents, three said 'yes' and three said 'no'. In question B.2 a list of possible reasons for unsatisfactory graduates' preparation was provided so those who responded 'no' in the previous question would give their opinion by agreeing or disagreeing with those reasons. Among the reasons on the questionnaire one said: 'content of courses is not always relevant to employment needs'. Responses show that two Deans agreed, two disagreed and two strongly disagree. Thus, Deans of Faculty do not consider that the contents of curriculum are the reason for (unsatisfactory) graduates' performance.

Despite the level of satisfaction with curriculum content as observed in the research, public and private sector employers of University graduates do not appear to share this opinion and often show a dissatisfaction with some aspects of University education. Complaints are typically that graduates are narrowly trained in a single discipline and lack in abilities such as critical thinking, problem solving, time management and the organisation of information.

To ensure that course content keeps pace with new knowledge and changing market requirements, UEM may wish to create committees (in each academic department) containing representatives of the main employment sectors (see recommendation in chapter 9 of this thesis). This is a practice used successfully in some African Universities such as Zimbabwe, Namibia, Ghana, and Malawi.

UEM's academic programmes could become more flexible by enabling interdisciplinary study and responsiveness to labour market demands. Feedback from the labour market, although costly and time-consuming, can be a mechanism for monitoring change in labour market demands. This process, which includes graduate employment surveys and employer satisfaction surveys, can be a valuable instrument for curriculum reform, and for a positive working relationship between UEM and the government and the productive sectors.

**Question 13: Are course objectives congruent with teaching styles?
Are teaching approaches related to desired outcomes in students?**

The increase in the UEM student population, which has not corresponded to an adjustment in funding, staffing or other resources, has resulted in large class sizes, and reduction of class contact time for students. Despite the reform in curricula the teaching methods experienced by a large proportion of students remain broadly the same. Few students experience individual sessions with teaching staff: this may reflect considerable pressure on human resources in institutions.

Students (as witnessed in a free response students' question), generally feel unsatisfied with practical classes. They complain about insufficient practical work in some course, and wish they could have more opportunities for fieldwork. Students are also concerned about their lack of use of computer-based packages. Sixteen students wish that information technology was incorporated in their courses. Another criticism is the students' involvement in research work. One student said:

"Os estudantes poderiam ser integrados em trabalhos de investigação da Faculdade"

(Students should be able to participate in Faculty research projects)

Evidence was collected from the students' questionnaire (question B.13) in which they were asked to indicate which form of teaching they prefer. Three forms of teaching were considered in the questionnaire - lectures, seminars and laboratory work - and respondents were expected to indicate their line of preference for each

of them. Table 6.27 shows the proportion of students preferring each form of teaching. The highest proportion of students (93.1%) prefer, or very much prefer the laboratory teaching method, 75.8% prefer or very much prefer seminars and 75.7% prefer lectures.

Table 6.27

Question B.13 Students' questionnaire
What is the form of teaching you prefer?

		valid percentage				
		prefer very much	prefer	don't know	prefer a little	do not prefer
lectures	(10.6)	20.8	54.9	11.6	9.5	3.2
seminars	(15.1)	22.9	52.9	11.5	9.5	3.2
laboratory	(13.0)	60.7	32.4	4.5	1.2	1.2
other	(92.3)	40.5	27.0	24.3	2.7	5.4

Note: The percentage of missing cases is given in brackets

Academics were asked the same question (see question A.8 on academics' questionnaire) and responses show, as in the table below, that their preferences are different from the students. Even though there is a balance between the three categories, lectures (as in table 6.28) is the academics' most preferred form of teaching. 90.7% of academics who responded indicate that they prefer or very much prefer to use lectures as a form of teaching.

Table 6.28

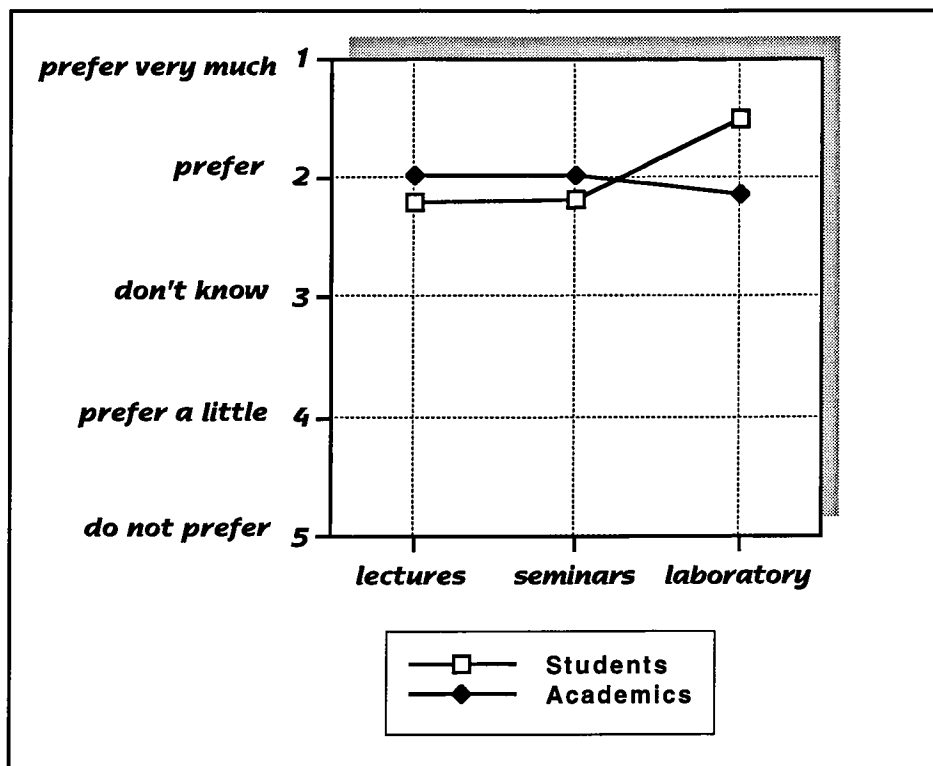
Question A.8 Academics' questionnaire
What is the form of teaching that you prefer to use?

		valid percentage				
		prefer very much	prefer	don't know	prefer a little	do not prefer
lectures	(9.5)	22.1	68.6	1.2	5.8	2.3
seminars	(22.1)	29.7	56.8	1.4	10.8	1.4
laboratory	(31.6)	27.7	50.8	7.7	7.7	6.2
other	(68.4)	43.3	43.3	6.7	6.7	0.0

Note: The percentage of missing cases is given in brackets

In order to contrast more fully students' and academics' teaching preferences, the following graph serves to illustrate the form of teaching preferred by both students and lecturers. The vertical axis reduces the ordinal 'prefer very much' to 'do not prefer' scale to a numerical dimension (1 to 5) using average scores for each form of teaching.

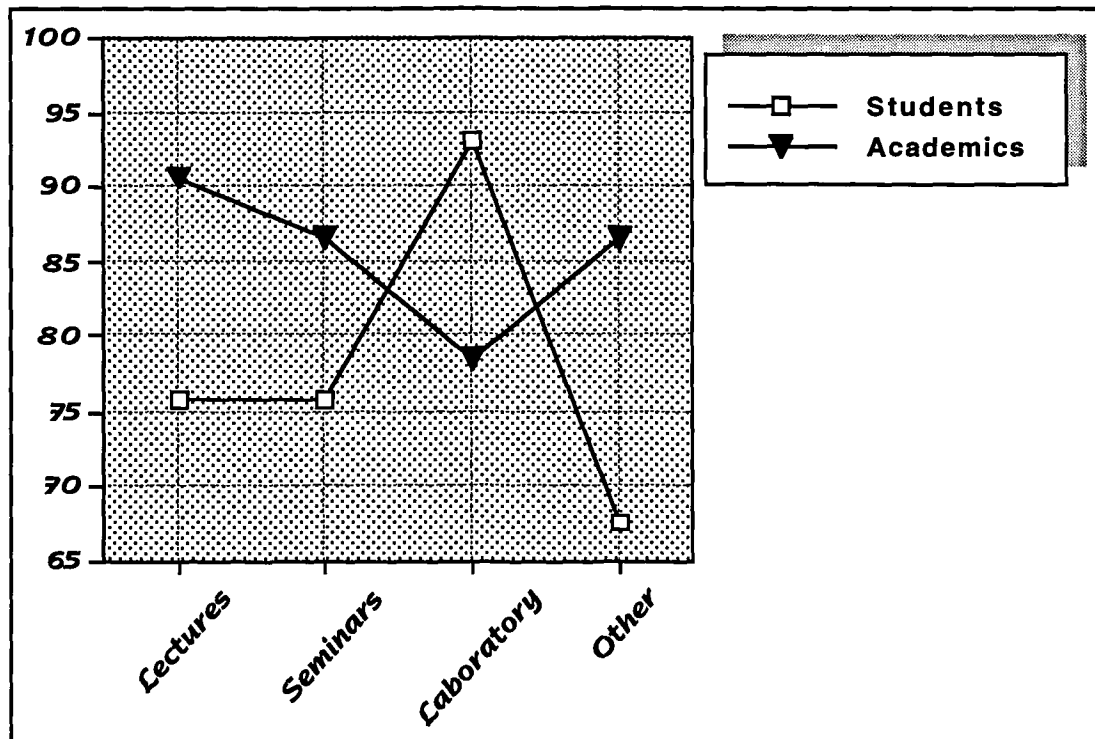
Graph 6.13 - Form of teaching preferred by Students and Academics



The graph (for both students and academics) shows that results fall in between the one and three mark (i.e. between 'prefer very much' and 'don't know'). However, when comparing the most preferred form of teaching between the two groups (students and academics), it is observed that while laboratory work shows the highest rating in the students group, it exhibits the lowest rating in the academics group.

The following graph further illustrates the difference between the two groups. The graph focuses on the percentage of answers for the options 'prefer very much' and 'prefer' only.

Graph 6.14 - Form of teaching preferred by students and academics (options 'prefer very much' and 'prefer')



Although only the 'prefer very much' and 'prefer' options were considered, it shows clearly that laboratory work is the students most preferred form of teaching and that less preferred by academics. This graph shows a remarkable divergence between academics and students.

Academics at UEM find it difficult to change their present teaching methods into more interactive ones because of scarce availability of new technology, the rise in student population, and the resource constraints. With the exception of some courses like Medicine and Veterinary which, given the nature of the courses, involves more use of interactive course-work, project work, and group work by students, methods other than expository lectures have not yet reached the point of widespread usage.

UEM may wish to encourage teachers to widen their teaching approach to the benefit of their students by making more intensive use of project and team work by students. Aiming to make teaching more interesting, these methods could allow the institution to maintain student numbers without loss of quality of the learning experience, and with improved efficiency and effectiveness.

Question 14: Within the existing budget, is there sufficient allocation of resources to support staff and educational development?

UEM relies on funds received from different sources and not just governmental funding. More than 50% of UEM's budget is assured by international cooperation which finances teaching, research and extension activities, involving almost all UEM's faculties and centres. For the academic year 1995-96, UEM received funds from the following sources: (1) the Government through the Planning and Finance Ministry, which grants funds for payment of wages, running costs, and investments such as construction and assembling, equipment and other basic resources; (2) UEM's own financial capital investments; and (3) International donations through bilateral agreements, agreements with multinational institutions or with governmental and non-governmental organisations and (4) National Donations (UEM Annual Report, 1995-96).

The funds allocated by the Planning and Finance Ministry are used in accordance with the legislation set by the government, and within the existing norms for public accounts. 57% of UEM's allocated funds are for wages, 30% for running costs and 13% for investments. UEM's Annual Report (1995-96) indicated that the resources provided by the government have declined since 1992, causing constraints in the functioning of the institution and consequently in the teaching and learning process.

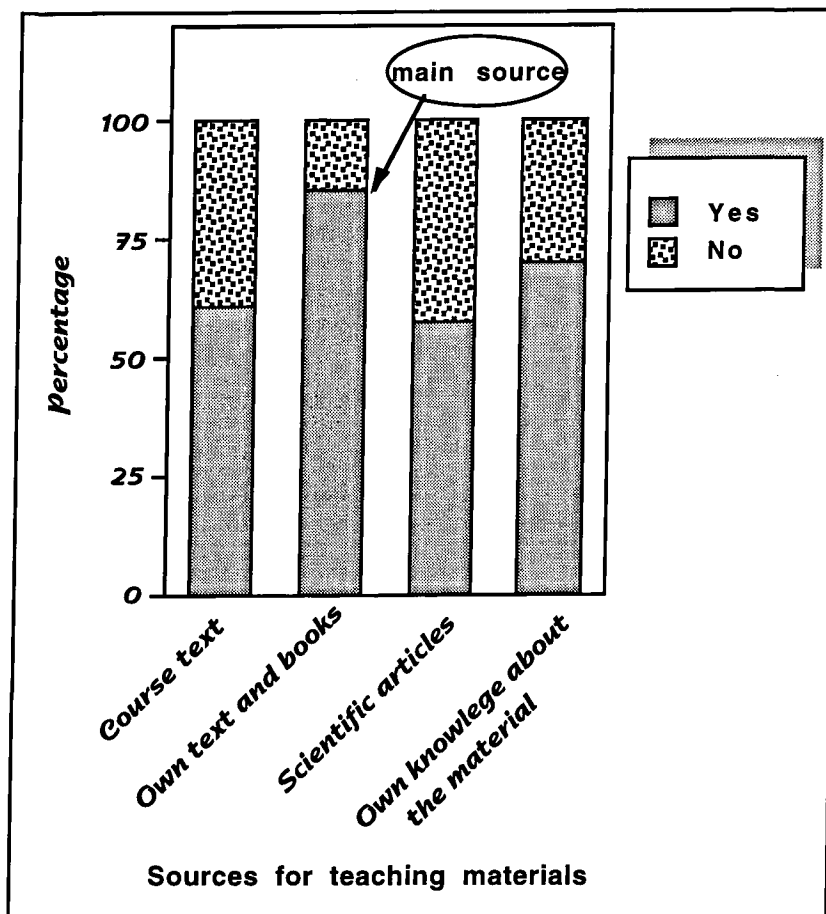
The management of the funds received from international donors varies according to the donor organisation. In some cases the funds are deposited directly into a UEM account. In other cases, UEM is just informed of the amount of money granted and the handling of the funds is controlled by the donor organisation. There is a third mode in which UEM has no knowledge of the level of funding allocated, but receives occasional payments.

To address the question posed (Within the existing budget is there sufficient allocation of resources to support staff and educational development?), evidence was collected from the academics' questionnaire (question C.1). In the question, four sources of teaching were listed, namely: the course text, self-prepared materials and books, scientific articles and lecturers' knowledge about the subject.

From this list, academics were asked to indicate the source they draw upon for their teaching materials. Results show that the highest proportion of respondents indicated that they count on their own notes and books (85.1%) and their own knowledge about the material (70.2%) as the main sources for their teaching materials. The course text came next with a figure of 60.6% and finally scientific articles with 57.4%.

The following graph illustrates the main sources academics draw upon for teaching materials.

Graph 6.15 - Main sources academics draw upon for teaching materials



Another piece of evidence comes from the academics' questionnaire (questions C.3 to C.7). This group of questions concerns teaching materials. Academics were asked in C.3 if each student was provided with textbooks for the course.

Responses reveal that three quarters of the academics (75.3%) admitted that students were seldom or never provided with textbooks for the course.

In question C.4, academics were asked if there were literature or reading lists provided for the subjects they teach. Results show that 42.4% of the academics said 'sometimes', 29.3% said 'often', 25.0% said 'always' and only 3.3% said 'never'.

Question C.5 asked academics to indicate how up-to-date are the literature and reading lists. Results show that there was a relative balance between those who said that the literature and reading lists are all up-to date or mostly up-to-date (48.9%) and those who said 'somewhat' or 'not at all' (51.1%).

Question C.6 refers to libraries. Academics were asked if their libraries contain a sufficient amount of materials (texts, periodicals) relating to the subject they teach. Results show that more than half of the academics who answered the question (60.9%) said that their libraries contain an insufficient or a very insufficient amount of materials for the subject they teach.

Further evidence about libraries was collected in administrators' interviews in which one Director said that UEM has currently five of its sixteen library's systems computerised (Agriculture, Architecture, Law, Economics and Engineering). Despite this important achievement, other equipment is still insufficient in number. UEM's Annual Report 1995-96 indicates that from the sixteen libraries, three have photocopying equipment, two have a slide projector and a further two have a microfilm reader.

Question C.7 asked academics who were teaching in laboratories if there were chemicals in sufficient number for their laboratory classes. Most of the responses (32.1%) fall into the 'fairly sufficient' option. However, when comparing the percentage of 'insufficient' or 'very insufficient' options with the percentage of 'very sufficient' or 'sufficient' options, it is observed that the highest proportion (39.3%) of respondents said that chemicals are in insufficient or very insufficient quantities for their laboratory classes.

Two academics expressed their concern (in a free response format) on conditions of work. One said:

“Não existem laboratórios no departamento nem condições de utilização noutros departamentos”

(There are no laboratories in my department nor conditions to use those in other departments).

Table 6.29 outlines the results of the five aspects analysed above.

Further evidence was collected from the academics' questionnaire (questions F.1 to F.3). Academics were asked to describe, in terms of size, the lecture rooms (question F.1) and classrooms (question F.2) in which they teach. Responses show for both questions a large proportion of answers in 'the right size' option. However, as graph 6.15 illustrates, there is a large percentage of respondents who said that the lecture rooms and classrooms are small or very small.

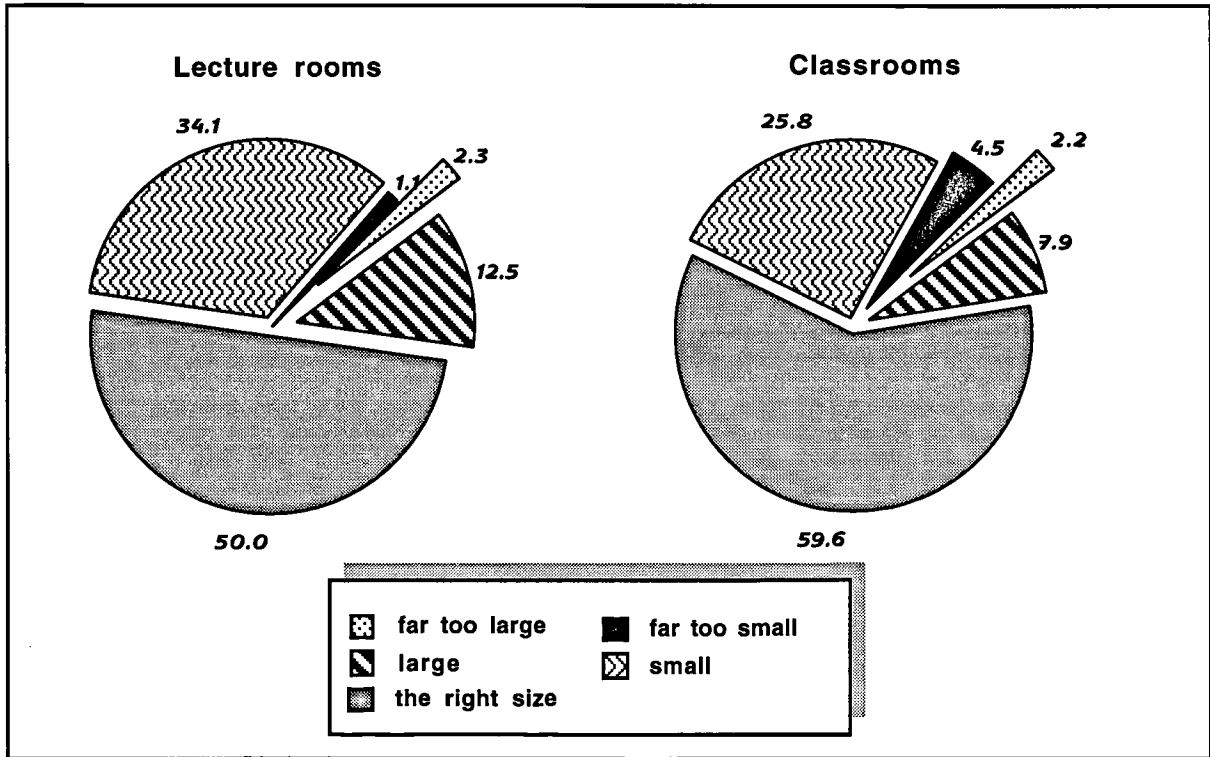
Table 6.29

Academics views on teaching materials

Provision of textbooks for students	
always	15.1
most of the time	9.7
seldom	52.7
never	22.6
Provision of literature or reading lists	
always	25.0
often	29.3
sometimes	42.4
never	3.3
Up-to-dateness of literature & reading lists	
all up-to-date	13.8
mostly	35.1
somewhat	50.0
not at all	1.1
Does the library contain a sufficient amount of materials relating to the subject you teach?	
very sufficient	2.2
sufficient	9.8
fairly sufficient	27.2
insufficient	51.1
very insufficient	9.8
Number of reagents for laboratory classes	
very sufficient	7.1
sufficient	21.4
fairly sufficient	32.1
insufficient	17.9
very insufficient	21.4

Note: figures refer to valid percentages

Graph 6.16 - How academics describe the size of lectures rooms and classrooms



Question F.3 lists teaching aids and lecturers were asked which of them were available in the classroom in which they teach. Examples of three teaching aids were given in the questionnaire and respondents had to indicate how often they are available. Responses indicate (as seen in table 6.30) that the blackboard is always or most of the time available in the classrooms. 31.9% of respondents said that the overhead projector is used most of the time in the classrooms in which they teach, 30.9% said it is always in their classrooms and 25.5% said 'sometimes'. When referring to equipment available for laboratory demonstration 55.0% said that the equipment is seldom or never available in their classrooms and 31.0% of the respondents said that the equipment is available sometimes in their classrooms.

Table 6.30

Question F.3 Academics' questionnaire
Which of the following teaching aids are available in the classroom you teach in?

Teaching aids		valid percentage				
		always	most of the time	some of the time	seldom	never
blackboard	(0.0)	92.6	6.3	1.1	0.0	0.0
overhead projector	(1.1)	30.9	31.9	25.5	6.4	5.3
equipment for lectures demonstration	(25.3)	5.6	8.5	31.0	28.2	26.8
other	(86.3)	15.4	7.7	30.8	23.1	23.1

Note : The percentage of missing cases is given in brackets

Referring to the quality of the teaching aids, evidence was collected from the academics' questionnaire (question F.4) which asked academics to comment on the quality of teaching aids available. Table 6.31 shows that 46.2% of the academics who answered the question rate the quality of teaching aids as fair, 22.0% as good and 6.6% as very good. However, one quarter of the respondents (25.3%) considered the quality of teaching aids as poor or very poor.

Academics were also asked about the adequacy of the equipment available in the laboratories. Question F.5 in academics' questionnaire asked: 'Is there adequate or inadequate equipment available in the laboratories?' Responses reveal that half of the academics suggest that the equipment in the laboratories is fairly adequate. However, considering the extreme positive or negative options, i.e. very adequate or adequate (positive options) and inadequate or very inadequate (negative options), it is observed in table 6.31 that the proportion of negative options is higher (29.8%) than the positive options (19.3%).

Another important line of enquiry refers to the status of the laboratory equipment. Academics were asked in question F.6 what was the status of the laboratory equipment with respect to up-to-dateness and its maintenance. Table 6.31 shows that 51.4% of the academics said that the equipment is up-to-date and 48.6% said that it is obsolete. With respect to its maintenance, 52.5% of the academics considered that the equipment is well maintained and 47.5% said it is poorly maintained.

Academics were also asked (question F.7 of the academics' questionnaire) what kind of office they have. Responses reveal that almost three quarters of the academics who answered the questionnaire have a shared office. Two academics who commented on their conditions of work (in a free response question) said the following:

“As condições dos gabinetes dos docentes são muito pobres”
(The conditions of academics' offices are very poor).

Computing facilities in faculties and departments was also an aspect addressed in this analysis. Therefore, evidence was collected from question F.8 in the academics' questionnaire which asked academics to describe the computing facilities in their department. Results show that the highest proportion of respondents (34.4%) regarded the computing facilities as fair. Almost a quarter of the respondents (23.7%) considered the computer facilities as poor and 16.1% as very poor. 4.3% of the academics who responded to the question said that they did not have computing facilities in their department.

The maintenance of faculties' facilities was a matter also considered in the academics' questionnaire. Question F.9 asked academics to rate the overall maintenance of their faculty's facilities. Results show that more than half of the respondents (56.4%) said that the maintenance is poor or very poor, 40.4% said that it was fair and only 3.2% regard the maintenance as good.

Table 6.31 outlines the views of UEM's academic staff on the available teaching resources.

Table 6.31
Views of UEM's academic staff on the allocation of resources

Quality of teaching aids	
very good	6.6
good	22.0
fair	46.2
poor	18.7
very poor	6.6
Equipment in the laboratories	
very adequate	3.5
adequate	15.8
fairly adequate	50.9
inadequate	26.3
very inadequate	3.5
Status of laboratory equipment	
is obsolete	48.6
is up-to-date	51.4
is well maintained	52.5
is poorly maintained	47.5
Kind of office academics have	
private office	23.4
shared office	72.3
office space not provided	4.3
Computing facilities	
very good	4.3
good	17.2
fair	34.4
poor	23.7
very poor	16.1
do not have	4.3
Overall maintenance of faculty's facilities	
very good	0.0
good	3.2
fair	40.4
poor	41.5
very poor	14.9

Note: figures refer to valid percentages

In general, it appears that most academics tend to answer the questions by choosing the 'neutral' option. However, if we omit this option from consideration, it is observed that, for almost all aspects listed in table 6.31, a slightly different outcome is observed. Academics are happy with the quality of teaching aids, they consider the laboratory equipment as inadequate, the computer facilities poor or very poor, and the overall maintenance of faculty's facilities was considered by the academics as poor.

Mozambican government expenditure on higher education is under strong pressure due to the country's economic crisis. The allocation of resources cannot match in real terms the quality assurance requirements of equipment, books and journals, and the maintenance of existing facilities to support or raise standards of instruction, research and service.

To ensure a sufficient allocation of resources to support staff and educational development, UEM is making efforts to assemble more financial resources so that quality enhancement can be supported through investment in human and material resources. At the end of 1996, UEM began the exercise of "*Repensar a UEM*" (Rethinking the UEM), given the country's socio-economic conditions, new challenges, society's expectations, UEM's real potential, the political and economic situation in the world and in Africa. In the final chapter, we will return to a consideration of priorities and possibilities in quality enhancement at UEM.

Summary

This chapter finishes with a summary of the main findings reported so far. An overall discussion of these results is provided in the final 'Conclusions' chapter when research results are considered alongside themes in the initial chapters and the next chapter which considers further results from the research at UEM.

- 'Eduardo Mondlane' University (UEM) is currently committed to a fair and equal admission policy for all students, and is trying to ensure that its admissions process is free of discrimination.

- As demand for access grew faster than the University's capacity to accommodate new students, new methods of entrance were introduced at UEM focusing on qualitative goals without forgoing the principle of representing all social classes. Selective admissions exams are now allocated to ensure that students have the qualifications necessary for University study.
- For each course, candidates have to sit admission exams in two core subjects. Admission occurs when candidates achieve positive marks (10 or more on a scale of 0-20) in both core subjects. More popular courses have more demanding entry requirements. Thus the places available in each course are equal accessible to all candidates regardless of their geographical or family origin, age, gender, socio-economic conditions or any other criterion.
- Academics express concern about the quality of higher education entrants. Although they considered the admission standards as adequate, more than half of the academic staff rate the preparation of the students as poor or very poor. Students also admitted that the level attained in the basic disciplines in secondary school is insufficient to undertake their courses. Evidence indicates that remedial programmes presently running at UEM (BUSCEP) will be maintained until pre-university education can be significantly improved.
- UEM is showing progress in providing relevant written information for students. However, this information is in need of better presentation, revision and editing because is still superficial and therefore contains little guidance for students. More than half of the students who answered the questionnaire said that they knew little about UEM courses before they came to the University.
- Staff development plays an important role in quality enhancement. Thus, UEM is encouraging and supporting staff to undertake training activities in those areas which will help them to work effectively in the context of current and future changes. It is observed in this chapter that there is an

imbalance between academics and technical and administrative staff qualifications. The large proportion of technical and administrative staff's qualifications are lower than grade 9 (meaning in some cases being educated only to a primary school level). Almost three quarters of technical and administrative staff admit that their inadequate qualifications affect the quality of their work at UEM. They are concerned that they have little access to training and feel that their potential is under-used as a result.

- UEM's technical and administrative staff are currently taking part in short, medium and long-term specialised courses including information technology, resource management, safety in laboratories, English language learning and financial management. Because there are no post-graduate programmes in Mozambique, staff development generally requires sending people abroad for training. Almost a quarter of UEM's academic staff are undergoing further training abroad.
- UEM is seeking to ensure that teaching staff receive some appreciation for their pedagogical skills. Evidence shows that over half of those with teaching responsibilities had received training in teaching at some stage in their career.
- Staff retention is a serious problem currently being confronted by UEM. Salaries are said to be insufficient to meet basic family subsistence and a considerable number of academics have left the institution. Those who remain linked to the University generally restrict their time to teaching the required sessions. Although academics indicated that they spend some of their time assisting students outside lectures, evidence from this research shows that a large proportion of students are, however, critical of the scale and quality of support academics offer to them.
- Despite the fair level of satisfaction with curriculum, as observed in the research, public and private sector employers of University graduates complain about their narrow training and lack of abilities in such areas as critical thinking, problem solving, time management and organisation of information.

- Students' comments concerning the quality of teaching and their learning experiences were generally positive though there is rather less satisfaction particularly with materials and teaching methods.
- Academics at UEM find it difficult to change their present teaching methods into more interactive strategies because of the scarce availability of new technology, the rise in the student population, and resource constraints.
- A large proportion of academics rely heavily on their own lectures notes their own created books and also on their embedded knowledge about the subject as main sources for their teaching. Students on the other hand say they are seldom or never provided with textbooks for their courses. Research results show that although literature and reading lists are provided in some cases, they are not always up-to-dated.
- The country's economic crisis is reflected in the insufficient allocation of human and material resources. UEM's funding comes through different sources: Government, UEM's own financial capital investments, international donations and national donations. In the current system, the greater proportion of funding comes from international donations. Evidence indicates that resources provided by the government have declined since 1992, causing constraints in the quality of teaching and learning.

The following chapter will examine research on the quality assurance of students development and support (section three) and a framework for quality enhancement at 'Eduardo Mondlane' University (section four).

CHAPTER 7

Research Analysis of the Quality Assurance of Student Development and Support, and a Framework for Quality Enhancement at the 'Eduardo Mondlane' University, Mozambique

Chapter 7

Research Analysis of the Quality Assurance of Student Development and Support, and a Framework for Quality Enhancement at the 'Eduardo Mondlane' University, Mozambique

Introduction

This chapter explores two aspects of the research: (1) the quality assurance of student development and support, and (2) the framework for quality enhancement at UEM.

The analysis will be based on the research conducted at 'Eduardo Mondlane' University - UEM and (as presented in the previous chapter), the two aspects will be organised by those key questions as listed in chapter five.

The analysis of the questions will be based on different forms of evidence (questionnaires, interviews, observation), as in Sections One and Two in the previous chapter.

SECTION THREE - THE QUALITY ASSURANCE OF STUDENT DEVELOPMENT AND SUPPORT

Question 15: Are students equipped with the knowledge and skills to access and use the range of learning resources available, including libraries, information technology, audio-visual services, together with study skill support?

One of the issues which concerns most teachers at UEM is the students' study skills. The inadequate preparation given to students in previous levels of education affects considerably their performance in University.

UEM has currently no code of practice in offering students curricular activities to improve their skills. However, there is a widespread sense that technology skills, library skills and other study skills could be emphasised in the development of students' personal/transferable skills through academic programmes.

Evidence was collected from the academics' questionnaire (question E.5) in which they were asked how they rated students' study habits. Responses show that just over half of the academics (50.5%) who answered the question said that the students' study habits were poor or very poor. However, 42.7% of the respondents rated the students' study habits as 'fair'.

Another piece of evidence was collected from the students' questionnaire (question B.12) where a list of materials was provided for students to indicate the frequency in which they use them to understand the course. The list included: required course text, reading list, handouts, printed notes, own notes, and listening to the lectures. The 'other' option was provided so students could indicate any other material used by them but not included in the list. Responses show that printed notes are the most popular material used by more than three quarters of the students (81.3%). Another item indicated by 70.0% of the students as their source of material to understand the course was their own notes. Other material not listed in the questionnaire and indicated by a sizable number of students was notes from colleagues who were in more advanced years in the course. The following table presents results on how often students use each type of material to understand the course.

Table 7.1

Question B.12 Students' questionnaire
Which of the following do you use to understand the course?

		valid percentage			
		always	sometimes	often	never
required course text	(4.8)	28.9	50.4	15.4	5.2
reading list	(3.5)	39.1	40.6	18.5	1.9
handouts	(6.8)	16.9	45.8	30.4	6.9
printed notes	(3.9)	81.3	13.4	4.1	1.3
your own notes	(9.7)	70.0	20.4	7.6	2.1
listening to the lectures	(8.7)	53.5	19.3	15.4	11.8
other	(90.3)	31.9	40.4	17.0	10.6

Note: The percentage of missing cases is given in brackets

Students' distribution of time can affect their performance. To address this question, evidence was collected from the students' questionnaire (question C.1) which considered how students' time is distributed across different combination of six activities: class lectures, laboratories, library, class preparation, extra curricular activities and leisure. Responses reveal (as in table 7. 2) that there is a general distribution of time for each of the activities listed in the questionnaire.

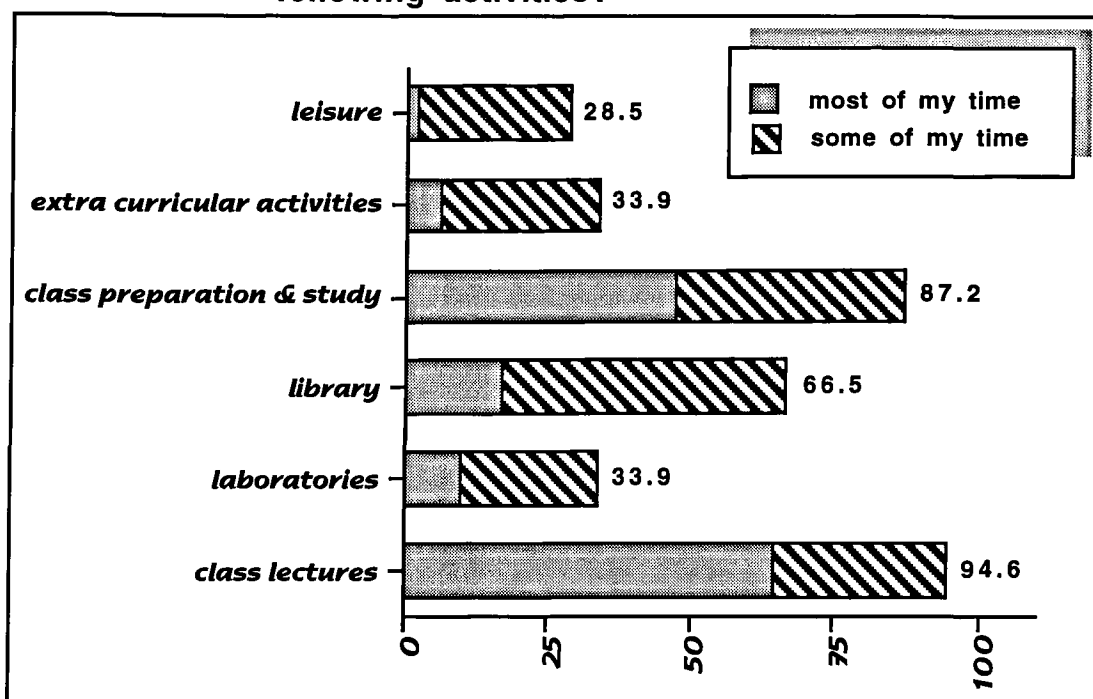
Table 7.2
Question C.1 Students' questionnaire
How much time is dedicated to the following activities?

		valid percentage			
		most of my time	some of my time	a little of my time	none of my time
class lectures	(4.8)	64.6	30.0	4.6	0.9
laboratories	(19.9)	10.1	23.8	29.7	36.4
library	(6.0)	17.2	49.3	29.5	4.0
class preparation & study	(6.2)	47.5	39.7	11.9	0.9
extra curricular activities	(9.5)	6.4	27.5	48.3	17.8
leisure	(9.7)	2.1	26.4	60.3	11.2

Note: The percentage of missing cases is given in brackets

When comparing the time allocated to the six activities listed in the questionnaire, it is observed (as in the following graph) that a large proportion of time (94.6 %) goes to class lectures followed by class preparation and study with 87.2 %. The activities where students spend less of their time were extra curricular activities (33.9%) and leisure (28.5%). Laboratory work may not apply equally to all circumstances. Therefore the proportion of time that students dedicate to laboratories may vary according to their course.

Graph 7.1 - How much time do students dedicate to the following activities?



Percentage who answered 'most of my time' and 'some of my time'

How the students apportion their time may vary depending on the subject they study, and may reflect the different teaching methods employed in different subject areas. For instance, arts students may spend more time in lectures than science students and the latter may spend more time working on practicals and projects.

Question 16: Does the institution ensure that assessment rules, regulations and criteria are published in a full and accessible form and made easily available to students and staff?

There is a set of regulations at UEM which is clearly detailed in the handbook of Academic Regulations. These regulations, although publicised throughout the University on booklets and notice boards of all Faculties, are not easily available, particularly to students.

The researcher's own observation plus interviews with administrators showed that regulations exist, they seem clear to everybody who reads them but are highly difficult to monitor. A considerable amount of academic administrators' time is spent dealing with students' complaints and grievances. The Academic Directorate

continuously monitors and evaluates the academic performance at the University by visiting all Faculties every semester. During these visits, it is often noticed that there are problems with respect to regulations, especially the assessment regulations.

The fact that UEM has yet to develop a computerisation of students' records makes it difficult to monitor fully such academic regulations. For example, according to the assessment rules, advancement in the course is dependent upon successful completing all the prerequisite subjects set for each course (i.e. the registration in Maths 2 depends upon successful completion of Maths 1). However, this requirement is not always observed because the present system of students' records do not allow all the cases to be processed and problems detected in time.

The current inability to reconcile Faculty records with central records has ruled out information-sharing and overall control of the system. In interviews with administrators, one said:

“Os estudantes não respeitam os regulamentos porque sabem que o sistema permite”

(Students deliberately fail to respect the rules because the system allows them to do that).

Overall, the regulations reveal a growing evolution in the quality and the relevance of academic rules. The regulations would benefit from more careful editing and standardisation of content and format, and from making the regulations compatible with each other.

Question 17: Are assessment criteria, assessment strategies and assessment methods appropriate to programme aims and intended learning objectives/outcomes?

Assessment is the means by which learners demonstrate that they have fulfilled the learning objectives of their programme of study and achieved the standards required. This question is concerned with the means by which the performance of students is assessed and the strategies for ensuring consistency of marking and grading.

There should be a direct relationship between educational objectives and assessment. The objectives point to where we want to travel and assessment shows whether the planned objectives were achieved and the destination reached.

To assess is to verify changes in students' behaviour, in their knowledge, attitudes and habits. We need to structure in advance the means of assessment and assessment instruments which will determine the extent to which the student or group has achieved the objectives of learning expected (e.g. by multiple choice questions, essays, reports, tests, oral presentation). Each method of assessment is related to the realisation of certain type of objectives, although it may serve simultaneously more than one.

At UEM, most students experience at some stage during their course the following assessment methods: written tests, written examinations, essays and dissertations. Students are normally assessed two or three times during the term by written tests, and occasionally by essays. Written examinations are used at the end of every term or semester and a dissertation (in most courses) during the final year of their course.

One should not be misled into assuming that effective learning in terms of exam achievement necessarily reflects a well delivered course. The evaluation of UEM 's courses has most occurred from within this limited perspective. That is, if students pass exams, the course is deemed effective.

Evidence to show the appropriateness of the assessment methods used was collected from the students' questionnaire (question B.15) and from the academics' questionnaire (question D.4). Students and academics were asked to give their opinion on how well the assessment methods enable the students to demonstrate that they have fulfilled the objectives of the course. Results indicate (as in table 7.3) that academics are more likely than students to say that the assessment methods used enable ('well' or 'very well') students to demonstrate that they have fulfilled the objectives of the course (73.1% compared to 16.4%).

Table 7.3

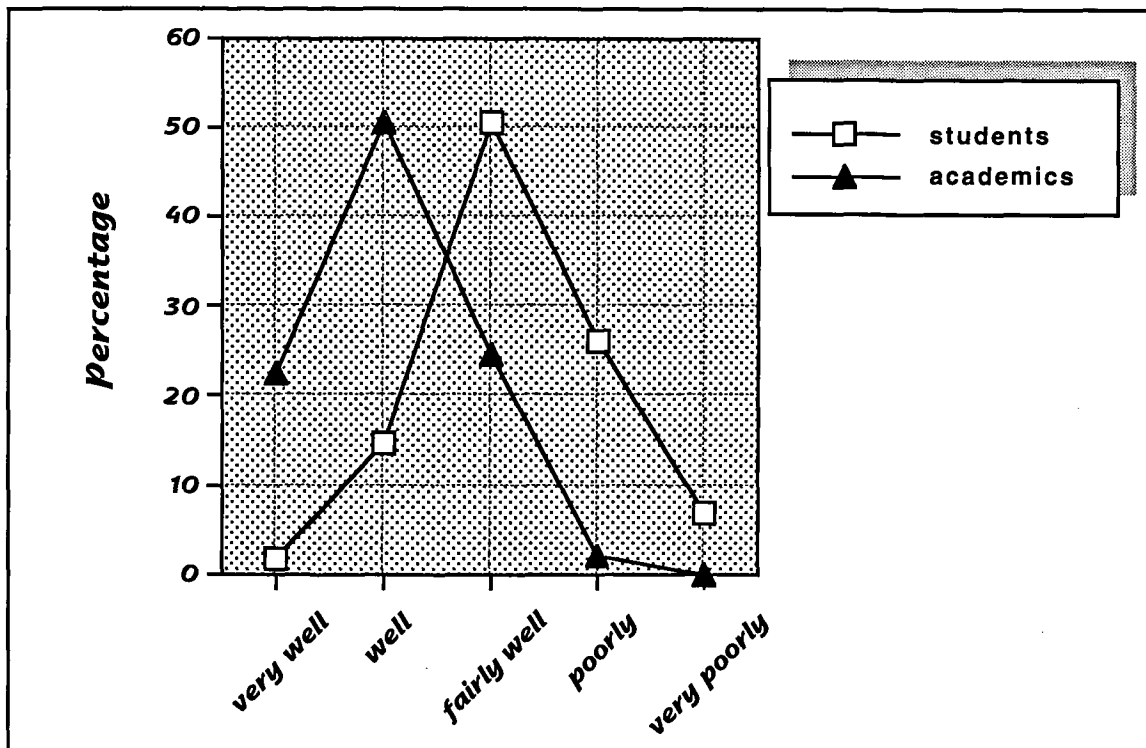
Questions B.15 (Students' questionnaire) and D.4 (Academics' questionnaire)
In your opinion how well do the assessment methods enable students to demonstrate that they have fulfilled the objectives of the course?

		valid percentage				
		very well	well	fairly well	poorly	very poorly
Students	(3.1)	1.7	14.7	50.6	26.1	6.8
Academics	(2.1)	22.6	50.5	24.7	2.2	0.0

Note: The percentage of missing cases is given in brackets

Graph 7.2 compares the opinions of students and academics on the assessment methods used in UEM.

Graph 7.2 - How well do the assessment methods enable students to demonstrate that they have fulfilled the objectives of the course?
 (Students' and Academics' opinions)



A total of 102 students expressed a personal opinion (on the free response format question at the end of the questionnaire) on assessment regulations. One student said the following:

“O regulamento não se adequa às condições em que os estudantes vivem e estudam”

(Regulations do not consider the conditions in which students live and study).

Other student said:

“Os métodos de avaliação são inadequados”

(The assessment methods are inadequate)

Another student said:

“Deveria haver uniformização de critérios de avaliação nas Faculdades”

(Criteria for assessment should be uniform in all Faculties)

Further evidence comes from students' questionnaire (question B.16) in which students were asked to indicate which assessment method they prefer. Five methods of assessment were considered in the questionnaire - exams, assignments, practicals, projects and continuous assessment - and respondents were expected to indicate their line of preference for each of them. Table 7.4 shows that the assessment methods students were more likely to prefer were: practicals (90.7%) assignments (81.9%) and continuous assessment (64.4%).

Table 7.4

Question B.16 Students' questionnaire
What is the assessment method that you prefer?

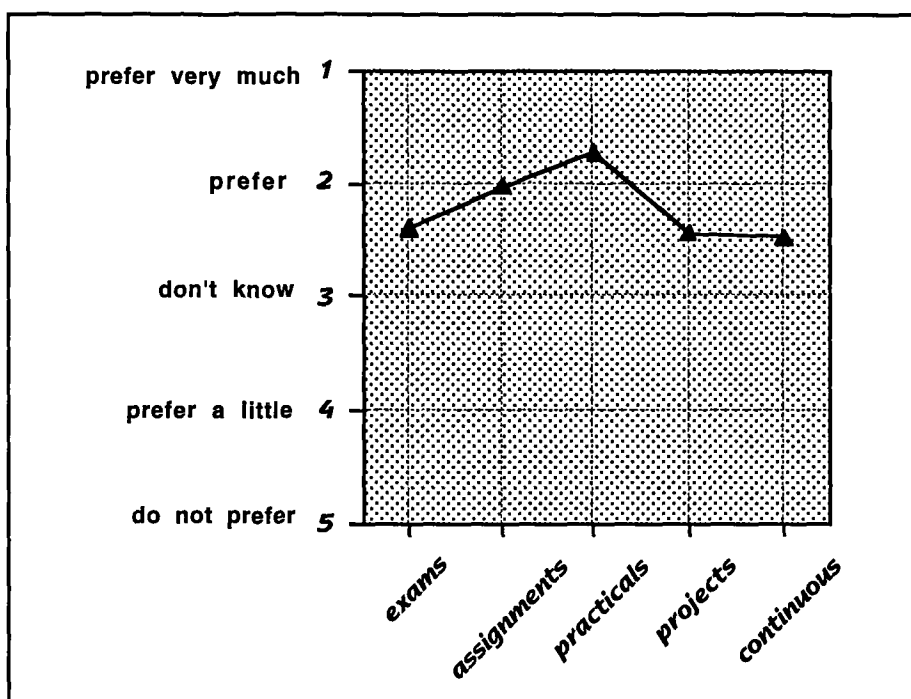
		valid percentage				
		prefer very much	prefer	don't know	prefer a little	do not prefer
exams	(13.7)	18.5	52.3	8.2	15.1	6.0
assignments	(15.3)	33.0	48.9	4.9	9.3	3.9
practicals	(12.6)	43.1	47.6	4.3	3.3	1.7
projects	(20.1)	24.6	32.4	26.2	9.1	7.8
continuous	(13.5)	24.9	39.5	10.5	13.4	11.7
other	(94.2)	17.9	10.7	53.6	7.1	10.7

Note: The percentage of missing cases is given in brackets

Graph 7.3 illustrates the students most preferred assessment method by reducing the ordinal 'prefer very much' to 'do not prefer' scale to a numerical dimension (1 to 5) using average scores for each method of assessment.

The graph shows that results fall between the one and three mark (i.e. between 'prefer very much' and 'don't know'). However, it is clearly noticed that students' most preferred methods of assessment are practicals and assignments.

Graph 7.3 - Assessment method preferred by students



UEM may wish to have at least some element of continuous assessment in its courses (see recommendations in chapter 9). This pattern of assessment allows lecturers to locate deficiencies in the course plan and correct them by revising the objectives, reorganising the course content, focusing on students' key skills and to choose different and varied teaching techniques.

Question 18: To what extent do examinations enable a fair and equitable assessment system?

Evidence to address this question comes from the academics' questionnaire (question D.1) which asked how often students were assessed in the subject they teach. Responses reveal that most of the academics (69.1%) tend to assess their students three times per term whereas others assess their students twice per term.

Further evidence was collected from the academics' questionnaire (question D.2) which asked academics to indicate the general format of their tests and examinations within three given formats of tests/examinations: multiple choice, problem solving and traditional questions. Responses reveal (as in table 7.5) that, in general, academics use a mix of all formats. However, (in both cases - tests and examinations) traditional questions is one of the most widely used formats, and multiple choice the least used.

Table 7.5

Question D.2 Academics' questionnaire
What is the general format of your tests/examinations?

	valid percentage					
	Tests			Examinations		
	*	Yes	No	*	Yes	No
multiple choice	(2.1)	20.4	79.6	(12.6)	15.7	84.3
problem solving	(2.1)	59.1	40.9	(12.6)	55.4	44.6
questions	(2.1)	72.0	28.0	(12.6)	71.1	28.9
other	(87.4)	100.0	0.0	(88.4)	100.0	0.0

* Percentage of missing cases

The emphasis of tests/examinations is to judge, in particular, the knowledge and understanding of students. Evidence about this comes from academics' questionnaire (question D.3). Three options of emphasis were provided in the questionnaire - factual recall, theoretical understanding, and applications - and respondents were expected to indicate the main emphasis given in their tests/examinations. Responses reveal (as seen in table 7.6) that the largest proportion of academics who answered the question indicated that applications and theoretical understanding are the main emphasis in their tests and their examinations.

Table 7.6

Question D.3 Academics' questionnaire
What is the main emphasis in your tests/examinations?

	valid percentage					
	Tests			Examinations		
	*	Yes	No	*	Yes	No
factual recall	(2.1)	12.9	87.1	(6.3)	11.2	88.8
theoretical understanding	(2.1)	76.3	23.7	(6.3)	73.0	27.0
applications	(2.1)	81.7	18.3	(6.3)	87.6	12.4
other	(93.7)	100.0	0.0	(94.7)	100.0	0.0

* Percentage of missing cases

Question 19: Are there appropriate mechanisms for regular feedback to students on their progress?

Students have the right to receive regular feedback on their academic progress and to be provided, at the end of their programme of study, with a record of their overall achievement.

Evidence to answer this question comes from the researcher's field enquiries and observations which revealed that, although in some cases lecturers give some feedback on students' progress, there is no established mechanism for regular feedback to students on their progress. It was observed that students are often called to account for their learning by tests and examination results but not thereafter given formative feedback.

UEM's students are generally critical of the academic support they receive from staff (see key question 8 in chapter 6). A formative feedback system is essential if students are to progress and learn from their mistakes. Thus (as recommended in chapter 9 of this thesis), UEM may wish to provide students with sufficient information and feedback on their performance so they can monitor their own progress in acquiring the knowledge and skills required to meet the aims of the programme. At regular intervals during the year, teachers could give each student an informal assessment of progress made during the course. The comments would reflect performance in the various tests and written exercises and be based on

teachers' own observations and impressions. Thus, each student would be provided with teachers' advice and assessment in a helpful and facilitative spirit.

UEM may also encourage students to play an active role in evaluating their own progress in acquiring knowledge, understanding and skills. Any student whose performance indicates a danger of failing should be formally informed of this in time to allow an improvement to be made.

Question 20: Are students satisfied with the Support Services available at UEM?

An integral part of improving students' participation in, and achievement from, a higher education programme is the range of support that they receive. This may be directly related to their educational provision or be in areas associated with social and welfare matters.

Support Services have been identified in UEM as a key area which requires improvement. UEM's students live and study in extremely difficult and impoverished conditions. This situation is exemplified in the ten day students' strike in May 1996. Students demanded an increase in the scholarship grant, an improvement in food, guaranteed transport and other social conditions.

Students are in an excellent position to comment on such Support Services. Therefore, evidence was collected from students' questionnaire. Section D refers to living conditions and responses in this section revealed that the larger proportion of respondents lived with their parents (30.0%) or in University residences (24.7%). Students were asked how satisfied they were with the place in which they live. Responses show that 46.6% said that they were either satisfied or very satisfied with the conditions of the place where they live, while 42.8% said they were either dissatisfied or very dissatisfied, (and 10.6% said 'don't know').

