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**AN INVESTIGATION INTO ESL STUDENTS'  
ACADEMIC WRITING NEEDS: THE CASE  
OF AGRICULTURE STUDENTS IN  
EGERTON UNIVERSITY, KENYA.**

**BY**

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**A Thesis Submitted in Fulfilment of the Requirements  
for the Degree of Doctor of Philosophy**

**THE UNIVERSITY OF WARWICK**

**CENTRE FOR ENGLISH LANGUAGE**

**TEACHER EDUCATION**

**MARCH 1995**

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## **ACKNOWLEDGEMENTS**

I would like, first and foremost, to thank my supervisor, Meriel Bloor for all the support and sound advice I received during the period of my study at Warwick.

I also wish to express my appreciation to Dr. Lorraine Lawrence, Dr. Pauline Rea-Dickins, Dr. Evodkia Karavas-Doukas for always giving their time to discuss with me aspects of my results, and to the staff at the Centre for English Language Teacher Education for making it a friendly and scholarly place to be.

My appreciation also goes to Jason Cooper of the Computing Services who helped me learn how to use the Statistics Package for Social Scientists (SPSS).

I am most grateful to the British Council for the sponsorship and the concern shown throughout the three years. Special appreciation goes to Sue Peal, my Programme Officer in Birmingham, for the help and advice she always gave, including the prompt action she took to enable me to travel home when I tragically lost my sister and brother. I also wish to thank the British Council, Nairobi office, for believing in me and supporting me at all times when others were not prepared to.

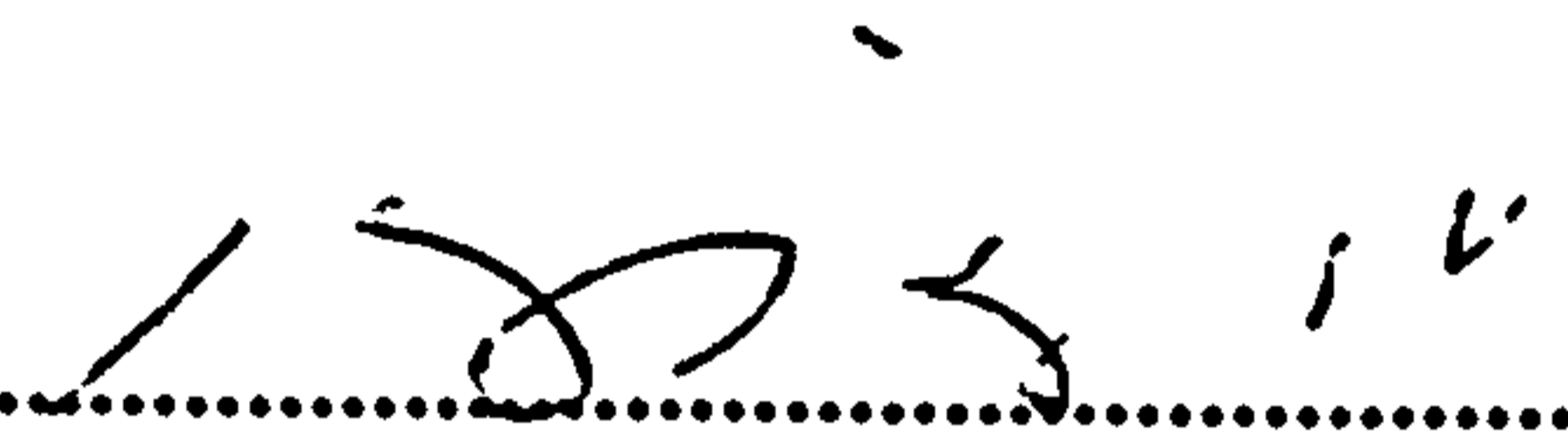
I am also indebted to the Communication Skills staff at Egerton University for their assistance in the administration of the questionnaires. I also thank Richard Marundu and Isaac Kosgey-Sanga, both of Egerton, for collecting and sending me some data from the university when it was not possible for me to be there.

Last but not the least, I am grateful to the CELTE secretaries, Anne, Pat, Louise and Lorraine for their constant help whenever the gremlins attacked my disks!

While acknowledging the help of the above mentioned people, I take responsibility for all the errors in this thesis.