Those students living in University residences were asked (in question D.4) if they had their own room. Responses revealed that 99.2% of respondents do not have their own room. When asked with how many people they shared the room, 41.4% said that they shared the room with three students, 31.9% said with four, 17.2% said with two and only 9.5% said that they shared the room with one other person.

Students were also asked if they had a desk to work in their rooms and responses indicated that 83.8% said 'yes' even though they have to share with their room mates, while 16.2% said 'no'.

In question D.5 on the students' questionnaire, different facilities provided by the University were listed which included: cleaning, laundry, catering, health services and leisure, and respondents were asked to give their opinion on a five point scale ranging from very good to very poor. Responses show (see table 7.7) that a large proportion of responses opt for a 'fair' response showing a neutral opinion.

Table 7.7

Question D.5 Students' questionnaire
Concerning other facilities provided by the University, what is your opinion on:

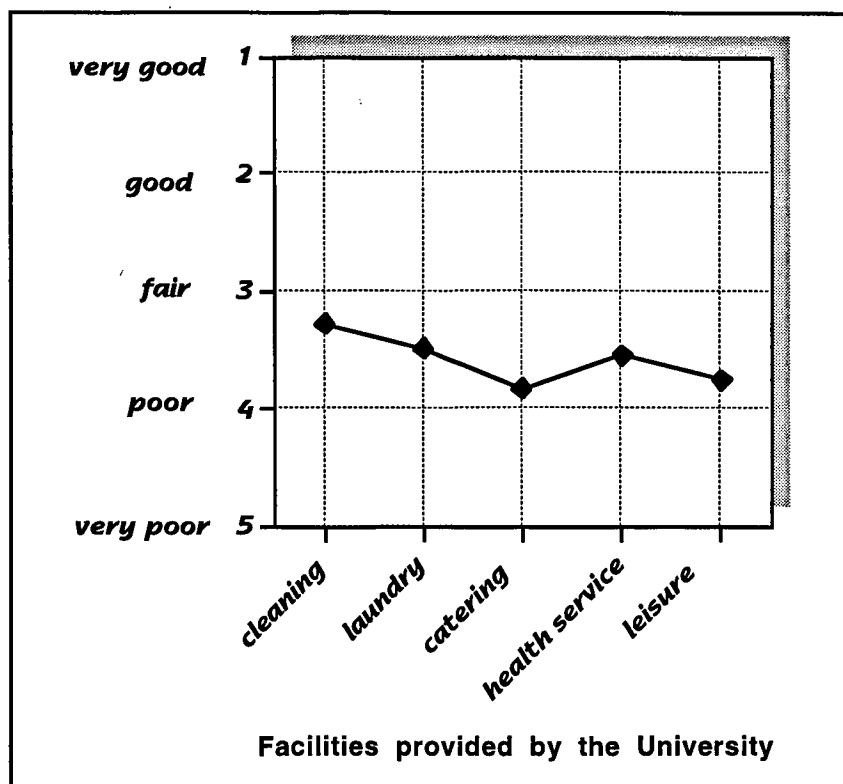
		valid percentage				
		very good	good	fair	poor	very poor
cleaning	(33.5)	1.9	15.3	48.9	21.5	12.5
laundry	(58.6)	3.0	8.5	40.5	33.5	14.5
catering	(50.3)	0.4	4.6	31.7	37.9	25.4
health service	(52.0)	0.4	7.8	46.6	27.2	18.1
leisure	(52.2)	0.9	7.4	37.2	24.7	29.9

Note: The percentage of missing cases is given in brackets

To illustrate students' opinions on facilities provided by the University, Graph 7.4 reduces the ordinal scale of very good to very poor to a numerical dimension (1 to 5) showing the average score for each facility provided by the University.

It is observed in the graph that students' perception of the facilities provided by UEM is, in general, between 3 and 4, (i.e. between 'fair' and 'poor'). However, when comparing the different facilities available, catering is the closest to mark 4 ('poor') showing the lowest rating of all provision. Cleaning, albeit below mark 3 ('fair') shows the highest rating compared to all the other facilities provided.

Graph 7.4 - Students' opinion on facilities provided by the University



From the researcher's own observation and in interviews with administrators, there was an indication that the conditions in which students live and study are inadequate. Students are crowded into dormitory rooms, lack functioning sanitary facilities experience, unreliable services, and subsist on poor quality food. According to the Social Services Department, the average number of students per room is 3.4. However, if we consider the area of the rooms, students have little space or comfort. It is very difficult to accommodate the habits and interests of four people sharing such a small space.

The Social Services Department also expressed their concern about contagious diseases because infection can easily occur under such crowded conditions. One member of the Social Service Department said:

“Os Estudantes deveriam ser submetidos a exames médicos antes de ingressar para as residências pois podem ter doenças contagiosas”

(Students should be submitted to medical tests before they enter to the residencies because they may have contagious diseases).

Also a matter of concern is the regulations about University residences which have not been up-dated (e.g. safety, rights and duties of residents).

Transport is another aspect which has been regarded as problematic. Faculties in UEM are very dispersed and far from the city centre. Public transport is not reliable and students have to walk a long distance to get to their Faculties. Evidence was collected from the students' questionnaire (question D.6) in which respondents indicated which transport they use to go to their Faculty. Responses reveal (as shown in table 7.8) that the highest proportion of students (43.8%) walk to their Faculties, 39.4% use public transport, 18.1% use the University bus and 11.8% use their own transport (either car, motorbike or bicycle) to go to their Faculties.

Table 7.8
Question D.6 Students' questionnaire
Transport used to go to your Faculty

	valid %	
	Yes	No
own transport	11.8	88.2
family's transport	3.9	96.1
University bus	18.1	81.9
public transport	39.4	60.6
friends' transport	6.3	93.8
walk	43.8	56.3

Note: The value of missing cases is 10.6%

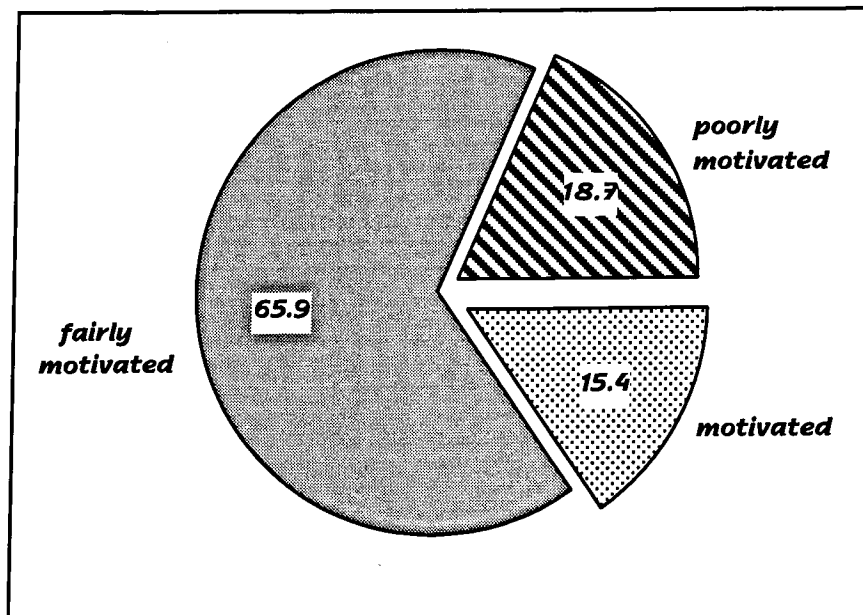
UEM is making efforts to improve the quality of students' living conditions. Thus, the University restaurant is under reconstruction, new equipment will be installed and staff will be trained to improve its service. Residences will be renovated and recent policy changes have made financial assistance conditional upon students' academic performance.

There are also plans to create a data base of students in residences so that administrators can easily know the situation of each resident.

Question 21: Do students show commitment to attaining the academic standards which have been defined for their programme of studies?

Evidence to answer this question was collected from the academics' questionnaire (question E.6) which asked respondents to present their views on students' motivation and commitment. Responses show (as graph 7.5 illustrates), that more than half of the respondents (65.9%) said that students are fairly motivated in learning.

**Graph 7.5 - How motivated are the students in learning?
(Academics' opinion)**



Students on the other hand were also asked to indicate their motivation to pursue their courses (students' questionnaire, question C.6). Results indicated that the majority of the respondents showed motivation to pursue their studies. 39.4% said that they were highly motivated and four out of every nine students said that they were fairly motivated. A sizable minority (16.3%) of students said that they were 'not very motivated' or 'poorly motivated' to pursue their course.

SECTION FOUR - A FRAMEWORK FOR QUALITY ENHANCEMENT

Question 22: What mechanisms are proposed to ensure quality? What changes should be made?

Given that there is a number of aspects that need improvement and because financial resources available are limited, it is important to establish from respondents their priorities for the allocation of such resources. Thus, question E.2 on the students' questionnaire and question G.5 on the academics' questionnaire asked about the priorities for improvement.

A list of different aspects were provided in the questionnaire and respondents were asked to indicate one aspect to which they would give priority for improvement. Responses showed that, although students were asked to indicate only one aspect for improvement, there were sixty six students (13.7%) who indicated more than one aspect. Such responses reflect the difficulty that students found in prioritising just one aspect.

Table 7.9 compares the proportion of answers from students who indicated only one aspect for improvement, and the responses of students who indicated more than one.

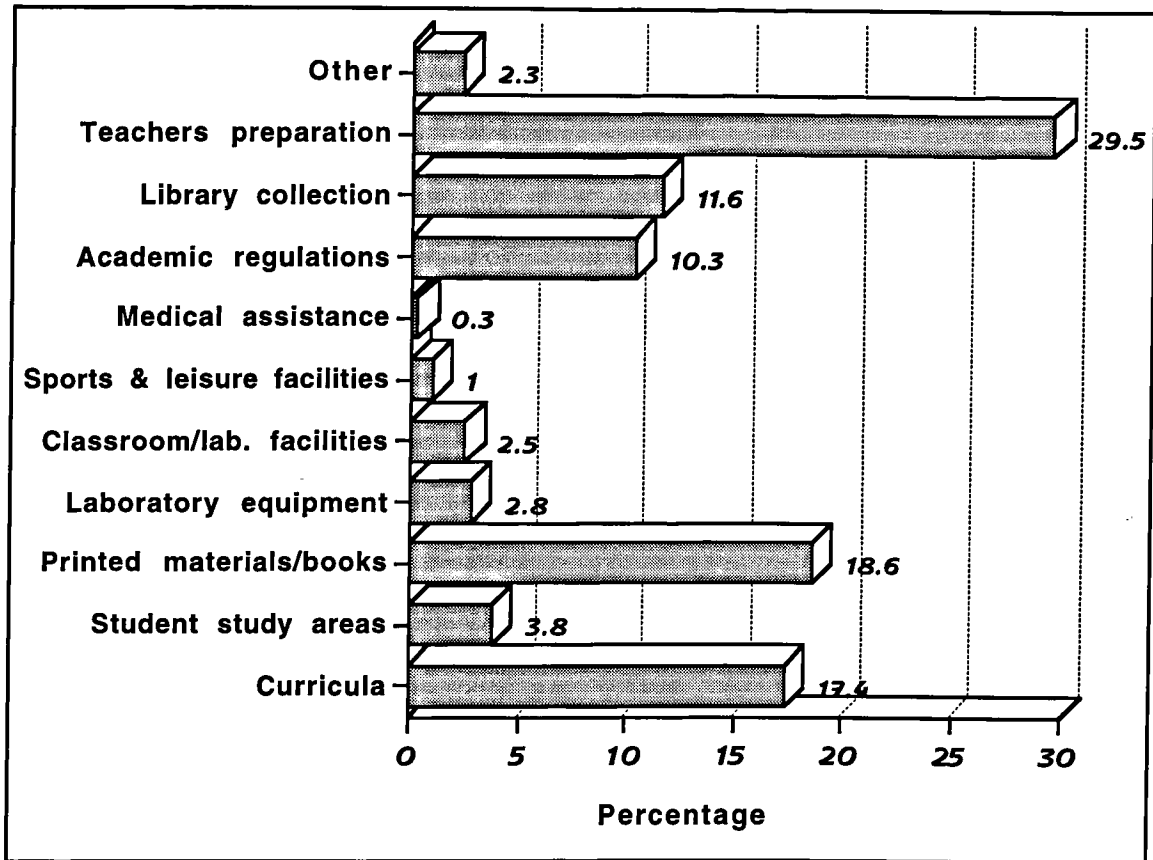
Table 7.9
A comparison of students' responses to question E.2

	A		B		A+B	
	F	%	F	%	F	%
Improvement of curricula	69	17.4	41	8.8	110	23.8
More student study areas in Faculties and residences	15	3.8	19	4.1	34	7.3
More printed materials/books	74	18.6	51	11.0	125	27.0
Laboratory equipment	11	2.8	29	6.3	40	8.6
Better classroom/laboratory facilities	10	2.5	22	4.8	32	6.9
More facilities for sports and leisure	4	1.0	16	3.5	20	4.3
Medical assistance	1	0.3	24	5.2	25	5.4
Revision of academic regulations	41	10.3	40	8.6	81	17.5
Library collection	46	11.6	47	10.2	93	20.1
Teachers preparation	117	29.5	54	11.7	171	37.0
Other	9	2.3	2	0.4	11	2.8

Note: **A** = students who indicated only one aspect;
B = students who indicated more than one aspect

The following discussion concentrates on those students who indicated only one aspect. Graph 7.6 shows the prioritisation given by such students.

Graph 7.6 - Students' prioritisation of matters to be improved at UEM



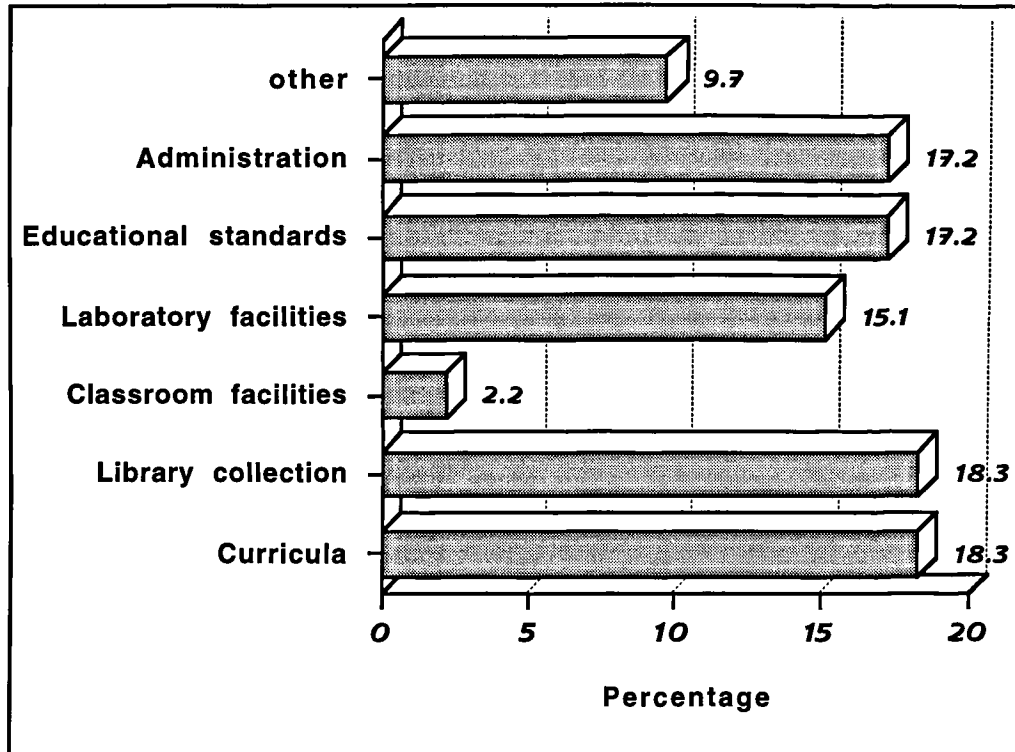
There are five aspects given the highest priority for improvement which are a reflection of the issues discussed in the previous chapter that cause students' dissatisfaction. At the top of the list comes teachers' preparation (29.5%). The number of printed materials was the second most chosen improvement that students wanted to see (18.6%) followed by curricula (17.4%), the library collection (11.6%) and academic regulations (10.3%).

Receiving less priority, although mentioned as an area for improvement, are the number of study areas, laboratory equipment, classroom and laboratory facilities, sports and leisure facilities, and medical assistance.

Academics were also given in their questionnaires (question G.5) a list of six different aspects for improvement and they were asked to indicate their prioritisation.

The following graph illustrates the academics' prioritisation.

Graph 7.7 - Academics' prioritisation of matters to be improved at UEM



Academics (as shown in Graph 7.7) placed at the top of their list the curricula and library collection (both with 18.3%) followed by educational standards and administration (both with 17.2%) and laboratory facilities with 15.1%.

Another piece of evidence to address this question also comes from academics' questionnaire (question G.4). This question refers to changes that should be made to assist University teachers. Nine changes were suggested in the questionnaire and academics were asked to give their opinion by agreeing or disagreeing with those changes. Responses reveal (as seen in table 7.10) that academics tend to agree with most of the changes listed in the questionnaire. However, there were three aspects which were given the highest priority for change, each receiving over 90% of the votes. At the top of the list comes the research facilities. 97.8% of the respondents shared the opinion that academics need better research facilities. 'Keep up with the literature in the field' received 95.2% of the votes, followed by 'higher salaries to attract and keep the teachers' (92.4%).

Table 7.10**Question G.4 Academics' questionnaire***In your opinion what changes should be made to assist University teachers?*

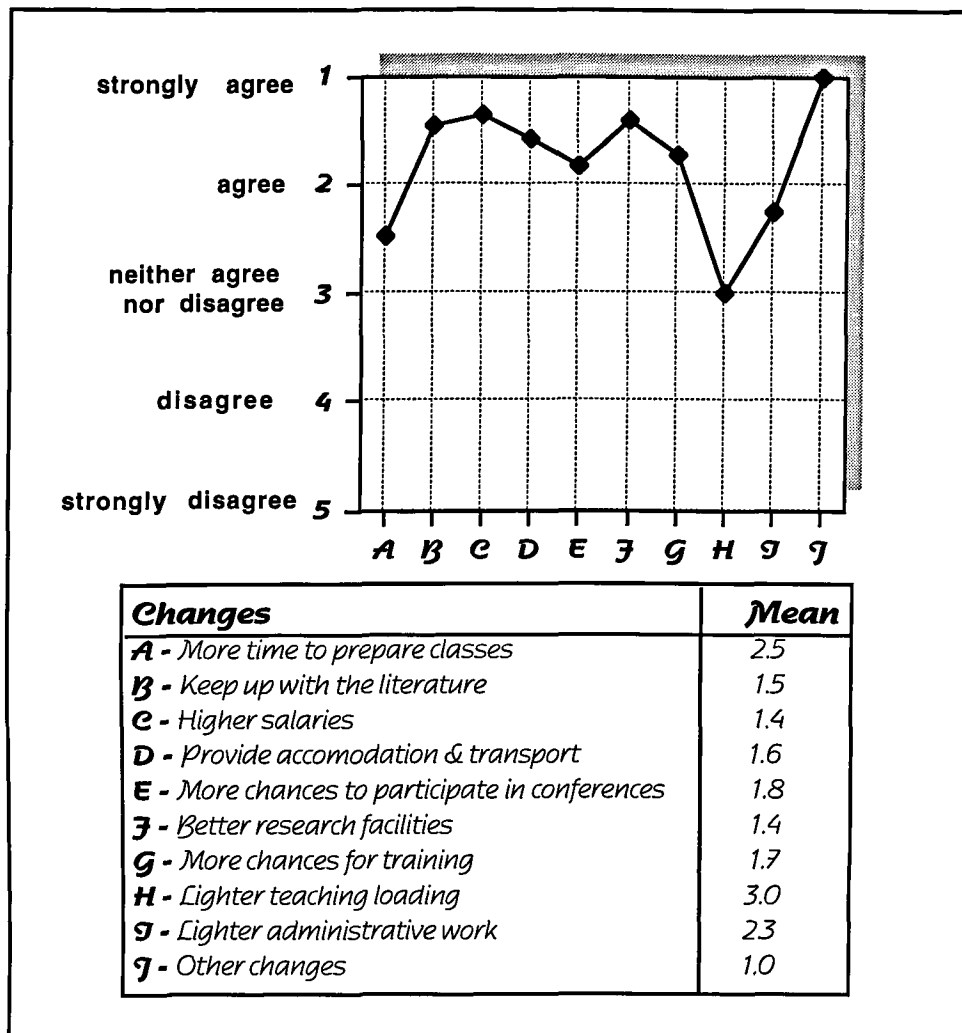
		valid percentage				
		strongly agree	agree	neither agree or disagree	disagree	strongly disagree
more time to prepare classes	(28.4)	19.1	35.3	27.9	14.7	2.9
keep up with the literature in the field	(10.5)	57.6	37.6	4.7	0.0	0.0
higher salaries to attract & keep them	(2.1)	76.3	16.1	4.3	2.2	1.1
provide accommodation & transport	(16.8)	60.8	24.1	11.4	3.8	0.0
more chances to participate in conferences	(12.6)	38.6	45.8	9.6	6.0	0.0
better research facilities	(6.3)	61.8	36.0	2.2	0.0	0.0
more chances for training	(17.9)	52.6	30.8	9.0	6.4	1.3
lighter teaching load	(25.3)	8.5	19.7	40.8	25.4	5.6
lighter administrative work	(16.8)	27.8	30.4	30.4	10.1	1.3
other	(95.8)	100.0	0.0	0.0	0.0	0.0

Note: The percentage of missing cases is given in brackets

Graph 7.8 illustrates academics' opinions on changes that should be made to assist them. To simplify the analysis, the ordinal 'strongly agree' to 'strongly disagree' scale is reduced to a numerical dimension (1 to 5), and average scores are used for each change listed in the questionnaire.

It is observed that academics' opinions are, in general, between the one and three mark, i.e. between 'strongly agree' and 'neither agree nor disagree'. However, when comparing the different changes listed in the questionnaire, teaching load showed the lowest rating of aspects to be changed. Academics neither agree nor disagree that a change should occur on teachers' work load. On the other hand, better salaries and better research facilities showed the highest rating for change.

Graph 7.8 - Academics' opinions on changes that should be made to assist them



Further evidence to address this question comes from the technical and administrative staff's questionnaire (question C.1) in which they were asked to give their opinion about changes that should be made to assist them. Seven changes were listed in the questionnaire and the technical and administrative staff had to express their opinion by agreeing or disagreeing with the listed changes. Responses reveal (as in table 7.11) that the majority of technical and administrative staff tend to agree or strongly agree with most of the changes listed in the questionnaire. However, the three most frequently cited changes that they wanted to see to assist them were: medical assistance (97.1%), better conditions of work (95.4%), and clear regulations (92.9%).

Table 7.11

Question C.1 Technical and Administrative Staff's questionnaire
In your opinion what changes should be made to assist the technical and administrative staff?

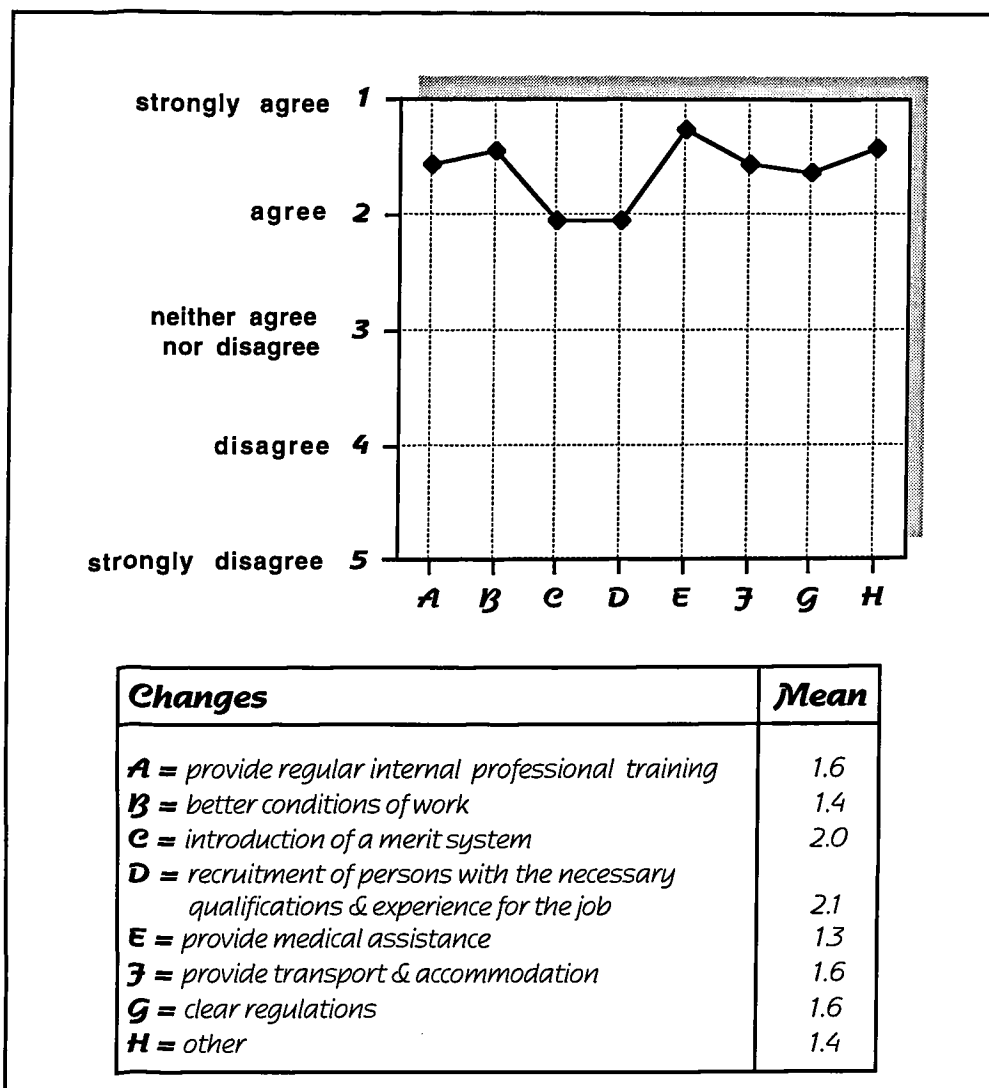
		valid percentage				
		strongly agree	agree	neither agree or disagree	disagree	strongly disagree
provide regular internal professional training	(12.2)	55.3	34.1	9.6	0.5	0.5
better conditions of work	(9.3)	64.7	30.7	1.9	1.4	1.4
introduction of a merit system	(31.2)	32.5	34.4	30.1	1.8	1.2
recruitment of persons with the necessary qualifications & experience for the job	(22.8)	31.1	41.5	21.3	2.2	3.8
provide medical assistance	(11.4)	79.5	17.6	1.4	0.0	1.4
provide transport & accommodation	(13.1)	58.3	31.1	8.7	0.5	1.5
clear regulations	(22.4)	45.1	47.8	6.0	0.5	0.5
other	(87.3)	66.7	30.0	0.0	0.0	3.3

Note: The percentage of missing cases is given in brackets

Graph 7.9 illustrates the opinion of technical and administrative staff by reducing the ordinal scale of 'strongly agree' to 'strongly disagree' to a numerical dimension (1 to 5) using average scores for each change listed in the questionnaire.

In the graph, it is observed that, in most cases, results fall between the one and two mark showing that technical and administrative staff wanted with the changes listed in the questionnaire. Changes such as the introduction of a merit system, and the recruitment of persons with the necessary qualifications and experience for the job fall slightly below the two mark because respondents did not have a strong opinion about such issues and therefore opted for a neutral response - neither agree nor disagree (30.1% in the first case and 21.3% in the second case).

Graph 7.9 - Technical and administrative staff opinion on changes that should be made to assist them



The technical and administrative staff's questionnaire (question C.3) listed some aspects that are considered to affect the quality of their work such as inadequate qualifications for the job, poor salaries, conditions of work, restrictive regulations, few incentives, and social assistance. Respondents were asked to give their opinion by agreeing or disagreeing with those aspects listed. Table 7.12 shows that, in general, a considerably high proportion of respondents either agree or strongly agree with all aspects listed in the questionnaire. The most frequently cited aspects which seemed to affect the technical and administrative staff's quality of work were: poor salaries (86.2%), few incentives (79.9%) and the conditions of work (79.6%).

Table 7.12

Question C.3 Technical and Administrative Staff's questionnaire
 Here are some aspects that are considered to affect the quality of work of the technical and administrative staff. What is your opinion?

		valid percentage				
		strongly agree	agree	neither agree nor disagree	disagree	strongly disagree
inadequate qualifications for the job	(24.9)	38.2	34.3	19.7	3.9	3.9
poor salaries	(11.4)	56.2	30.0	4.3	3.3	6.2
conditions of work	(17.3)	33.7	45.9	13.3	5.1	2.0
restrictive regulations	(30.4)	12.7	44.2	32.7	9.7	0.6
few incentives	(24.5)	36.3	43.6	12.8	3.4	3.9
social assistance	(23.2)	34.1	41.8	19.2	3.8	1.1
other	(92.8)	70.6	29.4	0.0	0.0	0.0

Note: The percentage of missing cases is given in brackets

Open-ended questions, such as 'how do you think the University courses can be improved?' or 'what did you like least/most about the course?' can be used to elicit reactions that single response questions fail to address.

Some of the aspects referred in the questionnaire were addressed by the respondents in the free response question. Twenty three members of the technical and administrative staff expressed their concern on incentives. One said the following:

"O bom trabalho deve ser reconhecido e compensado"
 (Good work should be acknowledged and compensated).

Another said:

"Há muito poucos incentivos e por isso não há motivação para trabalhar"
 (There are few incentives, therefore no motivation to work).

Another aspect also considered in the list of changes are the policies of promotion. In the technical and administrative staff's questionnaire (question C.2), they were asked to give their opinion about the criteria on which promotions should occur. A list of six aspects were given in the questionnaire and respondents expressed their

opinion by agreeing or disagreeing with them. Results show (see table 7.13) that although a number of respondents opt for a neutral answer (neither agree nor disagree) they were in agreement with all aspects listed. The quality of work was considered the main basis on which promotion should occur (showing the highest proportion with 89.2%).

Table 7.13
Question C.2 Technical and Administrative Staff' s questionnaire
On what basis do you think promotions should occur?

		valid percentage				
		strongly agree	agree	neither agree nor disagree	disagree	strongly disagree
education qualifications	(26.6)	37.4	35.1	16.1	9.2	2.3
years of experience	(14.8)	44.6	39.1	11.9	1.5	3.0
introduction of merit system	(21.9)	42.2	47.0	6.5	3.8	0.5
dedication to the work	(16.5)	46.0	41.9	10.6	1.0	0.5
satisfactory tests	(26.6)	23.6	42.0	24.7	8.0	1.7
combination of all	(29.1)	26.2	23.8	29.8	13.7	6.5
other	(97.9)	40.0	40.0	0.0	0.0	20.0

Note: The percentage of missing cases is given in brackets

In addition to these responses, seventeen members of the technical and administrative staff expressed their personal opinion (in a free response format) on policies in promotion. One said the following:

“Devia-se definir novas politicas de promoçao, ou seja, não previligiar os incompetentes”

(New policies in promotion should be defined in which the incompetents are not compensated).

Another said:

“Promoção não deve considerar apenas o nível de escolaridade mas a qualidade do trabalho e experiência”

(Promotions should take in account not only the academic qualifications but the quality of work and experience).

Further evidence to address the questions posed earlier (what mechanisms are proposed to ensure quality? What changes should be made?) was collected from the Deans' questionnaire (question D.1). In the question, Deans were asked to give their opinion about measures that would most improve the training of students in their Faculty. Seven measures were suggested in the questionnaire and respondents had to manifest their opinion by agreeing or disagreeing with them. Responses show (as in table 7.14) that Deans either agree or strongly agree with almost all measures indicated in the questionnaire. However, five of the six respondents strongly agree that improvements to laboratories and equipment would most improve the training of students in their Faculty. Other measures also given top priority were the improvement of class materials and books, and more contact with similar institutions abroad.

Table 7.14

Question D.1 Deans of Faculty' s questionnaire
In your opinion, which of the following measures would most improve the training of students in your Faculty?

	frequency				
	strongly agree	agree	neither agree nor disagree	disagree	strongly disagree
improve buildings	3	3	0	0	0
improve laboratories and equipment	5	1	0	0	0
change the structure and/or content of curriculum	1	2	1	1	1
increase & improve class materials and books	4	2	0	0	0
raise admission requirements for applying students	1	3	0	2	0
close relations with employers	2	4	0	0	0
more contact with similar institutions abroad	4	2	0	0	0

Note: Because of the small size of the sample, results are presented as frequencies and not as percentages

Question 23: What are the main reasons for students dropping out at UEM and what mechanisms might reduce the dropout rate in UEM?

UEM offers five-year courses leading to a 'licenciatura' degree (see pg. 29). Medicine is the exception requiring seven years. UEM is however inefficient in terms of its graduate output. The success rate in 1995-96 academic year was 29.9% of the total number of entrants. Furthermore, to complete their courses, graduates required an average of 6.5 years for a five year course and 8.5 years for a seven year course.

Although the UEM's annual report 1995-96 referred to a 30.2% growth in outputs compared to the previous year, the levels of drop-out and repetition are still high.

Drop-out rates are generally related to the selectivity of the higher education system. The more selective the system, the lower the drop-out rate. Thus, systems based on the principle of mass access will typically have higher drop-out rates than those that limit access by screening entrants for talent and preparedness.

There is clearly a need to consider ways of encouraging positive academic performance, and to associate these with penalties for non-achievement. In UEM, recent policy changes have made financial assistance conditional upon a student's academic performance.

UEM's inefficiency in producing graduates is a cause for concern because low graduate output delays national capacity-building efforts. A number of aspects may be regarded as the cause for this high drop-out and repetition rates such as: inadequate secondary schools preparation, the quality of entering students, difficult conditions in which students live and study, the library collection, and the restrictive academic regulations. This research attempts to obtain the views of UEM's students and staff on aspects that they think influence students to drop-out from their courses.

Evidence was collected from the students' questionnaire (question E.1), from the academics' questionnaire (question E.7), and from the Deans' questionnaire (question D.5). Respondents were asked to give their opinion on reasons for students dropping out from their courses.

A large number of respondents chose the 'neither agree or disagree' option. However, this neutral response does not necessarily mean that strong positive or negative opinions do not exist. Table 7.15 shows students' opinion on reasons for such high dropout rates in UEM.

Table 7.15

Question E.1 Students' questionnaire

Here are some arguments for the high drop-out and repetition rates in UEM. What is your opinion?

	valid percentage				
	strongly agree	agree	neither agree nor disagree	disagree	strongly disagree
inadequate preparation in secondary school	20.4	28.7	25.3	17.9	7.7
inadequate preparation in first levels of the course	7.9	30.9	32.3	23.4	5.6
difficult conditions in which students live	36.9	44.2	13.1	5.1	0.7
difficult conditions in which students study	35.1	45.5	13.9	4.6	0.9
financial problems	37.9	45.2	13.5	3.1	0.2
restrictive academic regulations	24.5	30.6	27.0	15.3	2.5
course is not the students' choice	9.0	17.8	40.5	22.9	9.7
insufficient Portuguese language material	37.7	36.0	15.4	7.0	3.9

Overall, almost four out of every five students either agree or strongly agree that financial problems, difficult conditions in which students live and study are the main reasons for students dropping out their courses, while one in three students either disagree or strongly disagree that students drop-out because the course was not their choice.

Such student opinion was reinforced in the free response question where a total of 63 students expressed their concern on their study and living conditions. One said the following:

"As condições de vida e estudo dos estudantes são péssimas"
(Students' living and study conditions are dreadful).

Another student said:

“...reduzir o nível de exigência de aproveitamento uma vez que as condições de estudo e alojamento não permitem tal aproveitamento”

(Because of the poor living conditions of students and a lack of facilities for study, there needs to be reduction in expectation about academic attainment).

Table 7.16 outlines the academics' opinion with respect to the major reasons for students dropping out from their courses. A list of possible reasons was provided and academics were asked to give their opinion by agreeing or disagreeing with them.

Table 7.16

Question E.7 Academics' questionnaire

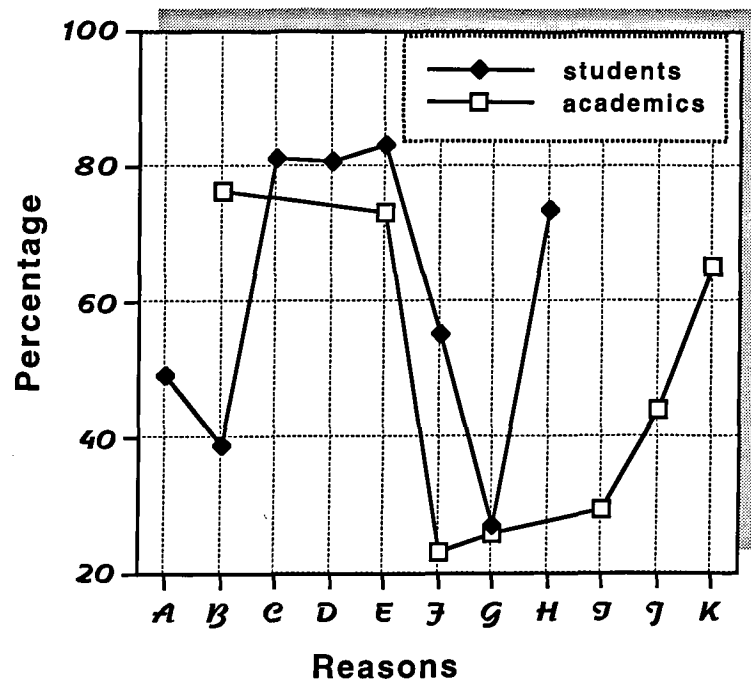
In your opinion, what are the major reasons for students dropping out the course?

	valid percentage				
	strongly agree	agree	neither agree nor disagree	disagree	strongly disagree
not motivated to do the work	5.3	24.0	26.7	26.7	17.3
do not like the course	5.4	20.3	41.9	21.6	10.8
found the course to be too difficult	14.7	29.3	28.0	17.3	10.7
regulations are too restrictive	4.3	18.6	22.9	32.9	21.4
did not have the necessary financial support	23.2	50.0	18.3	4.9	3.7
needed to get a job to support self and family	23.8	41.3	20.0	11.3	3.8
inadequate preparation in previous years	27.4	48.8	13.1	9.5	1.2
other	60.0	40.0	0.0	0.0	0.0

As observed in table 7.15, academics indicated three major reasons for students dropping out from their courses. The first reason receiving the highest proportion of responses is inadequate preparation in previous years. The second most prominent reason (also mentioned by the students) is financial problems, and the third reason is the need of students to get a job to support themselves and their family.

Graph 7.10 compares the opinions of students and academics regarding the factors that affect students' motives for dropout.

Graph 7.10 - Reasons for students dropping out their courses
(academics' and students' opinion)



- A** = Inadequate preparation in secondary school
- B** = Inadequate preparation in first levels of the course
- C** = Difficult conditions in which students live
- D** = Difficult conditions in which students study
- E** = Financial problems
- F** = Restrictive academic regulations
- G** = Course is not the students' choice
- H** = Insufficient Portuguese language materials
- I** = Not motivated to do the work
- J** = found the course too difficult
- K** = Needed to get a job to support self and family

Academics were more likely than students to say that the major reason for students dropping out from their courses was inadequate preparation in previous years (76.2% compared to 38.8%) but were less likely to cite restrictive academic regulations (22.9% compared to 55.1%).

Another source of evidence on this topic comes from the Deans' questionnaire. Table 7.17 refers to their opinion. Because of the small size of the sample, and because only three of the six respondents answered the question, results are presented as frequencies and not as percentages.

Table 7.17

Question D.5 Deans of Faculty's questionnaire
Here are some arguments for students dropping out. What is your opinion?

	frequency				
	strongly agree	agree	neither agree nor disagree	disagree	strongly disagree
inadequate preparation in secondary school	3	0	0	0	0
inadequate preparation in first levels of the course	0	1	1	0	1
difficult conditions in which students live	1	2	0	0	0
difficult conditions in which students study	1	2	0	0	0
financial problems	2	1	0	0	0
restrictive academic regulations	0	1	0	2	0
course is not the students' choice	0	1	1	0	1
insufficient Portuguese language material	1	1	0	1	0
lack of counselling	1	0	2	0	0

In general, Deans of Faculty agreed with almost all arguments presented in the questionnaire. However, two of the three respondents disagreed with the argument that restrictive academic regulations are the main reason for students dropping out from the courses.

Question 24: Are there effective communication channels for quality assurance within organisational structures, and are they established to ensure that roles, responsibilities and lines of communication in relation to all aspects of quality are delineated?

The research addresses this question from the perspective of the relationship between different groups in the institution. Evidence comes from academic staff, technical and administrative staff and Deans of Faculty questionnaires in which they were asked to rate or describe (on a five point scale ranging from very good to very poor), the communication between various groups of people.

In the academics' questionnaire (question F.10) respondents were asked to describe the relationship between people in their department and (on question F.11) to rate the communication between the central administration and the department.

In the technical and administrative staff questionnaire (questions A.4 and A.5) respondents were asked firstly to describe the relationship between people in their office, and secondly to rate the communication between the administrator(s) of their office and the subordinates.

In the Deans' questionnaire (question E.1), respondents were asked to describe the relationship between the following people: teachers/students, teachers/technical and administrative staff, students/ technical and administrative staff, teachers/directorate, students/directorate, technical and administrative staff /directorate.

Table 7.18 summarises the opinions of academics, technical and administrative staff and Deans of Faculty regarding communication.

Table 7.18

Communication patterns in UEM

Opinions of : Academics (questions F.10 and F.11), Technical and Administrative Staff (questions A.4 and A.5), and Deans of Faculty (question E.1)

	very good	good	fair	poor	very poor
Academics valid percentage					
relationship between the people of the department you are in	12.6	42.1	30.5	12.6	2.1
communication between the central administration and the department	8.7	40.2	34.8	12.0	4.3
Technical & Administrative Staff valid percentage					
relationship between the people in your office	18.8	31.2	40.6	7.3	2.1
communication between the administrator of your office and the subordinates	14.7	25.9	43.1	9.9	6.5
Deans of Faculty frequencies					
relationship between teachers/students	0	4	1	0	1
relationship between teachers/TAS	0	4	0	2	0
relationship between students/TAS	0	1	4	1	0
relationship between teachers/Directorate	2	2	2	0	0
relationship between students/Directorate	0	2	3	1	0
relationship between TAS/Directorate	0	2	4	0	0
relationship between Faculty/other Faculties	0	3	2	1	0
relationship between Faculty/Central Offices	0	0	5	1	0

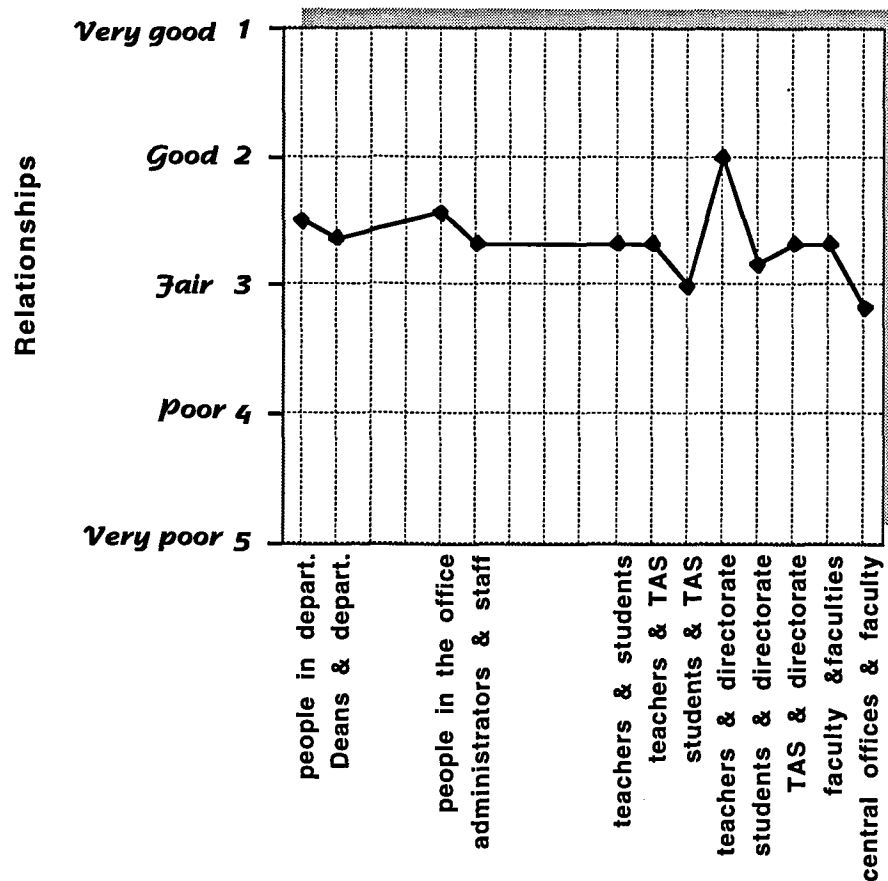
Graph 7.11 illustrates the opinions of academics, technical and administrative staff and Deans of Faculty regarding communication. In the graph, the Y axis reduces the ordinal 'very good' to 'very poor' scale to a numerical dimension (1 to 5). The X axis groups the answers of academics (first and second), the technical and administrative staff (third and fourth) and Deans of Faculty (fifth onwards).

Results show (as observed in the graph) that most results fall between the 2 and 3 mark which relates to 'good' and 'fair'. In most cases however, the results are between 2.5 and 3, exception being the relationship between teachers and directorate which is indicated by Deans of Faculty as 'good' although academics did not share the opinion and considered it as 'fair'. Another relationship also slightly above 2.5, is found among staff in technical and administrative offices.

Below the 3 mark (fair) and towards 4 (poor) the relationship between the central offices and the Faculties is observed.

Graph 7.11 - Communication patterns in UEM

(opinions of Academics, Technical and Administrative Staff - TAS, and Deans of Faculty)



A total of 23 members of the technical and administrative staff referred to relationships between people in work (in a free response question at the end of the questionnaire). One said the following, and this is fairly representative of all replies.

“Deve haver respeito mútuo entre chefes e subordinados”

(There should be mutual respect between superiors and subordinates).

Another said:

“Deviam-se promover encontros periódicos entre chefes e subordinados”
(There should be periodical meetings between superiors and subordinates).

A similar opinion of seven members of the technical and administrative staff concerned the lack of communication in the institution and the efficiency of delivering important information:

“Deveria haver um mecanismo mais eficaz de circulação de informação e expediente. Algumas decisões importantes são conhecidas através dos órgãos de informação”

(There should be a more effective mechanism of circulating information and other mail. Some important decisions are known through the outside mass media).

Students also expressed their concern about relationships in the University. A similar opinion of 26 students was that:

“Deveria haver maior envolvimento e melhor relacionamento entre a Direcção e os estudantes”

(There should be more involvement and a better relationship between the Directorate and students).

Another comment was that:

“Deveria haver maior aproximação dos docentes e orientação nos métodos de estudo principalmente no primeiro ano”

(Teachers should approach students and advise them on methods of study, especially in the first year).

The researcher's field enquiries and observations revealed that, although in some cases there was a good relationship and communication, UEM's staff and student community is generally critical of the relationship and communication they experience particularly between the central offices' and Faculties. They also expressed concerns about relationship between students and teachers, plus between administrators and subordinates.

One director of a central office department said:

“A comunicação é difícil. Não existe honestidade académica e não há partilha do conhecimento”

(Communication is very difficult. There is no academic integrity and there is no sharing of knowledge)

Another director of a central office department said:

“O relacionamento é difícil porque as pessoas não conseguem separar o relacionamento pessoal do profissional”

(Relationships are difficult because people cannot separate a personal relationship from a professional relationship).

Communication and effective relationship working are vital for success. Communication occurs at both formal and informal level. It can be either a one-way or two way process and operates at both and internal and external level. If quality is to be improved at UEM, there is a need for more communication between and cooperation within departments.

Summary

This chapter finishes with a summary of the main findings on the quality assurance of student development and support, and a framework for quality enhancement at UEM. Discussion of these results is provided in the final ‘Conclusions’ chapter.

- Over half of the academics are at the opinion that students’ study habits are poor or very poor. Students often lack in study skills and the shortage of reading available textbooks in Portuguese results, in most cases, in students having to rely on textbooks prepared by their teachers, their own notes or notes from their colleagues who are in more advanced years in the course.

- The distribution of students' time may vary according to their course. However, students indicated that a large proportion of their time is dedicated to class lectures, class preparation and study.
- Academic regulations exist, they seem clear to everybody who reads them but they are highly difficult to monitor because UEM has yet develop a computerisation of students' records.
- Academics are more likely than students to say that the assessment methods used at UEM enable students to demonstrate that they have fulfilled the objectives of the course. Although students prefer practicals, assignments and continuous assessment, these patterns of assessment do not constitute general practice in UEM.
- There is no established mechanism for regular feedback to students on their progress. Students are often called to account for their learning by tests and examinations results but not thereafter given formative feedback.
- Students' opinions concerning their living conditions were that, in general, they are poor. Particular sources of dissatisfaction were catering, transport and the scholarship grant. UEM is well aware of this problem and efforts have been made to improve the present situation. These include the reconstruction of the University restaurant, the installation of new equipment, and the in-service training of staff. Residences will be refurbished and individual financial assistance will be conditional upon students' academic performance.
- A number of aspects need improvement at UEM and because financial resources are limited, it is important to establish the priorities for the allocation of such resources. Research results revealed that students and academics have different agenda and sets of priorities. Students most of all wished for improvement in three areas: teachers' preparation, printed materials/books and curricula, while academics sought improvements in curricula, library collection, educational standards and administration.

- Referring to the changes that UEM should make to assist its staff, the research results revealed that a large proportion of academics wanted improved salaries and better research facilities. The technical and administrative staff on the other hand, pointed that poor salaries, few incentives and poor conditions of work are aspects which seemed to affect their quality of work and therefore need change. Another aspect also mentioned by the technical administrative staff as a matter for change is the provision of medical assistance.
- Technical and administrative staff expressed their opinion about the criteria for promotions. Dedication to the work is considered the main basis on which promotion should occur.
- Deans of Faculty also expressed their opinion on mechanisms to ensure quality and changes that should be made at UEM. Five of the six respondents strongly agree that improvements to laboratories and equipment would most improve the training of students in their Faculty. Class materials and books as well as more contact with similar institutions abroad, were also considered by Deans of Faculty as a mechanism to ensure quality enhancement.
- Academics and students shared the opinion that one of the reasons for students dropping out their courses is financial problems. However, academics were more likely than students to say that the major reason for students dropping out from their courses was inadequate preparation in previous years, and are less likely to cite restrictive academic regulations.
- Communication is still a problem in UEM particularly between central offices and the Faculties, between administrators, and subordinates and within administrative departments.

This completes the univariate analyses of the data. The thesis now moves into more advanced statistical techniques (multivariate analyses).

CHAPTER 8

Multivariate Analyses

CHAPTER 8

Multivariate Analyses

Introduction

In chapter six and seven, the overall results from all questionnaires were analysed in order to understand the basic trends in the data. Frequencies were presented to provide a basic characterisation of preferences, attitudes and ideas of students, academics, technical and administrative staff, Deans of Faculty and graduates. This chapter aims to find out possible underlying and latent patterns of relationship amongst the questions through advanced statistical techniques such as factor analysis and cluster analysis.

The results of this chapter derive from a multivariate statistical analysis of the data from the questionnaires. The statistical analyses were mostly performed using SPSS (The Statistical Package for the Social Sciences). This chapter commences with a discussion of latent variable analysis.

1. Latent Variable Analyses

1.1 Introduction

One multivariate statistical process is to submit similar items on a questionnaire to a latent variable analysis. The outcome of latent variable analysis will indicate whether there are one or more dimensions to the scale. The process also provides a latent variable score for each student on the dimensions. This score is based on a weighting of items which increases consistency, discrimination and validity (Baker, 1992). Regarding this technique, Baker (1992) writes:

“the preferable term for the resulting scale is a latent variable rather than a factor scaleThis term accurately conveys the idea that some thing underlying is being measured. The phenomena being considered are hypothetical. The term latent variable contains the idea that a representation has been assembled from a variety of indicators, of a hypothetical, underlying variable”. (pg. 56)

Because of the small size of the samples, only three of the five samples given questionnaires will be used in this analysis. These are the students' questionnaire, the academics' questionnaire and the technical and administrative staff questionnaire.

1.2 Summary of the Procedure

A latent variable analysis (also called factor analysis) was carried out by the researcher on the questions in selected sections of the questionnaires to find out the possible underlying pattern of relationship among the questions and to establish commonality among them. Factor analysis aims to classify, correlating all items with one another and grouping them into categories. Applying factor analysis will ensure unidimensionality of individual factors and ensure that the items measure the same entity.

Specific items in each section were entered into the factor analysis which grouped them into various categories of highly related issues. The variables in each dimension have loadings. The higher the loadings, the greater the weighting the variable has on that dimension. Squaring the loadings and then summing them provides the eigenvalue. The eigenvalue shows the amount of variance a dimension has contributed to the total variance of all the items entered into the factor analysis.

The researcher has to decide on the number of factors to be extracted. This procedure can be aided by drawing a Scree graph with the eigenvalue plotted against the factor number. The number of factors which appear before the straight line(s) (the scree or screes) is regarded as the number of factors to be extracted. As an additional attempt to locate the best solution, one, two, three, four and five solutions were extracted to see which solution was the most interpretable. A comparison of these solutions was conducted along with a deliberation, and close inspection of the Scree test, directing the researcher toward the most appropriate solution.

1.3 Test Results

The respondents were required to tick the appropriate box in the questionnaire according to the degree of their agreement or disagreement with a question or their level of satisfaction or dissatisfaction with different issues. The raw scores were coded as part of the data preparation. They were then fed into the computer, using routines in SPSS (Statistical Package for the Social Sciences) for analysis. The factor analysis started with the calculation of Pearson correlations. This resulted in a matrix of coefficients for the variables being analysed. The eigenvalue was calculated to produce the Scree Test (Cattell, 1966). Factors were then rotated according to the Varimax criteria. The Varimax method used in this computer package is the 'Orthogonal' method whereby the matrix from the initial factor solution is rotated to obtain a more interpretable solution. Finally, the computer program produced a matrix with loadings of all the variables on extracted factors. Variables with significant loadings were arranged in descending order and analysed. The minimum value of significance was determined based on Burt - Banks formula (Child, 1970). Variables with low loadings were neglected, while those with high loadings were carefully considered. Low loadings indicate variables that lack reliability or are specific, idiosyncratic or unique.

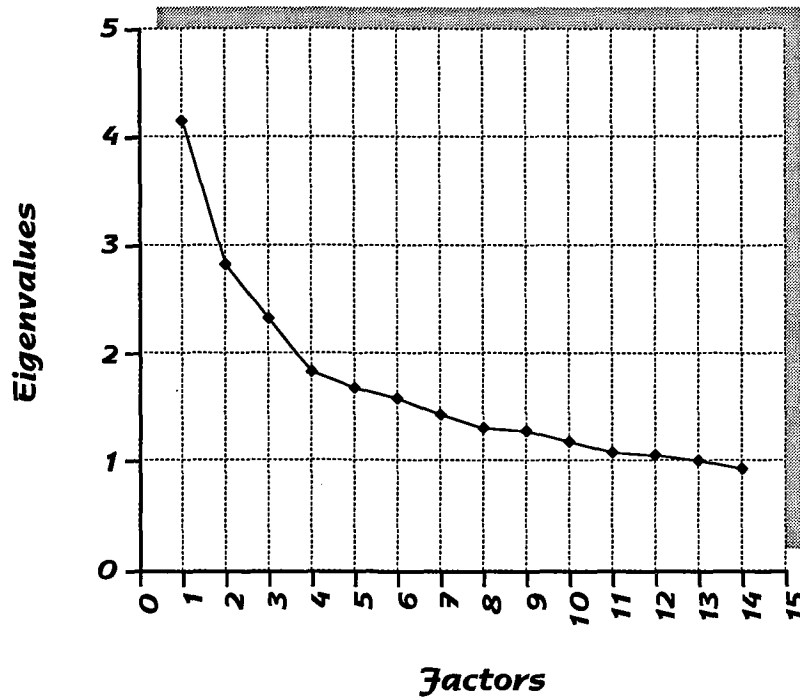
The use of latent variable analysis resulted in the following:

1.3.1 Students' Questionnaire

Section B (see Appendix X) of the students' questionnaire concerned students' attitudes towards their course. Seventy-three variables could be potentially scaled in this section. However, because of large number of missing cases, only 59 of those variables were submitted to a latent variable analysis. Analysis of the Scree Test (see Graph 8.1) and inspection of different rotated solutions suggested the existence of five dimensions. The first dimension with item weightings above 0.35 relates to a general attitude to teaching and learning at UEM, the second dimension with item weightings above 0.35 relates to the opinions of students about learning the English language, the third dimension with item weightings above 0.35 relates to assessment at UEM, the fourth dimension with item weightings above 0.30 relates to materials, and the fifth dimension with item

weightings above 0.29 relates to teaching style. Determination of the cut-off point for loadings was guided by the Burt-Banks formula and reference to Baker (1992).

Graph 8.1 - Scree Test on the Students' Questionnaire



The Varimax solution is presented below with major loadings in bold print. The question equivalent of each variable (e.g. V23) is given in Appendix XV.

ROTATED FACTOR MATRIX - STUDENTS' QUESTIONNAIRE

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
V23	.36348	.07791	-.07014	.14846	.24940
V24	.35849	.10021	-.05757	.17161	.28189
V25	.64261	.01491	.06102	.00593	-.02459
V26	.33576	.02049	-.02464	.28283	.09757
V27	.31039	-.12504	-.11195	.32958	-.02751
V28	.58136	.02790	.01292	-.05547	-.09398
V29	.61782	.04863	-.00365	.13499	-.01168
V30	.40959	-.04898	-.02382	.27224	-.03087
V31	.07210	.00159	.10612	.02433	.10149
V32	.34696	.08944	-.00364	.21078	.15430
V33	.41856	-.01985	.06694	.20222	.30085
V34	-.02714	-.13981	-.08954	.10168	.33885
V35	.10084	-.14678	-.16262	-.02656	.24048

V36	.28574	-.12792	-.24450	-.02637	.02211
V37	.16634	-.10076	-.22777	-.05718	-.03424
V38	.47541	.00772	-.11717	.00402	-.00887
V46	.11130	.00983	-.08724	.55951	-.02443
V47	.15538	.02076	-.06613	.62236	-.07180
V48	.14835	.10197	.10876	.08126	.07544
V49	.00273	.02148	.01852	.44166	.18343
V50	.18058	.11951	.16316	.24204	.03224
V51	.03901	.07524	.11612	-.01984	.06270
V52	.00401	-.02913	.10718	-.08705	.37875
V53	.05808	-.04707	.04771	.05010	.51758
V55	-.00167	.01353	.17366	.01404	.30291
V56	-.09913	.01562	.28284	-.04239	.29650
V57	.01549	.07858	.27374	-.18390	.01207
V59	.40003	.02016	.07544	.02820	.05143
V60	.40718	-.04343	.02745	.05079	.05355
V61	.12497	.14129	-.22394	-.10065	.17514
V62	.04050	-.06291	.64450	-.01592	.08465
V63	.05660	.03514	.53869	-.02440	-.03437
V64	-.04775	.01192	.63489	-.10071	.03664
V65	.08907	.09689	-.01887	.08914	.14188
V67	.00623	.70485	.04523	-.00595	-.01908
V68	-.06568	-.52542	-.05729	-.01079	.12339
V69	.00190	.71770	.07697	-.04555	.05270
V70	.00889	-.43473	.01335	-.06168	.10732
V71	-.03360	.64715	.05429	.00740	.04384

Below is a description of all five dimensions. The results will be presented by using the following pattern: the first column refers to the coding of variables used in the statistical analysis, the second column refers to the content of that variable and the last column to the item weighting.

Dimension 1 (Factor 1): General Attitude to Teaching and Learning at UEM

V25	How satisfied or dissatisfied with teachers	0.64
V29	How satisfaction or dissatisfaction with teaching methods	0.61
V28	How satisfaction or dissatisfaction with evaluation	0.58
V38	Balance between theory and practice	0.47
V33	Course stimulates interest in the area	0.41
V30	How satisfied or dissatisfied with administration of Faculty	0.40
V60	Does the assessment methods enable students to demonstrate that they have fulfilled the objectives of the course	0.40

V59	Clarity of assessment regulations	0.40
V23	Satisfaction or dissatisfaction with training	0.36
V24	Clarity of aims of the course	0.35

Dimension 2 (Factor 2): Learning the English Language

V69	Like to learn English as much as possible	0.71
V67	Learning English is useful	0.70
V71	Plan to continue to learn English	0.64
V68	Learning English is a waste of time	-0.52
V70	Would rather spend time on subjects other than English	-0.43

Dimension 3 (Factor 3): Assessment at UEM

V62	Assignments (preferred assessment method)	0.64
V64	Projects (preferred assessment method)	0.63
V63	Practicals (preferred assessment method)	0.53

Dimension 4 (Factor 4): Materials

V47	Level of up-to-datedness of reading lists	0.62
V46	Are reading list provided for the main subjects	0.55
V49	Which of the following to understand the course? - Reading list	0.44
V27	How satisfied or dissatisfied with materials	0.32

Dimension 5 (Factor 5): Teaching style

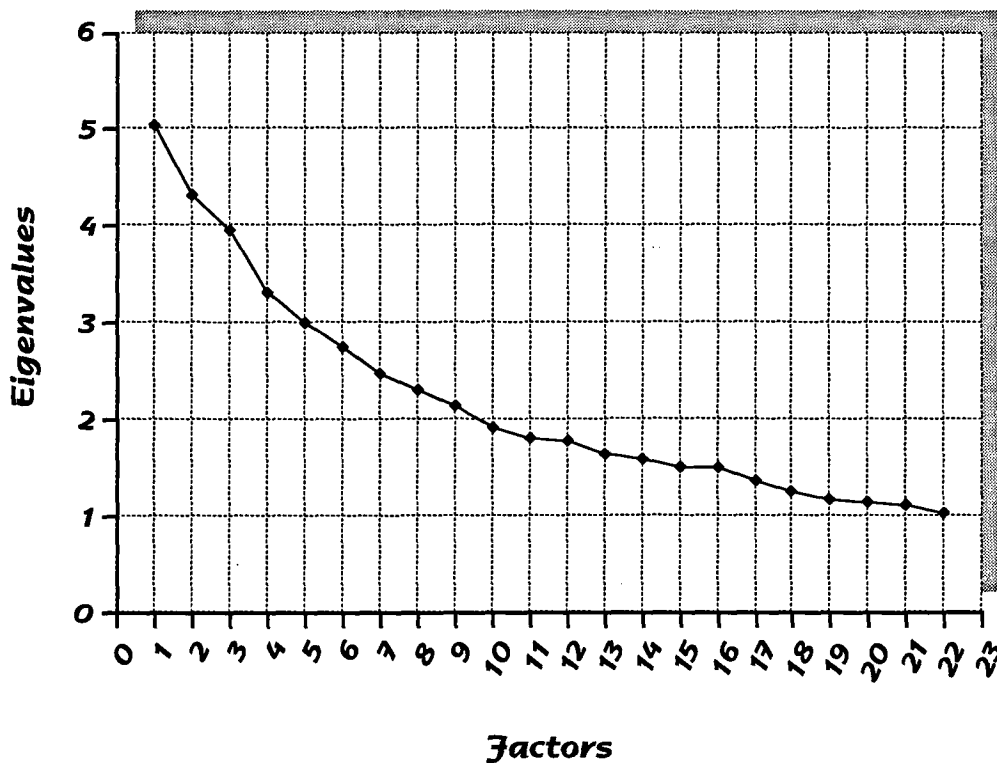
V53	Listening to the lecture	0.51
V52	Own notes	0.37
V34	Number of lectures	0.33
V55	Lectures (preferred form of teaching)	0.30
V33	It stimulates student interest in the area	0.30
V56	Seminars (preferred form of teaching)	0.29

1.3.2 Academics' Questionnaire

Seven sections were used in the academics' questionnaire (A, B, C, D, E, F, and G) and a total of 64 variables were submitted to a latent variable analysis. Section A refers to Teaching and contains 12 variables, Section B refers to Curriculum and includes 4 variables, Section C refers to Materials with 13 variables, Section D refers to Assessment and contains 15 variables, Section E refers to Students with 6 variables, Section F refers to Facilities and includes 9 variables, and finally Section G which refers to Other Matters such as reasons for choosing to be academic, disadvantages of their chosen profession, and changes that should be made to assist the academics has 5 variables.

Analysis of the scree test and inspection of different rotated solutions suggested the presence of five dimensions (see Graph 8.2).

Graph 8.2 - Scree Test on the Academics' Questionnaire



The rotated factor matrix is presented below. The question equivalent of each variable (e.g. V3) is given in Appendix XVI.

ROTATED FACTOR MATRIX - ACADEMICS' QUESTIONNAIRE

	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
V3	.07030	-.06634	.06910	.05327	-.43220
V4	.10749	-.14223	-.02388	-.19200	-.10066
V5	.00280	-.00568	-.18626	-.02696	-.20398
V6	.15716	-.16041	.04593	-.05755	.24035
V7	.07601	-.03388	-.09394	.22592	.00288
V8	.05655	.39711	.09405	-.00759	-.08795
V9	-.03901	.10173	-.01695	.11569	-.06301
V12	.48103	.06233	-.14915	-.07947	.07974
V13	.22260	-.05922	-.15635	-.27821	.06084
V14	.13724	-.13767	-.03403	-.03590	.25634
V18	.32323	.13259	.00206	.08882	.08808
V19	.12719	.27432	.01533	.31030	.16370
V23	.63923	-.17939	.00729	-.14901	.22160
V24	.56351	-.16389	-.21982	-.05294	.06767
V25	.44310	.04441	-.41919	.02632	.12359
V26	.32217	.02478	.03867	.21467	.13856
V29	.27685	.10192	-.03642	.36689	.51558
V30	-.06845	.04129	.16390	-.12191	.02767
V31	.12470	.05494	.52658	-.21213	.25813
V32	-.09093	.28839	.14298	-.05016	-.02756
V34	.25211	.11905	-.02770	.42272	.46746
V35	.06102	-.09937	.28793	-.34609	-.21276
V36	-.08508	.08074	.19034	.19492	.23784
V37	.06274	.25361	.11145	-.00124	.12922
V38	-.12324	.20020	.50989	.06837	-.08666
V40	.17828	.05032	-.21728	.18188	.25251
V41	.24169	.06958	-.01442	-.44241	.24632
V42	.03614	.23115	.21958	-.42035	-.07752
V43	.00487	.16120	.05000	-.30845	.01252
V46	-.13708	-.14404	.00822	-.46359	.06339
V47	.17368	.07356	-.13692	.49362	-.14873
V49	.00801	.51242	-.11310	-.00928	-.17568
V50	.04186	.17210	.01255	.26106	-.57249
V51	.00290	.10405	.61126	-.29907	.19380
V53	-.05628	.51114	-.11024	-.09087	-.28358
V54	.05907	.22381	.01622	.26743	-.60711
V55	-.04403	.12032	.62406	-.20218	.23729
V57	.11277	.49258	.03236	.13329	.28868
V58	.14957	.00057	.46380	.00559	-.12887

V59	-.14036	.38123	.22248	.08487	.04626
V61	.04320	.42407	.04323	.18545	.32373
V62	.06947	.04533	.48673	.00608	-.16503
V63	-.04561	.40891	.20260	.15813	.02151
V65	.45543	.00202	-.06830	-.42643	.07329
V68	.59449	-.06373	.08081	.11649	-.07012
V69	.60432	-.00681	.23615	.06122	-.16045
V70	.52878	-.06508	-.04132	.15378	-.11179
V71	.35373	.24399	-.07073	-.13187	.01004
V76	-.04407	.25553	.10680	-.11226	-.05869
V78	-.31434	-.03674	-.22696	.16093	.06108
V80	.18408	.00735	-.06171	-.11084	.14414
V81	.23889	.06723	-.17856	-.01682	-.08492
V82	.28249	.06784	-.23499	.07134	.08625
V83	-.03514	.25523	-.03381	.14721	.03307
V86	.17216	.06292	-.17640	.03086	.09521
V91	.13367	.26504	-.41971	-.15002	-.01518
V92	.32257	-.07201	-.01994	.14806	-.02892
V93	.32623	.10232	.18063	.01476	.08599
V94	.43952	-.33864	.28373	-.12374	.01616
V109	-.06602	-.60312	.26068	.06329	.09781
V118	.02057	-.27120	.28765	.43586	-.10142
V119	-.23678	-.40722	.02420	.16255	-.05766
V121	.03885	-.39054	.32600	.08365	.10912
V122	-.13565	-.33390	.27963	.05190	-.02152

On the first factor, nine items had loadings above 0.40. Looking at the variables included on this factor, it appears that these deal with general attitude to education at UEM. On the second factor, 12 variables shared loadings above 0.30. This factor seems to concern attitudes to conditions of employment at UEM. The third factor consists of nine variables with loadings above 0.30. This factor appears to deal with examinations and tests at UEM. The fourth factor consists of ten variables with loadings above 0.30. Inspection of the items shows that this dimension concerns preferences for assessment and course literature at UEM. The fifth factor consists of six variables with loadings above 0.30. It appears that these items are related to preference for problem solving approaches.

The suggested five dimensions are:

Dimension 1 (Factor 1): General Attitude to Education at UEM

V23	How appropriate or inappropriate is the curriculum to the aims of the course	0.63
V69	Do you feel that the admission standards are: - very good - good - adequate - low - very low	0.60
V68	How do you rate preparation of the students to handle the material upon entering the University	0.59
V24	Content of curriculum satisfy or not satisfy course objectives	0.56
V70	How would you rate student study habits	0.52
V12	Scheduling of lectures, laboratory work, and seminars	0.48
V65	How well does the assessment methods enable students to demonstrate that they have fulfilled the objectives of the course	0.45
V25	Balance between theory and practice	0.44
V94	Communication between the central administration and the department	0.43

Dimension 2 (Factor 2): Attitude to Conditions of Employment at UEM

V109	Disadvantages of your chosen profession (pay scale)	-0.60
V49	General format of tests (Multiple choice)	0.51
V53	General format of examinations (Multiple choice)	0.51
V57	Emphasis in tests (Factual recall)	0.49
V61	Emphasis in examinations (Factual recall)	0.42
V63	Emphasis in examinations (Applications)	0.40
V119	Higher salaries to attract them and keep them	-0.40
V8	How much time is dedicate to advising students	0.39
V121	More chances to participate in conferences	-0.39
V59	Emphasis in tests (Applications)	0.38

V94	Communications between central administration and the department	-0.33
V122	Better research facilities	-0.33

Dimension 3 (Factor 3): Examinations and Tests

V55	General format of examinations (Questions)	0.62
V51	General format of tests (Questions)	0.61
V31	Main source draw upon for teaching materials (Scientific articles)	0.52
V38	What students use as their course materials (Own notes)	0.50
V62	Emphasis in examinations (Theoretical understanding)	0.48
V58	Emphasis in tests (Theoretical understanding)	0.46
V91	Computing facilities	-0.41
V25	Balance between theory and practice	-0.41
V121	More chances to participate in conferences	0.32

Dimension 4 (Factor 4): Preferences for Assessment and Course Literature at UEM

V47	Assessment three times per term	0.49
V46	Assessment twice per term	-0.46
V41	Literature or reading lists provided	-0.44
V118	Keep up with the literature in the field	0.43
V65	Does the assessment methods enable students to demonstrate that they have fulfilled the objectives of the course	-0.42
V34	What students use as their course materials (Required course text)	0.42
V42	How up-to-date is the literature and reading lists	-0.42
V29	Main source draw upon for teaching materials (The course text)	0.36
V35	What students use as their course materials - Reading list	-0.34
V19	How often are you available to meet and assist students outside the lectures	0.31

Dimension 5 (Factor 5): Preference for Problem Solving Approaches

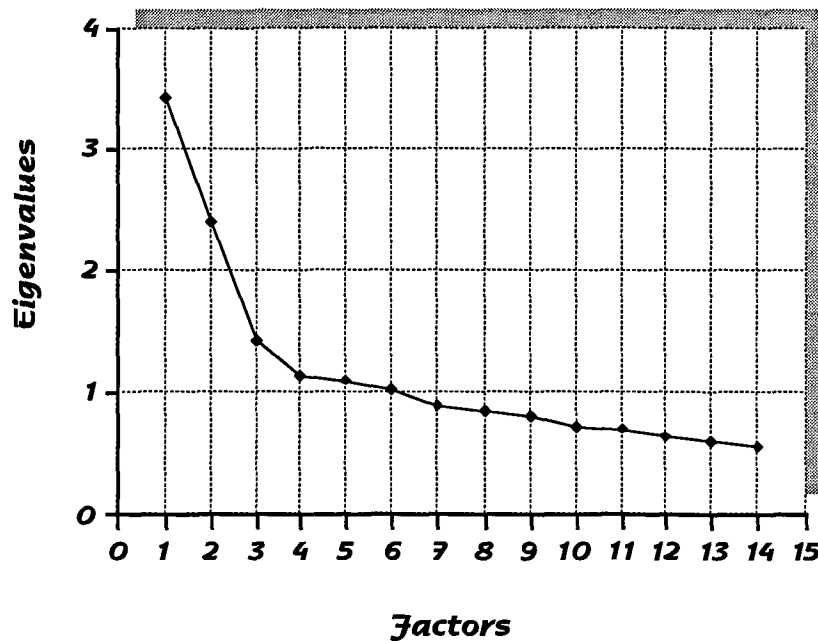
V54	General format of examinations (Problem solving)	-0.60
V50	General format of tests (Problem solving)	-0.57
V29	Main source drawn upon for teaching materials (The course text)	0.51
V34	What students use as their course materials (Required course text)	0.46
V3	Time dedicated to preparation for lectures	-0.43
V61	Emphasis in examinations (Factual recall)	0.32

1.3.3 Technical and Administrative Staff's Questionnaire

Two sections (A and C) were used for factor analyses from the technical and administrative staff's questionnaire and a total of 18 variables were submitted to a latent variable analysis. Section A refers to Attitudes towards the place of work and includes 10 variables, Section C contains 8 variables and refers to Other Matters such as opinions about changes that should be made to assist the technical and administrative staff, promotions, and opinions on aspects that affect the quality of work of the technical and administrative staff.

Analysis of the scree test (see Graph 8.3) and inspection of different rotated solutions suggested the presence of four dimensions.

Graph 8.3 - Scree Test on the Technical and Administrative Staff's Questionnaire



The rotated factor matrix is presented below. The question equivalent of each variable (e.g. V2) is given in Appendix XVII.

**ROTATED FACTOR MATRIX
TECHNICAL AND ADMINISTRATIVE STAFF'S QUESTIONNAIRE**

	Factor 1	Factor 2	Factor 3	Factor 4
V2	-.04459	.53903	.15734	.05812
V3	-.14247	.28161	.40189	.00008
V4	-.09878	.41992	.39943	.08432
V5	-.12138	.32482	.36497	-.04340
V6	.10620	.04802	.56486	-.11520
V7	.17379	.10440	.38929	-.05496
V8	-.03563	.23210	.46830	-.07101
V9	.02330	.63949	.14421	.03051
V10	-.04806	.69299	.29744	-.11874
V11	-.14624	.14293	.49468	.13213
V16	.29667	-.05764	-.02056	.22692
V17	.38879	.12920	.00395	.17308
V20	.80311	-.06722	.08029	-.11445
V21	.71263	-.10019	-.06005	.07045
V25	.04129	.00672	-.07484	.58323
V27	.17470	.07015	.03575	.42839
V32	.35560	-.07073	-.07893	.32605
V33	.37261	-.10550	-.03306	.22598

On the first factor, five items had loadings above 0.35. The variables on this factor deal essentially with assistance to the technical and administrative staff. On the second factor, five variables shared loadings above 0.30. Variables on this factor appears to deal with communication and relationships within the institution. The third factor consists of seven variables with loadings above 0.30. The variables included on this factor seems to deal with conditions of work. The fourth factor consists of three variables with loadings above 0.30. Inspection of the items appears to show that this dimension concerns opinions on promotions. Below is a description of all four dimensions. The results will be presented using the following pattern: the first column refers to the coding of variables used in the statistical analysis, the second column refers to the content of that variable and the last column to the item weighting.

Dimension 1 (Factor 1): Assistance to the Technical and Administrative Staff (TAS) at UEM

V20	Provide medical assistance	0.80
V21	Provide transport and accommodation	0.71
V17	Better conditions of work	0.38
V33	Conditions of work	0.37
V32	Poor salaries	0.35

Dimension 2 (Factor 2): Communication and Relationships

V10	How would you rate communications between the administrator(s) of your office and the staff	0.69
V9	How would you describe the relationship between the people in your office	0.63
V2	How satisfied or dissatisfied with your work	0.53
V4	How satisfied or dissatisfied with conditions of work	0.41
V5	How satisfied or dissatisfied with management	0.32

Dimension 3 (Factor 3): Conditions of work

V6	How satisfied or dissatisfied with salary	0.56
V11	Clarity of regulations concerning TAS	0.49

V8	How satisfied or dissatisfied with Social Services	0.46
V3	How satisfied or dissatisfied with policies in promotion	0.40
V4	How satisfied or dissatisfied with conditions of work	0.39
V7	How satisfied or dissatisfied with transport	0.38
V5	How satisfied or dissatisfied with management	0.36

Dimension 4 (Factor 4): Policies in Promotions

V25	Years of experience	0.58
V27	Dedication to work	0.42
V32	Poor salaries	0.32

This completes the latent variable analyses. The chapter now moves on to consider how these latent variables relate to important variables in the data. This will show major underlying trends in the databases. The statistical technique to examine initially such relationships is a one-way analysis of variance.

2. One-way Analyses of Variance

Initially, a comparison is made between the mean scores of different groups within the sample by a one-way analysis of variance. The sample is divided just 'one way' for each analysis. To obtain 'mean squares', the result of the 'sum of squares' is divided by the degree of freedom (d.f.). The 'F - ratio' is then obtained which provides a significance or confidence value.

A description of each variable is given and a table will be presented showing the Factor, F-Ratio, Confidence, d.f., and a brief explanation of the results. Factor refers to the latent variable analyses reported in part one of this chapter; F-Ratio refers to the outcome of a statistical test of significance; Confidence refers to the significance value given (F Prob.); d.f. refers to degree of freedom between groups and within groups; Finding provides a brief explanation of significant group mean differences located by the Student-Newman-Keuls (SNK) test.

2.1 Students

This analysis scrutinised differences between varying groups among the sample on the latent variables scores. For example, possible differences between students from varying Faculties, courses, year in the course, gender, marital status, province, area in which the family live, family income, religion, pre-university school, mother tongue, knowledge of foreign languages, sponsor and type of scholarship are examined. Such analyses attempt to highlight whether different attitudes, opinions and beliefs exist. It also investigates the correlations between the factors and age of students.

Differences between students on the latent variables in terms of:

2.1.1 Faculty

A one-way analysis of variance comparing different Faculties was carried out to determine if any difference existed on the five factors (see list of factors in 1.3.1 of this chapter).

There were nine Faculties in the sample: (1) Agronomy, (2) Architecture, (3) Arts, (4) Economics, (5) Engineering, (6) Law, (7) Medicine, (8) Science and (9) Veterinary. Because of the small size of the sample from the Architecture Faculty (n=4), students from this Faculty were not included in this analysis. Results from the one-way analysis comparing the eight Faculties revealed statistically significant differences as presented in table 8.1.

Given the divergent experiences of the students, especially in relation to the Faculty and the subjects they study, it is interesting to explore whether these led to different levels of satisfaction with their course in general. Results show that there were no consistent differences in students' opinions by the Faculty they were engaged, although differences existed. For instance, students from Engineering and Veterinary Studies tend to show a more positive attitude to teaching and learning than those students from Science, Agronomy and Economics. This can possibly be related to the reasons which attracted individuals to their particular

course, their prior knowledge about the Faculty and the courses offered. Prior knowledge of different features of their course affects whether students perceive their course more or less interesting.

Table 8.1
Students: Faculty

Factor	F Ratio	D.F.	Significance	Finding
1	3.19	7 & 462	.0026	Students from Engineering and Veterinary Faculty have a more positive attitude to teaching and learning than students from Science, Agronomy and Economics.
2	3.21	7 & 462	.0025	Students from Economics Faculty are more positive towards learning English than those from the Faculties of Agronomy, Medicine and Engineering
3	4.82	7 & 462	.00001	Arts students have a strong negative attitude to assessment than those from other Faculties. Students from Medicine have a more positive attitude to assessment than those from Arts, Science, Law, and Engineering.
4	15.53	7 & 462	.00001	Students from Law, Veterinary and Medicine are not satisfied with the provision of materials at UEM. Students from Engineering are the most positive compared to Law, Veterinary, Medicine and Economics.
5	15.56	7 & 462	.00001	Students from Engineering are the most positive towards the teaching style used in UEM. Students from Law are the least positive followed by Economics, Medicine, Veterinary and Arts.

Science and Agronomy students' reasons for choosing their courses are mixed but they are mostly fatalistic, (i.e. related to negative reasons such as chosen courses

were the only courses offering a place or the less competitive courses). However, in the Economics case it can be associated with academic staff retention and the teaching methods which have resulted from it.

Another finding was that Economics' students seem more confident about learning English compared to those from Agronomy, Medicine and Engineering. The possible reasons are that Economics students are more aware of the importance of English in Mozambique and in their future career. Economics is orientated to services and because of the increasing number of foreign investments in the country, the English language will be in constant demand.

Regarding the provision of materials, significant differences were found. Students studying Law, Veterinary and Medicine showed dissatisfaction with the provision of materials compared to students from other Faculties. The constraints can be related to libraries, laboratory facilities and the specialist equipment they need in their courses. An essential resource for all students is their library. The role of libraries is crucial to students' learning experiences. Most libraries at UEM have been particularly affected by resource constraints. However, the differences in students' level of satisfaction with their library can be explained by the Faculty they attend. Students studying Law are more critical of their library facilities than students studying Engineering.

Significant differences were also found in teaching style. Students from Engineering showed satisfaction with teaching style, whereas students from Law and Economics showed dissatisfaction. One of the variations in the teaching style used is associated with the subjects students studied. For instance, Science students are more involved in practicals and laboratory work compared with students studying Arts. The reason why Law and Economics students were relatively more discontent with the teaching style used in their Faculties is possibly because Law and Economics students are generally less likely than Engineering students to experience the more unusual teaching methods such as computer-based learning and workshops. On the other hand, Law and Economic students have fewer opportunities for individual sessions with teaching staff. Another reason can possibly be related to the large number of students in these courses which can have an impact on the use of teaching methods. Another reason can be the fact that many of UEM's academic staff engage in outside activities to

supplement their University salary. So, most academics restrict their time to teaching the required sessions only.

2.1.2 Year in the course

A one-way analysis of variance comparing different years in the course was carried out to determine if any difference existed on the five factors (see list of factors in 1.3.1 of this chapter).

Except for Medicine which lasts seven years and Architecture six years, all other UEM courses have a duration of five years. Because of the small or zero size of the sample in years six and seven (respectively $n=3$, and $n=0$), these years were not considered in the analysis. Statistical results comparing the five year groups revealed significant differences on two of the five factors as presented in the following table.

Table 8.2
Students: Year in the course

Factor	F Ratio	D.F.	Significance	Finding
1	10.14	4 & 403	.00001	First year students have a more negative attitude to teaching and learning than those from more advanced years.
2	1.96	4 & 403	.0996	There is no significant difference.
3	1.91	4 & 403	.1070	There is no significant difference.
4	2.87	4 & 403	.0226	First year students are less satisfied with the provision of materials at UEM than third year students.
5	3.27	4 & 403	.0116	Second year students are more happy with the teaching style used in UEM than fourth and fifth year students

Results from the above table show that first year students tended to have a more negative attitude to teaching and learning than those in more advanced years. This may be because students in their first year face a new University life which

includes a new educational system and a new environment. Students need time to adjust. After settling, they may start in their second year to expend more effort in their studies, and also be more adjusted to University life.

2.1.3 Gender

A one-way analysis of variance comparing males and females was carried out to determine if any gender difference existed on the five factors (see list of factors in 1.3.1 of this chapter).

There were 279 males and 122 females in the student sample. Statistical results comparing male and female students revealed significant differences on two of the five factors as presented in the table below.

Table 8.3
Students: Gender

Factor	F Ratio	D.F.	Significance	Finding
1	1.83	1 & 399	.1767	There is no significant difference between males and females.
2	5.67	1 & 399	.4516	There is no significant difference between males and females.
3	6.19	1 & 399	.0132	Males have a more negative attitude to assessment at UEM.
4	4.13	1 & 399	.0427	Females have a more negative attitude to materials used at UEM.
5	0.41	1 & 399	.5190	There is no significant difference between males and females

Results indicate that two significant differences were found between males and females. Males were more negative towards assessment than females. Possible reasons may related to gender differences in criticism of assessment. Where students are highly exposed to an assessment method, they are more likely to be critical of that method. The assessment method students are more likely to prefer

and perceive as fair in assessing their knowledge and understandings are projects, assignments and practicals. However, this is exactly the type of assessment least used at UEM. It is thus males who may be more critical than females.

2.1.4 Marital status

A one-way analysis of variance comparing marital status was carried out to determine if any difference existed on the five factors (see list of factors in 1.3.1 of this chapter).

Statistical results comparing single, married and divorced students revealed significant differences on two of the five factors as presented in table 8.4.

Table 8.4
Students: Marital status

Factor	F Ratio	D.F.	Significance	Finding
1	3.44	2 & 376	.0328	Married and divorced students have a more positive attitude to teaching and learning than single students.
2	0.69	2 & 376	.5013	There is no significant difference.
3	0.84	2 & 376	.4289	There is no significant difference.
4	0.38	2 & 376	.6820	There is no significant difference.
5	6.79	2 & 376	.0013	Single students are more happy with the teaching style used in UEM than married students.

As observed in the table, significant differences were found between married and divorced students who showed a more positive attitude to teaching and learning than single students. This findings may be explained by students' maturity. Mature students tend to have different expectations of higher education. Generally their course choices are influenced by intellectual reasons and by instrumental reasons, such as relevance to their occupation.

2.1.5 Province of origin

A one-way analysis of variance comparing the province where students were born was carried out to determine if any difference existed on the five factors (see list of factors in 1.3.1 of this chapter).

There are ten provinces in Mozambique. (1) Maputo, (2) Sofala, (3) Gaza, (4) Inhambane, (5) Manica, (6) Tete, (7) Niassa, (8) Zambezia, (9) Nampula, and (10) Cabo Delgado. Because of the small size of the sample from Niassa province (n=6), students from this province were not considered in this analysis. Statistical results comparing the nine provinces revealed no significant differences on any of the five factors as presented in table 8.5.

Table 8.5
Students: Province of origin

Factor	F Ratio	D.F.	Significance	Finding
1	0.85	8 & 453	.8568	There is no significant difference on the provinces.
2	1.40	8 & 453	.1938	There is no significant difference on the provinces.
3	0.41	8 & 453	.9129	There is no significant difference on the provinces.
4	0.53	8 & 453	.8271	There is no significant difference on the provinces.
5	0.94	8 & 453	.4814	There is no significant difference on the provinces.

2.1.6 Area family live

A one-way analysis of variance comparing the area where the students' family lives was carried out to determine if any difference existed on the five factors (see list of factors in 1.3.1 of this chapter).

In the student sample, there were 141 whose family lives in a rural area and 337 whose family lives in an urban area. Statistical results comparing those from rural area and those from urban area revealed significant differences on only one of the five factors as presented in table 8.6.

Table 8.6
Students: Area family live

Factor	F Ratio	D.F.	Significance	Finding
1	0.63	1 & 476	.4246	There is no significant difference between rural and urban.
2	0.16	1 & 476	.6870	There is no significant difference between rural and urban.
3	0.01	1 & 476	.9200	There is no significant difference between rural and urban.
4	19.66	1 & 476	.00001	Students from urban areas are less satisfied with the provision of materials at UEM than those from rural areas.
5	1.84	1 & 476	.1752	There is no significant difference between rural and urban.

The above table shows that students from urban areas are less satisfied with the provision of materials than those from rural areas. One issue of increasing importance to students is the growth of Information Technology (IT) and hence the availability of computing facilities. Urban students are less satisfied than rural students possibly because they have had access to computing facilities and expected to have such at the University. On the other hand, IT may be of less relevance to rural students.

2.1.7 Family income

A one-way analysis of variance comparing the students' family income was carried out to determine if any difference existed on the five factors (see list of factors in 1.3.1 of this chapter).

There were low, medium and high income groups. Because of the small size of the sample in the high income category (n=3), students with high income were combined with students with medium income. Statistical results comparing the two income groups (low and medium) revealed significant differences on only one of the five factors as presented in table 8.7.

Table 8.7
Students: Family income

Factor	F Ratio	D.F.	Significance	Finding
1	0.54	1 & 419	.4622	There is no significant difference between low and medium income.
2	0.05	1 & 419	.8127	There is no significant difference between low and medium income.
3	0.27	1 & 419	.6017	There is no significant difference between low and medium income.
4	11.24	1 & 419	.0009	Students with medium income are less satisfied with the provision of materials at UEM than those with low income.
5	0.18	1 & 419	.6676	There is no significant difference between low and medium income.

The above table shows that medium income students are less satisfied with materials than those with low income. Again, possible reasons may be related to IT facilities which are more available outside UEM to those with medium or high income. The level of exigency of those with medium income is expected to be higher than those from low income.

2.1.8 Religion

A one-way analysis of variance comparing the students' religion was carried out to determine if any difference existed on the five factors (see list of factors in 1.3.1 of this chapter).

Five groups were considered: Muslim (n=41), Catholic (n=292), Protestant, which included Methodist, Adventist, Evangelical and Jehovah Witnesses (n=38); traditional beliefs and other minority religions were grouped as Others (n=19), and Atheist (n=72). Statistical results comparing the five groups revealed significant differences on none of the five factors as presented in table 8.8.

Table 8.8
Students: Religion

Factor	F Ratio	D.F.	Significance	Finding
1	0.21	4 & 457	.9312	There is no significant difference.
2	1.08	4 & 457	.3632	There is no significant difference.
3	0.83	4 & 457	.5028	There is no significant difference.
4	0.74	4 & 457	.5635	There is no significant difference.
5	0.21	4 & 457	.9297	There is no significant difference.

2.1.9 Pre-university school

A one-way analysis of variance comparing the students' pre-university school was carried out to determine if any difference existed on the five factors (see list of factors in 1.3.1 of this chapter).

In the student sample, six groups of schools were considered: 'Francisco Manyanga' (n=238), 'Samora Machel' (n=51), '1° de Maio' (n=41), '25 de Setembro' (n=18), 'Nwachicoloane' (n=23), and 'Others' which included private schools, technical schools, and schools abroad (n=111). Statistical results comparing the six groups revealed significant differences on two of the five factors as presented in table 8.9.

Table 8.9
Students: Pre-university school

Factor	F Ratio	D.F.	Significance	Finding
1	0.61	5 & 476	.6865	There is no significant difference.
2	2.42	5 & 476	.0347	Students from 'Francisco Manyanga' are the least positive about learning English.
3	1.52	5 & 476	.1793	There is no significant difference.
4	0.88	5 & 476	.4886	There is no significant difference.
5	2.62	5 & 476	.0234	Students from '25 de Setembro' have a more positive attitude to the teaching style used at UEM than those schools grouped as others.

The above table shows that students from the 'Francisco Manyanga' school are least positive about learning English compared to those from other schools. The 'Francisco Manyanga' school is found in Maputo, the capital of Mozambique. Because the students live in the capital, they are relatively more exposed to the English language. Thus, compared with most students at UEM, 'Francisco Manyanga' alumni have some competence in English.

Although such alumni may consider the English language as relevant to them or to their future careers, they feel that they do not need to attend a rudimentary course in English at UEM. These 'Francisco Manyanga' students already have the English language competence that would be taught in such a rudimentary course. Therefore, their less favourable attitude may be related to the fact that they are compelled to take a course in which they already have some English language competence.

Another finding refers to teaching style showing that students from the '25 de Setembro' school have a more positive attitude to the teaching style used in UEM than those coming from other schools. A possible explanation is that the '25 de Setembro' school students may not have experienced the teaching style used at UEM whereas those coming from private or technical schools or other schools

abroad. Thus, where students are less exposed to a teaching style, they are less likely to be critical of that teaching style.

2.1.10 Mother tongue

A one-way analysis of variance comparing the students' mother tongue with the factors was carried out. This aimed to determine if any difference existed on the five factors (see list of factors in 1.3.1 of this chapter), for example between those who spoke Portuguese and an indigenous language as their mother tongue.

In the student sample, 72 students had Portuguese as their mother tongue and 388 students had Mozambican indigenous minority languages as their mother tongue. Statistical results comparing the two groups revealed significant differences on two of the five factors as presented in table 8.10.

Table 8.10
Students: Mother tongue

Factor	F Ratio	D.F.	Significance	Finding
1	0.01	1 & 458	.9066	There is no significant difference between those who have their mother tongue as Portuguese and those who have not.
2	2.44	1 & 458	.1186	There is no significant difference between those who have their mother tongue as Portuguese and those who have not.
3	5.23	1 & 458	.0226	Students who have the Portuguese language as their mother tongue have a more negative attitude on assessment at UEM
4	10.70	1 & 458	.0012	Students who have the Portuguese language as their mother tongue are less satisfied with the provision of materials at UEM than those who do not.
5	0.32	1 & 458	.5672	There is no significant difference between those who have their mother tongue as Portuguese and those who have not.

Results indicate that students who have the Portuguese language as their mother tongue are more critical about provision of materials at UEM than those who do not have. This finding may be explained by their socio-economic origin. Students who have Portuguese as their mother tongue are in most cases drawn from the middle class who may be more critical.

2.1.11 Knowledge of a foreign language

A one-way analysis of variance comparing students' knowledge of foreign languages was carried out to determine if any difference existed on the five factors (see list of factors in 1.3.1 of this chapter).

There were two groups of students: those who said 'Yes' they have some knowledge of foreign languages and those who said 'No'. Statistical results comparing the two groups revealed no significant differences on the five factors as presented in table 8.11.

Table 8.11
Students: Knowledge of a foreign language

Factor	F Ratio	D.F.	Significance	Finding
1	0.30	1 & 479	.5824	There is no significant difference between those who have knowledge of foreign languages and those who have not.
2	0.01	1 & 479	.9079	There is no significant difference between those who have knowledge of foreign languages and those who have not.
3	0.06	1 & 479	.7954	There is no significant difference between those who have knowledge of foreign languages and those who have not.
4	10.70	1 & 479	.1280	There is no significant difference between those who have knowledge of foreign languages and those who have not.
5	1.81	1 & 479	.1785	There is no significant difference between those who have knowledge of foreign languages and those who have not.

2.1.12 Sponsor

A one-way analysis of variance comparing the students' sponsor was carried out to determine if any difference existed on the five factors (see list of factors in 1.3.1 of this chapter).

There were four groups of students: Students sponsored by UEM (n=183), students sponsored by their employers (n=34), students with a private sponsor

(n=115), and a fourth group with other sponsor different from the previous three (n=137). Statistical results comparing the four groups revealed no significant differences on the five factors as presented in table 8.12.

Table 8.12
Students: Sponsor

Factor	F Ratio	D.F.	Significance	Finding
1	1.00	3 & 465	.3885	There is no significant difference between the sponsor and the attitudes to teaching style.
2	0.76	3 & 465	.5155	There is no significant difference between the sponsor and the attitudes to teaching style.
3	0.34	3 & 465	.7962	There is no significant difference between the sponsor and the attitudes to teaching style.
4	1.49	3 & 465	.2155	There is no significant difference between the sponsor and the attitudes to teaching style.
5	0.24	3 & 465	.8671	There is no significant difference between the sponsor and the attitudes to teaching style.

2.1.13 Type of scholarship

A one-way analysis of variance comparing the different types of scholarship was carried out to determine if any difference existed on the five factors (see list of factors in 1.3.1 of this chapter).

There are four types of scholarship at UEM: (1) comprehensive, (2) reduced, (3) fee exemption, and (4) fee reduction. Statistical results comparing the four groups revealed a marginally significant difference on only one of the five factors as presented in the following table.

Table 8.13
Students: Scholarship

Factor	F Ratio	D.F.	Significance	Finding
1	0.68	3 & 279	.5640	There is no significant difference on the type of scholarship and the general attitude to teaching and learning at UEM.
2	1.16	3 & 279	.3217	There is no significant difference on the type of scholarship and learning English .
3	1.23	3 & 279	.2979	There is no significant difference on the type of scholarship and the assessment at UEM.
4	1.64	3 & 279	.1789	There is no significant difference on the type of scholarship and materials.
5	2.44	3 & 279	.0639	Students with reduced scholarship are less satisfied with the teaching style used in UEM than students with a comprehensive scholarship.

2.1.14 Age

A Pearson correlation analysis comparing different age groups was carried out to see if students of different ages had different views on the five factors (see list of factors in 1.3.1 of this chapter).

The following table contains the correlations between the factors and students' age.

Table 8.14
Students: Age

Factors Correlated	Size of Correlation	Significance Level	Finding
1	0.1604	.002	Young students have a strong negative attitude to teaching and learning.
2	0.0767	.142	There is no relationship between age and attitudes to learn English.
3	-.1086	.037	There is a perfect negative relationship between age and assessment at UEM.
4	0.1168	.025	Young Students are the least satisfied with the provision of materials at UEM. Students between 26-30 years of age are the most satisfied with the provision of materials at UEM.
5	-.1747	.001	Students aged 25 or younger showed a slightly more positive attitude to teaching style used at UEM.

It was found that three of the five factors correlate significantly with age. It seems that the older the students, the more positive is their attitude to teaching and learning and also to materials. As students become older, they become more mature and experienced and learn to appreciate the process of teaching and learning and the materials available in the institution. However, no relationship was found (at least in this study) between age and the other two factors such as attitudes to learning English and assessment.

2.2 Academic staff

Differences between varying groups of academic staff on the latent variables scores will be examined here. For example, possible differences between academics of varying Faculties, gender, nationality, category of staff status, degree earned, how long they have been a teacher, and the number of classes taught per term. Such analyses attempt to highlight whether different attitudes, opinions and beliefs exist. It also investigates the correlations between the factors and the variable age (see 3.2).

A description of each variable is given below.

Differences between academics on the latent variables in terms of:

2.2.1 Faculty

A one-way analysis of variance comparing different Faculties was carried out to determine if any difference existed on the five factors (see list of factors in 1.3.2 of this chapter).

There were nine Faculties in the academics' sample: (1) Agronomy, (2) Architecture, (3) Arts, (4) Economics, (5) Engineering, (6) Law, (7) Medicine, (8) Science and (9) Veterinary. Because of the small size of the sample from Architecture (n=3), Economics (n=5), Law (n=2), and Medicine (n=2), academics from these Faculties were not included in this analysis. Results from the one-way analysis comparing the nine Faculties revealed statistically significant differences as presented in table 8.15.

**Table 8.15
Academics: Faculty**

Factor	F Ratio	D.F.	Significance	Finding
1	2.26	4 & 78	.0701	There is no significant difference.
2	6.49	4 & 78	.0001	Academics from Agronomy have a more negative attitude to conditions of employment than other Faculties.
3	0.59	4 & 78	.6667	There is no significant difference.
4	1.56	4 & 78	.1917	There is no significant difference.
5	2.64	4 & 78	.0398	Academics from Engineering are the most positive to problem solving approaches.

Results indicate that academics from Agronomy have a more negative attitude to conditions of employment than those from other Faculties.

Another important finding refers to the positive attitude of academics from Engineering who express their preference for problem solving approaches. The nature of this course may well be the reason for a preference for this form of assessment.

2.2.2 Gender

A one-way analysis of variance comparing males and females was carried out to determine if any gender difference existed on the five factors (see list of factors in 1.3.2 of this chapter).

There were 72 males and 18 females in the academics' sample. Statistical results comparing male and female academics revealed significant differences on two of the five factors as presented in table 8.16.

Table 8.16
Academics: Gender

Factor	F Ratio	D.F.	Significance	Finding
1	2.36	1& 88	.1280	There is no significant difference.
2	1.47	1& 88	.2281	There is no significant difference.
3	0.99	1& 88	.3214	There is no significant difference.
4	5.91	1& 88	.0170	Female have a more negative attitude than males.
5	9.38	1& 88	.0029	Males have a more positive attitude than females.

One of the findings of this analysis is that males have a more positive attitude than females on preferences to problem solving approaches. This finding may be explained by cultural aspects whereby the Mozambican male is often the more dominant member of the family. Traditionally, men are the head of the

Mozambican family, the one who works to sustain the family, whereas the Mozambican women stays at home doing the house work. Although women now have more opportunities to study, work and even reach top positions in their careers, traditional attitudes are nevertheless very strong. Thus, females will seemingly have a positive attitude on preferences to problem solving approaches when they have developed the ability to problem solving. Being generally subservient to Mozambican males, this ability does not seem to be cultivated among females.

2.2.3 Nationality

A one-way analysis of variance comparing academics' nationality was carried out to determine if any difference existed on the five factors (see list of factors in 1.3.2 of this chapter).

In the academics' sample, there were 60 Mozambicans and 30 from other nationalities. Statistical results comparing Mozambicans and other nationalities revealed significant differences on only one of the five factors as presented in table 8.17.

Table 8.17
Academics: Nationality

Factor	F Ratio	D.F.	Significance	Finding
1	2.95	1 & 88	.0891	There is no significant difference.
2	40.95	1 & 88	.0001	Foreigners have a more negative attitude to conditions of employment at UEM
3	1.25	1 & 88	.2650	There is no significant difference.
4	0.26	1 & 88	.6061	There is no significant difference.
5	0.06	1 & 88	.8069	There is no significant difference.

As observed in the table, foreign academics have a more negative attitude to conditions of employment at UEM than Mozambican staff. A possible explanation

of this finding may be that foreigners are more sensitive to the labour market and to allowances. A foreigners' point of reference is usually the international standards where social exigency refers to conditions of payment. Mozambicans' interests and priorities on the other hand are often still the basic needs such as house, transport and education. The equilibrium between qualifications and payment in Mozambique is gradually being achieved as economic conditions change into a capitalist society.

2.2.4 Staff status

A one-way analysis of variance comparing different categories of staff status was carried out to determine if any difference existed on the five factors (see list of factors in 1.3.2 of this chapter).

There were five categories in the academics' sample. Professor Associate (n=9), Professor Assistant (n=17), 1st Assistant (n=14), 2nd Assistant (n=28), and Trainee (n=20). Statistical results comparing the five categories revealed significant differences on two of the five factors as presented in table 8.18.

Table 8.18
Academics: Staff status

Factor	F Ratio	D.F.	Significance	Finding
1	5.74	4 & 83	.0004	Professor Associate have a more negative attitude to education at UEM.
2	3.14	4 & 83	.0185	2nd Assistants are more positive than Prof. Associate & 1st Assistant.
3	2.06	4 & 83	.0931	There is no significant difference.
4	0.71	4 & 83	.5872	There is no significant difference.
5	1.67	4 & 83	.1631	There is no significant difference.

It is observed in the table that 2nd Assistants have a more positive attitude than Associate Professors and 1st Assistants to conditions of employment. Possible

reasons are that as academics progress in their career, they expect to have better conditions of work and employment. However, due to resource constraints at UEM, conditions of employment are not always satisfactory, particular for those with relatively less status.