## Declaration

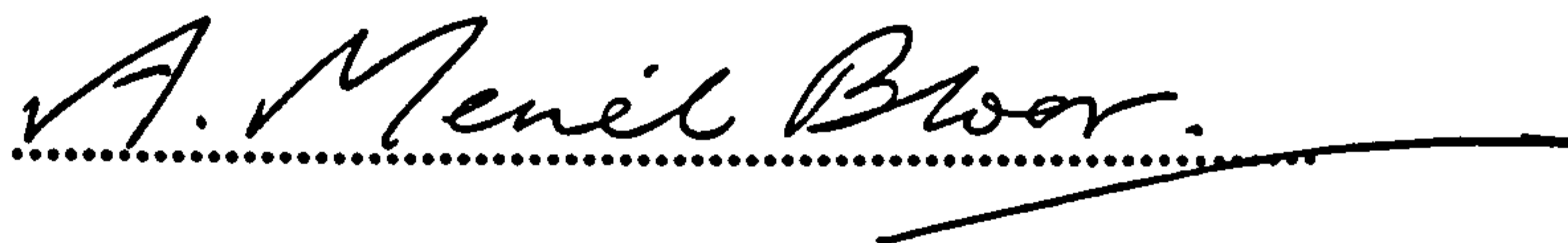
This thesis is my original work and has not been submitted previously  
for a degree in this or any other university.



.....

Kibiwott P. Kurgatt

This thesis is submitted with my approval as the university supervisor.



.....

A.. Meriel Bloor.

## **Dedication**

**Eng' Nandi,  
(Sirutichu atabanjini:**

**Kabwatetab che kitupche kiboretiennyo, Jesang kobot Chepchumba ak toweennyo Kiprop arap Kurgatt che kiigesgei eng' betusiek che kiatarati ama kipchei boiboiyetab taretab sirutichuto.**

**Sigikyuk ak che kitupche tugul che kiganab nyigisindab rirek ami bitonin.**

**Ne bo let ko sirityetab kipsomaninik tugul eng' Kenya, nga chang'an ko tugul cho kiigimitgei eng' kenyitkonye tugul koborchingei kesir sirityetab kanetikab somanetab barak (UASU). Ingoboiboitu kongen kole sirutichu, ko kebebtab boryonoto, ko kibek sirenni nganda kiginde tainnyi tiemutik.**

**Tese tai kagimitetab somanet!)**

**In English,**

**This thesis is dedicated:**

**To the memory of both my elder sister, Jesang Tallam and my younger brother, Kiprop Kurgatt who tragically passed away during the very last stages of my writing up and hence will not be able to share with me the joy of completion.**

**To my parents and all the rest of my family for shouldering the burden of sorrow while I was away.**

**Lastly, to all members of the Kenyan academic community, especially those who have struggled for the last year to have the Universities Academic Staff Union (UASU) registered. May they take pride in knowing that this thesis, as part of that struggle for academic excellence and freedom, was eventually completed despite all the obstacles.**

**The struggle continues!**

## **ABSTRACT**

This research is aimed at establishing academic writing needs of first year undergraduate agriculture students in an English as a Second Language context. The research was motivated by the need to design subject-specific teaching materials for the Communication Skills (CS) course in one of the Kenyan universities.

The study was informed by concepts of discourse communities, audience expectations and language use from social construction theory, and insights from the principles of needs analysis and genre research in ESP. These concepts were used to develop a conceptual framework for pinpointing the writing requirements within the terms of the institutional culture. Research methods used included questionnaire surveys and investigation of institutional documents. An analysis was also done of samples of students' actual writing to determine their linguistic and communicative competence.

The results of the study indicate that in the first year, students do not study one discipline called 'agriculture'. Instead, they study a wide range of courses half of which consist of basic courses in the sciences from which specific disciplinary requirements can be distinguished. It was also established that students are expected to produce an extensive variety of types of written work all of which are assessed and account for their final grades. The research also shows that students' proficiency in writing in content areas is limited and that they lack awareness of the conventions of scientific writing. There is also evidence that students do not always appreciate the nature of the tasks they are asked to undertake or the audience addressed.

The research suggests that there is need for CS lecturers to work closely with subject-specialists to establish explicit disciplinary writing requirements. Regarding examination questions, the study suggests that in order to make any teaching relevant, the course should mirror the kind of tasks realistically required of the students in the various courses in the exam context. Students also need to understand that the organisational aspect of writing is a communicative and not just a mechanical process.