2.2.5 Highest degree earned

A one-way analysis of variance comparing academics highest degree earned was carried out to determine if any difference existed on the five factors (see list of factors in 1.3.2 of this chapter).

Three degrees were considered in the academics' sample: PhD (n=22), Master's Degree (n=27), and 'Licenciatura' (n=35). Statistical results comparing the three groups revealed significant differences on two of the five factors as presented in table 8.19.

Table 8.19
Academics: Highest degree earned

Factor	F Ratio	D.F.	Significance	Finding
1	3.21	2 & 81	.0452	PhDs are more critical to education at UEM than Master.
2	4.53	2 & 81	.0136	'Licenciatura' have a more positive attitude to conditions of e employment than PhD and Master.
3	0.43	2 & 81	.6462	There is no significant difference.
4	0.27	2 & 81	.7575	There is no significant difference.
5	1.33	2 & 81	.2683	There is no significant difference.

The above table shows that academics with a PhD are more critical about education in UEM than those with a Masters degree. The reasons for these attitudes may be related to academic experience gained while studying abroad to get their PhD degree. Many academics obtained their degree from various Universities in Europe and America. Due to the length of PhD courses, those with

that degree have a deeper experience in well equipped Universities. Therefore, when back in Mozambique after being away for 3 to 5 years and having to face the problems of resource constraints, curriculum and lower admission standards, they are more likely to be critical because they take as their reference the University where they obtained their PhD degree.

2.2.6 How long have you been a teacher?

A one-way analysis of variance comparing the time academics have been teaching at UEM was carried out to determine if any difference existed on the five factors (see list of factors in 1.3.2 of this chapter).

In the academics' questionnaire, there were eight periods of time. However, due to the small size of the sample in some of the periods listed, they were grouped into five. Thus, the first period refers to two years and below (n= 20), the second period is 3-4 years (n=28), the third period refers to 5-7 years (n=21), the fourth period 8-10 years (n=13), and the fifth period refers to academics who have been working for more than 10 years (n=13). Statistical results comparing the five periods of time revealed significant differences on none of the five factors as presented in table 8.20.

Table 8.20
Academics: How long have they been teaching?

Factor	F Ratio	D.F.	Significance	Finding
1	0.80	4 & 90	.5283	There is no significant difference.
2	1.40	4 & 90	.2379	There is no significant difference.
3	1.35	4 & 90	.2569	There is no significant difference.
4	0.32	4 & 90	.8600	There is no significant difference.
5	1.60	4 & 90	.1810	There is no significant difference.

2.2.7 Number of classes taught per term

A one-way analysis of variance comparing the number of classes taught per term was carried out to determine if any difference existed on the five factors (see list of factors in 1.3.2 of this chapter).

There were five original groups in the academics' sample. However, due to the small size of the sample in two groups, only three groups were considered. The first group comprises academics who teach one class (n=31), the second group comprises those academics who teach two classes (n=47), and the third group the academics who teach three classes (n=13). Statistical results comparing the three groups revealed no significant differences on the five factors as presented in table 8.21.

Table 8.21
Academics: Number of classes taught per term

Factor	F Ratio	D.F.	Significance	Finding
1	0.32	2 & 88	.7210	There is no significant difference.
2	0.46	2 & 88	.6294	There is no significant difference.
3	0.18	2 & 88	.8284	There is no significant difference.
4	1.67	2 & 88	.1932	There is no significant difference.
5	1.68	2 & 88	.1910	There is no significant difference.

2.2.8 Age

A Pearson correlation analysis comparing different age groups was carried out to see if academics of different ages had different views on the five factors (see list of factors in 1.3.2 of this chapter).

A relationship was found between age and two of the five factors. On the first factor, it seems that the younger the academics, the less satisfied they are with

teaching and learning at UEM as well as with conditions of employment. It may be that young academics are less experienced and in some cases are not able to analyse other aspects that may influence the teaching and learning process. Another explanation may be that higher degrees (PhD) are in most cases earned by the younger academics and, as found in 2.2.5, those are the most critical of the teaching and learning process at UEM.

The following table contains the correlations between the factors and academics' age.

Table 8.22
Academics: Age

Factors Correlated	Size of correlation	significance Level	Finding
1	-.2809	.008	Academics aged 25-35 have a more negative attitude to teaching and learning than older ones.
2	-.2817	.008	Young academics have a more negative attitude to conditions of employment.
3	0.0119	.913	There is no relationship between age and examination and tests.
4	0.0793	.465	There is no relationship between age and preferences for assessment and course literature at UEM.
5	-.0519	.633	There is no relationship between age and preference for problem solving approaches.

2.3 Technical and Administrative Staff

Possible differences will now be examined with technical and administrative staff using certain variables among the sample compared with scores on the latent variables. The variables include: highest education qualifications, place of work, field of work, gender, marital status, how long doing the same job, and the number of years working in UEM. Such analyses attempt to highlight whether different attitudes, opinions and beliefs exist. It also investigates the correlations between the factors and age of the technical and administrative staff.

A description of each variable is given below.

Differences between technical and administrative staff (TAS) on the latent variables in terms of:

2.3.1 Highest education qualifications

A one-way analysis of variance comparing the education qualifications of the technical and administrative staff was carried out to determine if any difference existed on the four factors (see list of factors in 1.3.3 of this chapter).

Six degrees were listed in the technical and administrative staff's questionnaire. However, due to the small size of the sample in two of the degrees listed (BA & BSc and 'Licenciatura'), these were grouped and regarded as Higher qualifications. Results from the one-way analysis comparing the five remaining groups revealed statistically significant differences on one factor as presented in table 8.23.

**Table 8.23
TAS: Highest education qualifications**

Factor	F Ratio	D.F.	Significance	Finding
1	0.98	4 & 207	.4181	There is no significant difference.
2	2.24	4 & 207	.0654	There is a marginal significant difference. Staff with Higher qualifications (BA or BSc) are more satisfied with relationships and communication than those with less qualifications.
3	1.31	4 & 207	.2667	There is no significant difference.
4	0.74	4 & 207	.5620	There is no significant difference.

2.3.2 Place of work

A one-way analysis of variance comparing the different places of work was carried out to determine if any difference existed on the four factors (see list of factors in 1.3.3 of this chapter).

Three places of work were considered: Faculty/Centre (n=134), Central Offices (n=31), and Social Services (n=67). Results from the one-way analysis comparing the three groups revealed no statistically significant differences on the four factors as presented in table 8.24.

Table 8.24
TAS: Place of work

Factor	F Ratio	D.F.	Significance	Finding
1	1.30	1 & 163	.2548	There is no significant difference.
2	1.75	1 & 163	.1875	There is no significant difference.
3	0.58	1 & 163	.4445	There is no significant difference.
4	2.38	1 & 163	.1246	There is no significant difference.

2.3.3 Location of work

A one-way analysis of variance comparing the different locations of work was carried out to determine if any difference existed on the four factors (see list of factors in 1.3.3 of this chapter).

There were seven fields of work in the technical and administrative staff sample. However, because of the small size of the sample in the security field (n=1), this group was not considered in the analysis. The other groups were: Administration & Secretary (n=86), Laboratory (n=29), Library (n=23), Social Services (n=44), Support Services (n=33), and Other (n=15). Results from the one-way analysis comparing the six groups revealed two statistically significant differences as presented in table 8.25.

Table 8.25
TAS: Location of work

Factor	F Ratio	D.F.	Significance	Finding
1	1.03	5 & 224	.4000	There is no significant difference.
2	1.58	5 & 224	.1653	There is no significant difference.
3	2.35	5 & 224	.0413	Library staff have a more positive attitude on conditions of work.
4	2.27	5 & 224	.0480	Support Service staff have a more positive attitude towards policies on promotion.

The positive attitude showed by the Library staff about conditions of work is possible because of significant technological advances in some UEM libraries. Thus, library staff have experienced a significant change in their roles and responsibilities as a result of the growth in IT.

Another finding refers to Support Service staff who showed a positive attitude to policies on promotion. A possible explanation may be that Support Service staff in most cases have very low education qualifications. Therefore, any promotion policy which refers to aspects other than education qualifications are welcomed by Support Staff. Furthermore, because the Support Service staff are at a low rank, any increase in salary or benefit is always substantial.

2.3.4 Gender

A one-way analysis of variance comparing males and females was carried out to determine if any gender difference existed on the four factors (see list of factors in 1.3.3 of this chapter).

There were 143 males and 88 females in the technical and administrative staff sample. Statistical results comparing males and females revealed no significant differences on the four factors as presented in table 8.26.

Table 8.26
TAS: Gender

Factor	F Ratio	D.F.	Significance	Finding
1	0.12	1 & 229	.7282	There is no significant difference.
2	0.39	1 & 229	.5318	There is no significant difference.
3	1.35	1 & 229	.2453	There is no significant difference.
4	0.26	1 & 229	.6097	There is no significant difference.

2.3.5 Marital status

A one-way analysis of variance comparing the marital status of the technical and administrative staff was carried out to determine if any difference existed on the four factors (see list of factors in 1.3.3 of this chapter).

Three main marital status groups were considered in the analysis: Single (n=86), Married (n=73), and Living with a Partner (n=59). The divorced/separated and the widowed status were not included in the analysis because of the small size of their sample (n=7 and n=5 respectively). Statistical results comparing the three groups revealed no significant differences on the four factors as presented in table 8.27.

Table 8.27
TAS: Marital status

Factor	F Ratio	D.F.	Significance	Finding
1	1.81	2 & 162	.1668	There is no significant difference.
2	1.73	2 & 162	.1799	There is no significant difference.
3	2.53	2 & 162	.0827	There is no significant difference.
4	1.64	2 & 162	.1967	There is no significant difference.

2.3.6 Length of time in the same job

A one-way analysis of variance comparing the period of time that technical and administrative staff remain doing the same job was carried out to determine if any difference existed on the four factors (see list of factors in 1.3.3 of this chapter).

Three main periods of time were considered in the analysis: one year or less (n=28), 2-4 years (n=54), 5-7 years (n=42), 8-10 years (n=30), and more than 10 years (n=76). Statistical results comparing the five groups revealed significant differences on two of the four factors as presented in table 8.28.

Table 8.28
TAS: Length of time in the same job

Factor	F Ratio	D.F.	Significance	Finding
1	0.14	4 & 225	.9654	There is no significant difference.
2	3.15	4 & 225	.0151	staff doing the same job for more than 10 years are more negative to communications and relationships at UEM than those in 8- 10 years and 2-4 years.
3	2.54	4 & 225	.0406	Staff doing the same job for 1 year or less are less satisfied with the conditions of work than those doing for 8-10 years.
4	2.92	4 & 225	.0218	Staff doing the same job for 2-4 years are more positive about policies in promotion than those who do for 8 or more years.

Technical and administrative staff doing the same job for a year or less showed less satisfaction with conditions of work than those who have been doing the same job for more than eight years. These conditions of work are probably related to equipment. Technical and administrative staff are now playing an increasingly central role in higher education, as a result of the growth in Information Technology, and changes in the delivery of higher education. The growing usage of Information Technology (IT) has involved technicians and administrative staff in a wider range and higher level of functions than they had previously undertaken.

Many of the newer administrators have been the main force in introducing computerised records systems in their departments and appear to be facing a number of problems due to the absence of a strong IT infrastructure within their departments.

Another finding was that staff who have been doing the same job for more than eight years are less positive to promotion than those who have been working for a year or less. The reasons can possibly be that long-servers believe that they had already progressed as far as they could. Therefore, chances of being promoted are limited.

2.3.7 Length of service at UEM

A one-way analysis of variance comparing the period of time that technical and administrative staff had work in UEM was carried out to determine if any difference existed on the four factors (see list of factors in 1.3.3 of this chapter).

Three main periods of time were considered in the analysis: one year or less (n=28), 2-4 years (n=54), 5-7 years (n=42), 8-10 years (n=30), and more than 10 years (n=76). Statistical results comparing the five groups revealed significant differences on two of the four factors as presented in table 8.29.

Table 8.29
TAS: Length of service at UEM

Factor	F Ratio	D.F.	Significance	Finding
1	0.69	4 & 227	.5949	There is no significant difference.
2	2.85	4 & 227	.0244	Staff who work for 8-10 years are more positive about communication and relationships at UEM than those working for more than 10 years.
3	2.22	4 & 227	.0668	No two groups are significantly different.
4	6.25	4 & 227	.0001	Staff working for 2-4 years are more positive to policies in promotion compared to those working 8-10 and more than 10 years.

Technical and administrative staff working in the institution for more than ten years are less positive towards promotions than those who have been there for 2-4 years. Possible reasons may be that staff who have been longer in the institution believe that there are no further prospects for them, while newcomers still have a chance of being promoted and progress in their career. Furthermore, long-servers may not have academic qualifications and may perceive their chances of being promoted as minimal or non-existent.

2.3.8 Age

A Pearson correlation analysis comparing different age groups was carried out to see if technical and administrative staff of different ages had varying views on the four factors (see list of factors in 1.3.3 of this chapter).

The following table contains the correlations between the factors and technical and administrative staff's age.

Table 8.30
TAS: Age

Factors Correlated	Size of correlation	significance Level	Finding
1	-.0149	.824	There is no relationship between age and assistance to the technical and administrative staff at UEM.
2	-.2991	.0001	Staff aged 41 and over have a more negative attitude to relationships and communications.
3	-.0166	.805	There is no relationship between age and conditions of work.
4	-.1613	.016	Staff aged between 20 and 30 years are more positive to policies in promotion than those over 30.

It was found that two factors correlate significantly with age. The first factor refers to relationships and communications, showing that technical and administrative staff aged 41 and over have a more negative attitude to relationships and communications. Possible explanatory reasons may be related to cultural aspects where young people respect the old and come to them for advice. However, at UEM, older staff are often subordinate to young people who have higher qualifications.

Another factor which correlates with age refers to policies on promotion. It seems that young technical and administrative staff have a more positive attitude towards policies on promotion which include years of experience and dedication to work. However, no relationship was found between age and the other two factors.

3. Two and Three Way Analyses of Variance

3.1 Students

Several types of analyses on the students' data base were run to try to detect interactions between variables (by two way and three way ANOVAs). These analyses were conducted on Faculty, year in course, area where family live, gender, family income, and sponsor compared with the factors.

Out of 30 two way analyses conducted on the student sample, there were two statistically significant interactions. These interactions are reported in Table 8.31.

Table 8.31

TWO WAY ANALYSIS OF VARIANCE ON STUDENTS' QUESTIONNAIRE

Factor Three (Students' Questionnaire)						
by						
Year in the course						
Area family live						
Sponsor						
Family income						
Source of Variation		Sum of Squares	DF	Mean Square	F	Sig of F
2-Way Interactions						
Year in the course X Area family live		2.153	4	.538	.920	n.s
Year in the course X Sponsor		12.266	12	1.022	1.746	n.s
Year in the course X Family Income		5.938	4	1.484	2.536	.040
Area family live X Sponsor		1.168	3	.389	.665	n.s
Area family live X Family Income		.464	1	.464	.792	n.s
Sponsor X Family Income		5.440	3	1.813	3.098	.027

Note:

483 cases were processed.

144 cases (29.8 %) were excluded due to missing values.

First year students from a low income family had a mean of -0.51 compared with fifth year students from a medium income family with a mean of 0.40. This shows that first year students with low income have a more negative attitude to

assessment at UEM compared to students in their fifth year with a medium income. A possible explanation is that first year students are still adjusting to a new University life where the level of exigency and the assessment methods may be different from those used in school. In most cases, families with low income have children who attend less equipped schools. Therefore their preparation for University study may be less favourable.

Another finding is that students with a low income who are sponsored by UEM had a mean of -0.18 compared with students with medium income, sponsored by an institution other than UEM, or an employer or privately who had a mean of 0.22. This first group of students had a more negative attitude to assessment at UEM than the second group. Possible reasons may be that UEM primarily sponsors those with low income. However, these students' scholarships are conditional on good academic performance. Students with a medium income and in their fifth year (the last year in most courses) may not have the problem of losing the scholarship because either the sponsor does not impose a condition of good academic performance or the student has been self sponsored or by his/her family.

A variety of analyses was run to try to detect interactions by three way ANOVAs. No significant interactions were found between triples of any background variables.

3.2 Academic staff

Several types of analyses were run to try to detect interactions between variables (by two way and three way ANOVAs). These analyses were conducted on Faculty, gender, nationality, category, highest degree earned, period of time teaching at UEM, and number of classes per term compared with the factors.

Out of 15 two way analyses conducted on the academics' sample, there was one statistically significant interaction. This interaction is reported in Table 8.32.

Table 8.32**TWO WAY ANALYSIS OF VARIANCE ON ACADEMICS' QUESTIONNAIRE**

Factor Five (Academics' Questionnaire)							
by							
Gender							
Nationality							
Highest degree earned							
Source of Variation			Sum of Squares	DF	Mean Square	F	Sig of F
2-Way Interactions							
Gender	X	Nationality	1.806	1	1.806	2.620	n.s
Gender	X	Highest degree earned	1.310	2	.655	.950	n.s
Nationality	X	Highest degree earned	4.198	2	2.099	3.045	.054

Note:

95 cases were processed.

11 cases (11.6 %) were excluded due to missing values.

Mozambicans with a PhD had a mean of -.71 compared with those of the same nationality and a Masters degree with a mean of 0.28. This shows that academics with higher qualifications (PhD) have less preference for problem solving approaches compared to academics with a Masters degree.

A variety of analyses was run to try to detect interactions by three way ANOVAs. No significant interactions were found between triples of any background variables.

3.3 Technical and Administrative Staff

A variety of analyses was run to try to detect interactions between variables (by two way and three way ANOVAs). These analyses were conducted on place of work, location of work, gender, marital status, highest education qualifications, period of time doing the same job, and length of service at UEM compared with the factors.

Out of 12 two way analyses conducted on the technical and administrative staff (TAS) sample, there were one statistically significant interaction. This interaction is reported in the following table.

Table 8.33

TWO WAY ANALYSIS OF VARIANCE ON TAS' QUESTIONNAIRE

Factor One (Technical and Administrative Staff's Questionnaire)							
by		Higher educational qualifications		Place of work		Gender	
Source of Variation		Sum of Squares	DF	Mean Square	F	Sig of F	
2-Way Interactions							
Educational Qualification	X	Place of work	1.414	4	.353	.819	n.s
Education Qualifications	X	Gender	5.051	4	1.263	2.925	.023
Place of work	X	Gender	.074	1	.074	.171	n.s

Note:

237 cases were processed.

90 cases (38.0 %) were excluded due to missing values.

Female technical and administrative staff with a BA/BSc or a 'Licenciatura' degree had a mean of -.78 compared with females with less than grade 9 with a mean of 0.34. This shows that female staff with higher qualifications are more dissatisfied with the assistance to the technical and administrative staff at UEM compared to females with lower qualifications (less than grade 9). A possible explanation may be that as staff improve their qualifications, they tend to be more critical.

A variety of analyses was run to try to detect interactions by three way ANOVAs. No significant interactions were found between triples of any background variables.

This chapter now continues by moving to a cluster analysis of the different samples.

4. Cluster Analysis

4.1 Outline

Cluster analysis is a statistical process that attempt to categorise people into discrete groupings. Cluster analysis consists of a large number of classification techniques rather than a single analytical method. The statistical program used for cluster analyses, CARM (Youngman, 1976 & 1979), encompasses related clustering methods which attempt iteratively to improve or modify an existing classification until a solution is reached. The initial grouping is usually random and any modification requested will most often require the analysis gradually to reduce the number of groups in order to achieve a more parsimonious solution to the classification problem. Individual cases are repeatedly compared only with existing clusters, not with every other case. The outcome of a cluster analysis is the assignment of a sample to categories or groups.

4.2 Procedure

It is important to ensure that the selected similarity coefficient matches the data type analysed. One coefficient that has been shown to produce generally acceptable results is the error sum of squares.

Analysis automatically allocates every case to one of the clusters existing at a particular level of the analysis. A case will be allocated to a cluster because its distance from that cluster is smaller than its distance from any of the others. Once the initial number of clusters has been specified, the relocation method automatically reduces the number of clusters by one at each cycle of the analysis.

A cycle has three separate stages: 1) relocation; 2) diagnosis; and 3) fusion. During the relocation stage, the similarities between each case and the clusters are computed. If a case is found to be closer to the centroid of a cluster other than its parent cluster, then it is switched (relocated) from its parent to the other. At the same time, the centroids of both clusters are recomputed. All cases are scanned and switched if necessary. Each case is tested against the threshold value to ensure that its similarity with the parent cluster is above the threshold.

The program then iterates through the whole relocation process again. This reiterative process is repeated as many times as specified or until no case is switched during one full scan. In the latter instance, the classification is considered stable.

The final stage in this relocation cycle fuses the two most similar clusters, thereby reducing the number of clusters by one. This signals the start of the next cycle, where the whole process of relocation, diagnosis and fusion is repeated unless the final number of clusters has been reached.

The analysis summary includes a dendrogram, an useful way of summarising the classification process, showing all the fusions occurring during the analysis. Such information also appears on an error plot.

4.3 Interpretation

The first preliminary consideration for the interpretation of this cluster analysis was the error plot. Normally the error will rise with each successive fusion through the aggregation of increasingly dissimilar clusters. Sudden jumps in this error plot occur when two quite different clusters have been fused. In most cases this is undesirable, and therefore the classification prior to that fusion becomes a candidate for further analysis. Working from the opposite direction, little or no increase in error with successive fusions implies that the clusters remain relatively homogeneous in spite of their growth.

Size was another feature of clusters considered important within this particular research. Clusters may have to achieve a certain size before they can be analysed satisfactorily. Thus, early classifications were examined carefully because they frequently contain a number of very small clusters.

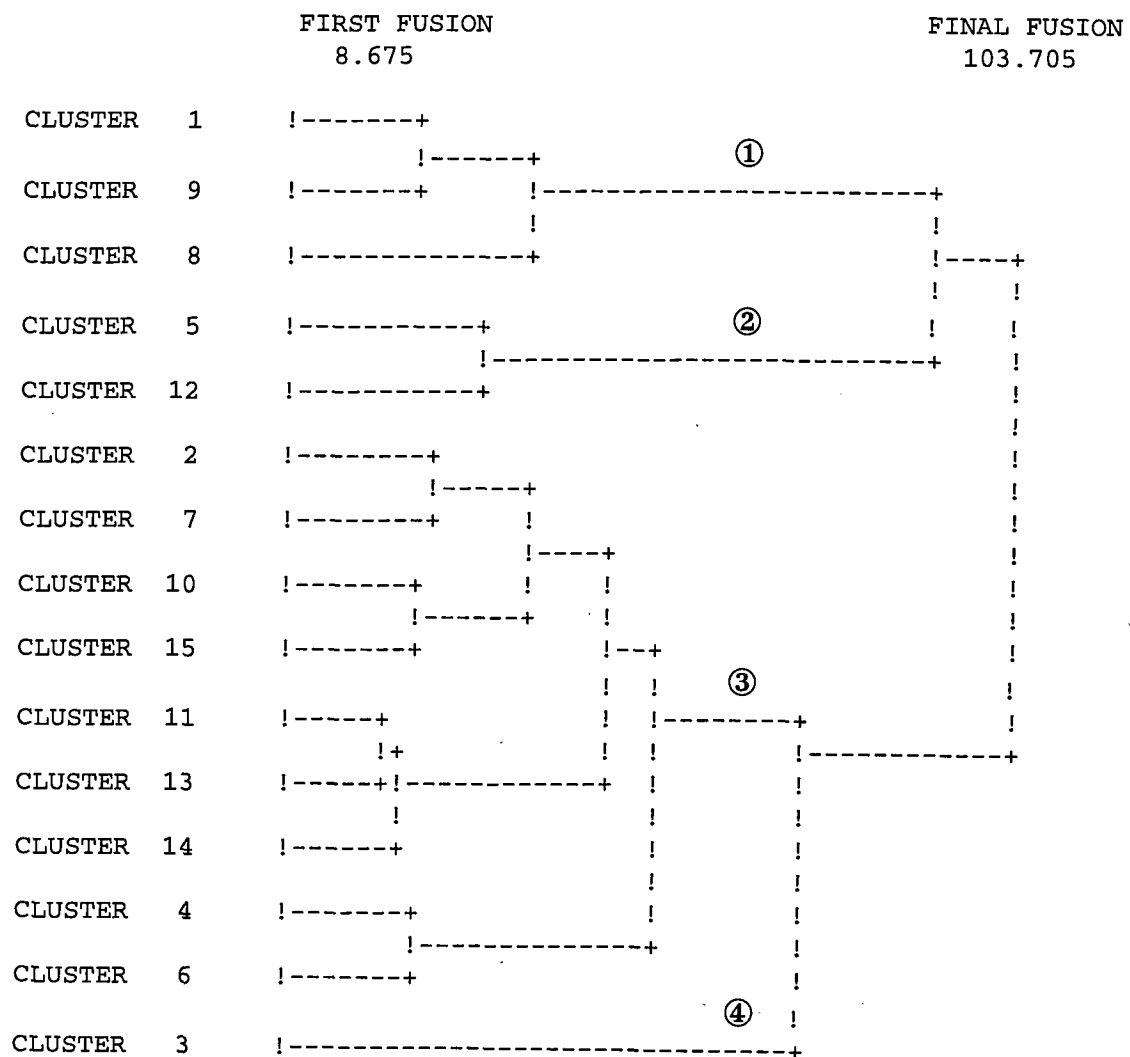
Cluster switching is an essential feature of relocation analysis, and the amount of switching occurring within a cycle provides an assessment of the stability of the classification. Excessive switching may be indicative of a forced classification resulting from the need to reduce the number of clusters by one in each cycle. Few switches suggests a well-defined classification.

4.4 Cluster analysis on the students' sample

This analysis scrutinised differences between students using the latent variable scores. Such analyses attempt to highlight whether different attitudes, opinions and beliefs exist by arranging the students into clusters. Further analysis investigate the relationship between the clusters and other variables such as age, Faculty, courses, year in the course, gender, marital status, province born, area in which family live, family income, religion, pre-university school, mother tongue, knowledge of foreign languages, sponsor and type of scholarship. These analyses are now presented in stages.

A diagram (dendrogram) is presented below showing all the fusions that occurred during the analysis.

DENDROGRAM - Students' cluster



Results indicate that there are four clusters. Table 8.34 indicates the 'meaning' of each cluster by showing how the clusters differ on average scores on the five student factors.

Table 8.34
Diagnosis of 4 clusters (Students' questionnaire)

Factors	F. ratio	Sig.	CLUSTER MEANS			
			Cluster 1	Cluster 2	Cluster 3	Cluster 4
1. General attitude to teaching and learning	191.20	0.0001	0.63	-0.84	0.32	-0.09
2. Learning English language	223.36	0.0001	-0.19	-0.25	-0.28	2.01
3. Assessment at UEM	141.58	0.0001	-0.42	-0.10	1.31	0.14
4. Materials	10.31	0.0001	0.15	-0.26	0.20	0.00
5. Teaching style	14.14	0.0001	-0.08	-0.13	0.51	0.04
Cluster Sizes			195	168	71	49

Cluster 1. The most positive attitude to teaching and learning is exhibited by this cluster. However, this group of students is less favourable to learning English language, most dissatisfied with assessment and dissatisfied with materials and teaching style used in UEM. This cluster particularly contains the older students in their fourth year of study and mostly from the Faculty of Engineering.

Cluster 2. Different to cluster 1, this cluster shows the most negative attitude to teaching and learning. It shows dissatisfaction with assessment and less satisfaction with materials and teaching style. This group is also unfavourable to learning English language. In this cluster are many of the young first year students mainly from the Faculty of Economics.

Cluster 3. Members show a positive attitude to almost all factors. This cluster includes younger students in their second year of study and mainly from the Faculties of Engineering and Agronomy.

Cluster 4. Although members of this cluster show a negative attitude to teaching and learning, this group of students shows a general satisfactory attitude to assessment, materials, and teaching style. This group is also the most favourable to learning the English language. Included in this cluster are particularly first year students from Economics Faculty.

A table now follows with results of the cluster analysis on the factors along with results of a chi-square analysis between clusters and different variables of the students' sample.

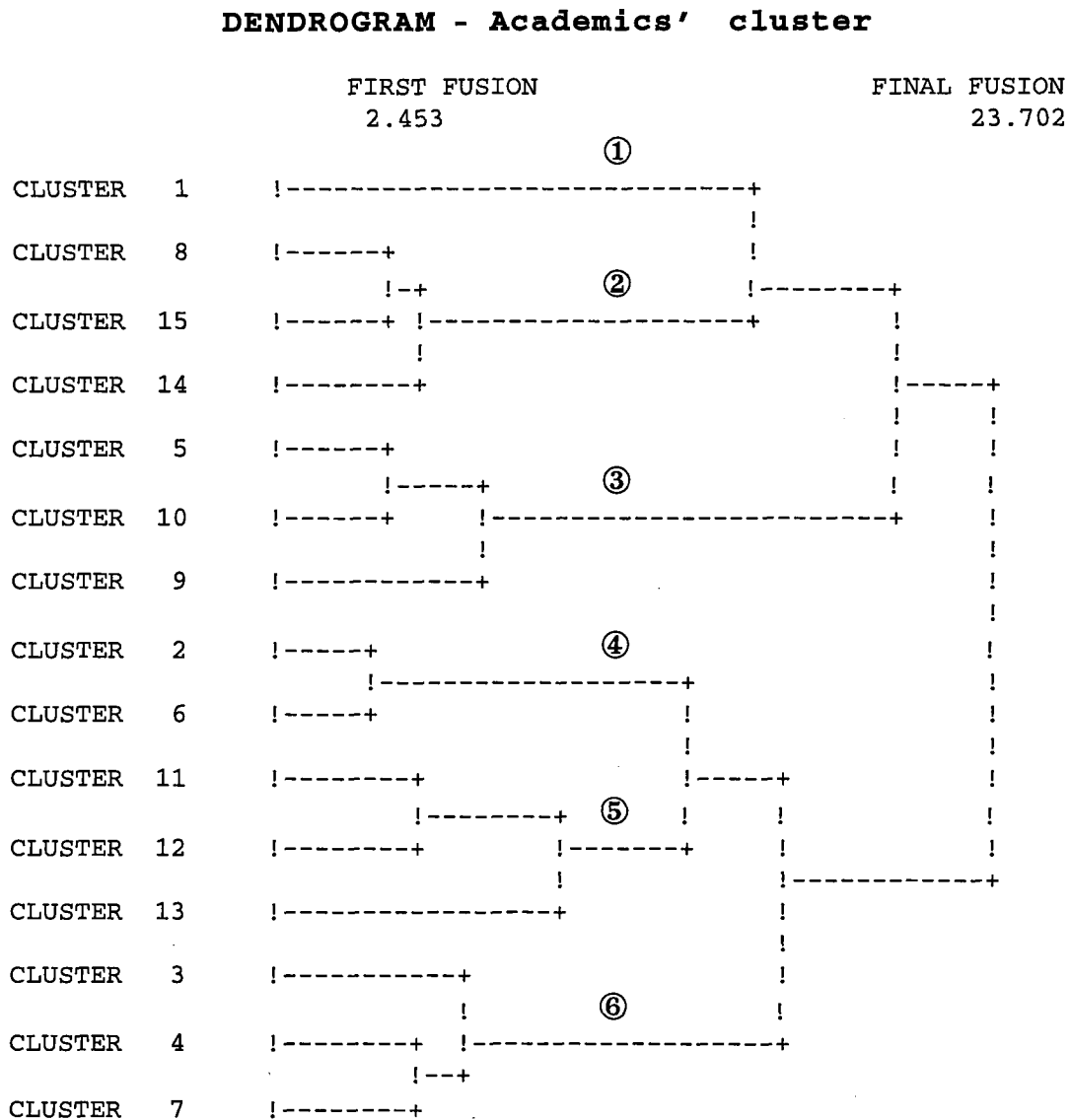
STUDENTS

Factors / Variables ↓	Clusters →	CLUSTER 1 n = 195	CLUSTER 2 n = 168	CLUSTER 3 n = 71	CLUSTER 4 n = 49
General attitude to teaching and learning (Factor 1)		most positive attitude	most negative attitude	positive attitude	negative attitude
Learning the English language (Factor 2)		less favourable	unfavourable	unfavourable	most favourable
Assessment at UEM (Factor 3)		most dissatisfied	dissatisfied	most satisfied	satisfied
Materials (Factor 4)		dissatisfied	less satisfied	satisfied	average
Teaching style (Factor 5)		dissatisfied	less satisfied	most satisfied	satisfied
Age		older	young	younger	average
Faculty		Engineering 21% Economics 19%	Economics 25%	Engineering 30% Agronomy 20%	Economics 35%
Year in the course		4th year 34%	1st year 32%	2nd year 27%	1st year 34%
Gender		no differences between clusters			
Marital status		no differences between clusters			
Province born		no differences between clusters			
Family income		no differences between clusters			
Area family live		no differences between clusters			
Pre-university school		no differences between clusters			
Religion		no differences between clusters			
Mother tongue		no differences between clusters			
Knowledge of foreign language		no differences between clusters			
Sponsor		no differences between clusters			
Type of scholarship		no differences between clusters			

4.5 Cluster analysis of the academics' sample

This analysis scrutinised differences between academics on their latent variables scores. Such analyses attempt to highlight whether different attitudes, opinions and beliefs exist following arranging the academics into clusters. It also investigates the correlations between the clusters and other variables such as age, Faculty, gender, nationality, staff status and highest degree earned.

A diagram (dendrogram) presented next shows the fusions occurred during the analysis.



Results indicate that there are six clusters as Table 8.35 presents, along with a profile of each cluster on the five factors.

Table 8.35
Diagnosis of 6 clusters (Academics' questionnaire)

Factors (*)	F. ratio	Sig.	CLUSTER MEANS					
			Cluster 1	Cluster 2	Cluster 3	Cluster 4	Cluster 5	Cluster 6
1	21.73	0.0001	0.41	-1.30	0.41	0.23	0.19	0.74
2	17.89	0.0001	0.24	-0.13	0.49	0.50	-0.18	-1.91
3	24.45	0.0001	-0.88	0.16	1.56	-0.23	-0.26	0.27
4	13.99	0.0001	-0.60	-0.13	-0.29	1.04	-0.37	-0.11
5	21.52	0.0001	0.46	0.20	0.26	-0.05	-1.36	0.95
Cluster Sizes			17	20	12	22	16	8

- (*) **Factor 1** : General attitude to education at UEM
- Factor 2** : Attitude to conditions of employment
- Factor 3** : Examinations and tests at UEM
- Factor 4** : Preferences for assessment & course literature at UEM
- Factor 5** : Preference for problem solving approaches

Cluster 1. Mainly formed by male Mozambicans, this cluster includes the younger academic staff who reveal a general positive attitude to education at UEM, to conditions of employment and have a favourable attitude to problem solving approaches.

Cluster 2. This cluster includes the older staff (mainly foreign) who exhibit a negative attitude to education and conditions of employment. Although in favour of problem solving approaches, this group shows a positive attitude to traditional examinations and tests.

Cluster 3. Basically formed by Mozambican trainee assistants, this cluster holds staff with a positive attitude to education and conditions of employment. They also have the most positive attitude to examinations and tests and at the same time a favourable attitude to problem solving approaches.

Cluster 4. Substantially formed by Mozambicans from the Faculty of Arts and Faculty of Science, this cluster also includes those academics with a positive attitude to education at UEM, to assessment and course literature at UEM, and the most positive attitude to conditions of employment. However, this group of academics is less favourable to problem solving approaches as well as to examinations and tests.

Cluster 5. This cluster includes academics who, although having a positive attitude to education in UEM, manifest a generally negative attitude to most of the factors analysed.

Cluster 6. Formed basically by males, this cluster especially includes foreign academic staff from the Faculty of Agronomy. These academics show the most positive attitude to education at UEM and the most favourable attitude to problem solving approaches. On the other hand, they exhibit a negative attitude towards assessment and course literature and the most negative attitude to conditions of employment at UEM.

A table follows with results of the cluster analysis on the factors along with results of a chi-square analysis between clusters and different variables of the academics' sample.

ACADEMICS

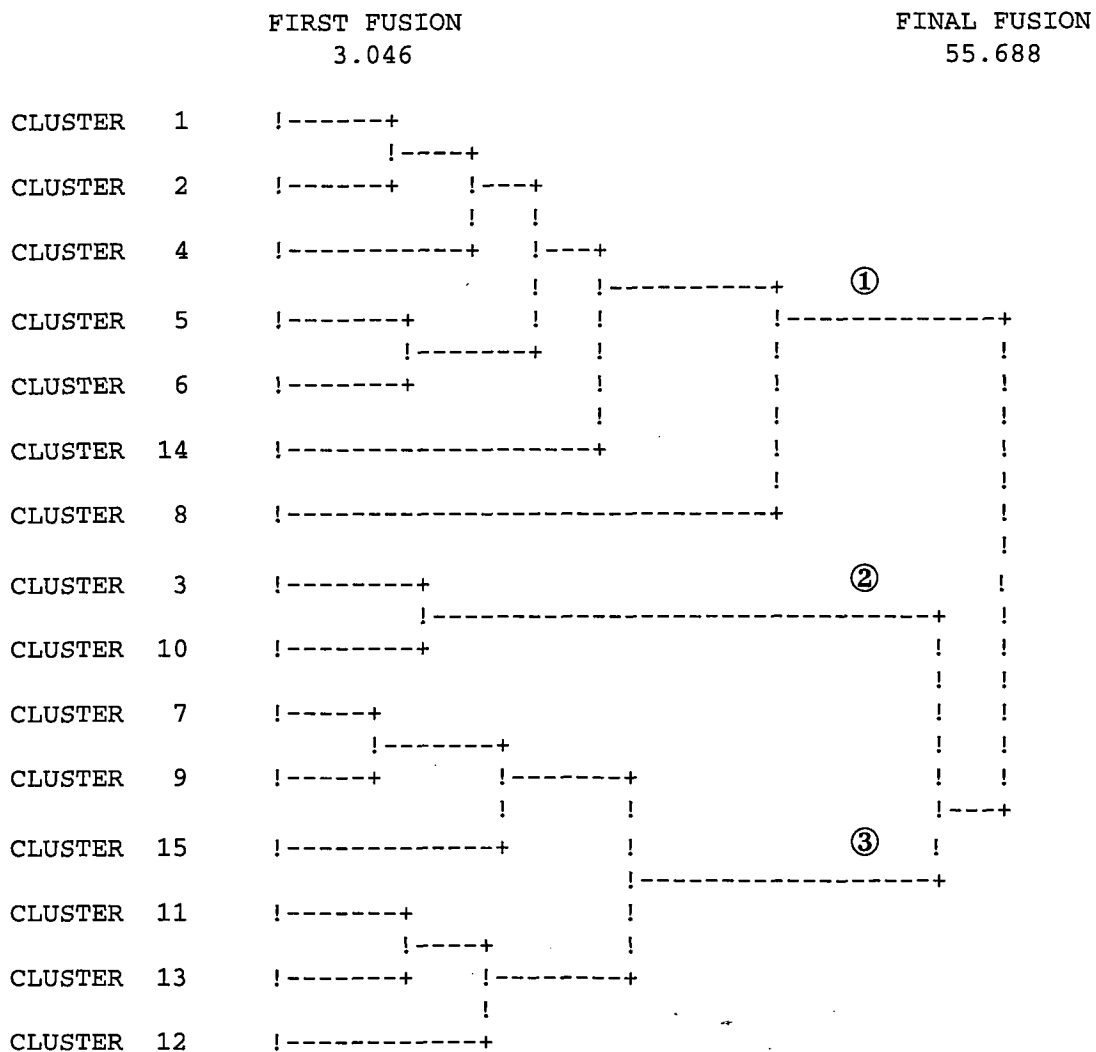
Clusters → Factors / Variables ↓	CLUSTER 1 n = 17	CLUSTER 2 n = 20	CLUSTER 3 n = 12	CLUSTER 4 n = 22	CLUSTER 5 n = 16	CLUSTER 6 n = 8
General attitude to education at UEM (Factor 1)	positive attitude	negative attitude	positive attitude	positive attitude	positive attitude	most positive attitude
Attitude to conditions of employment (Factor 2)	positive attitude	negative attitude	positive attitude	most positive attitude	negative attitude	most negative attitude
Attitude to Examinations & Tests at UEM (Factor 3)	most negative attitude	positive attitude	most positive attitude	negative attitude	negative attitude	positive attitude
Preferences for assessment & course literature at UEM (Factor 4)	most negative attitude	negative attitude	negative attitude	positive attitude	negative attitude	negative attitude
Preference for problem solving approaches (Factor 5)	favourable	favourable	favourable	less favourable	least favourable	most favourable
Age	younger	older	average	average	average	average
Faculty	Science 35%	Science 40% Engineering 35%	Engineering 42%	Arts 23% Science 23%	Science 31%	Agronomy 75%
Gender	male 67%	male 95%	male 83%	male 86%	male 56%	male 100%
Nationality	Mozambican 93%	foreign 56%	Mozambican 83%	Mozambican 81%	Mozambican 63%	foreign 88%
Staff status	2nd Assistant 47%	Associate Prof. 33%	Trainee Assistant 50%	2nd Assistant 29%	Assistant Prof. 40%	1st Assistant 50%
Highest degree earned	no differences between clusters					
How long have been a teacher	no differences between clusters					
N. of classes taught per term	no differences between clusters					

4.6 Cluster analysis on the technical and administrative staff's sample

This analysis scrutinised differences between technical and administrative staff on their latent variables scores. Such analyses attempt to highlight whether different attitudes, opinions and beliefs exist by arranging the staff into clusters. It also investigates the correlations between the clusters and other variables such as age, highest qualifications, place of work, location of work, gender, marital status, and length of service at UEM.

A diagram (dendrogram) is presented below showing the fusions occurred during the analysis.

DENDROGRAM-Technical and Administrative Staff's cluster



Results indicate that there are three clusters as Table 8.36 presents, along with a profile of the clusters on the four factors.

Table 8.36
Diagnosis of 3 clusters (TAS' questionnaire) (*)

Factors	F. ratio	Sig.	CLUSTER MEANS		
			Cluster 1	Cluster 2	Cluster 3
1. Assistance to the TAS	151.37	0.0001	-0.29	1.41	-0.34
2. Communication and relationships	68.64	0.0001	-0.49	0.02	0.63
3. Conditions of work	47.20	0.0001	-0.42	0.08	0.51
4. Policies in promotions	1.78	0.169	-0.01	0.18	-0.07
Cluster Sizes			110	43	84

(*) TAS - Technical and Administrative Staff

Cluster 1. Includes the older respondents who are dissatisfied with the assistance to the technical and administrative staff, with communications and relationships, and with conditions of work.

Cluster 2. Includes the medium age respondents with a general satisfaction towards the assistance to technical and administrative staff, communications and relationships, and conditions of work.

Cluster 3. Includes the younger respondents who, although dissatisfied with the assistance to technical and administrative staff, are satisfied with communication and relationships and conditions of work.

A table follows with results of the cluster analysis on the factors along with results of a chi-square analysis between clusters and different variables of the technical and administrative staff's sample.

TECHNICAL AND ADMINISTRATIVE STAFF

Factors / Variables ↓	Clusters →	CLUSTER 1 n = 110	CLUSTER 2 n = 43	CLUSTER 3 n = 84
Assistance to the technical and administrative staff (Factor 1)		dissatisfied	most satisfied	dissatisfied
Communication and relationships (Factor 2)		dissatisfied	satisfied	satisfied
Conditions of work (Factor 3)		dissatisfied	satisfied	satisfied
Policies in promotions (Factor 4)		no differences between clusters		
Age		older	average	younger
Place of work		Faculty 56%	Faculty 63%	Faculty 58%
Higher educational qualifications		no differences between clusters		
Gender		no differences between clusters		
Location of work		no differences between clusters		
Marital status		no differences between clusters		
How long doing the same job		no differences between clusters		
Length of work at UEM		no differences between clusters		

5. Summary

A latent variable analysis was carried out on appropriate questions of three questionnaires (students' questionnaire, academics' questionnaire, technical and administrative staff's questionnaire) to find out the possible underlying patterns of relationship among the questions and to establish commonality among them. Specific items in each section of the questionnaires were entered into the analysis which grouped them into various categories of related issues.

In the students' questionnaire, 59 variables from section B were submitted to a latent variable analysis. Analysis of the Scree Test and inspection of different rotated solutions suggested the existence of five dimensions: 1) general attitude to teaching and learning; 2) opinions of students about learning English language; 3) assessment at UEM; 4) materials; and 5) teaching style.

In the academics' questionnaire, seven sections were used, and a total of 64 variables were submitted to a latent variable analysis. Analysis of the Scree Test and inspection of different rotated solutions suggested the presence of five dimensions: 1) general attitude to education at UEM; 2) Attitudes to conditions of employment at UEM; 3) examinations and tests at UEM; 4) preferences for assessment and course literature; and 5) preference for problem solving approaches.

From the technical and administrative staff's questionnaire, two sections were used for factor analysis and a total of 18 variables were submitted to a latent variable analysis. Analysis of the Scree Test and inspection of different rotated solutions suggested the presence of four dimensions: 1) assistance to the technical and administrative staff at UEM; 2) communication and relationships; 3) conditions of work; and 4) policies on promotion.

One way analyses of variance were then carried out to determine if any differences existed between varying groups on the latent variable scores. The groups included on the students' sample were: Faculties, courses, year in the course, gender, marital status, province, area in which the family live, family income, religion, pre-university school, mother tongue, knowledge of foreign languages,

sponsor, type of scholarship and age.

The main findings on the students' sample can be summarised as follows:

- Students from Engineering and Veterinary Sciences tend to show a more positive attitude to teaching and learning than those students from Science, Agronomy and Economics. On the other hand, Economics students seem more confident about learning English compared to those from Agronomy, Medicine and Engineering.
- Regarding the provision of materials, students from Law, Veterinary Sciences and Medicine showed dissatisfaction with the provision of materials compared to students from other Faculties. Significant differences were also found in teaching style. Students from Engineering showed satisfaction with teaching style whereas students from Law and Economics showed dissatisfaction.
- There was a significant difference between students of different years of study on 'general attitude to teaching and learning' and 'teaching style'. First year students tended to have a more negative attitude to teaching and learning than those in more advanced years. Second year students however, are more happy with the teaching style used at UEM than fourth and fifth year students.
- Results indicated that when comparing males and females with the five dimensions, two significant differences were found. Males were more negative towards assessment than females. However, females have a more negative attitude to provision of materials at UEM than males.
- Comparing the area where the students' family live and family income, significant differences were found only on 'provision of materials', showing that students from urban areas and medium income families are less satisfied with the provision of materials than those from rural areas and low income.

- Students from the 'Francisco Manyanga' school in the capital are the least positive about learning English than those from other schools.
- Regarding the students' mother tongue, statistical results comparing the two groups (those who had Portuguese, and those who had an indigenous language as their mother tongue) revealed that students who had Portuguese as their mother tongue are more dissatisfied about the assessment and provision of materials at UEM.
- In terms of age, it seems that the older the students, the more positive is their attitude to teaching and learning and also to materials.
- No significant differences were found with province born, religion, knowledge of foreign language, and sponsor.

The main findings on the academics' sample can be summarised as follows:

- One way analyses were carried out on the academics' sample to determine if any differences existed between varying groups on the latent variable scores. Groups included were: Faculties, gender, nationality, staff status, degree earned, how long they had been a teacher, number of classes taught per term and age.
- Academics from Agronomy have a more negative attitude to conditions of employment than those from other Faculties. Another important finding refers to preferences for problem solving approaches which indicates that academics from the Faculty of Engineering and males in general have a more positive attitude than females on preferences to problem solving.
- Analysis of academics' nationality revealed that foreign academics have a more negative attitude to conditions of employment at UEM than Mozambican staff.

- In terms of staff status, it was found that 2nd Assistants have a more positive attitude than Associate Professors and 1st Assistants to conditions of employment.
- Comparing the degree earned by the academic staff, results show that those with a PhD are more critical about education in UEM than those with a Masters degree. It was also found that academics with a 'Licenciatura' have a more positive attitude to conditions of employment than those with PhD or Masters degrees.
- Regarding the academics' age, a significant difference was found on the following dimensions: 'general attitude to education at UEM' and 'attitudes to conditions of employment at UEM'. It seems that the younger the academics, the less satisfied they are with teaching and learning at UEM as well as with conditions of employment.
- No significant differences were found on the number of classes taught per term and how long staff have been teaching.

The main findings on the technical and administrative staff's sample can be summarised as follows:

- Possible differences were examined with technical and administrative staff using certain variables among the sample compared with scores on the latent variables. Variables include: highest education qualifications, place of work, location of work, gender, marital status, how long doing the same job, length of service at UEM, and age.
- A positive attitude was shown by the library staff about conditions of work. Support Service staff also showed a positive attitude towards policies in promotion.

- Technical and administrative staff doing the same job for a year or less showed less satisfaction with conditions of work compared to those who have been doing the same job for more than eight years.
- In terms of length of service at UEM, results show that staff working in the institution for more than ten years are less positive towards promotion than those who have been there for 2 to 4 years.
- Analysis of different age groups revealed that staff aged 41 and over have a more negative attitude to relationships and communication. The factor 'policies in promotion' also relates significantly to age showing that young staff have a more positive attitude towards promotion. No relationship was found with place of work, gender, and marital status.
- Following the one way analysis of variance, a variety of analyses was run to detect interactions between variables by two and three way ANOVAs. These analyses were conducted on students, academics and technical and administrative staff and results of two way analysis follow.
- On the students' sample there were two statistically significant interactions which showed that first year students with low income have a more negative attitude to assessment at UEM compared to students in their fifth year with a medium income. Another finding was that students with low income and sponsored by UEM had a more negative attitude to assessment at UEM than those with medium income and sponsored by an institution other than UEM.
- Analyses conducted on the academics' sample revealed that Mozambicans with higher qualifications (PhD) have less preference for problem solving approaches compared to academics with a Masters degree.
- Analyses conducted on the technical and administrative staff's sample showed that female staff with a BA/BSc or 'Licenciatura' degree are more dissatisfied with the assistance to the technical and administrative staff at UEM compared to females with lower qualifications (less than grade 9).

- Furthermore a Cluster analysis was run on the three samples (students, academics and technical and administrative staff). Results of this analysis reveal that there were four clusters in the students' sample, six in the academics' sample and three clusters in the technical and administrative staff 's sample. These clusters were profiled, revealing groupings from each sample.

This thesis now moves to the final chapter - Conclusions and Recommendations. The chapter considers the main findings of this research and makes recommendations for UEM on quality assurance issues.

CHAPTER 9

Conclusions

and

Recommendations

CHAPTER 9

Conclusions and Recommendations

Introduction

This chapter attempts to bring together the different threads of this thesis: perspectives, problems, findings and discussions as related to the study. It provides needed ideas for development at UEM, as this is the *raison d'être* of the PhD thesis.

The chapter will be organized in four major sections relating to the development and evolution of UEM. The first section sets out the quality assurance of admission procedures; the second section refers to the quality assurance of teaching and learning; the third section refers to the quality assurance of student development and support; and the fourth section provides a framework for quality enhancement at UEM.

These quality assurance issues are based in the guidelines for quality assurance systems (HEQC ,1994 and 1996) referred in chapter four of the present thesis. The emphasis given in this chapter is naturally sympathetic to UEM's structure and particular needs, rather than imposing a U.K. scheme of development on UEM.

Each section will look first at the major findings of this research on current quality assurance at UEM and then present recommendations and suggestions for institutional development and enhancement. There are some suggestions or recommendations which the University has subsequently begun to implement, some which the University is already aware of, but no decision regarding their implementation has as yet been carried out.

1. The Quality Assurance of Admission Procedures

1.1 Admission policies

University access is a controversial political issue and produces a demand by students which often exceeds the supply. Selection policies and procedures must be seen as fair if University entry is to be accepted as legitimate. Considerations of quality control in the student intake and geographical and socio-economic interact to produce specific selection policies. Achieving the right balance is not easy.

The number of students pursuing higher education in Mozambique is growing substantially. UEM has seen its enrolments rise from 877 in 1976 (one year after Independence) to 5200 in 1995-96, and to accommodate the growth in demand as well as managing it, was and is one of the biggest challenges faced by UEM.

The considerable increase in the demand for higher education in Mozambique is based on a number of factors:

- The policies adopted by the government after the country's independence in 1975 encouraged educational expansion.
- The major societal changes which took place in the country after independence also favoured educational expansion at the secondary and University levels.
- The introduction of new technology created more professional/managerial positions, and an increasing proportion of Mozambicans opted for secondary and University level education in an effort to secure such a position.
- Women gradually began to play an important role in the increase in the demand for education after 1975.
- Additional economic, cultural, and institutional forces are also considered responsible for the increase in the demand for higher education in Mozambique. Economic factors appear to have had considerable impact on demand through the maintenance of wage differentials in favour of University graduates. Higher education is seen by Mozambicans as the means to securing a well-paid post.

Evidence from this research shows that as the number of applicants started to increase, there was an instantaneous doubling of University enrolments without any accompanying extended academic provision or the expansion of human and material resources. The number of candidates has more than doubled since 1991, while the number of places offered has only increased by 10.4% and actual admissions by 6.0%. Thus, UEM has moved from 806 places and 1724 candidates in 1991, to 890 places and 4311 candidates in 1996 (UEM Annual report 1995/96).

New methods of entrance were introduced in 1991 focusing on qualitative goals ensuring that the admissions process reduced unfair discrimination. Access to the University is now regulated through a competitive entrance examinations system on the grounds that the intake capacity of UEM is limited, and public finance cannot support higher education for all those who want it. This policy was considered necessary in the effort to regulate the growing demand for higher education.

The choice of the course is the responsibility of the students. However, they should not be directed or direct themselves towards a course for which they do not have suitable admission requirements and which is considerably over subscribed.

This research (see chapter 6, section one) found that in the selection process, there has been an increasing emphasis on the demand for quality. Thus, in order to be admitted, it was demanded that candidates should have required positive marks in specific relevant subjects. Although the number of candidates is greater than the number of places offered, the actual number of those who achieve the required marks is lower than the number of places offered.

As a means of reviewing the effectiveness of the present procedures for student entry, it is a recommendation (to UEM) that they operate a quality control system, which may include an analysis of the profile of students admitted compared to those who applied; distribution of students by gender, social class, province of origin and other background information to ensure that the entry procedures are operating fairly and provide feedback to the admissions department so that they review the effectiveness of the present procedures.

1.2 Information for students

Providing information about programmes of study and making it available to prospective students is an important feature of the admission process (HEQC, 1994). Institutions of higher education are required to provide a range of information about the institution, about their courses and the student life offered (Portsmouth, 1993; Manchester Metropolitan, 1996/97; and Trinity College Carmarthen, 1996).

UEM is making progress in providing relevant written information for students. A Students' Guide has been produced recently in order to assist students arriving at the University, and an annual publication in the main national newspaper containing information on: (1) what courses are on offer at the University, (2) the number of places available and (3) the requirements for each course, (4) the subjects in which students have to take entrance examinations, (5) the calendar and (6) the place where the admission examinations will be set and (7) documents needed for registration.

When students enter higher education, it is important to analyse what influenced their choice. Evidence from this study on students' motives for choosing one programme instead of another reveals how important is the provision of such information.

The research of this thesis (see chapter 6, section one) points to the fact that student motivation and individual characteristics can contribute to the understanding of higher education demand patterns in Mozambique. However, for UEM administrators to predict and influence trends in demand (thus providing better guidance for prospective students) they may wish to investigate the student's motives for entering higher education, what they want from higher education and the reasons for which they choose their particular course. Such investigation should be on an on-going basis as student perceptions of, and attitudes towards higher education may change through time. This will make UEM more market orientated and in touch with the needs of students and their sponsors.

An additional finding refers to students' knowledge about University courses before they entered the University. Overall, students were not very well informed about the University before they attended. The majority (56.6%) knew a little or nothing at all about University courses.

Given the evidence from this research (see chapter 6, pg. 199), a recommendation is made to UEM to provide a range of information about the University giving all students the understanding they need in a timely and efficient way. UEM may wish to improve the present Students' Guide giving information on: the courses offered, the prerequisites, the facilities available, accommodation, fees and payment of fees, welfare, and useful addresses for further information. There could also be advice on topics such as: possible careers once the course has been completed, student finance, scholarship and sponsorship. It is also recommended that UEM seeks feedback from students on the appropriateness and accuracy of the information provided. Where UEM elicits an unsatisfactory response, the matter should be referred to the Academic Office for appropriate action.

The objective of a Students' Guide is to put complex information in a form which can be easily understood by people thinking about going on to higher education. All information should be given in a user-friendly manner and not be demanding or legalistic in tone and style. UEM should try to make the information clear and understandable without being misleading, and as detailed as possible so that it relates not just to the whole University but to Faculties and particular courses or fields of study.

Departments should provide, for each of their courses, documentation giving full information on the course (e.g. necessary prerequisites; the aims and learning objectives of the course in terms of attainment of knowledge, understanding and skills; a detailed outline of the course content; teaching hours; details of any course work and examinations; details of course texts and required reading; methods of assessment; assessment regulations, and any other information that the department judges useful).

A recommendation is also made to UEM's Faculties and Departments to consider giving information on: location of the departmental building and noticeboard, a departmental Who's Who, duties of key staff, membership and terms of reference of staff/student representatives, grievance procedures, health and safety information, and emergency procedures.

1.3 Registration

The Registration process takes place twice each academic year: from July to August and from December to February.

The researcher's own observations and her interview with the UEM Registrar showed that the present system of registration is inefficient and inaccurate (see chapter 6). Currently it is difficult to reconcile faculty' records with central records. UEM has yet to develop computerisation of students' records. However, computerisation of the central records is under development and will be implemented.

As part of such information systems, it is recommended that UEM develop standard procedures of record keeping and entry processing. To use information effectively, we need to have a clear idea of what information is really needed and how we are going to store it and retrieve it when required. Using computers is no substitute for a clear and well organised approach to using information. Indeed, computerisation is dependent on a preconceived structure and purpose to information gathering, storage and retrieval.

A recommendation is also made for the training of administrative staff for computerisation and the way implementation should proceed.

UEM should ensure that they operate quality control mechanisms to monitor their admission and selection policies and procedures, and the accuracy of the information gathered and stored.

2. The Quality Assurance of Teaching and Learning

2.1 Evaluation of programmes of study

Universities in the world has a responsibility to ensure that the programmes of study which they provide are of an appropriate standard and that curricula will enable learners to attain academic standards which are broadly comparable to those attained by students on similar programmes of study in other universities.

The process of teaching and learning at UEM has adjusted to accompany the rapid changes that have occurred in Mozambican society. Curriculum reform was implemented in the mid-eighties enabling the courses to be restructured, thus giving more emphasis to the Mozambican context, and responding to the economic and political demands of the country. As a result, UEM courses were made into five years degrees ('Licenciatura') with exception of Medicine with its seven year degree structure ('Licenciatura'). A more recent curriculum improvement programme was created (in 1995) to tune the curriculum to new demands of Mozambican society.

In the thesis research, evidence to address teaching and learning issues was collected from the academics' questionnaires, students' questionnaires and graduates' questionnaires. Questions referred to the curriculum content, the appropriateness of the curriculum to the aims of the course, and curriculum delivery. Results indicate that over half of the academics who responded to the questionnaire regard that the curriculum content 'fairly well' satisfies the course objectives, that the curriculum is appropriate to the aims of the course, that the scheduling of lectures, laboratory work and seminars is efficient or fairly efficient, and that the class contact/lecture is adequate or very adequate to cover the course content (see chapter 6, section two).

Despite these comments, academics suggest that the UEM should revise the programmes of study by modernising them, using more progressive higher educational policies. Academics also admit that the balance between theory and practice is poor with too much emphasis on theory (see chapter 6, pg. 215).

Analysis of the students' questionnaire shows that a large number of students did not have a particular viewpoint about course content (see chapter 6, pg. 236). However, those who presented their opinion were more likely to agree or strongly agree that the course content is sufficiently challenging, that the topics taught are appropriate to the course and that such topics stimulate student interest in the area.

However, students' comments on the balance between theory and practice in their courses is that the balance is poor or very poor (see chapter 6, pg. 215). When asked to comment on the number of lectures, seminars, practical and assignments on their courses, the students' ratings fall (on a five point scale of 'far too many' to 'far too few') between 'about right' and 'far too few'.

Graduates' opinions were collected and a question about satisfaction or dissatisfaction with the training given by UEM was raised in their questionnaire (see graph 6.4, pg. 213). Their responses indicated a high degree of satisfaction with the training given to them in their courses but a few graduates regarded the curriculum as out of date. However, a large proportion of graduates (90.2%) shared the opinion that there was too much theory and too little practice in their courses.

Since there are notable elements of dissatisfaction with the balance between theory and practice, it is important to consider where there could be change to reverse the situation. Students could preferably be provided with a combination of academic theory and a base of practical knowledge. A recommendation is made to UEM to develop links with industry and employers. Industrial liaison is encouraged to add a practical component to the academic studies. Courses should be seen as preparing students for careers and allied professions, and therefore include subjects to satisfy the requirements of the professional bodies.

UEM courses are described as rigid structured programmes based on a series of required subjects. It is suggested that UEM consider the possibility of reducing the number of subjects taught in the courses or review current course content. The University should also explore the possibility of gradually moving to a modularisation system as was recommended in previous studies by the World Bank (Mozambique Capacity Building Study, 1991).

Concerns about some aspects of University education have been expressed by public and private sector employers of UEM's University graduates. They perceived that graduates are narrowly trained and lack in abilities such as critical thinking, problem solving, time management and the organisation of information.

Given the evidence of this research, it is recommended that UEM encourage the adoption of a regular monitoring, at departmental level, at the end of each programme of study (semester or year) as in the University of Glasgow (1991) and the University of Norwich (1995). In evolving this monitoring process which should aim to identify problem areas and successes, the University may wish to examine ways of evaluating the results and effects of the teaching it provides through the use of appropriate performance indicators. A list of performance indicators is suggested in 4.3 of this chapter.

It is recommended, as used by the University of Glasgow, that every department conduct a regular review of each of its courses at specified intervals (every five or seven years) to determine whether the programmes are achieving stated aims and objectives, to check if they are being properly monitored, and to provide a basis for further necessary development. Input to the review could include statistics such as the change of numbers on the course over the last five or seven years, changes in the educational background of students on the course (first year admission examination results or pre-university background will be relevant; for more advanced years, the previous year course will be relevant), drop-out rates, pass rates, resit rates, and analyses of student feedback questionnaire returns over the previous years.

Another recommendation is made (to UEM) to consider feedback from the labour market. This process which includes graduate employment surveys and employer satisfaction surveys, can be a mechanism for monitoring change in labour market demands as well as a valuable instrument for curriculum reform and for a positive working relationship between UEM, the Government and the productive sectors. However, the influence of external bodies in shaping the curriculum needs to be evaluated in terms of overall academic aims, associated learning objectives, assessment methods and how assessment matches the learning objectives.

2.2 Evaluation of teaching and learning

The evaluation of teaching is an area which is attracting considerable attention in many institutions of higher education. It should not be confined to the evaluation of lecturing performance but should include evaluation of course design, teaching in seminars, laboratories and tutorials, help given to students, and the general facilitation of student learning (University of Glasgow, 1991).

Analysis of students' comments concerning the quality of teaching and their learning experience reveal that they were generally positive (see graph 6.5, pg. 218). A one-way analysis of variance carried out on students' sample revealed that students from Engineering and Veterinary Sciences tend to show a more positive attitude to teaching and learning than those students from Science, Agronomy and Economics. However, there is rather less satisfaction from students particularly with materials and teaching methods (see graph 6.3, pg. 212).

Many students are critical of the teaching methods used in UEM. Evidence shows that while laboratory work is the students most preferred form of teaching, it is the less preferred by academics (see graph 6.14, pg. 242). With exception of courses like Medicine and Veterinary Sciences where a more interactive course-work, project work and group work strategy is used, methods other than expository lectures are not extensively used.

UEM should encourage teaching and learning methods which develop transferable skills such as communication skills, leadership, problem solving, the ability to work in groups, and the use of information technology. Project work can serve as a means of bringing together many of the skills developed in the course. Students generally see practical work as an essential and satisfying aspect of the course.

Effective practice in the evaluation of teaching and learning is apparent at the University of Glasgow (see chapter 4) which provides a list of criteria that includes: teaching materials, the development and design of courses, course management, classroom presentation, out of classroom consultation, student learning and achievement, plus extra-departmental contributions to teaching.

Increasingly, British Universities are encouraging their departments to use effective procedures for evaluating the teaching of academic staff. This will vary from department to department but will often include peer review, student feedback, analysis of students' performance and self-assessment (see chapter 4). Thus, a recommendation is made (to UEM) that every department should assess and assure the quality of the teaching and learning which it provides and should be fully aware of its teaching strengths and weaknesses. Evolution of a modern higher education system cannot be achieved unless specific attention is paid to teaching and learning.

Throughout the course, students could be required to complete a variety of assignments including essays, literature reviews, practical write-ups and oral presentations. However, evidence from this research (see chapter 6, pg.214) shows that this practice is seldom used in UEM courses. Student experience in writing reports, essays and problem solving is generally unsatisfactory.

The sharing of work with other students develops individual presentation skills and expands knowledge of particular topic areas. New strategies for learning rather than concentrating on expository teaching may raise standards at UEM.

Academics at UEM find it difficult to change their present teaching methods to more interactive strategies because of the scarce availability of new technology, the rise in the student population, and resource constraints (see chapter 6, pg.239). Staff at UEM could made efforts to move to a more student-centred approach via class tutorials and workshops in order to increase student participation, improve attendance and encourage better preparation. Although for some staff and students these aims have been achieved, the quality of these class tutorials and workshops is variable. Variations in teaching styles could be examined to discover effective practice. UEM should encourage a positive learning climate within which staff-student relationships can flourish. Positive and constructive relationships are typical of most of the teaching sessions, of which a few fail to sustain student interest. Student enjoyment is enhanced when interaction is encouraged (see chapter 6).

A recommendation is made that UEM encourage the use of a variety of teaching methods across its courses that promote students' practical skills and, at the same time, develop intellectual powers to allow analysis of cultures that differ from their own. A number of teaching formats promote the concept of 'autonomous learning' (e.g. dissertation and project work). Academics could encourage the students to develop a problem-solving approach to their work, helping to integrate theory and practice.

It is likely that the establishment of a Teaching and Learning Development Group at UEM would support innovative approaches to course delivery and assessment and would result in the question of teaching standards being addressed at University level as in UEA-Norwich and University of Glamorgan.

Another recommendation is that all courses in programmes of study should be evaluated by students on an annual basis, and that evaluation should normally be undertaken using anonymous, compulsory, structured questionnaires (see chapter 4). Other methods such as formal feedback from staff-student committees, course representatives, and informal feedback from tutorials, laboratory classes, seminars and others, can also play an important part in student evaluation if these are used as a complement of a well-constructed questionnaire.

Questionnaires should be the responsibility of each department and advice on the content and presentation of the student evaluation questionnaire may be obtained from the Teaching and Learning Development Group. Questionnaires should be unambiguously worded and should provide a measure of students' overall satisfaction with a course programme, together with a detailed analysis of all its components (e.g. content, design and delivery, academic and personal tutorials, recommended reading, laboratory work, assessment, library, IT support and other facilities).

Examples of the British Universities (e.g. Glasgow and Sheffield) analysed in this research show that, in some cases, Universities are considering involving students in the design of their questionnaires through the Staff-Student Committee. Analysis of the Quality Assurance Handbooks of these Universities indicates that students prefer questionnaires which require tick-only responses, and it is suggested that

where a rating scale is used, the optimum number of points on the scale is five. Questionnaires of this type can be completed in a relatively short time and should also include at least one open-ended question because such questions can reveal issues which have been omitted from the structured part of the questionnaire. In this way open-ended questions can suggest area of concern which can be highlighted by structured questions in the future.

High response rates for student evaluation questionnaire improves the 'accuracy' of the feedback obtained and is essential in order to obtain meaningful results. Therefore, UEM may wish to encourage departments to aim for a high response rate (e.g. over 80%). This is likely to be enhanced where students feel that their comments are taken seriously and that completing questionnaires is a worthwhile practice (i.e. where the results of the student evaluation are discussed widely) and, where a valid criticism has been made or a genuine problem identified, departments undertake the necessary action and inform students of the outcome. It is important to let students know what use is made of their responses and how comments are followed up. If the questions are of little relevance or interest to the students, the results will be of doubtful value.

Analysis of British Universities (e.g. Glasgow University) found that some departments are using techniques for increasing questionnaire response rates which include:

- hand out and collect questionnaires during a single compulsory teaching session (e.g. lecture or laboratory class);
- hold a student evaluation session during which students complete their questionnaires;
- ask students to hand in their completed questionnaire in return for their end-of year examination results.

The information or results derived from students evaluation questionnaires should be discussed at Staff-Student Committees and departmental meetings at the beginning of each session. This implies that methods should be implemented to allow individual teachers to compare their results with the overall results for the department.

2.3 Staff appointment / Staff appraisal

Staff appointment policies and procedures are needed to ensure the recruitment of high quality candidates to academic and professional level vacancies.

The recruitment process is based on the following principles (University of Wales, Bangor, 1997):

- That the recruitment procedure is fair and unbiased.
- That the best candidate for the post is appointed using stated criteria.
- That responsibility for ensuring that procedures are followed rests with Heads of Departments and with Personnel Departments.

Evidence from this thesis research shows that a probationary period is not referred to in UEM regulations for academic staff. The researcher learnt that progression in an academic career is perceived to be virtually automatic as long as a post-graduate degree is obtained. The recommendation is that all staff appointed who are new to the University system, should serve a probationary period, with progress reports considered during that period.

Although UEM is increasingly concerned to ensure high quality teaching, the current University policy is that the academic qualifications (post-graduation) is the *sine qua non* for promotion to Senior Lecturer and ability in teaching does not appear to be a condition. Recognition of the importance of teaching, although more difficult to implement, is recommended to be included by UEM as an important promotion criterion.

The recommendation is that UEM's institutional policies and procedures on promotion should be widely disseminated, and consistently applied to ensure equality of opportunity in promotion for all staff. All staff willing to be promoted should present his/her candidature to the Personnel Department accompanied by a report by the Head of Department detailing the candidates' duties and responsibilities, a curriculum vitae, at least two references from persons nominated by the applicant and any other supporting statement. The Academic Council should consider all applications in accordance against clear and known criteria.

2.4 Staff development and training

University staff are considered by many institutions of higher education as their most valuable resource. Their competence, commitment and capacity to change are fundamental to the successful achievement of current and future goals. The University recognises the vital importance of staff development in this context and regards support for this as an investment both in its future as an organisation and in the future of its individual members.

Staff development is viewed as having two major functions:

- i) to enable all staff to achieve individual work and career goals;
- ii) to enable staff to make an effective contribution to the achievement of University goals.

Evidence from this research (see chapter 1) shows that UEM has been required to recruit foreign staff to assure the continuing functioning of the institution. UEM has given considerable emphasis to developing indigenous staff by encouraging and supporting them to undertake courses and programmes which are relevant to their individual work and career needs, and to the University strategic goals. These include: postgraduate level qualification training, continuing academic and professional development and development/training in areas related to the organisational needs of the University. This thesis is the result of such developmental needs at UEM.

Mozambique does not have post-graduate education opportunities nor local training programmes for many professional categories. Staff development generally requires sending people abroad for training. UEM staff development is often at the mercy of foreign donors who supply the majority of funding for further training.

Evidence from this research shows that the number of Mozambican teaching staff at UEM has risen from just five in 1975 to 380 (full-time) and 172 (part-time) in 1996 (see chapter 1). Currently, 89 of its 380 Mozambican teaching staff are undergoing postgraduate training. UEM is continuing to make efforts to promote training and post-graduate qualifications among its staff, not only to improve their performance, but also as a means of staff retention.

The University faces a growing difficulty in getting a full-time commitment from its staff. Evidence from UEM previous survey (UEM, 1991) suggests that more than half of Mozambican staff are engaged in outside income-supplementing activities because current salary levels are insufficient to sustain family needs.

A recommendation is made to UEM to maintain its present policy of sending staff for training as it enhances the quality of teaching and learning, and provides broad exposure to current knowledge.

UEM should also encourage and support its staff to participate in a programme of courses, seminars, workshops or other training activities, relating to institution-wide activities such as:

- Induction (new staff)
- Information/updating on University changes
- Management resources :
 - people
 - finance
 - self (management of time, stress etc.)
- Development of teaching and learning
- Personal skills
- Teaching and learning skills
- Quality assurance and 'customer' care
- Public relations
- Communications and interpersonal skills
- Computer applications
- Word processing and keyboard skills

Despite policies to achieve higher academic qualifications, academics often lack teaching skills. In 1989, UEM set up a project called STADEP (Staff Development Project) aiming to promote and improve the quality of teaching and learning. At first it was more directed to junior staff and recently it has encouraged debates on teaching and learning issues with increasing involvement of senior staff. UEM academic staff with less teaching experience and without a formal teaching qualification are required to participate in at least one of STADEP courses. A recommendation is made, as at the University of Wales, Bangor, that in future all

newly appointed staff who do not possess a teaching qualification take the courses and this will be a requirement for successful completion of probation.

The researcher's observations showed that, while some academics regard the courses as beneficial, others think that the courses do not always meet their needs (see chapter 6, pg.233). Despite a lack of unanimity about the appropriateness of this training programme for academic staff, it is recommended that the STADEP project continue to meet academics' teaching needs. There is no doubt of the importance of continuing staff training for the enhancement of the quality of teaching and learning.

An evaluation of all courses is important. Therefore a recommendation is made for the use of questionnaires with participants. The questionnaire should be designed to elicit course members' assessment of the relevance of the course; whether or not it was helping them to look critically at their teaching; whether or not the instructor and departmental colleagues had been supportive; what, specifically, the course participants were discovering about their teaching style; what problems the course was experiencing; and how the course could be improved. Respondents should always have the opportunity for further comments (Dallat & Rae, 1993).

A further recommendation is made to UEM to find ways of assisting staff in their professional updating by providing staff with more opportunities to attend conferences, seminars and updating on new research techniques.

In terms of short term, in-service training, there is a need to improve the selection criteria for participants, to ensure that the training is relevant to an individual's present or proposed future job responsibilities.

The cost of sending individuals abroad is high. To train a new PhD costs around US\$100,000, compared to a month salary of US\$300 for a PhD holder. Therefore, for the funds to be used effectively, a recommendation is made to assess common training needs across the institution in order to identify alternative methods of providing the necessary training. Moreover, the newly-acquired skills of the returning individual have to be disseminated and exploited.

2.5 The allocation of resources to support staff and educational development

The expansion of student numbers, the rapid increase in costs of printed materials, changes in teaching and learning methods have not been matched by a proportionate increase in funding, staffing or other resources.

Mozambique's economic crisis is reflected in the insufficient allocation of human and material resources to UEM. Evidence from this research indicates that more than 50% of UEM's budget is assured by international cooperation which finances teaching, research and extension activities.

UEM's reports (UEM, 1991 to 1996) suggest that resources provided by the government have declined since 1992, and cannot meet (in real terms) the quality assurance requirements of equipment, books and journals, and the maintenance of existing facilities to support or enhance standards of instruction, research and services. This inadequate allocation of resources causes constraints in the quality of teaching and learning.

In this research it was found that a large proportion of academics rely heavily on their own lectures notes, their own created books and also personal knowledge about the subject as the main source for their teaching (see chapter 6, graph 6.15). Students on the other hand say they are seldom or never provided with textbooks for their courses. Research results show that although literature and reading lists are provided in some cases, they are not always up-to-date.

Academics giving evidence in this research expressed concerns about the laboratory equipment, the computer facilities, the library and the overall maintenance of Faculties' facilities (see chapter 6, table 6.31). They said that chemicals are in insufficient quantities for their laboratory classes, that their libraries contain an insufficient amount of material for the subject they teach, and they admitted that students were seldom or never provided with textbooks for their course (see chapter 6, table 6.29).

Another important line of enquiry refers to the computing facilities in Faculties and departments. Evidence collected reveals that 34.4% of the respondents regarded the computing facilities as fair, almost a quarter considered them as poor, and 16.1% as very poor.

3. Quality Assurance of Student Development and Support

3.1 Student support services

An institution's student support services will vary according to the institutional mission and structure, and according to the size and composition of the student population. Providing welfare support for students is an essential part of the process of creating an environment which allows all students to develop to their full potential. Thus, effective learning occurs when learners have appropriate environments which are concerned with psychological and physical health as much as academic development.

Support Services at UEM are provided by the Social Services Department. These services include scholarship awards, accommodation, food, health and personal welfare. Although identified by UEM administrators as a key area which requires improvement, the researcher's own observation and interviews with administrators indicate that the conditions in which students live and study are typically inadequate. The University's commitment evident to accessibility, inclusiveness and to equal opportunities is hampered by insufficient accommodation facilities. Students are crowded into dormitory rooms, lack functioning sanitary facilities, experience unreliable services, and experience a poor quality of food.

Efforts have been made by UEM to improve the quality of students' living conditions. Various institutions (national and international) have been assisting the UEM, particularly with student grant support. However, students' opinion on facilities provided by the University show a general dissatisfaction with living conditions. Particular dissatisfaction is apparent in catering, transport and the scholarship grants. The researcher's observation and interviews with administrators of the Social Services Department reveal that meals are prepared in precarious conditions, the students' restaurant is deficient, the equipment is

inadequate and in some cases inoperative. In its efforts to improve the quality of students' living conditions, the University's restaurant is under reconstruction, new equipment will be installed and staff trained to improve its service.

Financial support of student support services is also a matter of concern. The current financial arrangements for supporting students are inequitable, and students need access to more financial support. Expressions of concern were found in the students' questionnaire about the inadequacy of financial support by UEM (see chapter 7). Many live in deprivation and are forced to give up their courses when bankrupt or in debt.

Furthermore, medical care is regarded by the students as poor. The medical unit works on a part-time basis, is inadequately equipped, with almost no provision of medicines. Nevertheless, the researcher's observation indicate that the AIDS project which runs within the Social Services department has been organising activities to spread awareness about sexually transmitted diseases (see chapter 7). Posters, leaflets and bulletins have been produced, and various talks and seminars have been organised.

Evidence collected from the students' questionnaires in this research revealed that students spend little time on sport and leisure activities (see chapter 7, table 7.2 and graph 7.1). According to the Social Services Department, there are sport events for students but these not well organised. If physical fitness aids mental fitness, the former is lacking at UEM and hence may affect academic standards.

Given the evidence of this research, it is recommended that UEM maintain its policy of giving financial assistance conditional upon students' academic performance. Moreover, it is important to operate quality control mechanisms to ensure the suitability and effectiveness of student Support Services. This process should allow the institution to take appropriate steps to address matters of concern in appropriate time scales. Monitoring against set standards of delivery may be valuable.

A recommendation is also made (to UEM) to provide information to students on the range of support services (academic, personal, welfare) that are available. This information should be included in the students' Handbook (Sheffield,1995).

Another recommendation is that the University should work with the Students' Association in a more cooperative way. The Students' Association should serve as the main instrument for advancing student interests. Evidence suggests that student opinion can be a key factor in changes to practice. The participation of student representatives in appropriate University committees (an initiative already established in UEM) should be encouraged giving them the opportunity to express their views to the University on matters of concern to students.

Every student enrolled in UEM should be a member of the Students' Association. The role of the Students' Association should be:

- to promote the general interests and welfare of its members;
- to provide a recognised channel of communication between its members and the University administrators;
- to promote the cultural, intellectual, social, political, educational and athletic activity of its members;
- to supply (or provide for the supply of) welfare services and other facilities to its members.

In developing arrangements for Support Services, the University and the Students' Association should give consideration to:

- offering students opportunities to organise and participate in student development activities such as social, cultural, recreational and competitive sports activities, which foster interpersonal skills, teamwork, communication and leadership, together with access to, and responsibility for, appropriate resources;
- creating a culture which values diversity, and minimising any barriers to access for particular groups of students.

Students have little knowledge regarding the financial difficulties faced by UEM. By ensuring student representation in the institution's life and governance, and disseminating information to the University's student community, a reduction of

tension and an improved understanding of possibilities and constraints will be possible.

A recommendation is made to the Social Services Department to accelerate downward communication by the social services system to facilitate the allocation of students in residential halls, and the students needing the support fund. Residents should have regularly updated file with personal detailed information including their medical history, academic performance, and other relevant information.

3.2 Learning skills

For many students, the transition from school to University is the beginning of a major change in their way of life and study. When students begin a University course, they normally find more freedom in planning their academic life. The pattern of study is different from school and there is less formal teaching.

“Institutional policies for academic guidance, learner autonomy, and personal tutoring, are likely to be more effective if they aim to prepare and encourage learners to recognise their own needs and aspirations; assess their capabilities; understand the context in which they are studying; take responsibility for their own learning; apply personal skills and knowledge to deal with tasks and problems; be motivated to achieve their full potential in higher education; be self-aware, and able to reflect on their performance and achievements”
(HEQC, 1996 pgs. 34-5).

The inadequate preparation given to students in previous levels of education (i.e. at school) affects considerably their performance at University. One of the key questions of this research was: ‘Are students equipped with the knowledge and skills to access and use the range of learning resources available, including libraries, information technology, audio-visual services, together with study skill support?’. Evidence to address this issue was collected from the academics’ questionnaire and students’ questionnaire. It was found that students’ study skills are one of the issues which concerns most teachers at UEM. More than half of the

academics rate students' study habits as poor or very poor (see chapter 7, pg. 257). Students indicate that printed materials and their own notes are the most frequently used material to understand their courses. Also indicated by a sizable number of students was the use of notes from colleagues who were in more advanced years in the course (see chapter 7, table 7.1).

University students require training and development in a range of skills. This may include training in skills related directly to their course, or in transferable skills. Most students do not know how to use the library, a computer or laboratory equipment. They do not know how to ask a teacher, a classmate or an assistant for help. Thus, it is recommended that UEM develops, for each programme it offers, key skills such as: communication, numeracy, the use of information technology and learning how to learn; cognitive skills, such as an understanding of methodologies and critical analysis; plus the acquisition of subject skills, such as laboratory skills.

Expressions of concern came from students about the books available in the library (see chapter 6). The library plays a vital role in supporting teaching, learning and research at the University. It is a major information resource where one can find books, periodicals, newspapers, reports, special collections and other publications. UEM has sixteen libraries of which eight are in the Faculties, seven in departments, and one in the Documentation Services Department. The libraries have a combined stock of 227,541 books and periodicals (in UEM Annual Report 1995-96). As for their equipment, only five libraries (Agronomy, Architecture, Law, Economics and Engineering) possess computer equipment. Three libraries possess functioning photocopying equipment, two possess film and slide projectors, and a further two have microfilm readers.

The researcher's own observation plus interviews with administrators indicates that UEM continues to face difficulties in providing adequate learning resources (see chapter 6). These are: a lack of Portuguese language books; the deterioration of equipment, some of them being obsolete; the limited space in libraries for reading or storage the books and inadequate Information Technology (IT). Due to shortage of study rooms a large number of students are using the libraries more as a place of work than for bibliographical consultation.

There is modest but inadequate provision of Information Technology (IT). Student opinion indicates some dissatisfaction with the level of Information Technology (IT) provision and accessibility. Students commented that, even those students attending Information Technology courses have few opportunities to work with a computer (see chapter 6).

There is a widespread sense that such skills are becoming a necessary condition both of employment in many sectors of the economy and of improving international competitiveness and could, therefore, be seen as a core skill which most students should acquire.

This concern was extended by responses from graduates who indicate that they had few laboratory exercises and practical demonstrations and that, in most cases, relevant books and materials were not available (see chapter 6).

A further recommendation is made to UEM to encourage the expansion of the "Industrial Trainee" concept which involves students (particularly those on science courses) spending a period in industry as part of their training.

There is a widespread feeling that some exposure of the student to the wider world as part of his or her programme of study should become a normal feature of higher education. Thus, a recommendation is that employers (who almost all ask for experience) need to be encouraged to provide more opportunities for all sorts of work-based learning for students while they are at UEM.

3.3 Assessment regulations

Assessment is the exercise of judgement on the quality of students' work, as a way of supporting student learning and of appraising its outcomes.

Erwin and Knight (1995) suggest that assessment has considerable power to shape student learning and that the quality of assessment is one of the most sensitive indicators of the quality of learning provision as a whole. They indicate (pg. 181): *"Good curriculum cannot contain bad assessment but bad assessment can poison good, planned and created curriculum"*.

Regarding the appropriateness of the assessment methods used at UEM, evidence was collected from the students' questionnaire and from the academics' questionnaire. Results shows that academics are more likely than students to say that the assessment methods used enable students to demonstrate that they have fulfilled the objectives of the course (73.1% compared to 16.4%).

Further evidence indicates that the assessment methods students are more likely to prefer are practicals, assignments and continuous assessment (see chapter 7, table 7.4 and graph 7.3). Thus, a recommendation is made that UEM encourages the use of continuous assessment in its courses. This pattern of assessment allows lectures to locate deficiencies in the course plan and correct them by revising the objectives, reorganising the course content, focusing on students' key skills and to select different and diverse teaching techniques continuous assessment may also better reflect student achievement than terminal examinations.

UEM may wish to have, as in many British Universities (e.g. Manchester Metropolitan, Glamorgan, Glasgow, UEA-Norwich and Gwent), policies and procedures to deal thoroughly, fairly and promptly with problems which arise in the course of assessment of students. These should define the actions to be taken in the event of academic misconduct, and the grounds for student appeals against assessment outcomes.

The recommendation is that UEM's Faculties/Departments provide prior to registration, clear and accurate information for students about the aims, content and structure of their courses, and the methods and timing of assessments.

Regarding assessment, the University may wish to consider the following aspects:

- Methods of assessment should be rationally chosen, with an appropriate balance between course work and examinations.
- Standards should be clearly specified and agreed and relate to the way tasks are undertaken as well as to the results achieved.
- Contributions should be made, as appropriate, by staff and students (i.e. peer and self-assessment).

- Time scales and loading should be reasonable with all assessments.
- Criteria should be made explicit and communicated to all contributing to the assessment process.
- A clear indication should be provided of the contribution of assessment to formative feedback, progression through the course and the final award.
- Assessment regulations should be unambiguous and are known to all interested parties.

A further recommendation is made to UEM to edit carefully and standardise the content and format of all academic regulations, making them compatible with each other. For example, assessment regulations should be compatible with re-entry regulations and rules about transference from one course into another.

3.4 Feedback to students on their progress

University students need regular and frequent feedback about their performance and their progress throughout their programme of study. This can be achieved in a variety of ways such as through a personal tutor, through feedback in the classroom, and through written comments. Whatever mechanisms are used to inform students of their progress, they need to cover the whole student population at all levels.

In this thesis research, evidence collected from the students' questionnaire showed concern about the quality of support obtained from academics with perception that such support has declined over the years (see chapter 6, key question 8).

Effective practice in the provision of feedback to students on their progress is apparent at the University of East Anglia - Norwich and the University of Glasgow (see chapter 4, pg. 140). Students from those Universities are kept aware of their progress and of how it measures up to expected standards. Most departments have some form of regular monitoring of student progress for each course through in-course assessments such as class examinations and essays. Thus, the recommendation is that UEM provide students with frequent, sufficient information

and feedback on their performance so they can monitor their own progress in acquiring the knowledge and skills required to meet the aims of the programme.

Moreover, at regular intervals, students should receive an informal assessment of progress made during the course. Teachers' comments can be based on discussions with tutors and colleagues, performance on the various tests and written exercises and on the teacher's own observations and impressions. Advice should be offered in a helpful spirit, giving the students the opportunity to discuss matters with the teacher. It is important that comments on work/tests returned to students specify clearly where there is need to improvement and how that improvement should be achieved.

Giving feedback is not always an easy task and academic staff are not always skilled to give feedback that promotes increases success. This is in part, as discussed in Erwin and Knight (1995), because different learners on different tasks at different times want different sorts of feedback: sometimes detailed, sometimes pointing to a few general points for development. Thus, a recommendation is made to UEM to provide academic staff with the required feedback skills within the STADEP courses.

3.5 Appeals complaints and grievances

Complaints and grievance procedures are the mechanisms by which individuals can identify and present problems and difficulties concerning an institution's provision. Complaints and grievances should be satisfactorily resolved within an acceptable and agreed period of time. Complaints may relate to misleading promotional material, equal opportunity issues, aspects of teaching, administration, or the delivery of a programme, relationships between students, or between staff and students or external groups.

Many quality control systems set particular store by complaints as an important source of feedback on the functioning of the system. Complaints and grievances cover broader issues than appeals which may focus on a defined aspect of the assessment process (UEA- Norwich, 1995 and Sheffield, 1995).

Evidence from the researcher's observation, as well as interviews with administrators, indicates that a considerable amount of time is spent dealing with students' complaints and grievances (see chapter 7). Complaints are, in most cases, related to assessment regulations.

It is evident that the present system allows students to write to the University Rector whenever they wish to complain. On the other hand, the number of complaints about assessment regulations gives an indication that those regulations are unclear or insufficient. Thus, a recommendation is made to UEM to develop an enhanced means of responding to complaints and grievances, improving mechanisms through which such situations can be satisfactorily resolved.

In developing complaints and grievance procedures, UEM will find it helpful to:

- allow for early resolution using simple and informal means as well as a more formal legalistic arrangement to resolve the more difficult disputes;
- be clear when matters should be dealt with by the legal system, and not attempt to replicate legal means open to the parties concerned;
- have the scope, objectives and powers of its procedures clearly defined;
- check other policies, such as for equal opportunities and admissions, and cover circumstances where those policies are breached.

3.6 Students Outcomes

As the national University (and until recently as the only provider of higher education in Mozambique), UEM has great scientific, economic, political and cultural responsibilities. Initially the need was to provide graduates able to take over key areas of former colonial administration, and as the country has developed from Independence, to satisfy the needs for highly trained personnel whenever and wherever required.

Although the output of graduates has grown in recent years, compared to the enrolment growth, UEM is currently inefficient in producing graduates because of the high rate of drop-out and repetition. To complete their courses, graduates require an average of 6.5 years for a five year course and 8.5 years for a seven year course. Phenomena to explain this need to be better understood because

they constrain successful graduate output and make higher education less cost-effective.

Evidence from this research shows that the reasons for high drop-out and repetition rates are various including: inadequate secondary school preparation, the quality of entering students, difficult conditions in which students live and study, the library facilities and restrictive academic regulations (see chapter 7).

Given the evidence from this research, a recommendation is made to UEM to maintain a selective system in its admission examinations and gradually increase the level of entrance, improve students' living and study conditions, and revise the present academic regulations to ensure a satisfactory admissions standard.

4. A Framework for Quality Enhancement

4.1 Mechanisms to ensure quality. What changes should be made?

Quality assurance systems have made considerable progress in further education in recent years because there has been a recognition that quality is a key to institutional development and competitive advantage. Universities are more and more attracted by the idea of quality enhancement which will improve not only quality of example, teaching and learning but the management of it.

Quality and its assurance requires that there should be explicit objectives and also that the means of checking that mechanisms and processes to achieve objectives are effective, with the opportunity to correct any weaknesses which are inhibiting that aim.

Dill & Sporn (1995) characterise universities as vulnerable to their environment. Changes in political, economic, social, and technological conditions can strongly affect the situation of universities and therefore affect strategic activity planning in higher education. However, despite 'environmental' and political influences, it is still desirable for universities to develop themselves, internally, to raise standards.

There are several reasons why it is important to have regular and reliable quality auditing in education (HEFCW, 1996):

- ▶ **Accountability for the use of public funds.** There is an important responsibility on the funding councils to ensure the most effective and responsible use of public funds.
- ▶ **Informed institutions.** It is important that institutions are aware of the quality of provision which they are offering.
- ▶ **Process of enhancement.** It is vital in any process of quality enhancement to know the quality of present provision, its strengths and its weaknesses, and to build from this knowledge.
- ▶ **Information for others.** It is desirable that other people, including in particular prospective students and employers, are able to ascertain the quality of provision in institutions.

The process of quality assessment should serve the purpose of supporting improvements in the quality of the student learning environment. In evaluating the quality of education, the focus should be on the total learning environment which students encounter in pursuing a designated programme of studies. To this end, institutions, as stated in the Guidelines for Assessment (HEFCW, 1996), should take in consideration the following aspects at a departmental level:

Arrangements for monitoring and ensuring the quality of programmes

- ▶ is there an effective system for evaluation and review at programme, course and subject level?
- ▶ does departmental quality assurance match internal/external expectations?

Recent improvements

- ▶ are aspects of provision that have been improved recently working effectively?
- ▶ have these improvements had the desired effect on the student learning environment?

Plans for future improvements

- ▶ what are the plans for future improvement?
- ▶ what is the intended impact of these plans in terms of the components of the student learning environment and the department's contribution to the overall mission of the institution?

However, in developing countries such as Mozambique, realism is important.

"In developing countries the challenge is to define what is most needed and what is feasible to achieve, rather than to aspire to all that is technically possible" (Saint, 1992, pg. 68).

Given that a number of aspects need improving, and because financial resources available are limited, it is important to establish from clients and providers their priorities for the allocation of such resources. In the thesis research, students, academic staff and technical and administrative staff were asked what changes or improvements they would like to see made to the institution, faculty, department, course or administration.

Analysis of the students' questionnaire showed that, although students were asked to indicate only one aspect for improvement, 13.7% indicated more than one aspect which reflects the difficulty that students found in prioritising just one aspect (see chapter 7, table 7.9). However, many students expressed concerns about the level of support and guidance on academic and non-academic matters. The five most frequently cited changes students wanted to see were (see Chapter 7, graph 7.6):

- teachers' preparation;
- more printed materials;
- the curricula;
- more relevant/wider range of books in the library;
- academic regulations.

Receiving less priority, although mentioned as an area for improvement, are the number of study areas, laboratory equipment, classroom and laboratory facilities, sport and leisure facilities, and medical assistance. These items reflect the real constraints which currently exist and have already been reported in this thesis.

Academics at UEM are concerned about the curricula and library collection, about educational standards and administration, and also about laboratory facilities (see chapter 7, graph 7.7). Referring to the changes that UEM should make to assist them, the research results revealed that academics want improvements to research facilities, libraries, and salaries (chapter 7, table 7.10).

Technical and administrative staff generally admit that a number of aspects affect the quality of their work such as inadequate qualifications for the job, poor salaries, conditions of work, restrictive regulations, few incentives, and social assistance. However, the most frequently cited changes regarded as important are: medical assistance, better conditions of work and clear regulations. With respect to criteria for promotions, the results reveal that dedication to work is considered the main basis on which promotion should occur (see chapter 7).

Further evidence was collected from the Deans' questionnaire where they expressed their opinion about measures that would most improve the education of students in their Faculties (see chapter 7 table 7.14). Research results revealed that Deans shared the opinion that improvements to laboratories and equipment, class materials and books would most improve the training of students in their Faculties and ensure quality enhancement.

4.2 UEM forward planning for educational efficiency and effectiveness

The key question is: What are the quality enhancement mechanisms and processes at UEM to achieve educational efficiency and effectiveness?

Nine programmes are incorporated in UEM plans for educational efficiency and effectiveness (UEM, 1996c). The programmes, which will be discussed in turn, are:

- teaching and learning
- research
- liaison with society
- human resources
- international cooperation

- management and administration
- social services
- infrastructures
- quality of the institution's performance

The teaching and learning programme aims to plan, organise and undertake the teaching and learning process, to increase the quality of teaching, to up-date the curricula, to guarantee standards in pedagogical supervision, and to organise and conduct the admission process. This programme includes actions such as the quality assurance of lecturing in all subjects listed in the curricula, support of student research activities, debates on the use of new teaching methods, purchase of up-dated bibliographies, the production of student support materials, an increase in the number of students in courses that make a greater impact in the present stage of the country's development. Curricula adjustments and reform, legislation and academic regulations are sub-programmes of this teaching and learning programme (UEM, 1996c).

The research programme aims to increase the quantity and quality of research in UEM, disseminate research results and increase the exchange of experiences through scientific conferences and other events. Three sub-programmes are incorporated in this programme, namely research projects, publications and scientific events. Actions included in this programme are: search for funding, the introduction of a system of accountability for scientific activities and the monitoring of those activities, work on a research policy, and the introduction of research into educational matters at UEM (UEM, 1996c).

The liaison with society programme aims to increase the relationship between UEM and the various socio-economic sectors, and inform society about UEM's mission. Sub-programmes are: relationship with society, the extension and dissemination of knowledge, culture and sport. Various actions are mentioned in this sub-programmes such as: implementation of regular meetings with scientific directors of other institutions of higher education, work with employers for curricula assessment, the provision of infrastructural elements that link with the needs of society. Other actions include the schedule of seminars, talks and conferences (UEM, 1996c).

The development of human resources is another programme included in UEM's strategic plan. This programme aims to retain the academic staff and the technical and administrative staff at UEM, to create a new policy for salaries, and to improve the qualification of the staff and rationalise the human resources. Sub-programmes are: salaries, a management system for human resources and the training of academic staff and technical and administrative staff. The main actions included in this sub-programmes are negotiations with the government about UEM's proposal of new salaries, the assembling of regulations for academic staff, the training of teaching staff, researchers and technical and administrative staff through post-graduate programmes at masters and doctoral levels, and through short training courses inside the country and abroad and in-service training particularly for technical and administrative staff on areas of management, finance, Information Technology, English language, safety, archive, library and secretarial work (UEM, 1996c).

Technical and scientific cooperation at UEM is a key factor in ensuring the maintenance and development of the institution. The programme of international cooperation has been strengthening technical and institutional capacity building and aims to prioritise institutional cooperation at Faculty level through interchanges of teachers, researchers and bibliographical material. The programme also aims to develop actions to attract financial resources to implement the institution's proposals regarding international cooperation. UEM also intends to strengthen links with other institutions in Africa, seeking to draw advantages from the proximity of these countries and to seek regional solutions to common problems in the context of socio-economic cooperation and integration. Other actions include cooperation in the exchange of students, teachers, curricula and teaching methods (UEM, 1996c).

The management and administration programme aims to establish an efficient, rational and functional organisation for the University; to improve the global system of planning, management and accountability within and outside of the institution; assure financial support for progression of UEM activities. Actions in this programme include the preparation of a strategic plan up to the year 2000, negotiations between the government and UEM, the improvement of production and circulation of information within the institution, reform of UEM's structure, the

informatization of the human resources system and the registration of students; studies on the management of infrastructures; library system; the management of national, regional and international cooperation; the revision of UEM's statutes; arrangements for UEM's General Assembly; the scheduling of the University and Academic Councils, and the preparation of UEM's Annual Report (UEM, 1996c).

Financial management is also a matter planned within this programme and actions include the audit of the financial situation of UEM, proposals for a financial system of management and accountability, studying ways of reducing expenses particularly with water, electricity, fuel and telecommunications, improvement of the system of payment of salaries, and the promotion of activities which may result in receipts for UEM sectors.

The social services programme aims to improve the present living, study and working conditions of the UEM community. This programme comprises two sub-programmes, one for teachers and technical and administrative staff and the other for students. Actions in the first sub-programme are to provide meals for all the University community, to set up a criteria for the provision of accommodation for teaching and technical and administrative staff, to improve the management of collective transport, to implement a regulation for medical assistance and other social benefits. The students' sub-programme involves actions such as the reform of the present regulations about scholarships for students, the specification of regulations for halls of residence and, students will also have regulations about medical assistance and other social benefits (UEM 1996c).

The programme for the development of infrastructures comprises four sub-programmes which aim to guarantee the correct use and maintenance of UEM premises, to plan new buildings, and to coordinate all matters concerned with the physical premises of the institution. The first sub-programme features the design of projects, the second sub-programme refers to constructions and refurbishment, the third sub-programme refers to the maintenance of infrastructures, and the fourth sub-programme to equipment and furnishings (UEM, 1996c).

The quality of the institution performance programme aims to define systems for the assessment of the quality of the institution's' performance of its main activities.

It also aims to value and rationalise the institution's resources and to establish criteria and mechanisms of assessment of the quality of performance. Sub-programmes are: evaluation of the quality of teaching, quality of research, quality of extension activities and the quality of management (UEM, 1996c).

The sub-programme for the evaluation of teaching includes the quality of teaching staff, the quality of curricula, the quality of students and the quality of infrastructures and educational resources. The sub-programme regarding the quality of research includes the quality of research projects, publications and scientific events. The sub-programme for the quality of extension activities features the analysis of the impact that extension activities have within the teaching and learning programme. The last sub-programme aims to initiate a system of assessing the management at institution level and to evaluate the level of achievement of the University's plan of activities.

4.3 Statistical indicators

The strategy for quality monitoring and enhancement includes the collection and systematic use of performance indicators. One of the most important characteristics of statistical indicators should be that their impact on the system be beneficial and not highly bureaucratic (see chapter 3). However, the impact may rest crucially on two actions taken by management: the particular indicators chosen and the manner in which they are used (Fitz-Gibbon, 1994).

A major weakness in reporting performance indicators is the lack of an underpinning conceptual framework for their development and use (see chapter 3). Without such a framework, there can be no shared understanding of who needs to know what, why the indicator data are needed, and to what uses the data might fairly be put. Moreover, there is a great danger of regarding any piece of information as a potential performance indicator. Such an approach leads to an over-load of data and an unproductive accumulation of uninterpreted information (see chapter 3).

There are two main purposes for the collection of indicator data: accountability and enhancement (see chapter 3). Nuttall (1994) referring to the purposes of

Performance Indicators (PIs) said:

“If there is no agreement on the definition of indicators, there is a large measure of agreement over their purpose, namely that they are designed to give information to policy makers about the state of the educational system, either to demonstrate its accountability or, more commonly, to help in policy analysis, policy evaluation and policy formulation.” (pg. 19)

Under the open management that UEM intends to institutionalise, it needs to take appropriate steps to increase its accountability for the governmental and donor funds which it receives, and demonstrate the results it achieves with the available resources. Thus, it is recommended that UEM annually reviews its performance by statistical indicators that relate to the mission and strategic teaching and learning objectives of the University. Such performance indicators would be approved by the Academic Directorate and by the Academic Council.

The statistical indicators to be reviewed annually might be considered as relating to input, process, and output and may be reviewed over a 3-year period. Account should be taken to their face-validity, and to what extent they are reported analytically or descriptively, as independent elements of the educational process or in a comprehensive, coherent manner. A coherent list of indicators for UEM is suggested below:

Input Indicators

- ▶ student application ratio per course
- ▶ student offer ratio per course
- ▶ average entry qualifications
- ▶ statistics on student registration per course
- ▶ student characteristics: the proportion of mature age students admitted;
gender ratio
- ▶ analysis of students by geographical region
- ▶ overall staff/ student ration broken down by department
- ▶ staff qualifications
- ▶ staff in training
- ▶ allocation of funds

Process Indicators

- ▶ structure of the instructional process: literature, teaching methods
- ▶ distribution of time allocated to theory, practical and research skills
- ▶ number of teaching hours per tutor
- ▶ provision of tutorial time
- ▶ learning resources: libraries, IT and other equipment
- ▶ assessment methods
- ▶ student welfare services

Output Indicators

- ▶ student 'wastage rate'
- ▶ student attainment
- ▶ drop-out rate per course
- ▶ research outputs
- ▶ average time required to produce a graduate
- ▶ graduation results

4.4 Summary of key recommendations

Having evaluating the extent to which UEM policies, practices and procedures achieve their intended purpose, a series of recommendations are formulated which the researcher believes would lead to improvement.