The thesis is divided into ten Chapters. Chapter 1 gives the background to the research area, including the history of the Academic Communication Skills Project in Kenyan universities. Chapter 2 is a review of literature that relates the present study to past research in ESP in general and academic writing in particular. Chapter 3 looks at theoretical and practical issues in ESP while Chapter 4 presents the methods and sources of data for the study. Chapter 5 is an analysis of institutional documents collected in Kenya. Chapter 6 contains analysis and results of questionnaires. Chapter 7 presents the views of the Communication Skills lecturers. Chapter 8 gives the results of the analysis of undergraduate examination questions and Chapter 9 presents an analysis of features of first year undergraduate students' writing. Chapter 10 summarises the research, draws conclusions, implications for Academic Communication Skills teaching and makes recommendations for further research.

# **CHAPTER 1**

## **THE RESEARCH SETTING**

### **1.1 Introduction**

This Chapter forms the introductory background to the present research. Specifically, it looks at the history of the Communication Skills Project that is the motivation for the present research. The background to the project and the launching of the course is detailed in Section 1.2. These include, the earlier materials developed for the course and the reactions from lecturers and students to these materials. The new approaches adopted for the course are also highlighted. The present study is introduced in Section 1.3. Here the research questions are stated and the scope of the study is addressed. Sections 1.4, and 1.5 introduce the background to the research area, that is, the Faculty of Agriculture. Here, the general entry requirements for university study and the first year undergraduate courses are given.

### **1.2 Background to Academic Communication Skills in Kenya**

The Communication Skills Project(COSP) for Kenyan Universities was funded by the British Overseas Development Administration (ODA) and initially managed by the British Council. Its first phase was launched in 1989, when the project coordinators were charged with the tasks of: (a) carrying out a needs analysis to find out the academic communication needs of the pre-university students, (b) training manpower to launch Academic Communication Skills (henceforth CS) in the universities and (c) designing

and producing materials to facilitate the teaching of CS for undergraduate students.

The rationale for setting up this new English language support programme in the Kenyan universities stemmed from public and educationists' complaints about apparent falling standards of English in all educational institutions, including the universities. This concern was made even more prominent since the students who were going to be admitted to the Kenyan universities in 1990 were students who had gone through an innovative educational system. The new educational system launched in 1983 was established to be 'technologically' oriented to enable students to acquire skills that would aid them in their future careers.

It was felt that the earlier system favoured elitist education that was aimed at producing people who were geared towards white-collar jobs. Since the demand for places in higher education had become progressively more competitive, those who qualified but did not get places in higher education found themselves with no vocational skills to cope with their future lives. The table below shows the difference between the old and the new system in terms of years of study at various levels:



Level	Up to 1982	From 1983
Primary	7	8
Secondary	4	4
High School	2	-
University	3	4

Table 1.1 Length of study in the old and the new education systems.

Thus, under the new system, students enter the university after twelve years of schooling rather than the previous thirteen years. The fear with the new university students was that they would not have had enough exposure to an adequate English language learning environment to enable them to cope with university education. At the time there was no provision for language or communication skills support in Kenyan universities. Only one university, namely, the University of Nairobi had a small voluntary support system that reached very few students.

The results of the needs analysis that was carried out in the first stage of the project ( Muchiri et al 1989) seems to have confirmed this. It was, therefore, felt that an Academic Communication Skills course should be launched. This course, to be taught in the first year of undergraduate study, would help the new students overcome language and communication problems in the university academic environment (see Appendix 2).

The second phase of the project entailed the recruitment and training of staff to handle the course when it commenced in 1990. Thus, in 1989 the ODA in conjunction with the British Council provided scholarships for each of the four universities (Nairobi, Kenyatta, Moi and Egerton Universities) to send study fellows to the UK for courses in Applied Linguistics at the level of Masters degrees. These fellows were going to become the backbone of the various Communication Skills Units which were to be launched. Along with these, sixteen more sponsorships were made available for study fellows for a three months' summer course of instruction in CS at Lancaster University in 1990. These fellows were already involved with the teaching of Linguistics and Education in the four universities. They were expected to form a back-up group by assisting in the teaching of CS on a part-time basis' (Kimemia 1991).