A table of recommendations follows focusing on three aspects of quality assurance: (1) Admission procedures, (2) teaching and learning and (3) student development and support. Long term planning cannot be recommended due to financial constraints

TABLE OF RECOMMENDATIONS

AREA	RECOMMENDATIONS	PRIORITY
<p>Admission Procedures</p>	<ul style="list-style-type: none"> ▶ Analysis of the profile of students admitted compared to those who applied. ▶ Analysis of the distribution of new entries in terms of gender, social class, province of origin and other background information. ▶ Improve the present students' Guide making the information clear and understandable and as detailed as possible. ▶ Departments should provide for each of their courses documentation giving full information on the courses. ▶ Establish mechanisms to obtain feedback and comments from new students on the appropriateness and accuracy of the information and guidance provided. ▶ Develop standard procedures of record keeping and entry processing. ▶ Operate quality control mechanisms to monitor the admission and selection policies and procedures, and the accuracy of the information gathered and stored. 	<p>High</p> <p>High</p> <p>High</p> <p>High</p> <p>Medium</p> <p>High</p> <p>High</p>

<p>Teaching and Learning</p> <ul style="list-style-type: none"> ▶ Programmes of study 	<ul style="list-style-type: none"> ▶ Revise the programmes of study by modernising them. ▶ Give more emphasis to practical work by developing links with employers. ▶ Consider the possibility of reducing the number of subjects taught in the courses or review current course content. ▶ Explore the possibility of gradually moving to a modularisation system. ▶ Encourage the adoption of a regular monitoring at the departmental level, at the end of each programme of study through the use of appropriate Performance Indicators. 	<p>Medium</p> <p>High</p> <p>Medium</p> <p>Medium</p> <p>High</p>
<ul style="list-style-type: none"> ▶ Teaching and Learning 	<ul style="list-style-type: none"> ▶ Every department conduct a regular review at each of its courses at specific intervals to determine whether the programmes are achieving stated aims and objectives, to check if they are being properly monitored, and to provide a basis for further development. ▶ Consider feedback from the labour market which includes graduate employment surveys and employer satisfaction surveys. ▶ Encourage teaching and learning methods which develop transferable skills such as communication skills, leadership, problem solving, the ability to work in groups and the use of Information Technology. ▶ Every department should assess and assure the quality of the teaching and learning which it provides and should be fully aware of its teaching strengths and weaknesses. 	<p>Medium</p> <p>Medium</p> <p>High</p> <p>High</p>

<p>▶ Teaching and Learning (cont.)</p>	<ul style="list-style-type: none"> ▶ Staff could make efforts to move to a more student-centred approach via class tutorials and workshops in order to increase student participation, improve attendance and encourage better preparation. ▶ The overall level of staff contact time and allocation of non-teaching periods should be carefully considered and analysed. ▶ Academics should encourage students to develop a problem-solving approach to their work, helping to integrate theory and practice. ▶ Establishment of a Teaching and Learning Development Group aiming to support innovative approaches to course delivery and assessment. ▶ All courses in programmes of study should be evaluated by students on an annual basis. The evaluation should be undertaken using anonymous, compulsory, structured questionnaires, or by formal feedback from staff-student committees, course representatives, and informal feedback from tutorials, laboratory classes and seminars as a complement to well-structured questionnaire. 	<p>Medium</p>
<p>▶ Staff Appointment/ Staff Appraisal</p>	<ul style="list-style-type: none"> ▶ All staff appointed, who are new to the University system, should serve a probationary period with progress reports considered during that period. ▶ Include as an important promotion criteria the quality of teaching. ▶ UEM institutional policies and procedures on promotion should be widely known, and consistently applied to ensure the equality of opportunity in promotion for all staff. 	<p>Medium</p> <p>High</p> <p>High</p>

<p>▶ Staff Development and Training</p>	<ul style="list-style-type: none"> ▶ Maintain its present policy of sending staff for training in order to enhance the quality of teaching and learning and to provide broad exposure to current knowledge. ▶ Encourage and support staff to participate in a programme of courses, seminars, workshops or other training activities, relating to institution-wide activities. ▶ Academics with less teaching experience and without formal teaching qualifications should be required to participate in STADEP courses. ▶ STADEP project continue to meet academics' teaching needs. ▶ Find ways of assisting staff in their professional updating by providing staff with more opportunities to attend conferences, seminars and updating on new research techniques. ▶ Assess common training needs across the institution in order to identify alternative methods of providing the necessary training. Newly acquired skills of the returning individuals should be disseminated and discussed. 	<p>High</p>
<p>Student Development and Support</p>	<ul style="list-style-type: none"> ▶ Provide information to students on the range of support services (academic, personal, welfare) that are available. This information should be included in the students' handbook. ▶ UEM should work with the Students' Association in an increasingly cooperative way. 	<p>High</p>
<p>Student Support Services</p>	<ul style="list-style-type: none"> ▶ Provide information to students on the range of support services (academic, personal, welfare) that are available. This information should be included in the students' handbook. ▶ UEM should work with the Students' Association in an increasingly cooperative way. 	<p>High</p>

<p>▶ Student Support Services (cont.)</p>	<ul style="list-style-type: none"> ▶ Students' Association should encourage students to participate in sport and leisure activities and promote events to obtain funds. ▶ Every student enrolled in UEM courses should be a member of the Students' Association. ▶ Review annually the total level of support for student living costs taking into account the movement of both prices and earnings. ▶ Social Services Department should accelerate downward communication by the social service system to facilitate the allocation of students in residential halls, and the students needing the support fund. ▶ Residents should have a regularly updated file with personal detailed information including their medical history, academic performance, and other relevant information. 	<p>Medium</p>
<p>▶ Learning Skills</p>	<ul style="list-style-type: none"> ▶ UEM should develop, for each programme it offers, key skills such as : communication, numeracy, the use of information technology and learning how to learn; cognitive skills; plus the acquisition of subject skills, such as laboratory skills. ▶ Information Technology should be seen as a core skill which most students should acquire. UEM should ensure that all students have increasing access to a Networked Desktop Computer. 	<p>High</p>
		<p>Medium</p>

<p>▶ Learning Skills (cont.)</p>	<p>▶ UEM should encourage the expansion of the "Industrial Trainee" concept which involves students (particularly those in science courses) spending a period in industry as part of their training.</p> <p>▶ Employers need to be encouraged to provide more opportunities for all sorts of work-based learning for students while they are at UEM.</p>	<p>Medium</p>
<p>▶ Assessment</p>	<p>▶ UEM's Faculties/Departments should provide, prior to registration, clear and accurate information for students about the aims, content and structure of their courses, and the methods and timing of assessments.</p> <p>▶ UEM should carefully edit and standardise the content and format of all academic regulations, making them compatible with each other.</p> <p>▶ UEM may wish to have at least some element of continuous assessment in its courses</p>	<p>High</p>
<p>▶ Feedback to students on their progress</p>	<p>▶ Students should receive an informal assessment of progress made during the course.</p> <p>▶ Advice should be offered in a helpful spirit, giving the students the opportunity to discuss matters with the teacher.</p> <p>▶ Comments on work/tests returned to students should specify clearly where there is a need to improvement and how that improvement should be achieved.</p>	<p>Medium</p>
		<p>High</p>
		<p>High</p>

<ul style="list-style-type: none"> ▶ Appeals, Complaints and grievances 	<ul style="list-style-type: none"> ▶ Develop an enhanced means of responding to complaints and grievances improving mechanisms through which such situations can be satisfactorily resolved. ▶ Review and, if necessary, amend the arrangements for handling complaints from students, to ensure that they reflect the principles of justice; that they are transparent and timely; that they include an independent element; and they are managed by a senior member of staff. 	High
<ul style="list-style-type: none"> ▶ Students Outcomes 	<ul style="list-style-type: none"> ▶ Carefully revise the assessment regulations, making them less restrictive. ▶ Reduce the dropout and repetition rate. 	High

4.5 Recommendations for Further Research

To maintain the quality and relevance of UEM training, there is a number of aspects for the University as a whole to consider. The following is a list of some recommendations for further research.

Recommendation 1. Notwithstanding the evidence about the average points scores of University entrants, many academics still express concern about the quality of University entrants. More than half of academic staff rate the admission standards as poor or very poor (see chapter 6). Further research could compare the quality of entrants and their implications on achievement.

Recommendation 2. Many UEM students are forced to interrupt their studies either for personal reasons or because of academic regulations (see chapter 7). Research could be conducted to determine the main reasons for such interruption, how many return to pursue their studies, how long students stay outside the University, and the effect of this interruption on achievement.

Recommendation 3. Further work should be undertaken, despite the methodological difficulties, to develop ways in which the 'value addedness' to students as a result of their experience in University might be assessed (quantitatively and/or qualitatively) at individual, institutional and sectoral levels.

Recommendation 4. The institution's use of questionnaires may develop further, and with reference to particular needs for students and staff feedback. Such questionnaires could gather evaluations of student and staff levels of satisfaction, their ideas and opinions, and provide a consensual view of where quality enhancement is needed.

Recommendation 5. More work is needed on qualitative indicators of the student experience. For example, students' views on teaching, assessment, and their attitudes towards their course need eliciting. Students have both a right and a responsibility to comment on a course and to suggest improvements. This is appreciated more easily if students are consulted early enough for improvements made as a result of their comments to benefit them.

Recommendation 6. Research is need about the extent to which UEM curricula contributes to life beyond the graduate experience. Do graduates make use of their education? Is education in tune with societal needs?

Recommendation 7. Further work should be undertaken to ascertain appropriate ways of gathering, effectively and economically, performance indicator data concerning the student experience on unit programmes.

Apart from further research, it is acknowledged that benefit will be gained in terms of the quality of academic programmes by encouraging:

- dialogue about processes and outcomes; and
- staff development in teaching and learning.

Conclusion

Among the world's developing countries, Mozambique suffers from the effects of having one of the least utilised human resource bases. The shortage of trained human resources is present at all levels, from the most basic workers to senior technicians and managers.

The Mozambican Government has made important steps in rebuilding its human resource base, by improving access to education and promoting adult literacy.

UEM, the main Mozambican institution of higher education, played and continues to play an important role in the country's educational, economic, social and political development efforts. The main goals defined for the University by the newly independent government were: (1) to provide skilled human resources for national development, (2) undertake research that contributes to the amelioration of problems affecting Mozambican society, and (3) disseminate University knowledge and experience for the benefit of the national community.

In spite of considerable progress made to become a national institution of higher learning, UEM is currently facing numerous difficulties, inhibiting the University's ability to perform effectively and efficiently.

One of the problems faced by UEM is the low graduate output, in relation to the country's need for university graduates. Student intake at UEM has recently increased to 800 per year, but because of poor student performance, the University has only been graduating an average of 150 students annually.

Inadequate educational quality is another problem. The rapid expansion of the student population, admission of students inadequately prepared for university programmes, teachers not well remunerated, the shortage of equipment and facilities (scarcity of textbooks, library resources, and laboratory equipment), and poor living and study conditions of the students are all aspects that have been contributing to a decline in educational quality.

Institutions of higher education are now transformed into a new type of enterprise, offering more market-oriented curricula and having to ensure that public funds are spent properly. In the last seven years, quality has therefore become one of the key words in higher education. To some extent quality has become an issue in the Mozambican dialogue between the institution on the one hand and the government on the other.

The overall quality of higher education provision will depend on the quality of courses, effective classroom performance, the learning experiences of students, student assessment, staff development and the rigour of quality assurance and control procedures.

An important way to guarantee quality is by a system of quality control, quality assurance, and quality enhancement. That is to say, systematic and structured attention to quality, aimed at guaranteeing and improving quality is needed at UEM. Thus a quality system needs an effective organisational structure, clearly defined responsibilities, clear processes and efficient procedures for quality assurance.

The extent to which UEM can successfully carry out its institutional mission will depend on its organisational effectiveness, its efficiency, and its structural flexibility in the face of uncertain and rapidly changing circumstances.

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Search Engines

Lycos

<http://www.lycos.com/>

Altavista

<http://altavista.telia.com/>

Niss

<http://www.niss.ac.uk/education>

HEFCE - Higher Education Funding Council for England

Quality Assessment Reports

<http://www.niss.ac.uk/education/hefce/qar/>

Assessing the Quality of Education

<http://www.niss.ac.uk/education/hefce/qar/assess.html>

Quality Assessment of Teaching

<http://www.niss.ac.uk/Docs/WHATDO/qateach.htm>

SHEFC - Scottish Higher Education Funding Council

<http://www.shefc.ac.uk/shefc/intro.htm>

HEFCW - Higher Education Funding Council for Wales

<http://www.niss.ac.uk/education/hefcw/>

HEFCW: Assessment of Learning and Teaching

<http://www.niss.ac.uk/education/hefcw/qar/index.html>

HEQC - Higher Education Quality Council

<http://www.niss.ac.uk/education/heqc/>

HEQC: The Role of Quality Audit

<http://www.niss.ac.uk/education/heqc/audit1.html>

What is TOM

<http://www.apqc.org/apqchome/tqm-what.html>

Total Quality Management in Higher Education

<http://www.umar.edu/~assess/tqm/tqmhed.html>

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Report of the National Committee Sir Ron Dearing (1997)

<http://www.leeds.ac.uk/educol/ncihe/natrep.htm>

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Links to Statistical Agencies

<http://www.stat.go.jp/148.htm>

World Bank

<http://www.worldbank.org/>

Mozambique

<http://www.worldbank.org/html/exdr/offrep/afr/mozbck.htm>

Bem Vindo à Universidade Eduardo Mondlane

<http://www.uem.mz>

Mozambique Page

http://www.sas.upenn.edu/African_studies/country_specific/Moz

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APPENDIX I

**LETTER FROM THE ACADEMIC VICE-
RECTOR**

(PORTUGUESE LANGUAGE VERSION)

CARTA DO VICE-REITOR ACADEMICO



UNIVERSIDADE EDUARDO MONDLANE

Gabinete do Reitor

Exmo Senhor Director

Faculdade / Órgão

Nossa Ref^a
009/VRA/97

Maputo
24.1.97

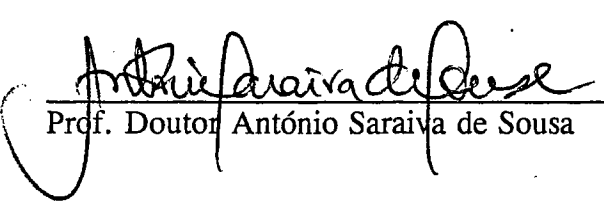
Assunto: Recolha de Informação no âmbito do Plano de Formação

Com vista a uma análise qualitativa do desempenho da Universidade Eduardo Mondlane, e no âmbito do seu plano de formação (Doutoramento), a dr^a Maria da Conceição Loureiro Dias encontra-se presentemente na fase de recolha de informação, na forma de questionários e entrevistas.

Serão envolvidos neste trabalho não só os Directores de Faculdade/Órgão, como também Docentes, Estudantes e Membros do Corpo Técnico e Administrativo.

Solicito, deste modo, que V.Exa dê o melhor apoio possível na recolha da informação solicitada.

O Vice-Reitor Académico


Prof. Doutor António Saraiva de Sousa

APPENDIX II

**INTRODUCTION TO THE QUESTIONNAIRES
(PORTUGUESE LANGUAGE VERSION)**

NOTA INTRODUTÓRIA

Nota Introdutória

O presente questionário faz parte de um conjunto de outros que se lança a toda a comunidade universitária - corpo docente, discente e tecnico-administrativo. Estes questionários surgem no âmbito do meu programa de pós-graduação (Doutoramento) na área de Administração do Ensino Superior, tutelado pela 'University of Wales, Bangor', na Grã-Bretanha.

É objectivo deste trabalho, fazer uma análise qualitativa do desempenho da Instituição, UEM, nas suas várias vertentes, pelo que apelo para a boa vontade e contribuição de todos, de forma a que esta análise seja mais rica e significativa.

Os resultados que se obtiverem, sem serem de carácter decisório, poderão influenciar decisões futuras, para a melhoria da qualidade do desempenho da nossa instituição.

Estou certa de que vai responder ao questionário que lhe é dirigido, pelo que muito agradeço a sua colaboração e o tempo dispensado.

M^a da Conceição Dias

APPENDIX III

**QUESTIONNAIRE FOR STUDENTS
(PORTUGUESE LANGUAGE VERSION)
QUESTIONÁRIO PARA ESTUDANTES**

QUESTIONÁRIO PARA ESTUDANTES

É convidado a dar a sua opinião a um número de questões que a seguir lhe são apresentadas. Não há respostas 'correctas' ou 'incorrectas': escolha simplesmente a resposta que preferir dentro do leque de alternativas que lhe são oferecidas. Responda por favor a todas as questões de forma franca. **O questionário é totalmente anónimo e confidencial.** Se desejar acrescentar algo às respostas que for dando, disponha do espaço no final deste questionário.

Secção A : O seu "Background"

A.1. **Província onde nasceu**

A.2. **Área onde a sua família vive** rural 1 urbana 2

A.3. **Rendimento familiar**

baixo 1 médio 2 alto 3 não sei 4

A.4. **Religião:** (indique por favor a religião em que está afiliado. Se não é membro de nenhuma religião escreva nenhuma)

.....

A.5. **Qual é a sua língua materna**

A.6. **Conhece alguma língua estrangeira?** Sim 1 Não 2

Se a resposta a A.6. é Sim, descreva as suas habilidades

Língua 1

	fluentemente	bem	um pouco	nada
fala	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>
escrita	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>
leitura	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>

Língua 2

fala	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>
escrita	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>
leitura	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>

A.7. **A sua escola pré-universitária:**

Francisco Manyanga	1 <input type="checkbox"/>
Samora Machel	2 <input type="checkbox"/>
1° de Maio	3 <input type="checkbox"/>
25 de Setembro	4 <input type="checkbox"/>
Nwachicoloane	5 <input type="checkbox"/>
outra	6 <input type="checkbox"/>

(Se a resposta é outra, indique o nome do estabelecimento).....

A.8. Quanto tempo levou entre o término da escola e a entrada para a Universidade?

imediatamente 1 1 ano 2 2-3 anos 3
4- 5 anos 4 mais de 5 anos 5

A.9. Se a entrada para a Universidade não foi imediata, a que se deveu o intervalo?

insucesso nos exames de admissão 1
problemas financeiros 2
outra situação 3

A.10. Que conhecimento tinha sobre os cursos da universidade antes de ingressar?

bastante o suficiente um pouco mto pouco nenhum
1 2 3 4 5

A.11. Porque escolheu o curso que frequenta? (assinale tantos quantos se aplicarem)

interesse próprio 1 interesse do empregador 4
conselho de família 2 não escolhi 5
amigos no mesmo curso 3 outro 6

(especifique por favor).....
.....

A.12. Quem financia os seus estudos?

UEM 1 empregador 2 privado 3 outro 4

A.13. Se tem uma bolsa da UEM indique o tipo.

bolsa completa 1 bolsa reduzida 2
isenção de propinas 3 redução de propina 4

Secção B: Atitude em relação ao curso

B.1. Considera-se satisfeito ou insatisfeito com a sua formação?

mto satisfeito satisfeito não sei insatisfeito mto insatisfeito
1 2 3 4 5

B.2. Para si, qual é o grau de clareza dos objectivos do curso?

muito claros 1 claros 2 razoavelmente claros 3
pouco claros 4 não claros 5

B.3. Está satisfeito ou insatisfeito com:

	mto satisfeito	satisfeito	não sei	insatisfeito	mto insatisfeito
docentes	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
currículum	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
materiais	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
avaliação	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
métodos de ensino	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
administração da sua faculdade	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>

B.4. Qual é a sua opinião em relação ao conteúdo do curso?

	concordo totalmente	concordo	nem concordo nem discordo	discordo	discordo totalmente
1. é desafiante	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
2. tópicos ensinados são apropriados para o curso	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
3. estimula o interesse dos estudantes na área	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>

B.5. Qual é a sua opinião em relação ao número de aulas expositivas, seminários, práticas e projectos no curso?

	excessivos	muitos	suficiente	poucos	muito poucos
Exposições	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
Seminários	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
Práticas	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
Projectos	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>

B.6. O que acha da relação entre teoria e prática no curso?

mto boa 1 boa 2 justa 3 fraca 4 mto fraca 5

B.7. Indique para cada nível a sua opinião em relação à qualidade de ensino no seu curso.

	mta boa	boa	razoável	fraca	muito fraca
Nível 1	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
Nível 2	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
Nível 3	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
Nível 4	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
Nível 5	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
Nível 6	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
Nível 7	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>

B.8. Mencione para cada nível a disciplina que considera ter sido melhor ensinada?

Nível 1	.....
Nível 2	.....
Nível 3	.....
Nível 4	.....
Nível 5	.....
Nível 6	.....
Nível 7	.....

B.9. Mencione para cada nível a disciplina que considera ter tido lacunas.

Nível 1	.....
Nível 2	.....
Nível 3	.....
Nível 4	.....
Nível 5	.....
Nível 6	.....
Nível 7	.....

B.10. Existe bibliografia disponível para as disciplinas principais?

sempre	muitas vezes	às vezes	raramente	nunca
1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>

B.11. Qual é o grau de actualização da bibliografia existente?

mta bom	bom	razoável	fraco	muito fraco
1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>

B.12. Qual dos seguintes materiais utiliza para acompanhar o curso?

	sempre	às vezes	raramente	nunca
textos de apoio	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>
bibliografia	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>
manuals	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>
apontamentos	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>

notas próprias	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>
ouvir a exposição	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>
outro	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>

(especifique por favor) -----

B.13. Que forma de ensino prefere?

	prefiro muito	prefiro	não sei	prefiro pouco	não prefiro
exposições	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
seminários	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
laboratórios/ práticas	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
outra	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>

(especifique qual) -----

B.14. Qual é a sua opinião em relação á clareza dos regulamentos de avaliação?

muito claros	1 <input type="checkbox"/>	claros	2 <input type="checkbox"/>	razoavelmente claros	3 <input type="checkbox"/>
pouco claros	4 <input type="checkbox"/>	não são claros	5 <input type="checkbox"/>		

B.15. Na sua opinião, acha que os métodos de avaliação permitem aos estudantes demonstrar que atingiram os objectivos programados no curso?

mtto bem	bem	razoável	mal	muito mal
1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>

B.16. Qual é o método de avaliação que prefere?

	prefiro muito	prefiro	não sei	prefiro um pouco	não prefiro
exames	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
trabalhos	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
práticas	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
projectos	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
avaliação contínua	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
outra	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>

(especifique por favor) -----

B.17. Qual é a sua opinião em relação a aprendizagem da língua Inglesa?

	concordo totalmente	concordo	nem concordo nem discordo	discordo	discordo totalmente
1. aprender inglês é útil	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
2. aprender inglês é perder tempo	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
3. gostaria de aprender o máximo de inglês possível	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
4. preferiria usar o tempo com outras matérias que não o inglês	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
5. pretendo continuar a aprender inglês	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>

B.18.A sua faculdade está envolvida no programa BUSCEP?

Sim 1 Não 2

Se a resposta a B.18. é Sim, responda por favor a B.19.

B.19.O que é que acha do semestre básico (BUSCEP)?

muito interessante 1 interessante 2 razoável 3 pouco interessante 4 muito pouco interessante 5

Secção C: Desempenho Académico

C.1. Quanto do seu tempo é dedicado às seguintes actividades?

	muito tempo	algum tempo	pouco tempo	nenhum tempo
aulas teóricas	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>
laboratórios	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>
biblioteca	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>
estudo e preparação das aulas	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>
actividades extra curriculares	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>
lazer	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>

C.2. Sente que o nível atingido em disciplinas básicas na escola secundária é suficiente para prosseguir o seu curso?

Sim 1 talvez 2 Não 3

C.3. Foi submetido a exames de admissão para ingressar na UEM?

Sim 1 Não 2

C.4. Se a resposta a C.3. é Sim, acha que os exames são:

muito difíceis	um pouco difíceis	razoáveis	um pouco fáceis	muito fáceis
1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>

C.5. Comparando com outros estudantes também submetidos aos exames de admissão, em que posição estava quando foi admitido para o curso?

perto do topo	acima da média	na média	abaixo da média	perto da base
1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>

C.6. Sente-se motivado para prosseguir o curso?

bastante motivado	motivado	pouco motivado	desmotivado
1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>

Secção D: Condições de Vida

D.1. Onde vive em Maputo? (especifique apenas a área/ bairro da cidade)

.....

D.2. Vive:

com os seus pais	1 <input type="checkbox"/>	com o seu parceiro(a)	4 <input type="checkbox"/>
com outros familiares	2 <input type="checkbox"/>	com amigos	5 <input type="checkbox"/>
na residência universitária	3 <input type="checkbox"/>	outra situação	6 <input type="checkbox"/>

D.3. Sente-se satisfeito ou insatisfeito em relação às condições do local onde vive?

muito satisfeito	satisfeito	não sei	insatisfeito	muito insatisfeito
1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>

D.4. Se vive numa residência Universitária, responda às seguintes questões:

tem um quarto individual? Sim 1 Não 2

se a resposta é Não diga com quantas pessoas partilha o quarto

o seu quarto tem uma mesa de trabalho? Sim 1 Não 2

D.5. No que concerne outras facilidades providenciadas pela UEM, qual é a sua opinião em relação a:

	muito boa	boa	razoável	má	muito má
limpeza	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
lavandaria	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
refeitório	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
serviço de saúde	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
lazer	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>

D.6. Transporte usado para ir à faculdade

transporte próprio	1 <input type="checkbox"/>			
(especifique se é carro, mota ou bicicleta)				
transporte da família	2 <input type="checkbox"/>		transporte de amigos	5 <input type="checkbox"/>
autocarro da UEM	3 <input type="checkbox"/>		a pé	6 <input type="checkbox"/>
transporte público	4 <input type="checkbox"/>		outro	7 <input type="checkbox"/>

Secção E: Outros Aspectos

E.1. Eis alguns argumentos que tentam justificar o alto nível de abandono (“dropout”) e repetição na UEM. Qual é a sua opinião? (se considerar que melhores razões podem ser dadas. Por favor mencione-as no final desta secção)

	concordo totalmente	concordo	nem concordo nem discordo	discordo	discordo totalmente
1. preparação inadequada na escola secundária	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
2. preparação inadequada nos primeiros níveis do curso	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
3. condições difíceis em que os estudantes vivem	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
4. condições difíceis em que os estudantes estudam	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
5. problemas financeiros	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
6. regulamentos académicos muito rigorosos	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
7. cursos que não são da preferência dos estudantes	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
8. insuficiência de material bibliográfico em língua Portuguesa	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>

APPENDIX IV

**QUESTIONNAIRE FOR ACADEMIC STAFF
(PORTUGUESE LANGUAGE VERSION)
QUESTIONÁRIO PARA PESSOAL
ACADÉMICO**

QUESTIONÁRIO PARA PESSOAL ACADÉMICO

É convidado a dar a sua opinião a um número de questões que a seguir lhe são apresentadas. Não há respostas 'correctas' ou 'incorrectas': escolha simplesmente a resposta que preferir dentro do leque de alternativas que lhe são oferecidas. Responda por favor a todas as questões de forma franca. **O questionário é totalmente anónimo e confidencial.** Se desejar acrescentar algo às respostas que for dando, disponha do espaço no final deste questionário.

Secção A: Ensino

A.1. Que disciplina(s) lecciona? -----
(por favor indique o nível) -----

A.2. Há quanto tempo é docente nesta Universidade?

6 meses ou menos	1 <input type="checkbox"/>	3-4 anos	5 <input type="checkbox"/>
7 a 11 meses	2 <input type="checkbox"/>	5-7 anos	6 <input type="checkbox"/>
1 ano	3 <input type="checkbox"/>	8-10 anos	7 <input type="checkbox"/>
2 anos	4 <input type="checkbox"/>	mais de 10 anos	8 <input type="checkbox"/>

A.3. Quanto tempo dedica às seguintes actividades?

	mta tempo	algum tempo	pouco tempo	nenhum tempo
preparação das aulas	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>
ensino	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>
correção de trabalhos	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>
investigação pessoal	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>
consultoria	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>
apoio a estudantes	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>
trabalho administrativo	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>

A.4. Está a ensinar na área em que se especializou ou obteve o grau mais elevado?

Sim 1 Não 2

A.5. A quantas turmas ensina por semestre?

A.6. Na sua opinião, a distribuição de aulas teóricas, de laboratório e seminários é:

mta eficiente	eficiente	razoável	ineficiente	mta ineficiente
1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>

A.7. Considera suficiente ou insuficiente a carga horária para cobrir o conteúdo dos programas da(s) sua(s) disciplina(s)?

mta suficiente	suficiente	insuficiente	mta insuficiente
1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>

A.8. Que forma de ensino prefere utilizar?

	prefiro muito	prefiro	não sei	prefiro um pouco	não prefiro
exposição	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
seminários	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
demonstração de laboratório	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
outro	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>

(especifique a forma de ensino por favor) -----

A.9. Como caracteriza a participação dos estudantes nas aulas?

muito boa	boa	razoável	pobre	muito pobre
1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>

A.10. Que tempo dispõe para apoiar os estudantes fora das aulas?

muito tempo	algum tempo	pouco tempo	muito pouco tempo	nenhum tempo
1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>

A.11. Existem na sua Faculdade programas de aperfeiçoamento pedagógico?

Sim 1 Não 2

Se a resposta a A.11. é Sim, responda por favor a A.12.

A.12. Já esteve envolvido em algum desses programas?

Sim 1 Não 2

Se a resposta a A.12. é Sim, responda por favor a A.13.

A.13. Considerou o(s) programa(s) útil (úteis)?

muito 1 um pouco 2 nem por isso 3

Secção B: Currículum

B.1. Considera o currículum apropriado ou inapropriado para os objectivos do curso?

muito apropriado	apropriado	razoávelmente apropriado	inapropriado	muito inapropriado
1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>

B.2. O conteúdo do currículum satisfaz ou não satisfaz os objectivos do curso?

satisfaz muito bem	1 <input type="checkbox"/>	satisfaz razoávelmente	2 <input type="checkbox"/>
satisfaz pouco	3 <input type="checkbox"/>	não satisfaz	4 <input type="checkbox"/>

B.3. Como caracteriza a relação entre a teoria e a prática no curso em que lecciona?

mto boa	1 <input type="checkbox"/>	boa	2 <input type="checkbox"/>	justa	3 <input type="checkbox"/>	fraca	4 <input type="checkbox"/>	mto fraca	5 <input type="checkbox"/>
---------	----------------------------	-----	----------------------------	-------	----------------------------	-------	----------------------------	-----------	----------------------------

B.4. Considera satisfatória ou insatisfatória a sequência das disciplinas nos cursos?

mto satisfatória	satisfatória	não sei	insatisfatória	mto insatisfatória
1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>

B.5. Existem cursos ou acções remediais para ultrapassar deficiências da educação secundária?

Sim 1 Não 2

Se a resposta a B.5. é Sim, responda por favor a B.6.

B.6. Que sucesso tem esses cursos?

muito sucesso	algum sucesso	pouco sucesso	insucesso	muito insucesso
1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>

Secção C: Materiais

C.1. Quais são os principais materiais de ensino que utiliza?

manuais	1 <input type="checkbox"/>
textos e livros próprios	2 <input type="checkbox"/>
artigos científicos (de periódicos)	3 <input type="checkbox"/>
o seu próprio conhecimento sobre o material	4 <input type="checkbox"/>
outro	5 <input type="checkbox"/>

(especifique por favor)

C.2. O que é que os estudantes utilizam como materiais de apoio?

- manuais 1
- lista bibliográfica 2
- apontamentos 3
- textos de apoio 4
- notas próprias 5
- outro 6 (especifique por favor)

C.3. Existem manuais do curso para cada estudante?

- sempre 1 muitas vezes 2 raramente 3 nunca 4

C.4. Tem bibliografia disponível para a(s) disciplina(s) que lecciona?

- sempre 1 muitas vezes 2 às vezes 3 nunca 4

C.5. A bibliografia na(s) disciplina(s) que lecciona é actualizada?

- toda actualizada 1 a maior parte 2
- alguma parte 3 nenhuma parte 4

C.6. Considera o material que a biblioteca da faculdade possui (e.g. jornais, periódicos, etc.) suficiente ou insuficiente para a disciplina(s) que lecciona?

- muito suficiente razoavelmente insuficiente muito
suficiente suficiente suficiente insuficiente
1 2 3 4 5

**C.7. Os reagentes que utiliza para as suas aulas laboratoriais são:
(responda apenas se se aplicar ao seu caso)**

- muito suficientes razoavelmente insuficientes muito
suficientes suficientes suficientes insuficientes insuficientes
1 2 3 4 5

Secção D: Avaliação

D.1. Em geral, com que frequência é que os estudantes são avaliados na sua disciplina(s)?

- uma vez por semestre 1
- duas vezes por semestre 2
- três vezes por semestre 3
- outra 4
- (especifique por favor)

D.2. Qual é o formato geral dos seus testes / exames?

	Testes	Exames
escolha múltipla	1 <input type="checkbox"/>	1 <input type="checkbox"/>
resolução de problemas	2 <input type="checkbox"/>	2 <input type="checkbox"/>
perguntas variadas	3 <input type="checkbox"/>	3 <input type="checkbox"/>
outra	4 <input type="checkbox"/>	4 <input type="checkbox"/>

(especifique por favor) -----

D.3. Que ênfase dá nos seus testes / exames?

	Testes	Exames
memorização	1 <input type="checkbox"/>	1 <input type="checkbox"/>
compreensão teórica	2 <input type="checkbox"/>	2 <input type="checkbox"/>
aplicação	3 <input type="checkbox"/>	3 <input type="checkbox"/>
outra	4 <input type="checkbox"/>	4 <input type="checkbox"/>

(especifique por favor) -----

D.4. Acha que os métodos de avaliação utilizados permitem aos estudantes demonstrar que atingiram os objectivos do curso?

mto bem 1 bem 2 suficiente 3 pouco 4 mto pouco 5

Secção E: Estudantes

E.1. Em média, quantos estudantes estão presentes nas suas aulas teóricas?

menos de 20	1 <input type="checkbox"/>	60-79	4 <input type="checkbox"/>
20-39	2 <input type="checkbox"/>	80-100	5 <input type="checkbox"/>
40-59	3 <input type="checkbox"/>	mais de 100	6 <input type="checkbox"/>

E.2. Se a disciplina que lecciona requer trabalho de laboratório, qual é o número de estudantes nas sessões laboratoriais?

menos de 10	1 <input type="checkbox"/>	20-24	4 <input type="checkbox"/>	40-49	7 <input type="checkbox"/>
10-14	2 <input type="checkbox"/>	25-29	5 <input type="checkbox"/>	mais de 50	8 <input type="checkbox"/>
15-19	3 <input type="checkbox"/>	30-39	6 <input type="checkbox"/>	não se aplica	9 <input type="checkbox"/>

E.3. Como é que caracteriza a preparação dos estudantes ao entrarem na universidade?

mto boa 1 boa 2 média 3 pobre 4 mto pobre 5

E.4. Acha que os standards de admissão são:

muito bons 1 bons 2 médios 3
baixos 4 muito baixos 5

E.5. Como é que classifica os hábitos de estudo dos estudantes?

muito bons 1 bons 2 razoáveis 3
pobres 4 muito pobres 5

E.6. Qual é o nível de motivação dos estudantes para a aprendizagem?

mtto alto alto razoável baixo nulo
1 2 3 4 5

E.7. Na sua opinião, quais são as principais razões que levam os estudantes a desistir dos cursos?

	concordo totalmente	concordo	nem concordo nem discordo	discordo	discordo totalmente
falta de motivação para trabalhar	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
não gostarem do curso	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
Considerarem o curso muito difícil	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
regulamentos muito rigorosos	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
insuficiente apoio financeiro	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
necessidade de trabalhar para sustentar a família	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
preparação inadequada nos níveis precedentes	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
outra	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>

(especifique por favor) _____

Secção F: Instalações e Equipamento

F.1. Como caracteriza o tamanho dos anfiteatros?

bastante grandes grandes tamanho ideal pequenos muito pequenos
1 2 3 4 5

F.2. Como caracteriza o tamanho das salas de aula?

bastante grandes grandes tamanho ideal pequenas muito pequenas
1 2 3 4 5

F.3. Que instrumentos de ensino estão disponíveis nas salas de aulas que normalmente utiliza?

	sempre	muitas vezes	às vezes	raramente	nunca
quadro	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
retroprojector	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
equipamento p ^a demonstraçã	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
outro	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>

(especifique outros instrumentos)-----

F.4. Qual é a qualidade dos instrumentos que estão disponíveis?

muito boa	boa	razoável	pobre	muito pobre
1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>

F.5. Considera o equipamento disponível nos laboratórios:

mto adequado	adequado	normal	inadequado	mto inadequado
1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>

F.6. Qual é o estado do equipamento de laboratório?

a) obsoleto	1 <input type="checkbox"/>	b) bem mantido	1 <input type="checkbox"/>
actualizado	2 <input type="checkbox"/>	de fraca manutenção	2 <input type="checkbox"/>

F.7. Que tipo de gabinete possui?

individual	1 <input type="checkbox"/>	outro	3 <input type="checkbox"/>
partilhado	2 <input type="checkbox"/>	não possui gabinete	4 <input type="checkbox"/>

F.8. Como caracteriza as facilidades de computação no seu departamento?

mto boas	boas	razoáveis	pobres	mto pobres	inexistentes
1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>	6 <input type="checkbox"/>

F.9. Como é que considera a manutenção das instalações e facilidades da faculdade em geral?

mto boa	boa	razoável	pobre	mto pobre
1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>

F.10. Como é que descreve o relacionamento entre as pessoas da faculdade em que trabalha?

mto bom	bom	razoável	pobre	mto pobre
1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>

F.11. Como é que caracteriza o relacionamento entre a direcção da faculdade e os departamentos?

mto bom bom razoável pobre mto pobre
 1 2 3 4 5

Secção G: Outros Aspectos

G.1. Porque é que escolheu a carreira académica?

gosto pelo ensino 1 outra 8
 querer fazer investigação 2 (especifique brevemente)
 a atmosfera na universidade 3 _____
 pelo prestígio / posição 4 _____
 pelo dinheiro 5 _____
 condições de trabalho 6 _____
 não encontrou outro trabalho 7 _____

G.2. De que é que mais gosta na sua profissão?

salário 1 outro 6
 ensinar 2 (especifique por favor) _____
 fazer investigação 3 _____
 atmosfera universitária 4 _____
 o prestígio / posição na sociedade 5 _____

G.3. Que desvantagens vê na profissão escolhida?

	concordo totalmente	concordo	nem concordo nem discordo	discordo	discordo totalmente
salário	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
carga horária	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
investigação	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
atmosfera da universidade	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
administração	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
atmosfera do departamento	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
sobrecarga de trabalho	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
outra (especifique por favor)	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>

G.4. Em sua opinião, que mudanças seriam necessárias para apoiar os docentes?

	concordo totalmente	concordo	nem concordo nem discordo	discordo	discordo totalmente
mais tempo para preparar as aulas	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
actualização da literatura	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
salários mais altos para os atrair e manter	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
alojamento e transporte	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
mais oportunidades para participação em conferências	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
melhores chances para investigação	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
mais chances de formação	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
menor carga horária	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
menos trabalho administrativo	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
outro (especifique por favor)	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>

G.5. Se apenas um aspecto tivesse de ser melhorado na universidade, o que é que seria? (ASSINALE APENAS UM)

curricula	1 <input type="checkbox"/>
bibliotecas	2 <input type="checkbox"/>
equipamento das salas de aula	3 <input type="checkbox"/>
equipamento dos laboratórios	4 <input type="checkbox"/>
standards de educação	5 <input type="checkbox"/>
administração	6 <input type="checkbox"/>
outro	7 <input type="checkbox"/>

(especifique por favor) -----

G.6. Número de publicações que tem

em jornais locais em jornais estrangeiros

G.7. Número de conferências que participou nos últimos três anos

em Moçambique fora do país

Secção H: Detalhes Pessoais

H.1. Faculdade ----- H.2. Departamento -----

H.3. Data de nascimentodia mêsano

H.4. Sexo Masculino 1 Feminino 2

H.5. Nacionalidade Moçambicana 1 outra 2

(Indique qual)-----

H.6. Qual é a sua categoria:

Professor Associado	1 <input type="checkbox"/>
Professor Auxiliar	2 <input type="checkbox"/>
1° Assistente	3 <input type="checkbox"/>
2° Assistente	4 <input type="checkbox"/>
Assistente Estagiário	5 <input type="checkbox"/>

H.7. Qual a sua ocupação actual: -----

H.8. Onde obteve a sua primeira graduação?

em Moçambique 1

noutro país 2 (especifique por favor) -----

H.9. Qual o grau mais alto obtido?

especifique por favor o grau e onde o obteve (em Moçambique ou no estrangeiro)


H.10. É na mesma `area em que fez o seu primeiro grau?

Sim 1

Não 2

Secção I : Outros Comentários

Se tem qualquer comentário que gostaria de fazer sobre outros aspectos que não foram abordados neste questionário, escreva por favor neste espaço. Os comentários poderão ser positivos ou negativos. Ideias práticas e realistas de melhoramento são particularmente bemvindas.

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APPENDIX V

**QUESTIONNAIRE FOR TECHNICAL AND
ADMINISTRATIVE STAFF
(PORTUGUESE LANGUAGE VERSION)**

**QUESTIONÁRIO PARA PESSOAL
TÉCNICO-ADMINISTRATIVO**

QUESTIONÁRIO PARA PESSOAL TECNICO-ADMINISTRATIVO

É convidado a dar a sua opinião a um número de questões que a seguir lhe são apresentadas. Não há respostas 'correctas' ou 'incorrectas': escolha simplesmente a resposta que preferir dentro do leque de alternativas que lhe são oferecidas. Responda por favor a todas as questões de forma franca. **O questionário é totalmente anónimo e confidencial.** Se desejar acrescentar algo às respostas que for dando, disponha do espaço no final deste questionário.

Secção A: Atitude em Relação ao Local de Trabalho

A.1. Sente-se satisfeito ou insatisfeito com o seu trabalho?

mtto satisfeito	satisfeito	não sei	insatisfeito	mtto insatisfeito
1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>

A.2. Está satisfeito ou insatisfeito com:

	mtto satisfeito	satisfeito	não sei	insatisfeito	mtto insatisfeito
Políticas de promoção	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
Condições de trabalho	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
Gestão	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
Salários	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
Transporte	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
Serviços sociais	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>

A.3. Como descreve o relacionamento entre as pessoas do seu sector de trabalho?

muito bom	bom	razoável	pobre	muito pobre
1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>

A.4. Como caracteriza a comunicação entre o(s) chefe(s) do seu sector e o pessoal?

muito boa	boa	razoável	pobre	muito pobre
1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>

A.5. Como caracteriza o regulamento do pessoal tecnico-administrativo em relação à sua clareza.

mtto claro	claro	razoável	pouco claro	não claro
1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>

Secção B: Treino e Qualificações Académicas

B.1. Qual é o grau mais elevado que obteve?

- inferior a 9ª classe 1 9ª -10ª classe 2 11ª classe 3
curso médio 4 Bacharelato 5 Licenciatura 6
Outro 7
(especifique por favor)

B.2. Existem workshops ou cursos de aperfeiçoamento no seu sector de trabalho? Sim 1 Não 2

Se a resposta a B.2. é Sim, responda a B.3 por favor.

B.3. Já participou em algum desses workshops ou cursos?

- Sim 1 Não 2

Se a resposta é Sim, especifique o(s) curso(s) e responda a B.4.

.....

B.4. Achou os workshops ou cursos proveitosos?

- Sim 1 um pouco 2 nem por isso 3

Secção C: Outros Assuntos

C.1. Na sua opinião, que mudanças deveriam ocorrer a nível do sector tecnico-administrativo?

- | | concordo totalmente | concordo | nem concordo nem discordo | discordo | discordo totalmente |
|---|----------------------------|----------------------------|----------------------------|----------------------------|----------------------------|
| 1. proporcionar regularmente treino profissional interno | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> | 5 <input type="checkbox"/> |
| 2. melhores condições de trabalho | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> | 5 <input type="checkbox"/> |
| 3. introdução do sistema de mérito | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> | 5 <input type="checkbox"/> |
| 4. recrutamento de pessoal com qualificações adequadas e experiência para o trabalho. | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> | 5 <input type="checkbox"/> |
| 5. garantir assistência médica | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> | 5 <input type="checkbox"/> |
| 6. proporcionar transporte e alojamento | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> | 5 <input type="checkbox"/> |
| 7. regulamentos mais claros | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> | 5 <input type="checkbox"/> |
| 8. outras | 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> | 5 <input type="checkbox"/> |
| (mencione por favor) | | | | | |

C.2. Em que bases é que acha que as promoções deveriam ocorrer?

	concordo totalmente	concordo	nem concordo nem discordo	discordo	discordo totalmente
1. qualificações académicas	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
2. anos de experiência	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
3. qualidade do trabalho	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
4. dedicação pelo trabalho	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
5. testes satisfatórios	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
6. combinação de todos	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
7. outras	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>

(especifique por favor)

C.3. Estes são alguns aspectos que podem comprometer a qualidade do trabalho desempenhado pelo pessoal técnico-administrativo. Qual é a sua opinião?

	concordo totalmente	concordo	nem concordo nem discordo	discordo	discordo totalmente
1. qualificações inadequadas	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
2. salários baixos	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
3. condições de trabalho	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
4. regulamentos	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
5. poucos incentivos	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
6. assistência social	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
7. outro	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>

(especifique por favor)

C.4. Comente por favor sobre aspectos que acha poderiam melhorar a qualidade de trabalho desempenhado pelo pessoal técnico-administrativo.

.....

.....

.....

.....

.....

.....

Secção D: Dados Pessoais

D.1. Local de trabalho:

Faculdade	1 <input type="checkbox"/>	Centro	2 <input type="checkbox"/>
Museu ou AHM	3 <input type="checkbox"/>	Serviços Centrais	4 <input type="checkbox"/>
Serviços Sociais	5 <input type="checkbox"/>	Transportes	6 <input type="checkbox"/>
Outro	7 <input type="checkbox"/>		

(especifique por favor)-----

D.2. Área de trabalho:

Administração e Secretaria	1 <input type="checkbox"/>	Serviços de Apoio	5 <input type="checkbox"/>
Laboratório	2 <input type="checkbox"/>	Segurança	6 <input type="checkbox"/>
Biblioteca	3 <input type="checkbox"/>	Outro	7 <input type="checkbox"/>
Serviços Sociais	4 <input type="checkbox"/>	(especifique por favor)-----	

D.3. Categoria:

D.4. Ocupação actual:

D.5. Sexo Masculino 1 Feminino 2

D.6. Data de nascimentodia mês ano

D.7. Estado Civil solteiro 1 casado 2 divorciado 3
separado 4 vive com um parceiro 5 viúvo 6

D.8. Nacionalidade Moçambicana 1 outra 2
(mencione qual)

D.9. Há quanto tempo trabalha na mesma área?

menos de 6 meses	1 <input type="checkbox"/>	3-4 anos	5 <input type="checkbox"/>
6 a 11 meses	2 <input type="checkbox"/>	5-7 anos	6 <input type="checkbox"/>
1 ano	3 <input type="checkbox"/>	8-10 anos	7 <input type="checkbox"/>
2 anos	4 <input type="checkbox"/>	mais de 10 anos	8 <input type="checkbox"/>

D.10. Há quanto tempo trabalha na UEM?

menos de 6 meses	1 <input type="checkbox"/>	3-4 anos	5 <input type="checkbox"/>
7 a 11 meses	2 <input type="checkbox"/>	5-7 anos	6 <input type="checkbox"/>
1 ano	3 <input type="checkbox"/>	8-10 anos	7 <input type="checkbox"/>
2 anos	4 <input type="checkbox"/>	mais de 10 anos	8 <input type="checkbox"/>

APPENDIX VI

**QUESTIONNAIRE FOR DEANS OF FACULTY
(PORTUGUESE LANGUAGE VERSION)
QUESTIONÁRIO PARA DIRECTORES DE
FACULDADE**

QUESTIONÁRIO PARA DIRECTORES DE FACULDADE

É convidado a dar a sua opinião a um número de questões que a seguir lhe são apresentadas. Não há respostas 'correctas' ou 'incorrectas': escolha simplesmente a resposta que preferir dentro do leque de alternativas que lhe são oferecidas. Responda por favor a todas as questões de forma franca. **O questionário é totalmente anónimo e confidencial.** Se desejar acrescentar algo às respostas que for dando, disponha do espaço no final deste questionário.

Secção A: Recrutamento do Pessoal Académico

A.1. Na sua opinião, é possível recrutar localmente e em número adequado pessoal académico qualificado?

Sim 1 Não 2

Se a resposta é Não responda por favor a A.2.

A.2. Porquê?

	concordo totalmente	concordo	nem concordo nem discordo	discordo	discordo totalmente
O salário é muito baixo para atrair pessoal qualificado	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
Não existe pessoal qualificado especialmente para as posições senior	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
Outra	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>

(especifique por favor)

A.3. Que percentagem do seu pessoal académico é estrangeiro?

menos de 10% 1 10%-19% 2 20%-39% 3
40%-50% 4 mais de 50% 5

A.4. Tem algum plano de substituição dos estrangeiros?

Sim 1 Não 2

A.5. Se Sim o que é que tenciona fazer? (assinale tantos quantos se aplicarem)

1. Enviar o pessoal jovem para formação no exterior 1
2. Tentar atrair os nacionais qualificados que estão no exterior 2
3. Enviar os graduados para formação no exterior 3

4. Desenvolver um programa de pos-graduação local 4

5. Outra (especifique por favor) 5

.....

A.6. Na sua opinião, do pessoal da sua faculdade que completa estudos de pos-graduação no exterior que percentagem regressa à Instituição?

< 5% 1

5 %- 10% 2

11% -25% 3

26 %- 50% 4

51% - 75% 5

mais de 75% 6

A.7. Considera o desempenho do seu pessoal académico satisfatório ou insatisfatório?

bastante satisfatório 1

satisfatório 2

não sei 3

insatisfatório 4

bastante insatisfatório 5

Secção B: Qualidade dos Graduados

B.1. Considera que os graduados da sua Faculdade estão preparados satisfatoriamente para exercerem funções em áreas da sua formação?

Sim 1

Não 2

não sei 3

Se a resposta é Não, responda por favor a questão B.2.

B.2. Porque acha que os graduados não estão bem preparados?

	concordo totalmente	concordo	nem concordo nem discordo	discordo	discordo totalmente
1. pouco tempo para cobrir todas as disciplinas necessárias	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
2. docentes mal preparados	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
3. estudantes não estão suficientemente motivados	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
4. o conteúdo dos cursos não corresponde às necessidades dos empregadores	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
5. equipamento e outras facilidades estão abaixo do padrão	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
6. outra	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>

(especifique por favor)

.....

Secção C: Gestão

C.1. A sua Faculdade é directamente responsável por:

	Sim	Não
1. Recrutamento do pessoal académico	1 <input type="checkbox"/>	2 <input type="checkbox"/>
2. Recrutamento do pessoal de apoio	1 <input type="checkbox"/>	2 <input type="checkbox"/>
3. Admissão e/ou selecção de estudantes	1 <input type="checkbox"/>	2 <input type="checkbox"/>
4. Elaboração do curriculum	1 <input type="checkbox"/>	2 <input type="checkbox"/>
5. Revisão do curriculum	1 <input type="checkbox"/>	2 <input type="checkbox"/>
6. Adaptação do curriculum	1 <input type="checkbox"/>	2 <input type="checkbox"/>
7. Preparação de material de ensino e treino	1 <input type="checkbox"/>	2 <input type="checkbox"/>
8. Elaboração de exames e/ou testes	1 <input type="checkbox"/>	2 <input type="checkbox"/>
9. Aquisição de livros e equipamento	1 <input type="checkbox"/>	2 <input type="checkbox"/>
10. Aquisição de outros materiais e consumíveis	1 <input type="checkbox"/>	2 <input type="checkbox"/>
11. Elaboração de horários	1 <input type="checkbox"/>	2 <input type="checkbox"/>

C.2. A sua Faculdade é responsável pela recolha e tratamento de informação referente a:

	Sim	Não
1. Selecção e admissão de estudantes	1 <input type="checkbox"/>	2 <input type="checkbox"/>
2. Avaliação dos estudantes	1 <input type="checkbox"/>	2 <input type="checkbox"/>
3. Pessoal académico e tecnico-administrativo	1 <input type="checkbox"/>	2 <input type="checkbox"/>
4. Curricula	1 <input type="checkbox"/>	2 <input type="checkbox"/>
5. Programas	1 <input type="checkbox"/>	2 <input type="checkbox"/>
6. Exames	1 <input type="checkbox"/>	2 <input type="checkbox"/>
7. Trabalhos de Licenciatura	1 <input type="checkbox"/>	2 <input type="checkbox"/>
8. Salários do pessoal académico da faculdade	1 <input type="checkbox"/>	2 <input type="checkbox"/>
9. Salários do pessoal técnico da faculdade	1 <input type="checkbox"/>	2 <input type="checkbox"/>
10. Despesas de materiais de consumo	1 <input type="checkbox"/>	2 <input type="checkbox"/>
11. Despesas Gerais	1 <input type="checkbox"/>	2 <input type="checkbox"/>

C.3. Que tipo de planificação prefere?

	prefiro muito	prefiro	não sei	prefiro um pouco	não prefiro
Curto prazo	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
Médio prazo	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
Longo prazo	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>

C.4. Qual é a estrutura de planificação utilizada pela sua Faculdade?

	sempre	muitas vezes	às vezes	nunca
1. comité de planificação permanente	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>
2. comité de planificação ad-hoc	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>
3. comité externo ad-hoc	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>
4. outro (especifique por favor)	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>

C.5. Utiliza análises financeiras tais como o custo por estudante, custo por graduado na gestão e planificação da Faculdade?

Sim 1 Não 2

Secção D: Assuntos Gerais

D.1. Na sua opinião, de entre as medidas seguintes, quais é que pensa melhorariam a formação dos estudantes da sua Faculdade?

	concordo totalmente	concordo	nem concordo nem discordo	discordo	discordo totalmente
1. melhoramento dos edifícios	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
2. melhoramento dos laboratórios e equipamento	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
3. mudança da estrutura e conteúdo dos currícula	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
4. aumento e melhoramento de livros e materiais de ensino	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
5. aumentar os requisitos de admissão para os novos ingressos	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
6. relação mais estreita com as entidades empregadoras	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
7. Mais contacto com instituições similares no exterior	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>

D.2. Como classifica o nível de abandono ("dropout") na sua Faculdade?

muito alto 1 alto 2 médio 3 baixo 4 muito baixo 5

D.3. Como classifica o nível de repetição em disciplinas pelos estudantes da sua Faculdade?

muito alto 1 alto 2 médio 3 baixo 4 muito baixo 5

D.4. Em que nível do curso(s) se encontra maior índice de abandono (“dropout”) e de repetição?

	“Dropout”	Repetição
Nível 1	1 <input type="checkbox"/>	2 <input type="checkbox"/>
Nível 2	1 <input type="checkbox"/>	2 <input type="checkbox"/>
Nível 3	1 <input type="checkbox"/>	2 <input type="checkbox"/>
Nível 4	1 <input type="checkbox"/>	2 <input type="checkbox"/>
Nível 5	1 <input type="checkbox"/>	2 <input type="checkbox"/>
Nível 6	1 <input type="checkbox"/>	2 <input type="checkbox"/>
Nível 7	1 <input type="checkbox"/>	2 <input type="checkbox"/>

D.5. Estes são alguns argumentos que justificam o abandono (“dropout”) dos estudantes. Qual é a sua opinião? (certamente considera que melhores razões podem ser dadas. Mencione por favor no final deste questionário)

	concordo totalmente	concordo	nem concordo nem discordo	discordo	discordo totalmente
1. preparação inadequada na escola secundária	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
2. preparação inadequada nos primeiros níveis do curso	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
3. condições difíceis em que os estudantes vivem	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
4. condições difíceis em que os estudantes estudam	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
5. problemas financeiros	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
6. regulamentos académicos muito rigorosos	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
7. cursos que não são da preferência dos estudantes	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
8. insuficiência de material bibliográfico em língua portuguesa	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
9. falta de apoio social	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>

APPENDIX VII

**QUESTIONNAIRE FOR UEM GRADUATES
(PORTUGUESE LANGUAGE VERSION)
QUESTIONÁRIO PARA GRADUADOS DA
UNIVERSIDADE EDUARDO MONDLANE**

QUESTIONÁRIO PARA GRADUADOS DA UEM

É convidado a dar a sua opinião a um número de questões que a seguir lhe são apresentadas. Não há respostas 'correctas' ou 'incorrectas': escolha simplesmente a resposta que preferir dentro do leque de alternativas que lhe são oferecidas. Responda por favor a todas as questões de forma franca. **O questionário é totalmente anónimo e confidencial.** Se desejar acrescentar algo às respostas que for dando, disponha do espaço no final deste questionário.

Secção A: Opinião Sobre o Curso

A.1. Sente-se satisfeito ou insatisfeito com a preparação oferecida no curso?

muito satisfeito satisfeito não sei insatisfeito muito insatisfeito
 1 2 3 4 5

A.2. Aplica no trabalho o que aprendeu no curso?

bastante 1 um pouco 2 não 3

A.3. Que tipo de conhecimento pensa que é necessário para desempenhar eficientemente o seu trabalho?

teórico	1 <input type="checkbox"/>	teórico e prático	4 <input type="checkbox"/>
prático	2 <input type="checkbox"/>	teórico e experiência	5 <input type="checkbox"/>
experiência	3 <input type="checkbox"/>	prático e experiência	6 <input type="checkbox"/>

A.4. Assinale o que se aplica ou não ao seu caso?

	SIM	NÃO
1. o curriculum não incluía aspectos importantes	1 <input type="checkbox"/>	2 <input type="checkbox"/>
2. o curriculum estava desactualizado	1 <input type="checkbox"/>	2 <input type="checkbox"/>
3. disciplinas não foram bem ministradas	1 <input type="checkbox"/>	2 <input type="checkbox"/>
4. livros e material nem sempre disponíveis	1 <input type="checkbox"/>	2 <input type="checkbox"/>
5. pouco trabalho de laboratório e experiências práticas	1 <input type="checkbox"/>	2 <input type="checkbox"/>
6. equipamento obsoleto e fornecimento insuficiente de materiais	1 <input type="checkbox"/>	2 <input type="checkbox"/>
7. muita teoria e pouca prática	1 <input type="checkbox"/>	2 <input type="checkbox"/>

A.5. Está satisfeito ou insatisfeito com o trabalho que desempenha no seu emprego?

muito satisfeito satisfeito não sei insatisfeito muito insatisfeito
 1 2 3 4 5

A.6. Depois de se graduar , mantém ou pensa manter contacto com a sua Faculdade?

- sempre que possível 1
algumas vezes 2
nunca 3

A.7. Quais são as suas aspirações profissionais?

- trabalhar em Maputo 1
trabalhar no estrangeiro 2
trabalhar na província de origem 3
fazer estudos de pós graduação 4
outras 5

Secção B: Sobre o Trabalho de Investigação

B.1. Em que é que se baseou para a escolha do tópico do seu trabalho de investigação ?

- interesse próprio 1 investigação da faculdade 2
interesse da entidade empregadora 3 outro 4

B.2. Em relação ao método usado pela Faculdade para acompanhar o progresso do seu projecto qual é o seu grau de satisfação ou insatisfação?

- muito satisfeito 1 satisfeito 2 não sei 3 insatisfeito 4 muito insatisfeito 5

B.3. Concluiu o seu trabalho de investigação? Sim 1 Não 2

B.4. Se a sua resposta a B.3. é Sim, quanto tempo levou para terminar?

- 6 meses 1
7 - 11 mese 2
1-2 anos 3
3 anos 4
mais de 3 anos 5

B.5. Se a sua resposta a B.3. é Não, explique qual o motivo porque não terminou o seu trabalho de investigação

- | | | |
|------------------------------------|---|--------------------------|
| ainda está a trabalhar no projecto | 1 | <input type="checkbox"/> |
| não considera importante | 2 | <input type="checkbox"/> |
| pressão do mercado de trabalho | 3 | <input type="checkbox"/> |
| outro | 4 | <input type="checkbox"/> |

Secção C: Sobre o Actual / Futuro Emprego

- C.1. Ocupação:**
- | | | |
|----------------------------|---|--------------------------|
| Na sua área | 1 | <input type="checkbox"/> |
| Relacionado com a área | 2 | <input type="checkbox"/> |
| Não relacionado com a área | 3 | <input type="checkbox"/> |

- C.2. Entidade Empregadora:**
- | | | |
|------------------------|---|--------------------------|
| Governo | 1 | <input type="checkbox"/> |
| Indústria | 2 | <input type="checkbox"/> |
| Ensino Geral / Técnico | 3 | <input type="checkbox"/> |
| UEM | 4 | <input type="checkbox"/> |
| Privado | 5 | <input type="checkbox"/> |
| Outra | 6 | <input type="checkbox"/> |

- C.3. Função no trabalho:**
- | | | | | | | | | | | | |
|---------------|---|--------------------------|---------|---|--------------------------|--------------|---|--------------------------|-------|---|--------------------------|
| Administração | 1 | <input type="checkbox"/> | Técnica | 2 | <input type="checkbox"/> | Investigação | 3 | <input type="checkbox"/> | Outra | 4 | <input type="checkbox"/> |
|---------------|---|--------------------------|---------|---|--------------------------|--------------|---|--------------------------|-------|---|--------------------------|

C.4. Quanto tempo levou depois da graduação para conseguir emprego?

- | | | | | | |
|------------------|---|--------------------------|------------------|---|--------------------------|
| imediatamente | 1 | <input type="checkbox"/> | 3 a 6 meses | 4 | <input type="checkbox"/> |
| mais de 1 mês | 2 | <input type="checkbox"/> | 7 a 12 meses | 5 | <input type="checkbox"/> |
| cerca de 2 meses | 3 | <input type="checkbox"/> | mais de 12 meses | 6 | <input type="checkbox"/> |

C.5. Para os que já trabalhavam antes de ingressarem na Universidade

- | | | | | | |
|-------------------|---|--------------------------|------------------|---|--------------------------|
| manteve o emprego | 1 | <input type="checkbox"/> | mudou de emprego | 2 | <input type="checkbox"/> |
|-------------------|---|--------------------------|------------------|---|--------------------------|

- C.6. Como conseguiu emprego?**
- | | | |
|---------------------------------|---|--------------------------|
| através de colocação pela UEM | 1 | <input type="checkbox"/> |
| através de contactos pessoais | 2 | <input type="checkbox"/> |
| através de anúncios nos jornais | 3 | <input type="checkbox"/> |
| outras vias | 4 | <input type="checkbox"/> |

- C.7. Qual é o seu salário mensal?**
- | | | | | | |
|--------------------------|---|--------------------------|--------------------------|---|--------------------------|
| menos de 1 milhão de Mt. | 1 | <input type="checkbox"/> | entre 1-2milhões de Mt. | 2 | <input type="checkbox"/> |
| entre 2-3 milhões de Mt. | 3 | <input type="checkbox"/> | mais de 3 milhões de Mt. | 4 | <input type="checkbox"/> |

- C.8. Quando se graduou esperava receber**
- | | | | |
|----------------------------|----------------------------|----------------------------|----------------------------|
| mais | menos | o mesmo | não sei |
| 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> |

- C.9. O trabalho que desenvolve agora está relacionado com a formação que teve?**
- | | | | | | | | | |
|----------|---|--------------------------|----------|---|--------------------------|-----|---|--------------------------|
| bastante | 1 | <input type="checkbox"/> | um pouco | 2 | <input type="checkbox"/> | não | 3 | <input type="checkbox"/> |
|----------|---|--------------------------|----------|---|--------------------------|-----|---|--------------------------|

- C.10. Se a resposta a C.9. é Não, diga porquê?**
- | | | |
|---|---|--------------------------|
| Não encontrou trabalho na especialidade | 1 | <input type="checkbox"/> |
| Preferiu trabalhar numa área diferente | 2 | <input type="checkbox"/> |
| Procura de melhor salário | 3 | <input type="checkbox"/> |
| Outra | 4 | <input type="checkbox"/> |

Secção D: Dados Pessoais

- D.1. Este questionário aplica-se aos graduados da UEM. Assinale a área em que se graduou ?**

- | | | |
|---|---|---|
| 01 <input type="checkbox"/> Agronomia | 02 <input type="checkbox"/> Florestas | 03 <input type="checkbox"/> Eng ^a .Rural |
| 04 <input type="checkbox"/> Biologia | 05 <input type="checkbox"/> Geologia | 06 <input type="checkbox"/> Física |
| 07 <input type="checkbox"/> Química | 08 <input type="checkbox"/> Informática | 09 <input type="checkbox"/> Direito |
| 10 <input type="checkbox"/> Economia | 11 <input type="checkbox"/> Gestão | 12 <input type="checkbox"/> Arquitectura |
| 13 <input type="checkbox"/> Eng ^a .Civil | 14 <input type="checkbox"/> Eng ^a .Electrónica | 15 <input type="checkbox"/> Eng ^a .Eléctrica |
| 16 <input type="checkbox"/> Eng ^a . Mecânica | 17 <input type="checkbox"/> Eng ^a .Química | 18 <input type="checkbox"/> História |
| 19 <input type="checkbox"/> Geografia | 20 <input type="checkbox"/> Linguística | 21 <input type="checkbox"/> Medicina |
| 22 <input type="checkbox"/> Veterinária | | |

APPENDIX VIII

**LETTER FROM THE ACADEMIC VICE-
RECTOR**

(ENGLISH LANGUAGE VERSION)

UNIVERSITY EDUARDO MONDLANE

Rector's Office

Director of Faculty / Office

Our Ref.

009/VRA/97

Maputo 24.1.97

Subject: Research for the post-graduation programme

Aiming for an analysis of Eduardo Mondlane University's performance and as part of her post-graduation programme (PhD), Mrs Maria da Conceição Loureiro Dias is currently doing the field work for her research using questionnaires and interviews.

Deans of Faculty, Office Directors, academics, students and technical and administrative staff will be involved in this work. Therefore, I request your collaboration.

The Academic Vice-Rector

Prof. António Saraiva de Sousa

APPENDIX IX

INTRODUCTION TO THE QUESTIONNAIRES

(ENGLISH LANGUAGE VERSION)

Introduction to the Questionnaire

The present questionnaire is one of others given to the University community- academics, students and technical and administrative staff. These questionnaires are part of my post-graduation programme (PhD) in Management and Administration of Higher Education, supervised by the University of Wales, Bangor, in UK.

The aim of this research is to do an analysis of UEM performance in various areas. Thus, I request everybody's cooperation in order to make this analysis successful and meaningful.

Although the results do not immediately lead to changes at UEM, they might influence future decisions in the assurance of quality in our institution.

I hope you will be willing to answer the questionnaire. Therefore, I am very grateful for your cooperation and the time dedicated to it.

M^a da Conceição Dias

APPENDIX X

**QUESTIONNAIRE FOR STUDENTS
(ENGLISH LANGUAGE VERSION)**

QUESTIONNAIRE FOR STUDENTS

You are invited to give your opinions about a number of educational questions which are set out in the following pages. As the questions are matters of opinion, there are no 'right' or 'wrong' answers: you will be asked to choose the answer you prefer from a number of alternatives. Please answer every question and give your own frank opinion. **All answers are anonymous and totally confidential.** Space is available at the end of the questionnaire for you to use if you want to add anything to the answers you have given.

Section A : Your Background

A.1. Province where you born

A.2. Area where your family live rural 1 urban 2

A.3. Your Family Income
 low 1 medium 2 high 3 don't know 4

A.4. Religion: (please indicate your religious affiliation. If you are not a member of any religious body, write "None")

A.5. What is your mother tongue

A.6. Do you know any foreign languages? Yes 1 No 2
If your answer to A.6. is Yes, describe your skills

language 1				
	fluently	fairly fluently	a little	not at all
speak	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>
write	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>
read	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>
language 2				
speak	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>
write	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>
read	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>

A.7. Your pre-university school:

Francisco Manyanga	1 <input type="checkbox"/>
Samora Machel	2 <input type="checkbox"/>
1° de Maio	3 <input type="checkbox"/>
25 de Setembro	4 <input type="checkbox"/>
Nwachicoloane	5 <input type="checkbox"/>
other	6 <input type="checkbox"/>

(if your answer is other, please name the establishment).....

A.8. How long since you left school and came to the university?

immediately 1 1 year 2 2-3 years 3
4- 5 years 4 more than 5 years 5

A.9. If the entry into the university was not immediate, what took you long?

fail the admission exams 1
financial problems 2
other 3

A.10. How much did you know about university courses before you came into the university?

a lot 1 a fair amount 2 a little 3 very little 4 nothing at all 5

A.11. Why did you choose your course? (tick as many as are appropriate)

own interest 1 employer's interest 4
family advice 2 did not choose 5
friends are in the same course 3 other 6
(please specify).....

A.12. Who sponsors your studies?

UEM 1 employer 2 private 3 other 4

A.13. If you have a UEM scholarship please specify the type.

complete scholarship 1 reduced scholarship 2
fee exemption 3 fee reduction 4

Section B: Attitudes Towards the Course

B.1. How satisfied or dissatisfied are you with your training?

very satisfied 1 satisfied 2 don't know 3 dissatisfied 4 very dissatisfied 5

B.2. How clear or unclear are the aims of the course for you?

very clear 1 clear 2 fairly clear 3 unclear 4 very unclear 5

B.3. How satisfied or dissatisfied are you with:

	very satisfied	satisfied	don't know	dissatisfied	very dissatisfied
teachers	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
curriculum	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
materials	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
evaluation	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
teaching methods	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
administration of your faculty	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>

B.4. What is your opinion about the course content?

	strongly agree	agree	neither agree nor disagree	disagree	strongly disagree
1. it is sufficiently challenging	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
2. topics taught are appropriate to the course	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
3. it stimulates student interest in the area	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>

B.5. Were there a suitable numbers of Lectures, Seminars, Practicals and Assignments on the course?

	far too many	too many	about right	too few	far too few
Lectures	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
Seminars	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
Practicals	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
Assignments	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>

B.6. In your opinion, what is the balance between theory and practice in the course?

very good	1 <input type="checkbox"/>	good	2 <input type="checkbox"/>	fair	3 <input type="checkbox"/>	poor	4 <input type="checkbox"/>	very poor	5 <input type="checkbox"/>
-----------	----------------------------	------	----------------------------	------	----------------------------	------	----------------------------	-----------	----------------------------

B.7. Please indicate your overall view of the teaching quality of your course in each year of study.

	very good	good	fair	poor	very poor
1st Year	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
2nd Year	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
3rd Year	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
4th Year	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
5th Year	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
6th Year	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
7th Year	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>

B.8. Which subject on your course do you regard as having been the best taught in each year of study?

1st Year
 2nd Year
 3rd Year
 4th Year
 5th Year
 6th Year
 7th Year

B.9. Which subject do you regard as having been the least well taught in each year of study?

1st Year
 2nd Year
 3rd Year
 4th Year
 5th Year
 6th Year
 7th Year

B.10. Are reading lists provided for the main subjects?

always 1 sometimes 2 often 3 seldom 4 never 5

B.11. What is the level of up-datedness ?

very good	good	fair	poor	very poor
1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>

B.12. Which of the following do you use to understand the course?

	always	sometimes	often	never
required course text	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>
reading list	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>
handouts	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>

printed notes	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>
your own notes	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>
listening to the lecture	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>
other	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>

(please specify) -----

B.13. What is the form of teaching you prefer?

	prefer very much	prefer	don't know	prefer a little	do not prefer
lectures	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
seminars	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
laboratory	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
other	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>

(specify which) -----

B.14. Are assessment regulations clear?

very clear	1 <input type="checkbox"/>	clear	2 <input type="checkbox"/>	fairly clear	3 <input type="checkbox"/>
unclear	4 <input type="checkbox"/>	very unclear	5 <input type="checkbox"/>		

B.15. In your opinion, how well does the assessment methods enable students to demonstrate that they have fulfilled the objectives of the course?

very well	well	fairly well	poorly	very poor
1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>

B.16. What is the assessment method that you prefer?

	prefer very much	prefer	don't know	prefer a little	do not prefer
exams	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
assignments	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
practicals	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
projects	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
continuous	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
other	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>

(please specify) -----

B.17. How do you feel about learning the English language?

	strongly agree	agree	neither agree nor disagree	disagree	strongly disagree
1. learning English is useful	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
2. learning English is a waste of time	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
3. would like to learn English as much as possible	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
4. would rather spend time on subjects other than English	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
5. plan to continue learn English	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>

B.18. Is your faculty involved in the programme "BUSCEP"?

Yes 1 No 2

If the answer to B.18 is Yes, please answer B.19.

B.19. What do you think about the basic semester (BUSCEP)?

very interesting	fairly interesting	about average	fairly <u>un</u> interesting	very <u>un</u> interesting
1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>

Section C: Academic Performance

C.1. How much time is dedicated in the following activities?

	most of my time	some of my time	a little of my time	none of my time
class lectures	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>
laboratories	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>
library	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>
class preparation and study	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>
extra curricular activities	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>
leisure	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>

C.2. Do you feel that the level attained in the basic disciplines in secondary school is sufficient to undertake your course?

Yes 1 Not sure 2 No 3

C.3. Were you required to take admission examinations for entry into the University? Yes 1 No 2

C.4. If the answer to C.3. is Yes, do you think that the admission examinations are:

far too difficult	a little too difficult	about right	a little too easy	far too easy
1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>

C.5. Compared with other students taking the admission examinations, in which position were you when admitted to your course?

near the top	better than average	about average	below the average	near the bottom
1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>

C.6. How motivated are you to pursue your course?

highly motivated	fairly motivated	not very motivated	poorly motivated
1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>

Section D: Living Conditions

D.1. Where do you live in Maputo? (please specify only the area/part of the city. Do not give your address)

.....

D.2. Do you live:

with your parents	1 <input type="checkbox"/>	with your partner	4 <input type="checkbox"/>
with other relatives	2 <input type="checkbox"/>	with friends	5 <input type="checkbox"/>
in University residence	3 <input type="checkbox"/>	other	6 <input type="checkbox"/>

D.3. In terms of the conditions of the place where you live, how satisfied or unsatisfied are you?

very satisfied	satisfied	don't know	dissatisfied	very dissatisfied
1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>

D.4. If you live in University residence, answer the following questions:

do you have your own room? Yes 1 No 2

if the answer is **No** say with how many people are you sharing the room -----

do you have a desk to work in your room? Yes 1 No 2

D.5. Concerning other facilities provided by the University, what is your opinion on:

	very good	good	fair	poor	very poor
cleaning	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
laundry	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
catering	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
health service	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
leisure	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>

D.6. Transport used to go to your faculty

own transport	1 <input type="checkbox"/>			
(specify if it is a car, bicycle, motorbike)				
family's transport	2 <input type="checkbox"/>		friends' transport	5 <input type="checkbox"/>
University bus	3 <input type="checkbox"/>		walk	6 <input type="checkbox"/>
public transport	4 <input type="checkbox"/>		other	7 <input type="checkbox"/>

Section E: Other Matters

E.1. Here are some arguments for the high drop-out and repetition rates in UEM. What is your opinion? (you may feel that better reasons than any of these might be given. Please state them at the end of this section)

	strongly agree	agree	neither agree nor disagree	disagree	strongly disagree
1. inadequate preparation in secondary school	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
2. inadequate preparation in first levels of the course	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
3. difficult conditions in which students live	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
4. difficult conditions in which students study	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
5. financial problems	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
6. restrictive academic regulations	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
7. course is not the students' choice	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
8. insufficient Portuguese language materials	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>

APPENDIX XI

**QUESTIONNAIRE FOR ACADEMIC STAFF
(ENGLISH LANGUAGE VERSION)**

QUESTIONNAIRE FOR ACADEMIC STAFF

You are invited to give your opinions about a number of educational questions which are set out in the following pages. As the questions are matters of opinion, there are no 'right' or 'wrong' answers: you will be asked to choose the answer you prefer from a number of alternatives. Please answer every question and give your own frank opinion. **All answers are anonymous and totally confidential.** Space is available at the end of the questionnaire for you to use if you want to add anything to the answers you have given.

Section A: Teaching

A.1. What subject(s) do you teach? -----
Please indicate the level -----

A.2. How long have you been a teacher at this university?

6 months or less	1 <input type="checkbox"/>	3-4 years	5 <input type="checkbox"/>
7 to 11 months	2 <input type="checkbox"/>	5-7 years	6 <input type="checkbox"/>
1 year	3 <input type="checkbox"/>	8-10 years	7 <input type="checkbox"/>
2 years	4 <input type="checkbox"/>	more than 10 years	8 <input type="checkbox"/>

A.3. How much of your time is dedicated to the following activities?

	most of my time	some of my time	a little of my time	none of my time
preparation for lectures	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>
teaching	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>
correcting papers	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>
personal research	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>
consulting	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>
advising students	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>
administrative work	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>

A.4. Are you teaching in the area in which you specialized or attained your highest degree?

Yes 1 No 2

A.5. How many classes do you teach per term? -----

A.6. In your opinion, is the scheduling of lectures, laboratory work, and seminars:

very efficient	efficient	fairly efficient	inefficient	very inefficient
1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>

Section B: Curriculum

B.1. How appropriate or inappropriate is the curriculum to the aims of the course?

very appropriate	appropriate	fairly appropriate	inappropriate	very inappropriate
1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>

B.2. Does the content of curriculum satisfy or not satisfy the course objectives?

very well	fairly well	a little	poorly
1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>

B.3. In your opinion, what is the balance between theory and practice in the course?

very good	good	fair	poor	very poor
1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>

B.4. How satisfactory or unsatisfactory is the sequencing on your courses?

very satisfactory	satisfactory	don't know	unsatisfactory	very unsatisfactory
1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>

B.5. Are there remedial courses to make up deficiencies in secondary education?

Yes 1 No 2

If the answer to B.5. is Yes, please answer questions B.6.

B.6. How successful or unsuccessful are these courses in preparing the students?

very successful	successful	partially successful	unsuccessful	very unsuccessful
1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>

Section C: Materials

C.1. What are the main sources you draw upon for your teaching materials?

the course text	1 <input type="checkbox"/>
your own texts and books	2 <input type="checkbox"/>
scientific articles	3 <input type="checkbox"/>
your own knowledge about the material	4 <input type="checkbox"/>
other	5 <input type="checkbox"/>
(please specify)	

C.2. What do the students use as their course materials?

- required course text 1
reading list 2
handouts 3
printed notes 4
their own notes 5
other 6 (please specify) _____

C.3. Is each student provided with a textbook for the course?

- always 1 most of the time 2 seldom 3 never 4

C.4. Are literature or reading lists provided for the subjects you teach?

- always 1 often 2 sometimes 3 never 4

C.5. How up-to-date are the literature and reading lists?

- all up-to-date mostly somewhat not at all
1 2 3 4

C.6. Does your library contain a sufficient amount of materials (texts, periodicals, etc.) relating to the subject you teach?

- very sufficient sufficient fairly sufficient insufficient very insufficient
1 2 3 4 5

C.7. Are there reagents in sufficient number for your laboratory classes?

(answer only if it applies to your case)

- very sufficient sufficient fairly sufficient insufficient very insufficient
1 2 3 4 5

Section D: Assessment

D.1. In general, how often are students assessed in your subject?

- once per term 1
twice per term 2
three times per term 3
other 4 (please specify) _____

D.2. What is the general format of your tests / examinations?

	Tests	Examinations
multiple choice	1 <input type="checkbox"/>	1 <input type="checkbox"/>
problem solving	2 <input type="checkbox"/>	2 <input type="checkbox"/>
questions	3 <input type="checkbox"/>	3 <input type="checkbox"/>
other	4 <input type="checkbox"/>	4 <input type="checkbox"/>

(please specify) -----

D.3. What is the main emphasis in your tests / examinations?

	Tests	Examinations
factual recall	1 <input type="checkbox"/>	1 <input type="checkbox"/>
theoretical understanding	2 <input type="checkbox"/>	2 <input type="checkbox"/>
applications	3 <input type="checkbox"/>	3 <input type="checkbox"/>
other	4 <input type="checkbox"/>	4 <input type="checkbox"/>

(please specify) -----

D.4. In your opinion, how well does the assessment methods enable students to demonstrate that they have fulfilled the objectives of the course:

very well 1 well 2 fairly well 3 poorly 4 very poorly 5

Section E: Students

E.1. On average, how many students are present in your lectures / classes?

less than 20	1 <input type="checkbox"/>	60-79	4 <input type="checkbox"/>
20-39	2 <input type="checkbox"/>	80-100	5 <input type="checkbox"/>
40-59	3 <input type="checkbox"/>	more than 100	6 <input type="checkbox"/>

E.2. If you have laboratory work in the subject that you teach, what is the range of the number of students in the laboratory sections?

less than 10	1 <input type="checkbox"/>	25-29	5 <input type="checkbox"/>	not applicable	9 <input type="checkbox"/>
10-14	2 <input type="checkbox"/>	30-39	6 <input type="checkbox"/>		
15-19	3 <input type="checkbox"/>	40-49	7 <input type="checkbox"/>		
20-24	4 <input type="checkbox"/>	more than 50	8 <input type="checkbox"/>		

E.3. How do you rate the preparation of the students to handle the material upon entering the university?

very good 1 good 2 fair 3 poor 4 very poor 5

E.4. Do you feel that the admissions standards are:

very good 1 good 2 adequate 3 low 4 very low 5

E.5. How would you rate student study habits?

very good 1 good 2 fair 3 poor 4 very poor 5

E.6. How motivated are the students in learning the materials?

highly motivated 1 motivated 2 fairly motivated 3 poorly motivated 4 not motivated 5

E.7. In your opinion, what are the major reasons for students dropping out the course?

	strongly agree	agree	neither agree nor disagree	disagree	strongly disagree
not motivated to do the work	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
do not like the course	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
found the course to be too difficult	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
regulations are too restrictive	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
did not have the necessary financial support	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
needed to get a job to support self or family	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
inadequate preparation in previous years	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
other	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>

(please specify) _____

Section F: Facilities

F.1. How would you describe the lectures rooms?

far too large 1 large 2 the right size 3 small 4 far too small 5

F.2. How would you describe the classrooms?

far too large 1 large 2 the right size 3 small 4 far too small 5

F.3. Which of the following teaching aids are available in the classroom you teach in?

	always	most of the time	some of the time	seldom	never
blackboard	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
overhead projector	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
equipment for lecture demonstration	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
others	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>

(specify which teaching aids)-----

F.4. What is the quality of the teaching aids that are available?

very good 1 good 2 fair 3 poor 4 very poor 5

F.5. Is there adequate or inadequate equipment available in the laboratories?

very adequate 1 adequate 2 fairly adequate 3 inadequate 4 very inadequate 5

F.6. What is the status of the laboratory equipment?

a) the equipment is obsolete 1 b) it is well maintained 1
the equipment is up-to-date 2 it is poorly maintained 2

F.7. What kind of office do you have?

private office 1 other 3
shared office 2 office space is not provided 4

F.8. How would you describe the computing facilities in your department?

very good 1 good 2 fair 3 poor 4 very poor 5

F.9. How would you rate the overall maintenance of the faculty's facilities?

very good 1 good 2 fair 3 poor 4 very poor 5

F.10. How would you describe the relationship between the people of the department you are in?

very good 1 good 2 fair 3 poor 4 very poor 5

F.11. How would you rate the communications between the central administration and the department?

very good good fair poor very poor
 1 2 3 4 5

Section G: Other Matters

G.1. Why do you choose to be academic?

enjoy teaching	1 <input type="checkbox"/>	other	8 <input type="checkbox"/>
want to do research	2 <input type="checkbox"/>	(Please briefly specify)	-----
like the university atmosphere	3 <input type="checkbox"/>	-----	
for the prestige / position	4 <input type="checkbox"/>	-----	
for the money	5 <input type="checkbox"/>	-----	
conditions of work	6 <input type="checkbox"/>		
could not find other work	7 <input type="checkbox"/>		

G.2. What do you enjoy most about your profession?

pay	1 <input type="checkbox"/>	other	6 <input type="checkbox"/>
teaching	2 <input type="checkbox"/>	(Please specify)	-----
research	3 <input type="checkbox"/>	-----	
university atmosphere	4 <input type="checkbox"/>	-----	
the prestige / position in society	5 <input type="checkbox"/>	-----	

G.3. What are the disadvantages of your chosen profession?

	strongly agree	agree	neither agree nor disagree	disagree	strongly disagree
pay scale	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
teaching load	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
reasearch	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
the university atmosphere	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
administration	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
department atmosphere	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
the work load	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
other	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
(Please specify)					

G.4. In your opinion what changes should be made to assist university teachers?

	strongly agree	agree	neither agree nor disagree	disagree	strongly disagree
more time to prepare classes	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
keep up with the literature in the field	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
higher salaries to attract and keep them	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
provide accomodation and transport	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
more chances to participate in conferences	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
better research facilities	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
more chances for training	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
lighter teaching load	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
lighter administrative work	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
other (Please specify)	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>

**G.5. If just one thing is to be improved at the university, what should it be?
(THICK ONE BOX ONLY)**

improvement of curricula	1 <input type="checkbox"/>
improvement of the library collection	2 <input type="checkbox"/>
better classroom facilities	3 <input type="checkbox"/>
better laboratory facilities	4 <input type="checkbox"/>
higher education standards	5 <input type="checkbox"/>
improvement of the administration	6 <input type="checkbox"/>
other	7 <input type="checkbox"/>

(Please specify) _____

G.6. Your Number of publications

in local journals in foreign journals

G.7. The Number of conferences you have attended in the last three (3) years

In Mozambique Abroad

Section H: Personal Details

H.1. Faculty ----- H.2. Department -----

H.3. Date of birth ----- day ----- month ----- year

H.4. Gender Male 1 Female 2

H.5. Nationality Mozambican 1 other 2

Please name the nationality -----

H.6. What is your category: Professor (Associate) 1
Professor (Assistant) 2
1st Assistant 3
2nd Assistant 4
Trainee Assistant 5

H.7. What is your present job title: -----

H.8. Where did you get your first degree?

in Mozambique 1

in other country 2 (Please specify) -----

H.9. Highest degree earned

Please specify the degree and where did you get it (in Mozambique or abroad)


H.10. Is it in the same field as your first degree?

Yes 1

No 2

Section I : Other Comments

If there are any other comments you would like to make about other aspects which were not covered in this questionnaire, please write below. This comments must be positive or negative. Practical and realistic ideas for improvement are particularly welcomed.

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APPENDIX XII

**QUESTIONNAIRE FOR TECHNICAL AND
ADMINISTRATIVE STAFF
(ENGLISH LANGUAGE VERSION)**

QUESTIONNAIRE FOR TECHNICAL AND ADMINISTRATIVE STAFF

You are invited to give your opinions about a number of questions which are set out in the following pages. As the questions are matters of opinion, there are no 'right' or 'wrong' answers: you will be asked to choose the answer you prefer from a number of alternatives. Please answer every question and give your own frank opinion. **All answers are anonymous and totally confidential.** Space is available at the end of the questionnaire for you to use if you want to add anything to the answers you have given.

Section A: Attitudes Towards the Place of Work

A.1. How satisfied or dissatisfied are you with your work?

very satisfied	satisfied	don't know	dissatisfied	very dissatisfied
1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>

A.2. How satisfied or dissatisfied are you with:

	very satisfied	satisfied	don't know	dissatisfied	very dissatisfied
Policies in promotion	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
Conditions of work	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
Management	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
Salary	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
Transport	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
Social Services	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>

A.3. How would you describe the relationship between the people in your office?

very good	good	fair	poor	very poor
1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>

A.4. How would you rate the communications between the administrator(s) of your office and the staff?

very good	good	fair	poor	very poor
1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>

A.5. How clear or unclear are the regulations concerning the Technical and Administrative Staff?

very clear	clear	fairly clear	unclear	very unclear
1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>

SECTION B: Educational Qualifications and Training

B.1. What is your highest educational qualification?

- less than Grade 9 1 Grade 9 -10 2 Grade 11 3
 Technical Grade 4 BA or Bsc 5 Licenciatura 6
 Other 7

If your answer is Other, please specify

B.2. Are there workshops or courses in your place of work to assist personnel to improve their skills? Yes 1 No 2

If the answer to B.2. is Yes, please answer question B.3.

B.3. Have you ever attended one of these workshops or courses?

- Yes 1 No 2

If the answer is Yes, please specify the course(s) and answer B.4.

.....

B.4. Did you find the workshops or classes helpful?

- Yes 1 somewhat 2 not at all 3

Section C: Other Matters

C.1. In your opinion what changes should be made to assist the technical and administrative staff?

	strongly agree	agree	neither agree nor disagree	disagree	strongly disagree
1. provide regular internal professional training	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
2. better conditions of work	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
3. introduction of a merit system	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
4. recruitment of persons with the necessary qualifications and experience for the job.	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
5. provide medical assistance	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
6. provide transport & accommodation	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
7. clear regulations	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
8. others (please mention it)	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>

C.2. On what basis do you think promotions should occur?

	strongly agree	agree	neither agree nor disagree	disagree	strongly disagree
1. education qualifications	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
2. years of experience	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
3. quality of work	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
4. dedication to the work	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
5. satisfactory tests	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
6. combination of all	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
7. other	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
(please specify)					

C.3. Here are some aspects that are considered to affect the quality of work of the technical and administrative staff. What is your opinion?

	strongly agree	agree	neither agree nor disagree	disagree	strongly disagree
1. inadequate qualifications for the job	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
2. poor salaries	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
3. conditions of work	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
4. restrict regulations	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
5. few incentives	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
6. social assistance	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
7. other	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
(please specify)					

C.4. Please comment on ways that you think might increase the quality of work provided by the technical and administrative staff.

.....

.....

.....

.....

.....

.....

.....

.....

Section D: Personal Details

D.1. Place of work:

Faculty	1 <input type="checkbox"/>	Center	2 <input type="checkbox"/>
Museum or AHM	3 <input type="checkbox"/>	Central Offices	4 <input type="checkbox"/>
Social Services	5 <input type="checkbox"/>	Transportation	6 <input type="checkbox"/>
Other	7 <input type="checkbox"/>		

(please specify)-----

D.2. Field of work:

Administration and Secretary	1 <input type="checkbox"/>	Support Services	5 <input type="checkbox"/>
Laboratory	2 <input type="checkbox"/>	Security	6 <input type="checkbox"/>
Library	3 <input type="checkbox"/>	Other	7 <input type="checkbox"/>
Social Services	4 <input type="checkbox"/>	(please specify)-----	

D.3. Category:

D.4. Present job title:

D.5. Gender: Male 1 Female 2

D.6. Date of birthday month year

D.7. Marital Status

single	1 <input type="checkbox"/>	married	2 <input type="checkbox"/>	divorced	3 <input type="checkbox"/>
separated	4 <input type="checkbox"/>	living with a partner	5 <input type="checkbox"/>	widowed	6 <input type="checkbox"/>

D.8. Nationality Mozambican 1 other 2

Please name the nationality

D.9. How long have you been in a payed employment doing the same or similar job as you are doing now?

less than 6 months	1 <input type="checkbox"/>	3-4 years	5 <input type="checkbox"/>
6 to 11months	2 <input type="checkbox"/>	5-7 years	6 <input type="checkbox"/>
1year	3 <input type="checkbox"/>	8-10 years	7 <input type="checkbox"/>
2 years	4 <input type="checkbox"/>	more than 10 years	8 <input type="checkbox"/>

D.10. How long have you been working in this University?

less than 6 months	1 <input type="checkbox"/>	3-4 years	5 <input type="checkbox"/>
7 to 11 months	2 <input type="checkbox"/>	5-7 years	6 <input type="checkbox"/>
1 year	3 <input type="checkbox"/>	8-10 years	7 <input type="checkbox"/>
2 years	4 <input type="checkbox"/>	more than 10 years	8 <input type="checkbox"/>

APPENDIX XIII

***QUESTIONNAIRE FOR DEANS OF FACULTY
(ENGLISH LANGUAGE VERSION)***

QUESTIONNAIRE FOR DEANS OF FACULTY

You are invited to give your opinions about a number of questions which are set out in the following pages. As the questions are matters of opinion, there are no 'right' or 'wrong' answers: you will be asked to choose the answer you prefer from a number of alternatives. Please answer every question and give your own frank opinion. **All answers are anonymous and totally confidential.** Space is available at the end of the questionnaire for you to use if you want to add anything to the answers you have given.

Section A: Recruitment and Employment of Academic Staff

A.1. In your opinion, is it possible to recruit an adequate number of

local qualified staff? Yes 1 No 2
If your answer is No Please answer A.2.

A.2. Why?

	strongly agree	agree	neither agree nor disagree	disagree	strongly disagree
Pay is too low to attract qualified people	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
There are no qualified people especially for senior positions	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
Other	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>

(please specify)

A.3. What percentage of your academic staff is expatriate?

less than 10% 1 10%-19% 2 20%-39% 3
40%-50% 4 more than 50% 5

A.4. Do you have a plan to replace expatriates? Yes 1 No 2

A.5. If Yes what do you intend to do?

1. Send junior staff to be trained abroad	1 <input type="checkbox"/>
2. Try to attract qualified nationals from abroad	2 <input type="checkbox"/>
3. Send graduates to get higher degrees abroad	3 <input type="checkbox"/>
4. Develop a local graduate program	4 <input type="checkbox"/>
5. Other (please specify)	5 <input type="checkbox"/>

A.6. In your opinion, what percentage of staff in your Faculty completing advanced degrees abroad return to the Institution?

- < 5% 1 5 %- 10% 2 11% -25% 3
 26 %- 50% 4 51% - 75% 5 more than 75% 6

A.7. In your judgement, how satisfactory or unsatisfactory is the teaching performance of your staff?

- very satisfactory 1 satisfactory 2 don't know 3
 unsatisfactory 4 very unsatisfactory 5

Section B: Quality of Output and Graduates

B.1. Are graduates from your Faculty prepared satisfactorily for employment in fields relevant to their training?

- Yes 1 No 2 don't know 3

If the answer is No, please answer question B.2.

B.2. Why do you think your graduates are not well prepared?

	strongly agree	agree	neither agree nor disagree	disagree	strongly disagree
1. time is too short to cover all necessary subjects	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
2. instructors are not well trained	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
3. students are not sufficient motivated	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
4. content of courses not always relevant to employment needs	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
5. facilities and equipment are below standard	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
6. other	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>

(please specify).....

Section C: Management

C.1. Is your Faculty directly responsible for:

	Yes	No
1. Recruitment of teaching staff	1 <input type="checkbox"/>	2 <input type="checkbox"/>
2. Recruitment of support staff	1 <input type="checkbox"/>	2 <input type="checkbox"/>
3. Admission and/or selection of students	1 <input type="checkbox"/>	2 <input type="checkbox"/>
4. Design of curriculum	1 <input type="checkbox"/>	2 <input type="checkbox"/>
5. Revision of curriculum	1 <input type="checkbox"/>	2 <input type="checkbox"/>
6. Adaptation of curriculum	1 <input type="checkbox"/>	2 <input type="checkbox"/>
7. Preparation of teaching and training materials	1 <input type="checkbox"/>	2 <input type="checkbox"/>
8. Design of examinations or tests	1 <input type="checkbox"/>	2 <input type="checkbox"/>
9. Purchase of books and equipment	1 <input type="checkbox"/>	2 <input type="checkbox"/>
10. Purchase of consumable materials	1 <input type="checkbox"/>	2 <input type="checkbox"/>
11. Scheduling of classes	1 <input type="checkbox"/>	2 <input type="checkbox"/>

C.2. Is your Faculty responsible for collecting and maintaining the records on:

	Yes	No
1. Selection and admission of students	1 <input type="checkbox"/>	2 <input type="checkbox"/>
2. Students performance and examinations	1 <input type="checkbox"/>	2 <input type="checkbox"/>
3. Faculty staff and support staff	1 <input type="checkbox"/>	2 <input type="checkbox"/>
4. Curricula	1 <input type="checkbox"/>	2 <input type="checkbox"/>
5. Course programs	1 <input type="checkbox"/>	2 <input type="checkbox"/>
6. Examinations	1 <input type="checkbox"/>	2 <input type="checkbox"/>
7. Examination-grades	1 <input type="checkbox"/>	2 <input type="checkbox"/>
8. Faculty staff salaries	1 <input type="checkbox"/>	2 <input type="checkbox"/>
9. Faculty support staff salaries	1 <input type="checkbox"/>	2 <input type="checkbox"/>
10. Expenditure on consumable materials	1 <input type="checkbox"/>	2 <input type="checkbox"/>
11. Capital expenditures	1 <input type="checkbox"/>	2 <input type="checkbox"/>

C.3. What kind of Faculty planning do you prefer?

	prefer very much	prefer	don't know	prefer a little	do not prefer
Short term	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
Medium term	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
Long term	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>

C.4. What is the planning structure used by your Faculty?

	always	often	sometimes	never
1. permanent planning committee	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>
2. ad hoc faculty planning committee	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>
3. ad hoc external and faculty committee	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>
4. other (please specify)	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>

C.5. Are financial analyses (e.g. trends in cost / student, cost / graduate) used in the management and planning of the Faculty?

Yes 1 No 2

Section D: General Matters

D.1. In your opinion, which of the following measures would most improve the training of students in your Faculty?

	strongly agree	agree	neither agree nor disagree	disagree	strongly disagree
1. Improve buildings	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
2. Improve laboratories and equipment	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
3. Change the structure and/or content of curriculum	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
4. Increase and improve class materials and books	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
5. Raise admission requirements for applying students	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
6. Close relations with employers	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
7. More contact with similar institutions abroad	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>

D.2. How would you rate the student dropout in your Faculty?

very high	high	about average	low	very low
1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>

D.3. How would you rate the student repetition of subjects in your Faculty?

very high	high	about average	low	very low
1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>

D.4. In which level of the course(s) are found the highest rates of dropouts and repetitions?

	Dropout	Repetitions
Level 1	1 <input type="checkbox"/>	2 <input type="checkbox"/>
Level 2	1 <input type="checkbox"/>	2 <input type="checkbox"/>
Level 3	1 <input type="checkbox"/>	2 <input type="checkbox"/>
Level 4	1 <input type="checkbox"/>	2 <input type="checkbox"/>
Level 5	1 <input type="checkbox"/>	2 <input type="checkbox"/>
Level 6	1 <input type="checkbox"/>	2 <input type="checkbox"/>
Level 7	1 <input type="checkbox"/>	2 <input type="checkbox"/>

D.5. Here are some arguments for students dropping out. What is your opinion?
 (you may feel that better reasons than any of these might be given. Please state them on the back of this sheet)

	strongly agree	agree	neither agree nor disagree	disagree	strongly disagree
1. inadequate preparation in secondary school	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
2. inadequate preparation in first levels of the course	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
3. difficult conditions in which students live	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
4. difficult conditions in which students study	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
5. financial problems	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
6. restrictive academic regulations	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
7. course is not the students' choice	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
8. insufficient Portuguese language materials	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>
9. lack of counselling	1 <input type="checkbox"/>	2 <input type="checkbox"/>	3 <input type="checkbox"/>	4 <input type="checkbox"/>	5 <input type="checkbox"/>

APPENDIX XIV

**QUESTIONNAIRE FOR UEM GRADUATES
(ENGLISH LANGUAGE VERSION)**

QUESTIONNAIRE FOR UEM GRADUATES

You are invited to give your opinions about a number of questions which are set out in the following pages. As the questions are matters of opinion, there are no 'right' or 'wrong' answers: you will be asked to choose the answer you prefer from a number of alternatives. Please answer every question and give your own frank opinion. **All answers are anonymous and totally confidential.** Space is available at the end of the questionnaire for you to use if you want to add anything to the answers you have given.

Section A: Your Views About the Course

A.1. Are you satisfied or dissatisfied with the training given to you in your course?

very satisfied satisfied don't know dissatisfied very dissatisfied
1 2 3 4 5

A.2. Are you applying in your work what you learned in your course?

a lot 1 a little 2 no 3

A.3. What type of knowledge do you think is primarily needed for performing efficiently in your job?

theoretical 1 theoretical and practical 4
practical 2 theoretical and experience 5
experience 3 practical and experience 6

A.4. Which of the following applies to you?

	YES	NO
the curriculum did not include important areas	1 <input type="checkbox"/>	2 <input type="checkbox"/>
the curriculum was out of date	1 <input type="checkbox"/>	2 <input type="checkbox"/>
subjects were not well taught	1 <input type="checkbox"/>	2 <input type="checkbox"/>
books and material were not available	1 <input type="checkbox"/>	2 <input type="checkbox"/>
few laboratory exercises and practical demonstrations	1 <input type="checkbox"/>	2 <input type="checkbox"/>
obsolete equipment and materials in short supply	1 <input type="checkbox"/>	2 <input type="checkbox"/>
too much theory and little practice	1 <input type="checkbox"/>	2 <input type="checkbox"/>

A.5. How satisfied or dissatisfied are you with what you are doing in your job?

very satisfied satisfied don't know dissatisfied very dissatisfied
1 2 3 4 5

A.6. After graduation if you are not a UEM employer, do you keep in touch with your faculty?

as often as possible 1

sometimes 2

never 3

A.7. What are your career aspirations for the future?

get a job in Maputo 1

go abroad to work 2

return to work in my province of origin 3

postgraduate studies 4

other 5

Section B: About your Research Project

B.1. Where does the area of your research project derive from?

your own interest 1

staff research 2

employer's interest 3

other 4

B.2. In terms of the methods used to pursue your research project, how satisfied or dissatisfied are you?

very satisfied

satisfied

don't know

dissatisfied

very dissatisfied

1

2

3

4

5

B.3. Did you finish your research project? Yes 1 No 2

B.4. If the answer to B.3. is Yes, how long did you take to finish your project?

6 months 1

7 -11months 2

1-2 years 3

3 years 4

more than 3 years 5

B.5. If the answer to B3 is No, explain why you did not finish your research project?

- still working on the project 1
- don't think it is important 2
- pressure from the job market 3
- other 4

Section C: About your Present / Future Job

OBS- For those who just graduate, consider these questions for your future job.

- C.1. Occupation:**
- In your field 1
 - Related to your field 2
 - Not related to your field 3

- C.2. Employer:**
- Government 1
 - Industry 2
 - General/ Technical Education 3
 - UEM 4
 - Private 5
 - Other 6

- C.3. Function in the work:**
- Administrator 1 Technical 2 Researcher 3 Other 4

- C.4. How long did you take to find a job after graduation?**
- immediately 1
 - up to one month 2
 - about two months 3
 - 3 to 6 months 4
 - 7 to 12 months 5
 - over 12 months 6

- C.5. For those who had a job before coming into the University, did you**
- keep the same job 1
 - move to a different job 2

- C.6. How did you get the job?**
- | | | |
|---------------------------|---|--------------------------|
| through UEM placement | 1 | <input type="checkbox"/> |
| through personal contacts | 2 | <input type="checkbox"/> |
| through newspaper advs. | 3 | <input type="checkbox"/> |
| other | 4 | <input type="checkbox"/> |

C.7. How much do you earn per month now?

- | | | | | | |
|-------------------------|---|--------------------------|-------------------------|---|--------------------------|
| less than 1 million Mt. | 1 | <input type="checkbox"/> | between 1-2 million Mt. | 2 | <input type="checkbox"/> |
| between 2-3 million Mt. | 3 | <input type="checkbox"/> | more than 3 million Mt. | 4 | <input type="checkbox"/> |

C.8. When you graduate, did you expect to earn:

- | | | | |
|----------------------------|----------------------------|----------------------------|----------------------------|
| more | less | about the same | don't know |
| 1 <input type="checkbox"/> | 2 <input type="checkbox"/> | 3 <input type="checkbox"/> | 4 <input type="checkbox"/> |

C.9. Is your present job related to your training?

- | | | | | | | | | |
|-----------|---|--------------------------|--------|---|--------------------------|----|---|--------------------------|
| very much | 1 | <input type="checkbox"/> | partly | 2 | <input type="checkbox"/> | No | 3 | <input type="checkbox"/> |
|-----------|---|--------------------------|--------|---|--------------------------|----|---|--------------------------|

C.10. If your answer to C.9. is No, say why?

- | | | |
|-------------------------------------|---|--------------------------|
| Did not find work in the speciality | 1 | <input type="checkbox"/> |
| Choose to work in something else | 2 | <input type="checkbox"/> |
| Look for better salary | 3 | <input type="checkbox"/> |
| Other | 4 | <input type="checkbox"/> |

Section D: Personal Details

D.1. This questionnaire was delivered to UEM graduates. Which is your area of graduation?