### **1.2.1 Materials Design**

While the teachers were studying, the project coordinators were busy writing materials in readiness for use in September 1990. These materials consisted of a resource book and a students' workbook (see sample in Appendix 7). They were expected to be ready by September 1990. Due to delays, the materials were not ready until the end of the year. Because Egerton University was opening two months earlier than the other universities, the English Language Teaching Officer(ELTO) in Egerton University, Dr. Donald Burnett was forced to write materials to cater for

Egerton students in the short-term. He commendably produced a manual that was ready for students' use when the university opened.

Originally, the course was to be taught for one academic year.

However, the project plans did not anticipate some practical problems that arose. These were (a) the increase in the number of students due to a political decision to admit more students and (b) the subsequent setting up of three more constituent colleges in Moi, Kenyatta and Egerton universities. This resulted from an outcry from the public on behalf of the students who had attained the required minimum entry qualifications for university education.

The first problem that came to have direct impact on the launching of the Academic Communication Skills course was the question of class size. Originally, the class sizes were expected to be between twenty-five and thirty students. The further increase in student numbers meant either increasing the sizes of the classes (which the University of Nairobi did) or dividing the students into two groups, one to be taught in the first semester and another in the second (which Egerton University did).

In writing course materials, the coordinators had to choose a suitable approach that took into consideration the diversity of the students who were going to be taught. They eventually chose what they termed a skills-based text. The materials were based on 'an integrated study cycle' around which the students practiced the various skills (Bint, et al 1990, see also Appendix 7). The Egerton materials were slightly different. The materials expect students to learn and practice micro-skills (understanding the functional

aspects of language which Burnett (1991) felt were necessary for the students to learn before they can have effective practice in the macro-skills of reading, writing, listening, and speaking).

### **1.2.2 Reaction to the Materials**

Materials produced for the course could not be expected to be perfect, however. The imperfection, coupled with the inexperience of the new teachers and the diverse backgrounds and interests of the students meant that further problems would definitely emerge. At the end of the first year of teaching CS, therefore, there were mixed reactions to the course from the students. Initial reports from Moi University indicated that students were not happy with the British Council materials, regarding the materials as 'too simple'. Some students also resented the fact that they were doing 'more English' (Owiny 1991) while others seemed 'unconvinced of the value of what they were being taught' (Bint 1991).

On the other hand, the teachers' experiences over the first year of the course have produced different views on the direction for materials development. Some teachers are of the view that the future direction should be one in which students learn micro-skills (Burnett *ibid.*), others feel that students' initial language proficiency had been down-played (Oduol 1991). The reason for these diverse views owed much to both the lecturers' experiences in the classroom which had given them some perception of the students' diverse linguistic abilities (Bint 1991).

Five years on, a new approach oriented towards subject-specific communicative needs of the students is being envisaged. Teachers are encouraged to be eclectic in their choice of materials. They are increasingly using materials they are more comfortable with and those they feel could motivate students. A more explicit EAP course with a view to subject-specific orientation is being seen as necessary (see analysis of CS staff questionnaire in Chapter 7 section 7.6).

### **1.2.3 The Way Forward**

Despite the diverse views noted in the previous section, most lecturers feel that it is now desirable to produce materials that are geared towards the needs of various students in their subject areas (Bint *ibid.*, Monsi 1991, Njoka 1991, see also Chapter 7 Section 7.6). During the last five years (1990-1994) of the teaching, CS workshops within and between the universities have been organised. At the beginning, these were mainly fora to exchange views and experiences from both the CS units and individuals who have been involved in the teaching of the course. Indeed some collaborative research work which covers areas ranging from methodology to materials design is in progress at the present time.

One of the things that has been expressed in these research seminars has been that there is still a long way to go in our understanding of the students' real academic needs in the Kenyan ESL context, which is different from the ESL contexts where previous research has been done. There has been a very strong view that research should be aimed at trying to understand

the needs of students in this context. The present study, therefore, aims to address some of the research needs that have been expressed in these seminars.

### **1.3 The Present Study**

If we look at the background to the present study that has been covered above, we can see that although the Academic Communication Skills course in Kenyan universities has been taught for over five years now, it is still unclear what the students really need to learn in order to cope with academic work in an undergraduate environment. This, in my view, is due to three factors: Firstly, the lack of a thorough needs analysis of the students' use of English in the Kenyan academic context and in their future careers. Secondly, the lack of an explicit research base for English for Academic Purposes relevant to the Kenyan context. And thirdly, the need to have a clear view of the students' competence in the communicative use of English in disciplinary discourse.