- | | | |
|--|---|---|
| 01 <input type="checkbox"/> Agronomy | 02 <input type="checkbox"/> Forestry | 03 <input type="checkbox"/> Rural Eng. |
| 04 <input type="checkbox"/> Biology | 05 <input type="checkbox"/> Geology | 06 <input type="checkbox"/> Physics |
| 07 <input type="checkbox"/> Chemistry | 08 <input type="checkbox"/> Informatic | 09 <input type="checkbox"/> Law |
| 10 <input type="checkbox"/> Economy | 11 <input type="checkbox"/> Management | 12 <input type="checkbox"/> Architecture |
| 13 <input type="checkbox"/> Civil Eng. | 14 <input type="checkbox"/> Electronic Eng. | 15 <input type="checkbox"/> Electrical Eng. |
| 16 <input type="checkbox"/> Mech. Eng. | 17 <input type="checkbox"/> Chem. Eng. | 18 <input type="checkbox"/> History |
| 19 <input type="checkbox"/> Geography | 20 <input type="checkbox"/> Linguistics | 21 <input type="checkbox"/> Medicine |
| 22 <input type="checkbox"/> Veterinary | | |

APPENDIX XV

This Appendix consists of a modified version of the questionnaire shown in Appendix X. This version gives the complete results of all 'closed' questions, showing, for each one, the percentage of respondents choosing each option.

QUESTIONNAIRE FOR STUDENTS

Section A : Your Background

V2 A.1. Province where you born

Maputo	38.6	Niassa	1.3
Sofala	9.7	Zambézia	6.8
Gaza	8.7	Nampula	7.4
Inhambane	13.3	Cabo Delgado	3.8
Manica	2.5	Abroad	0.8
Tete	7.0		

V3 A.2. Area where your family live rural 29.5 urban 70.5

V4 A.3. Your family income

low	46.5	medium	42.3	high	0.6	don't know	10.6
-----	------	--------	------	------	-----	------------	------

V5 A.4. Religion: (please indicate your religious affiliation. If you are not a member of any religious body, write "None")

None	15.6	Adventist	0.4
Muslim	8.9	Evangelic	1.3
Catholic	63.2	Jeovah	0.9
Methodist	2.6	Other	4.1
Protestant	3.0		

V6 A.5. What is your mother tongue Portuguese 15.7 Other 84.3

V7 A.6. Do you know any foreign languages? Yes 91.1 No 8.9
If your answer to A.6. is Yes, describe your skills

V8 language 1 ..English....

	fluently	fairly fluently	a little	not at all
V9 speak	15.1	24.6	59.6	0.7
V10 write	13.3	39.8	46.2	0.7
V11 read	21.3	46.8	31.9	0.0

V12 language 2 ...French...

	fluently	fairly fluently	a little	not at all
V13 speak	3.7	21.2	68.8	6.2
V14 write	3.7	28.0	56.1	12.2
V15 read	12.2	39.0	46.3	2.4

language 3 ..Spanish....

speak	20.0	26.7	30.0	23.3
write	16.1	29.0	38.7	16.1
read	32.1	46.4	21.4	0.0

language 4 ...Other.....

speak	11.8	29.4	47.1	11.8
write	15.6	15.6	50.0	18.8
read	19.4	29.0	38.7	12.9

V16 A.7. Your pre-university school:

Francisco Manyanga	49.4
Samora Machel	10.6
1° de Maio	8.5
25 de Setembro	3.7
Nwachicoloane	4.8
other	23.0

V17 A.8. How long since you left school and came to the university?

immediately	60.0	1 year	15.8	2-3 years	10.6
4-5 years	4.8	more than 5 years	8.9		

V18 A.9. If the entry into the university was not immediate, what took you long?

fail the admission exams	27.0
financial problems	16.8
other	56.2

V19 A.10. How much did you know about university courses before you came into the university?

a lot	a fair amount	a little	very little	nothing at all
4.2	39.2	25.3	22.3	9.0

V20 A.11. Why did you choose your course? (tick as many as are appropriate)

own interest	71.7	employer's interest	3.1
family advice	10.4	did not choose	4.6
friends are in the same course	5.2	other	5.0

V21 A.12. Who sponsors your studies?

UEM	39.0	employer	7.2	private	24.5	other	29.2
-----	------	----------	-----	---------	------	-------	------

V22 A.13. If you have a UEM scholarship please specify the type.

complete scholarship	39.6	reduced scholarship	21.9
fee exemption	5.3	fee reduction	33.2

Section B: Attitudes Towards the Course

V23 B.1. How satisfied or dissatisfied are you with your training?

very satisfied	satisfied	don't know	dissatisfied	very dissatisfied
11.1	56.9	16.9	13.8	1.3

V24 B.2. How clear or unclear are the aims of the course for you?

very clear	clear	fairly clear	unclear	very unclear
12.3	42.8	26.5	16.5	1.9

B.3. How satisfied or dissatisfied are you with:

	very satisfied	satisfied	don't know	dissatisfied	very dissatisfied
V25 teachers	2.3	41.1	21.1	31.3	4.2
V26 curriculum	3.0	33.9	19.7	32.2	11.2
V27 materials	0.6	13.2	9.8	47.9	28.4
V28 evaluation	1.1	41.9	20.9	31.1	5.1
V29 teaching methods	1.5	31.1	18.6	39.0	9.8
V30 administration of your faculty	2.7	22.2	31.2	24.9	19.0

B.4. What is your opinion about the course content?

	strongly agree	agree	neither agree nor disagree	disagree	strongly disagree
V31 1. it is sufficiently challenging	18.0	41.2	31.8	7.5	1.5
V32 2. topics taught are appropriate to the course	10.3	53.4	25.4	9.8	1.1
V33 3. it stimulates student interest in the area	8.7	43.7	28.0	14.3	5.2

B.5. Were there a suitable numbers of Lectures, Seminars, Practicals and Assignments on the course?

	far too many	too many	about right	too few	far too few
V34 Lectures	6.2	7.2	38.6	22.0	26.0
V35 Seminars	0.6	2.6	34.0	34.6	28.2
V36 Practicals	1.5	2.9	34.9	33.8	26.9
V37 Assignments	0.9	1.6	13.6	25.9	58.0

V38 B.6. In your opinion, what is the balance between theory and practice in the course?

very good	good	fair	poor	very poor
4.0	18.0	19.7	37.9	20.3

B.7. Please indicate your overall view of the teaching quality of your course in each year of study.

	very good	good	fair	poor	very poor
V39 1st Year	13.4	33.2	39.1	11.2	3.1
V40 2nd Year	3.0	25.6	57.3	10.7	3.3
V41 3rd Year	3.1	35.3	51.0	7.8	2.7
V42 4th Year	7.0	45.3	36.0	9.9	1.7
V43 5th Year	9.6	32.7	36.5	15.4	5.8
V44 6th Year	0.0	50.0	50.0	0.0	0.0
V45 7th Year	0.0	0.0	0.0	0.0	0.0

B.8. Which subject on your course do you regard as having been the best taught in each year of study?

1st Year

2nd Year

3rd Year

4th Year

5th Year

6th Year

7th Year

B.9. Which subject do you regard as having been the least well taught in each year of study?

1st Year	.....
2nd Year	.....
3rd Year	.....
4th Year	.....
5th Year	.....
6th Year	.....
7th Year	.....

V46 B.10. Are reading lists provided for the main subjects?

always	sometimes	often	seldom	never
2.1	6.7	45.3	42.9	2.9

V47 B.11. What is the level of up-datedness ?

very good	good	fair	poor	very poor
0.2	6.4	37.5	42.4	13.6

B.12. Which of the following do you use to understand the course?

	always	sometimes	often	never
V48 required course text	28.9	50.4	15.4	5.2
V49 reading list	39.1	40.6	18.5	1.9
V50 handouts	16.9	45.8	30.4	6.9
V51 printed notes	81.3	13.4	4.1	1.3
V52 your own notes	70.0	20.4	7.6	2.1
V53 listening to the lecture	53.5	19.3	15.4	11.8
V54 other	31.9	40.4	17.0	10.6

B.13. What is the form of teaching you prefer?

	prefer very much	prefer	don't know	prefer a little	do not prefer
V55 lectures	20.8	54.9	11.6	9.5	3.2
V56 seminars	22.9	52.9	11.5	9.5	3.2
V57 laboratory	60.7	32.4	4.5	1.2	1.2
V58 other	40.5	27.0	24.3	2.7	5.4

V59 B.14. Are assessment regulations clear?

very clear	clear	fairly clear	unclear	very unclear
7.4	27.3	23.5	28.6	13.1

V60 B.15. In your opinion, how well does the assessment methods enable students to demonstrate that they have fulfilled the objectives of the course?

very well	well	fairly well	poorly	very poor
1.7	14.7	50.6	26.1	6.8

B.16. What is the assessment method that you prefer?

	prefer very much	prefer	don't know	prefer a little	do not prefer
V61 exams	18.5	52.3	8.2	15.1	6.0
V62 assignments	33.0	48.9	4.9	9.3	3.9
V63 practicals	43.1	47.6	4.3	3.3	1.7
V64 projects	24.6	32.4	26.2	9.1	7.8
V65 continuous	24.9	39.5	10.5	13.4	11.7
V66 other	17.9	10.7	53.6	7.1	10.7

B.17. How do you feel about learning the English language?

	strongly agree	agree	neither agree nor disagree	disagree	strongly disagree
V67 1. learning English is useful	82.2	15.1	2.3	0.0	0.4
V68 2. learning English is a waste of time	1.2	1.2	5.2	21.9	70.3
V69 3. would like to learn English as much as possible	72.5	20.7	3.8	1.9	1.2
V70 4. would rather spend time on subjects other than English	6.4	7.4	26.9	33.1	26.2
V71 5. plan to continue learn English	59.3	33.7	4.2	1.6	1.2

V72 B.18. Is your faculty involved in the programme "BUSCEP"?

Yes 44.4 No 55.6

If the answer to B.18 is Yes, please answer B.19.

V73 B.19. What do you think about the basic semester (BUSCEP)?

very interesting	fairly interesting	about average	fairly <u>un</u> interesting	very <u>un</u> interesting
64.8	23.0	6.6	3.8	1.9

Section C: Academic Performance

C.1. How much time is dedicated in the following activities?

	most of my time	some of my time	a little of my time	none of my time
V74 Class Lectures	64.6	30.0	4.6	0.9
V75 laboratories	10.1	23.8	29.7	36.4
V76 library	17.2	49.3	29.5	4.0
V77 class preparation and study	47.5	39.7	11.9	0.9
V78 extra curricular activities	6.4	27.5	48.3	17.8
V79 leisure	2.1	26.4	60.3	11.2

V80 C.2. Do you feel that the level attained in the basic disciplines in secondary school is sufficient to undertake your course?

Yes	Not sure	No
46.4	38.9	14.7

V81 C.3. Were you required to take admission examinations for entry into the University?

Yes	No
94.8	5.2

V82 C.4. If the answer to C.3. is Yes, do you think that the admission examinations are:

far too difficult	a litle too difficult	about right	a little too easy	far too easy
8.3	25.7	57.1	4.7	4.2

V83 C.5. Compared with other students taking the admission examinations, in which position were you when admitted to your course?

near the top	better than average	about average	below the average	near the bottom
17.8	32.0	45.0	3.8	1.4

V84 C.6. How motivated are you to pursue your course?

highly motivated	fairly motivated	not very motivated	poorly motivated
39.4	44.3	14.0	2.3

Section D: Living Conditions

V85 D.1. Where do you live in Maputo? (please specify only the area/part of the city. Do not give your address)

Polana Cimento	24.2	Malanga	1.1
Polana Caniço	2.7	George Demitrov	0.5
Campus	8.4	Zona Verde	0.2
Central	11.5	Malhazine	0.2
Coop	5.9	Bagamoio	1.4
Malhangalene	5.4	Mahotas	0.9
Alto-Maé	7.7	Laulane	0.9
Zimpeto	0.7	Machava	1.6
Chamanculo	3.2	Maxaquene	2.0
Benfica	0.7	Luis Cabral	0.5
Infulene	1.6	Xipamanine	0.9
Matola (Liberdade)	6.1	Fomento	0.2
Jardim	1.8	Carreira do Tiro	0.0
Mikadjuine	0.7	Hulene	0.2
Mavalane	2.3	Inhagoia	0.5
Sommershield	4.1	Mafalala	0.2
25 de Junho	1.6	Lhanguene	0.2

V86 D.2. Do you live:

with your parents	30.0	with your partner	14.3
with other relatives	16.1	with friends	4.8
in University residence	24.7	other	10.1

V87 D.3. In terms of the conditions of the place where you live, how satisfied or unsatisfied are you?

very satisfied	satisfied	don't know	dissatisfied	very dissatisfied
9.1	37.5	10.6	29.0	13.8

V88 D.4. If you live in University residence, answer the following questions:

do you have your own room? Yes 0.8 No 99.2

V89 if the answer is No say with how many people are you sharing the room

1 9.5

2 17.2

3 41.4

4 31.9

V90 do you have a desk to work in your room? Yes 83.8 No 16.2

D.5. Concerning other facilities provided by the University, what is your opinion on:

	very good	good	fair	poor	very poor
V91 cleaning	1.9	15.3	48.9	21.5	12.5
V92 laundry	3.0	8.5	40.5	33.5	14.5
V93 catering	0.4	4.6	31.7	37.9	25.4
V94 health service	0.4	7.8	46.6	27.2	18.1
V95 leisure	0.9	7.4	37.2	24.7	29.9

V96 D.6. Transport used to go to your faculty

own transport 10.2

(specify if it is a car, bicycle, motorbike)

family's transport 3.5 friends' transport 1.7

university bus 17.1 walk 31.9

public transport 30.8 other 0.8

Section E: Other Matters

E.1. Here are some arguments for the high drop-out and repetition rates in UEM. What is your opinion? (you may feel that better reasons than any of these might be given. Please state them at the end of this section)

	strongly agree	agree	neither agree nor disagree	disagree	strongly disagree
V97 1. inadequate preparation in secondary school	20.4	28.7	25.3	17.9	7.7
V98 2. inadequate preparation in first levels of the course	7.9	30.9	32.3	23.4	5.6

Section F: Personal Details

V106 F.1. Faculty

Agronomy	12.2	Law	12.2
Architecture	0.8	Medicine	10.1
Arts	9.9	Science	10.3
Economics	21.1	Veterinary	5.7
Engineering	17.5		

V107 Course

Forestry Engineering	0.9	Chem. Engineering	2.2
Agriculture Engineering	7.5	Law	12.7
Architecture	0.9	Medicine	10.5
Geography	3.1	Biology	4.8
History	3.5	Physics	2.9
Linguistics	3.7	Geology	1.5
Economics	11.0	Computer Sciences	1.5
Management	9.4	Chemistry	0.0
Civil Engineering	0.7	Veterinary	5.9
Elect. Engineering	8.6	Eng ^a 'BUSCEP'	1.5
Mech. Engineering	5.3	Agronomy 'BUSCEP'	2.0

V108 Year in the course

1st	21.4	5th	10.5
2nd	22.4	6th	0.7
3rd	17.0	7th	0.0
4th	28.0		

V109 F.2. Date of birth (Age)

18	0.5	32	1.1
19	1.4	33	3.0
20	3.3	34	1.4
21	7.6	35	1.1
22	11.4	36	0.5
23	15.5	37	3.0
24	9.2	38	1.9
25	11.4	39	0.8
26	6.5	41	1.1
27	7.1	42	0.3
28	3.8	43	0.3
29	3.5	44	0.3
30	1.1	47	0.3
31	2.7		

APPENDIX XVI

This Appendix consists of a modified version of the questionnaire shown in Appendix XI. This version gives the complete results of all 'closed' questions, showing, for each one, the percentage of respondents choosing each option.

QUESTIONNAIRE FOR ACADEMIC STAFF

Section A: Teaching

A.1. What subject(s) do you teach? -----
Please indicate the level -----

V 2 **A.2. How long have you been a teacher at this University?**

6 months or less	4.2	3-4 years	29.5
7 to 11 months	2.1	5-7 years	22.1
1 year	3.2	8-10 years	13.7
2 years	11.6	more than 10 years	13.7

A.3. How much of your time is dedicated to the following activities?

	most of my time	some of my time	a little of my time	none of my time
V 3 preparation for lectures	57.9	38.9	3.2	0.0
V 4 teaching	40.2	58.7	1.1	0.0
V 5 correcting papers	23.9	60.9	14.1	1.1
V 6 personal research	30.5	36.8	29.5	3.2
V 7 consulting	5.5	23.1	36.3	35.2
V 8 advising students	21.5	64.5	11.8	2.2
V 9 administrative work	23.1	22.0	36.3	18.7

V 10 **A.4. Are you teaching in the area in which you specialized or attained your highest degree?**

Yes	89.9	No	10.1
-----	------	----	------

V 11 **A.5. How many classes do you teach per term?**

1	33.0	4	2.1
2	50.0	≥ 5	1.1
3	13.8		

V 12 **A.6. In your opinion, is the scheduling of lectures, laboratory work, and seminars:**

very efficient	efficient	fairly efficient	inefficient	very inefficient
7.5	38.7	39.8	12.9	1.1

V13 A.7 How adequate or inadequate is the class contact / lecture time to cover the course content?

very adequate	adequate	inadequate	very inadequate
12.8	68.1	17.0	2.1

A.8. What is the form of teaching that you prefer to use?

	prefer very much	prefer	don't know	prefer a little	do not prefer	
V14	lectures	22.1	68.6	1.2	5.8	2.3
V15	seminars	29.7	56.8	1.4	10.8	1.4
V16	laboratory demonstration	27.7	50.8	7.7	7.7	6.2
V17	other	43.3	43.3	6.7	6.7	0.0

V18 A.9. How do you rate the participation of the students during the lessons?

very good	good	reasonable	poor	very poor
4.3	35.5	45.2	15.1	0.0

V19 A.10. How often are you available to meet and assist students outside the lectures?

a lot of time	some time	a little	very little	none
13.8	64.9	14.9	5.3	1.1

V20 A.11. Are there workshops or classes in your faculty to assist teachers to improve their teaching skills?

Yes	71.4	No	28.6
-----	------	----	------

If the answer to A.11. is Yes, please answer questions A.12.

V21 A.12. Have you ever attended one of these workshops?

Yes	64.8	No	35.2
-----	------	----	------

If the answer to A.12. is Yes, please answer question A.13.

V22 A.13. Did you find the workshops or classes helpful?

Yes	somewhat	not at all
63.3	34.7	2.0

Section B: Curriculum

V23 B.1. How appropriate or inappropriate is the curriculum to the aims of the course?

very appropriate	appropriate	fairly appropriate	inappropriate	very inappropriate
3.2	36.2	52.1	8.5	0.0

V24 B.2. Does the content of curriculum satisfy or not satisfy the course objectives?

very well	fairly well	a little	poorly
17.0	67.0	11.7	4.3

V25 B.3. In your opinion, what is the balance between theory and practice in the course?

very good	good	fair	poor	very poor
11.8	25.8	20.4	38.7	3.2

V26 B.4. How satisfactory or unsatisfactory is the sequencing on your courses?

Very Satisfactory	Satisfactory	Don't Know	Unsatisfactory	Very Unsatisfactory
7.6	64.1	10.9	17.4	0.0

V27 B.5. Are there remedial courses to make up deficiencies in secondary education?

Yes	51.8	No	48.2
-----	------	----	------

If the answer to B.5. is Yes, please answer questions B.6.

V28 B.6. How successful or unsuccessful are these courses in preparing the students?

very successful	successful	partially successful	unsuccessful	very unsuccessful
7.7	59.0	28.2	5.1	0.0

Section C: Materials

C.1. What are the main sources you draw upon for your teaching materials?

	Yes	No
V29 the course text	60.6	39.4
V30 your own texts and books	85.1	14.9
V31 scientific articles	57.4	42.6
V32 your own knowledge about the material	70.2	29.8
V33 other	100.0	0.0

C.2. What do the students use as their course materials?

	Yes	No
V34 required course text	59.1	40.9
V35 reading list	59.1	40.9
V36 handouts	76.3	23.7
V37 printed notes	47.3	52.7
V38 their own notes	64.5	35.5
V39 other	100.0	0.0

V40 C.3. Is each student provided with a textbook for the course?

always	most of the time	seldom	never
15.1	9.7	52.7	22.6

V41 C.4. Are literature or reading lists provided for the subjects you teach?

always	often	sometimes	never
25.0	29.3	42.4	3.3

V42 C.5. How up-to-date are the literature and reading lists?

all up-to-date	mostly	somewhat	not at all
13.8	35.1	50.0	1.1

V43 C.6. Does your library contain a sufficient amount of materials (texts, periodicals, etc.) relating to the subject you teach?

very sufficient	sufficient	fairly sufficient	insufficient	very insufficient
2.2	9.8	27.2	51.1	9.8

V44 C.7. Are there reagents in sufficient number for your laboratory classes?
(answer only if it applies to your case)

very sufficient	sufficient	fairly sufficient	insufficient	very insufficient
7.1	21.4	32.1	17.9	21.4

Section D: Assessment

D.1. In general, how often are students assessed in your subject?

	Yes	No
V45 once per term	1.1	98.9
V46 twice per term	21.3	78.7
V47 three times per term	69.1	30.9
V48 other	100.0	0.0

D.2. What is the general format of your tests / examinations?

		Tests			Examinations	
		Yes	No		Yes	No
multiple choice	V49	20.4	79.6	V53	15.7	84.3
problem solving	V50	59.1	40.9	V54	55.4	44.6
questions	V51	72.0	28.0	V55	71.1	28.9
other	V52	100.0	0.0	V56	100.0	0.0

D.3. What is the main emphasis in your tests / examinations?

		Tests			Examinations	
		Yes	No		Yes	No
Factual recall	V57	12.9	87.1	V61	11.2	88.8
theoretical understanding	V58	76.3	23.7	V62	73.0	27.0
applications	V59	81.7	18.3	V63	87.6	12.4
other	V60	100.0	0.0	V64	100.0	0.0

V65 D.4. In your opinion, how well does the assessment methods enable students to demonstrate that they have fulfilled the objectives of the course:

very well	well	fairly well	poorly	very poorly
22.6	50.5	24.7	2.2	0.

Section E: Students

V66 E.1. On average, how many students are present in your lectures / classes?

less than 20	35.6	60-79	4.4
20-39	34.4	80-100	10.0
40-59	7.8	more than 100	7.8

V67 E.2. If you have laboratory work in the subject that you teach, what is the range of the number of students in the laboratory sections?

less than 10	14.5	25-29	9.1
10-14	32.7	30-39	3.6
15-19	12.7	40-49	0.0
20-24	7.3	more than 50	0.0
not applicable	20.0		

V68 E.3. How do you rate the preparation of the students to handle the material upon entering the university?

very good	good	fair	poor	very poor
0.0	2.2	28.0	59.1	10.8

V69 E.4. Do you feel that the admissions standards are:

very good	good	adequate	low	very low
0.0	23.0	42.5	26.4	8.0

V70 E.5. How would you rate student study habits?

very good	good	fair	poor	very poor
0.0	6.7	42.7	34.8	15.7

V71 E.6. How motivated are the students in learning the materials?

highly motivated	motivated	fairly motivated	poorly motivated	not motivated
0.0	15.4	65.9	18.7	0.0

E.7. In your opinion, what are the major reasons for students dropping out the course?

	strongly agree	agree	neither agree nor disagree	disagree	strongly disagree
V72 not motivated to do the work	5.3	24.0	26.7	26.7	17.3
V73 do not like the course	5.4	20.3	41.9	21.6	10.8
V74 found the course to be too difficult	14.7	29.3	28.0	17.3	10.7
V75 regulations are too restrictive	4.3	8.6	22.9	32.9	21.4
V76 did not have the necessary financial support	23.2	50.0	18.3	4.9	3.7

V77	needed to get a job to support self or family	23.8	41.3	20.0	11.3	3.8
V78	inadequate preparation in previous years	27.4	48.8	13.1	9.5	1.2
V79	other	60.0	40.0	0.0	0.0	0.0

Section F: Facilities

V80 F.1. How would you describe the lectures rooms?

far too large	large	the right size	small	far too small
2.3	12.5	50.0	34.1	1.1

V81 F.2. How would you describe the classrooms?

far too large	large	the right size	small	far too small
2.2	7.9	59.6	25.8	4.5

F.3. Which of the following teaching aids are available in the classroom you teach in?

	always	most of the time	some of the time	seldom	never	
V82	blackboard	92.6	6.3	1.1	0.0	0.0
V83	overhead projector	30.9	31.9	25.5	6.4	5.3
V84	equipment for lecture demonstration	5.6	8.5	31.0	28.2	26.8
V85	others	15.4	7.7	30.8	23.1	23.1

V86 F.4. What is the quality of the teaching aids that are available?

very good	good	fair	poor	very poor
6.6	22.0	46.2	18.7	6.6

V87 F.5. Is there adequate or inadequate equipment available in the laboratories?

very adequate	adequate	fairly adequate	inadequate	very inadequate
3.5	15.8	50.9	26.3	3.5

F.6. What is the status of the laboratory equipment?

V88	a) the equipment is obsolete	48.6	V89	b) it is well maintained	52.5
	the equipment is up-to-date	51.4		it is poorly maintained	47.5

V90 F.7. What kind of office do you have?

private office	23.4	other	0.0
shared office	72.3	office space is not provided	4.3

V91 F.8. How would you describe the computing facilities in your department?

very good	good	fair	poor	very poor	do not have
4.3	17.2	34.4	23.7	16.1	4.3

V92 F.9. How would you rate the overall maintenance of the faculty's facilities?

very good	good	fair	poor	very poor
0.0	3.2	40.4	41.5	14.9

V93 F.10. How would you describe the relationship between the people of the department you are in?

very good	good	fair	poor	very poor
12.6	42.1	30.5	12.6	2.1

V94 F.11. How would you rate the communications between the central administration and the department?

very good	good	fair	poor	very poor
8.7	40.2	34.8	12.0	4.3

Section G: Other Matters

G.1. Why do you choose to be academic?

	Yes	No
V95 enjoy teaching	71.3	28.7
V96 want to do research	71.3	28.7
V97 like the university atmosphere	22.3	77.7
V98 for the prestige / position	10.6	89.4
V99 for the money	6.4	93.6
V100 conditions of work	8.5	91.5
V101 could not find other work	5.4	94.6
V102 other	75.0	25.0

G.2. What do you enjoy most about your profession?

	Yes	No
V103 pay	8.5	91.5
V104 teaching	70.2	29.8
V105 research	81.9	18.1
V106 university atmosphere	19.1	80.9
V107 the prestige / position in society	5.3	94.7
V108 other	55.6	44.4

G.3. What are the disadvantages of your chosen profession?

	strongly agree	agree	neither agree nor disagree	disagree	strongly disagree
V109 pay scale	55.4	18.1	7.2	9.6	9.6
V110 teaching load	7.9	12.7	36.5	31.7	11.1
V111 reasearch	9.7	12.9	19.4	32.3	25.8
V112 the university atmosphere	13.6	8.5	27.1	37.3	13.6
V113 administration	21.9	26.6	26.6	23.4	1.6
V114 department atmosphere	10.0	8.3	21.7	41.7	18.3
V115 the work load	4.5	26.9	29.9	28.4	10.4
V116 other	100.0	0.0	0.0	0.0	0.0

G.4. In your opinion what changes should be made to assist university teachers?

	strongly agree	agree	neither agree nor disagree	disagree	strongly disagree
V117 more time to prepare classes	19.1	35.3	27.9	14.7	2.9
V118 keep up with the literature in the field	57.6	37.6	4.7	0.0	0.0
V119 higher salaries to attract and keep them	76.3	16.1	4.3	2.2	1.1
V120 provide accomodation and transport	60.8	24.1	11.4	3.8	0.0
V121 more chances to participate in conferences	38.6	45.8	9.6	6.0	0.0
V122 better research facilities	61.8	36.0	2.2	0.0	0.0
V123 more chances for training	52.6	30.8	9.0	6.4	1.3
V124 lighter teaching load	8.5	19.7	40.8	25.4	5.6
V125 lighter administrative work	27.8	30.4	30.4	10.1	1.3
V126 other	100.0	0.0	0.0	0.0	0.0

V127

**G.5. If just one thing is to be improved at the university, what should it be?
(TICK ONE BOX ONLY)**

improvement of curricula	18.3
improvement of the library collection	18.3
better classroom facilities	2.2
better laboratory facilities	15.1
higher education standards	17.2
improvement of the administration	17.2
other	9.7
ticked more than one box	2.2

G.6. Your Number of publications

V128

in local journals	1-10	86.7
	11-20	13.3

V129

in foreign journals	1-10	70.5	21-30	4.5
	11-20	18.2	31-40	6.8

G.7. The Number of conferences you have attended in the last three (3) years

V130

In Mozambique

1	18.5
2	36.9
3	20.0
4	9.2
5	4.6
6	4.6
10	3.1
15	1.5
>15	1.5

V131

Abroad

1	34.7
2	30.6
3	12.2
4	10.2
5	6.1
7	2.0
10	2.0
>10	2.0

Section H: Personal Details

V132

H.1. Faculty

Agronomy	21.1	Engineering	16.8
Architecture	3.2	Law	2.1
Arts	11.6	Medicine	2.1
Economics	5.3	Science	28.4
Veterinary	9.5		

V133**H.2. Department**

Agron.- Eng. Rural	6.5	Chem. Eng	4.3
Agron.- Prod Prot Vegetal	7.6	Biology	2.2
Eng. Florestal	7.6	Chemistry	2.2
Arquitectura	1.1	Geology	7.6
Geography	3.3	Physics	9.8
History	4.3	Computer Sciences	5.4
Linguistics	4.3	Vet.- Animal Production	4.3
Economics	3.3	Vet.- Pro-Clinic	2.2
Management	2.2	Vet.- Clinic	2.2
Civil Eng.	0.0	Law	2.2
Elect. Eng.	9.8	Med. - Microbiology	2.2
Mech. Eng	3.3	Buscep	2.2

V134**H.3. Age**

25	1.1	41	1.1
26	1.1	42	2.3
27	2.3	44	2.3
29	3.4	46	1.1
30	8.0	47	2.3
31	3.4	48	4.6
32	5.7	50	1.1
33	8.0	51	5.7
35	10.3	52	2.3
36	5.7	53	1.1
37	9.2	54	2.3
38	3.4	55	1.1
39	2.3	57	2.3
40	4.6	58	1.1

V135**H.4. Gender**

Male	80.0	Female	20.0
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V136**H.5. Nationality**

Mozambican	66.7	other	3.3
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V137**H.6. What is your category:**

Professor (Associate)	10.1
Professor (Assistant)	19.1
1st Assistant	15.7
2nd Assistant	31.5
Trainee Assistant	22.5
Other	1.1

V138**H.7. What is your present job title:**

Course Director	4.2
Head of Department	8.5
Teacher	67.6
Chief of a Unit	9.9
Regent's Subject	1.4
Trainee	1.4
Other	7.0

APPENDIX XVII

This Appendix consists of a modified version of the questionnaire shown in Appendix XII. This version gives the complete results of all 'closed' questions, showing, for each one, the percentage of respondents choosing each option.

QUESTIONNAIRE FOR TECHNICAL AND ADMINISTRATIVE STAFF

Section A: Attitudes Towards the Place of Work

V 2 A.1. How satisfied or dissatisfied are you with your work?

very satisfied	satisfied	don't know	dissatisfied	very dissatisfied
20.3	60.8	4.4	12.8	1.8

A.2. How satisfied or dissatisfied are you with:

	very satisfied	satisfied	don't know	dissatisfied	very dissatisfied
V 3 Policies in promotion	9.3	22.1	20.6	35.3	12.7
V 4 Conditions of work	7.0	44.8	9.5	32.3	6.5
V 5 Management	6.6	17.6	49.5	17.0	9.3
V 6 Salary	2.4	6.2	5.2	51.7	34.6
V 7 Transport	5.2	37.7	10.8	29.7	16.5
V 8 Social Services	4.5	15.4	38.3	21.4	20.4

V 9 A.3. How would you describe the relationship between the people in your office?

very good	good	fair	poor	very poor
18.8	31.2	40.6	7.3	2.1

V 10 A.4. How would you rate the communications between the administrator(s) of your office and the staff?

very good	good	fair	poor	very poor
14.7	25.9	43.1	9.9	6.5

V 11 A.5. How clear or unclear are the regulations concerning the Technical and Administrative Staff?

very clear	clear	fairly clear	unclear	very unclear
5.7	24.6	29.4	32.5	7.9

SECTION B: Educational Qualifications and Training

V 12 B.1. What is your highest educational qualification?

less than Grade 9	37.7	Grade 9-10	23.6	Grade 11	18.4
Technical Grade	14.2	BA or Bsc	3.3	Licenciatura	2.8
Other	0.0				

V13 B.2. Are there workshops or courses in your place of work to assist personnel to improve their skills? Yes 55.7 No 44.3

If the answer to B.2. is Yes, please answer question B.3.

V14 B.3. Have you ever attended one of these workshops or courses? Yes 56.8 No 43.2

If the answer is Yes, please specify the course(s) and answer B.4.

V15 B.4. Did you find the workshops or classes helpful? Yes 74.5 somewhat 22.6 not at all 2.8

Section C: Other Matters

C.1. In your opinion what changes should be made to assist the technical and administrative staff?

	strongly agree	agree	neither agree nor disagree	disagree	strongly disagree
V16 1. provide regular internal professional training	55.3	34.1	9.6	0.5	0.5
V17 2. better conditions of work	64.7	30.7	1.9	1.4	1.4
V18 3. introduction of a merit system	32.5	34.4	30.1	1.8	1.2
V19 4. recruitment of persons with the necessary qualifications and experience for the job.	31.1	41.5	21.3	2.2	3.8
V20 5. provide medical assistance	79.5	17.6	1.4	0.0	1.4
V21 6. provide transport & accommodation	58.3	31.1	8.7	0.5	1.5
V22 7. clear regulations	45.1	47.8	6.0	0.5	0.5
V23 8. others	66.7	30.0	0.0	0.0	3.3

C.2. On what basis do you think promotions should occur?

	strongly agree	agree	neither agree nor disagree	disagree	strongly disagree
V24 1. education qualifications	37.4	35.1	16.1	9.2	2.3
V25 2. years of experience	44.6	39.1	11.9	1.5	3.0
V26 3. quality of work	42.2	47.0	6.5	3.8	0.5
V27 4. dedication to the work	46.0	41.9	10.6	1.0	0.5

V28	5. satisfactory tests	23.6	42.0	24.7	8.0	1.7
V29	6. combination of all	26.2	23.8	29.8	13.7	6.5
V30	7. other	40.0	40.0	0.0	0.0	20.0

C.3. Here are some aspects that are considered to affect the quality of work of the technical and administrative staff. What is your opinion?

		strongly agree	agree	neither agree nor disagree	disagree	strongly disagree
V31	1. inadequate qualifications for the job	38.2	34.3	19.7	3.9	3.9
V32	2. poor salaries	56.2	30.0	4.3	3.3	6.2
V33	3. conditions of work	33.7	45.9	13.3	5.1	2.0
V34	4. restrict regulations	12.7	44.2	32.7	9.7	0.6
V35	5. few incentives	36.3	43.6	12.8	3.4	3.9
V36	6. social assistance	34.1	41.8	19.2	3.8	1.1
V37	7. other	70.6	29.4	0.0	0.0	0.0

C.4. Please comment on ways that you think might increase the quality of work provided by the technical and administrative staff.

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Section D: Personal Details

V38 D.1. Place of work:

Faculty	56.9	Center	0.9
Museum or AHM	0.0	Central Offices	13.4
Social Services	28.9	Transportation	0.0
Other	0.0		

V39 D.2. Field of work:

Administration & Secretary	37.2	Support Services	14.3
Laboratory	12.6	Security	0.4
Library	10.0	Other	6.5
Social Services	19.0		

V40 D.3. Category:

V41 D.4. Present job title:

V42 D.5. Gender: Male 61.9 Female 38.1

V43 D.6. Date of birth (Age)

20	0.4	35	5.8	50	2.2
21	0.4	36	1.8	51	0.9
22	0.4	37	4.9	52	2.2
23	0.9	38	1.3	53	1.8
24	2.2	39	4.0	54	0.9
25	2.2	40	1.3	55	1.3
26	4.9	41	3.6	56	0.9
27	6.3	42	1.3	57	0.9
28	6.3	43	2.7	59	0.4
29	5.4	44	0.9	60	0.4
30	6.3	45	2.7	62	0.4
31	4.5	46	0.4	63	0.9
32	4.0	47	0.9	65	0.4
33	4.9	48	0.9	68	0.9
34	2.7	49	0.9		

V44 D.7. Marital Status single 37.4 married 31.7 divorced 0.4
separated 2.6 living with a partner 25.7 widowed 2.2

V45 D.8. Nationality Mozambican 100.0 other 0.0

V46 D.9. How long have you been in a payed employment doing the same or similar job as you are doing now?

less than 6 months	1.3	3-4 years	18.7
6 to 11months	4.3	5-7 years	18.3
1year	6.5	8-10 years	13.0
2 years	4.8	more than 10 years	33.0


V47

D.10. How long have you been working in this University?

less than 6 months	0.4	3-4 years	18.1
7 to 11 months	1.7	5-7 years	14.2
1 year	6.9	8-10 years	14.7
2 years	1.7	more than 10 years	42.2

Section E: Other Comments

If there are any other comments you would like to make about other aspects which were not covered in this questionnaire, please write below. This comments must be positive or negative. Practical and realistic ideas for improvement are particularly welcomed.

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APPENDIX XVIII

This Appendix consists of a modified version of the questionnaire shown in Appendix XIII. This version gives the complete results of all 'closed' questions, showing, for each one, the percentage of respondents choosing each option.

QUESTIONNAIRE FOR DEANS OF FACULTY

Section A: Recruitment and Employment of Academic Staff

V3 A.1. In your opinion, is it possible to recruit an adequate number of local qualified staff? Yes 16.7 No 83.3
 If your answer is No Please answer A.2.

A.2. Why?	strongly agree	agree	neither agree nor disagree	disagree	strongly disagree
V4 Pay is too low to attract qualified people	50.0	50.0	0.0	0.0	0.0
V5 There are no qualified people especially for senior positions	50.0	50.0	0.0	0.0	0.0
V6 Other	0.0	0.0	0.0	0.0	0.0

V7 A.3. What percentage of your academic staff is expatriate?
 less than 10% 0.0 10%-19% 66.7 20%-39% 16.7
 40%-50% 16.7 more than 50% 0.0

V8 A.4. Do you have a plan to replace expatriates? Yes 100.0 No 0.0

A.5. If Yes what do you intend to do?

	Yes	No
V9 1. Send junior staff to be trained abroad	50.0	50.0
V10 2. Try to attract qualified nationals from abroad	33.3	66.7
V11 3. Send graduates to get higher degrees abroad	66.7	33.3
V12 4. Develop a local graduate program	0.0	100.0
V13 5. Other	100.0	0.0

V14 A.6. In your opinion, what percentage of staff in your Faculty completing advanced degrees abroad return to the Institution?

< 5%	0.0	5%- 10%	0.0	11% -25%	0.0
26 %- 50%	0.0	51% - 75%	0.0	more than 75%	100.0

V15 A.7. In your judgement, how satisfactory or unsatisfactory is the teaching performance of your staff?

very satisfactory	0.0	satisfactory	83.3	don't know	0.0
unsatisfactory	16.7	very unsatisfactory	0.0		

Section B: Quality of Output and Graduates

V16 B.1. Are graduates from your Faculty prepared satisfactorily for employment in fields relevant to their training?

Yes	50.0	No	50.0	don't know	0.0
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If the answer is No, please answer question B.2.

B.2. Why do you think your graduates are not well prepared?

	strongly agree	agree	neither agree nor disagree	disagree	strongly disagree
V17 1. time is too short to cover all necessary subjects	0.0	66.7	0.0	33.3	0.0
V18 2. instructors are not well trained	0.0	100.0	0.0	0.0	0.0
V19 3. students are not sufficient motivated	0.0	100.0	0.0	0.0	0.0
V20 4. content of courses not always relevant to employment needs	0.0	33.3	0.0	33.3	33.3
V21 5. facilities and equipment are below standard	0.0	100.0	0.0	0.0	0.0
V22 6. other	0.0	100.0	0.0	0.0	0.0

Section C: Management

C.1. Is your Faculty directly responsible for:

	Yes	No
V23 1. Recruitment of teaching staff	83.3	16.7
V24 2. Recruitment of support staff	50.0	50.0
V25 3. Admission and/or selection of students	0.0	100.0
V26 4. Design of curriculum	100.0	0.0
V27 5. Revision of curriculum	100.0	0.0

V28	6. Adaptation of curriculum	100.0	0.0
V29	7. Preparation of teaching and training materials	100.0	0.0
V30	8. Design of examinations or tests	100.0	0.0
V31	9. Purchase of books and equipment	100.0	0.0
V32	10. Purchase of consumable materials	100.0	0.0
V33	11. Scheduling of classes	100.0	0.0

C.2. Is your Faculty responsible for collecting and maintaining the records on:

	Yes	No
V34 1. Selection and admission of students	16.7	83.3
V35 2. Students performance and examinations	100.0	0.0
V36 3. Faculty staff and support staff	50.0	50.0
V37 4. Curricula	100.0	0.0
V38 5. Course programs	100.0	0.0
V39 6. Examinations	100.0	0.0
V40 7. Examination-grades	100.0	0.0
V41 8. Faculty staff salaries	16.7	83.3
V42 9. Faculty support staff salaries	16.7	83.3
V43 10. Expenditure on consumable materials	50.0	50.0
V44 11. Capital expenditures	33.3	66.7

C.3. What kind of Faculty planning do you prefer?

	prefer very much	prefer	don't know	prefer a little	do not prefer
V45 Short term	25.0	50.0	0.0	25.0	0.0
V46 Medium term	16.7	83.3	0.0	0.0	0.0
V47 Long term	33.3	33.3	0.0	0.0	33.3

C.4. What is the planning structure used by your Faculty?

	always	often	sometimes	never
V 4 8 1. permanent planning committee	0.0	16.7	50.0	33.3
V 4 9 2. ad hoc faculty planning committee	0.0	83.3	16.7	0.0
V 5 0 3. ad hoc external and faculty committee	0.0	0.0	16.7	83.3
V 5 1 4. other	33.3	0.0	33.3	33.3

V 5 2 C.5. Are financial analyses (e.g. trends in cost / student, cost / graduate) used in the management and planning of the Faculty?

Yes 20.0 No 80.0

Section D: General Matters

D.1. In your opinion, which of the following measures would most improve the training of students in your Faculty?

	strongly agree	agree	neither agree nor disagree	disagree	strongly disagree
V 5 3 1. Improve buildings	50.0	50.0	0.0	0.0	0.0
V 5 4 2. Improve laboratories and equipment	83.3	16.7	0.0	0.0	0.0
V 5 5 3. Change the structure and/or content of curriculum	16.7	33.3	16.7	16.7	16.7
V 5 6 4. Increase and improve class materials and books	66.7	33.3	0.0	0.0	0.0
V 5 7 5. Raise admission requirements for applying students	16.7	50.0	0.0	33.3	0.0
V 5 8 6. Close relations with employers	33.3	66.7	0.0	0.0	0.0
V 5 9 7. More contact with similar institutions abroad	66.7	33.3	0.0	0.0	0.0

V 6 0 D.2. How would you rate the student dropout in your Faculty?

very high high about average low very low
 0.0 16.7 16.7 50.0 16.7

V61 D.3. How would you rate the student repetition of subjects in your Faculty?

very high	high	about average	low	very low
0.0	33.3	50.0	16.7	0.0

D.4. In which level of the course(s) are found the highest rates of drop-outs and repetitions?

		Drop-out		Repetitions		
		Yes	No	Yes	No	
Level 1	V62	100.0	0.0	V69	33.3	66.7
Level 2	V63	33.3	66.7	V70	33.3	66.7
Level 3	V64	33.3	66.7	V71	33.3	66.7
Level 4	V65	0.0	100.0	V72	33.3	66.7
Level 5	V66	0.0	100.0	V73	33.3	66.7
Level 6	V67	0.0	100.0	V74	33.3	66.7
Level 7	V68	0.0	100.0	V75	33.3	66.7

D.5. Here are some arguments for students dropping out. What is your opinion?

(you may feel that better reasons than any of these might be given. Please state them on the back of this sheet)

		strongly agree	agree	neither agree nor disagree	disagree	strongly disagree
V76	1. inadequate preparation in secondary school	100.0	0.0	0.0	0.0	0.0
V77	2. inadequate preparation in first levels of the course	0.0	33.3	33.3	0.0	33.3
V78	3. difficult conditions in which students live	33.3	66.7	0.0	0.0	0.0
V79	4. difficult conditions in which students study	33.3	66.7	0.0	0.0	0.0
V80	5. financial problems	66.7	33.3	0.0	0.0	0.0
V81	6. restrictive academic regulations	0.0	33.3	0.0	66.7	0.0
V82	7. course is not the students' choice	0.0	33.3	33.3	0.0	33.3
V83	8. insufficient Portuguese language materials	33.3	33.3	0.0	33.3	0.0
V84	9. lack of counselling	33.3	0.0	66.7	0.0	0.0

Section E: Other Aspects

E.1. How would you describe the relationship between the following people in your Faculty?

	very good	good	fair	poor	very poor
V85 1. Teachers / Students	0.0	66.7	16.7	0.0	16.7
V86 2. Teachers / Tech.Adm.Staff	0.0	66.7	0.0	33.3	0.0
V87 3. Students / Tech.Adm.Staff	0.0	16.7	66.7	16.7	0.0
V88 4. Teachers / Directorate	33.3	33.3	33.3	0.0	0.0
V89 5. Students / Directorate	0.0	33.3	50.0	16.7	0.0
V90 6. Tech.Adm.Staff / Directorate	0.0	33.3	66.7	0.0	0.0

V91 E.2. How would you describe the relationship between your Faculty and the other Faculties of the UEM?


very good	good	fair	poor	very poor
0.0	50.0	33.3	16.7	0.0

V92 E.3. How would you rate the communications between the central offices and your Faculty?

very good	good	fair	poor	very poor
0.0	0.0	83.3	16.7	0.0

Section F: Other Comments

If there are any other comments you would like to make about other aspects which were not covered in this questionnaire, please write below. This comments must be positive or negative. Practical and realistic ideas for improvement are particularly welcomed.

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APPENDIX XIX

This Appendix consists of a modified version of the questionnaire shown in Appendix XIV. This version gives the complete results of all 'closed' questions, showing, for each one, the percentage of respondents choosing each option.

QUESTIONNAIRE FOR UEM GRADUATES

Section A: Your Views About the Course

V2	A.1. Are you satisfied or dissatisfied with the training given to you in your course?	very satisfied	satisfied	don't know	dissatisfied	very dissatisfied
		8.3	66.7	8.3	16.7	0.0

V3	A.2. Are you applying in your work what you learned in your course?	a lot	a little	no
		46.7	53.3	0.0

V4	A.3. What type of knowledge do you think is primarily needed for performing efficiently in your job?	theoretical	theoretical and practical	theoretical and experience	practical and experience
		0.0	65.2	4.3	26.3
		4.3			
		0.0			

A.4. Which of the following applies to you?

	YES	NO
V5 the curriculum did not include important areas	48.3	51.7
V6 the curriculum was out of date	43.3	56.7
V7 subjects were not well taught	59.4	40.6
V8 books and material were not available	92.9	7.1
V9 few laboratory exercises and practical demonstrations	94.1	5.9
V10 obsolete equipment and materials in short supply	89.3	10.7
V11 too much theory and little practice	90.2	9.8

V12	A.5. How satisfied or dissatisfied are you with what you are doing in your job?	very satisfied	satisfied	don't know	dissatisfied	very dissatisfied
		17.5	45.0	20.0	17.5	0.0

V13	A.6. After graduation if you are not a UEM employer, do you keep in touch with your faculty?	as often as possible	sometimes	never
		77.1	20.8	2.1

V14 A.7. What are your career aspirations for the future?

get a job in Maputo	17.0
go abroad to work	2.1
return to work in my province of origin	6.4
postgraduate studies	70.2
other	4.3

Section B: About your Research Project

V15 B.1. Where does the area of your research project derive from?

your own interest	46.3	staff research	22.0
employer's interest	14.6	other	17.1

V16 B.2. In terms of the methods used to pursue your research project, how satisfied or dissatisfied are you?

very satisfied	satisfied	don't know	dissatisfied	very dissatisfied
7.7	33.3	5.1	41.0	12.8

V17 B.3. Did you finish your research project? Yes 97.4 No 2.6

V18 B.4. If the answer to B.3. is Yes, how long did you take to finish your project?

6 months	33.3
7 -11months	30.6
1-2 years	22.2
3 years	11.1
more than 3 years	2.8

V19 B.5. If the answer to B3 is No, explain why you did not finish your research project?

still working on the project	66.7
don't think it is important	0.0
pressure from the job market	33.3
other	0.0

Section C: About your Present / Future Job

OBS- For those who just graduate, consider these questions for your future job.

V20	C.1. Occupation:	In your field	36.4
		Related to your field	63.6
		Not related to your field	0.0

V21	C.2. Employer:	Government	50.0
		Industry	6.5
		General/ Technical Education	4.3
		UEM	13.0
		Private	17.4
		Other	8.7

V22	C.3. Function in the work:				
		Administrator	9.3	Technical	58.1
				Researcher	16.3
				Other	16.3

V23	C.4. How long did you take to find a job after graduation?				
		Immediately	59.3	3 to 6 months	11.1
		up to one month	3.7	7 to 12 months	7.4
		about two months	7.4	over 12 months	11.1

V24	C.5. For those who had a job before coming into the University, did you				
		keep the same job	72.2	move to a different job	27.8

V25	C.6. How did you get the job?	through UEM placement	9.7
		through personal contacts	67.7
		through newspaper advs.	6.5
		other	16.1

V26	C.7. How much do you earn per month now?				
		less than 1 million Mt.	8.3	between 1-2 million Mt.	30.6
		between 2-3 million Mt.	25.0	more than 3 million Mt.	36.1

V27 C.8. When you graduate, did you expect to earn:

more	less	about the same	don't know
75.7	0.0	8.1	16.2

V28 C.9. Is your present job related to your training?

very much	51.4	partly	45.9	No	2.7
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V29 C.10. If your answer to C.9. is No, say why?

Did not find work in the speciality	100.0
Choose to work in something else	0.0
Look for better salary	0.0
Other	0.0

Section D: Personal Details

V30 D.1. This questionnaire was delivered to UEM graduates. Which is your area of graduation?

Agronomy	14.6	Forestry	0.0	Rural Eng.	2.1
Biology	4.2	Geology	0.0	Physics	2.1
Chemistry	0.0	Informatic	8.3	Law	12.5
Economy	0.0	Management	0.0	Architecture	2.1
Civil Eng.	6.3	Electronic Eng.	2.1	Electrical Eng.	0.0
Mech. Eng.	0.0	Chem. Eng.	2.1	History	8.3
Geography	10.4	Linguistics	8.3	Medicine	14.6
Veterinary	2.1				

V31 D.2. Age

23	4.7	28	14.0	34	2.3	40	7.0
24	2.3	29	11.6	35	9.3	45	2.3
25	2.3	30	7.0	36	4.7	46	2.1
26	4.7	31	7.0	37	2.3		
27	11.6	32	2.3	38	2.3		

V32 D.3. Gender

Male	53.2	Female	46.8
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V33 D.4. Nationality

Mozambican	95.7	Other	4.3
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V34 D.5. Year of Graduation

1996/97 100.0 1995 0.0 1994 0.0 before 1994 0.0

V35 D.6. Who sponsored your studies?

UEM 40.9 employer 13.6 private 29.5 other 15.9

V36 D.7. Time taken to graduate


5 years 37.8 6 years 31.1 7 years 24.4
8 years 4.4 9 or more years 2.2

V37 D.8. What was your final mark?

10	2.3	14	20.9
11	4.7	15	23.3
12	16.3	16	9.3
13	16.3	17	4.7

Section E: Other Comments

If there are any other comments you would like to make about the training that you received which were not covered in this questionnaire, please write below. This comments must be positive or negative. Practical and realistic ideas for improvement are particularly welcomed.



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