There is a need, therefore, for research to address the following questions:

1. What aspects of communicative language use in terms of skills, target situation, fields of interest and genres of academic work are demanded of students by the lecturers and examiners?
2. How is the work of university students in Kenya evaluated by their subject lecturers in the disciplines which they study?

3. What is the nature of students' communicative competence that they bring to the university situation and how does this compare with the (target) demands of the lecturers, subjects and genres?

4. What communication problems are the students likely to encounter once their initial competence is compared with the requirements of the university academic discourse community?

5. How can the answers to the questions above make the teaching of communication skills more effective?

A thorough needs analysis which adopts an appropriate theoretical framework that will enable CS lecturers to have a clear understanding of both the institutional requirements as well as the students' initial competence prior to the commencement of their university careers are important factors, therefore, which need to be addressed as a prelude to developing more appropriate and effective courses. The reasons why these are seen as crucial in this research are given in the sections that follow.

### **1.3.1 Specific Issues in the Study**

This research focuses on the academic writing needs of first year undergraduate students in the Faculty of Agriculture at Egerton University. Academic writing is chosen as a focus for this study for four major reasons, namely:

a) It is an important activity by which students' eventual success in university education is judged (see for example Horowitz 1986)

b) It is an area in which a lot of research is currently focused on all over the world ( see for example Robinson 1988, Leki 1991, Raimes 1991 and also section 2.2 below)

c) Both CS and subject specialist lecturers in Kenyan universities have expressed the need for the teaching of writing (Oduol 1991)

d) Research in second language writing (see for example Zamel 1983, Kroll 1990) has shown that second language learners have rather special problems with writing in an academic context. This is also borne out from my own personal experience as a CS teacher.

This research will not only be a contribution to this practical endeavour, but a useful contribution to the research base of academic writing in the Kenyan context. The starting point is the identification of those writing activities that students are required to do and what requirements the writing involve. Judged against their initial writing competence, it will be possible to see where communication problems arise for the students.

Thus, with respect to writing needs, the previous questions (section 1.6) are re-framed to reflect the research aims and objectives of this study as follows:

1. What aspects of written language use, sub-skills, fields of interest and genres are demanded of the students by their lecturers in the course of their undergraduate programmes?
2. How is the students' academic writing evaluated by their lecturers in their subject areas?



3. What is the nature of the students' writing competence at the start of their academic careers and how is it related to the demands of the discourse community's judgment of appropriate writing competence?
4. What communicative problems do students encounter in their writing when judged against what the university academic discourse community expects of them?
5. What implications do the answers to these questions have for second language research, theory and teaching/learning of Communication Skills?
6. What theory/theories of writing can best be used to identify all these aspects that need to be considered?

### **1.3.2 Scope of the Study**

The study is limited to the study of writing needs of first year undergraduate students in the Faculty of Agriculture in Egerton University. The limitations of time and space could not allow a much broader study area without compromising the depth and quality of the research.

The Faculty of Agriculture was chosen basically because it is the oldest established Faculty in Egerton University. The Faculty was launched in 1939 when Lord Maurice Egerton of Tatton donated 320 hectares to the colonial government's Agriculture Department. It began first as an agricultural school admitting British ex-servicemen who were preparing to farm in the Kenyan Highlands (then so called the White Highlands) on their return from the Second World War.

From the 1960s it developed into an agricultural college conferring diploma certificates in various agricultural disciplines (see section 1.4 below). In 1986, it was granted the status of a constituent college of the University of Nairobi and admitted the first 137 undergraduates. It was granted full university status in 1987 offering a wide range of degree programmes.

Even though the role of the University has been expanded beyond its earlier agricultural orientation, it has been designated as a centre for excellence in Agricultural education<sup>3</sup>.

There were also practical reasons for choosing this faculty. The Faculty is one of the largest 'science' faculties in Egerton. The population of the students in the Faculty of Agriculture in 1993 stood at 1759. In the 1993 academic year, for example, the number of first year students admitted to the Faculty was approximately 541. In addition to those admitted to the three Agriculture-related departments was (approximately 300), the total number (more than 850) forms roughly a quarter of the total number of students admitted each year to the university. These students occupy roughly a quarter of the departments in the university (see section 1.4 below).

Since it is the oldest faculty, it is also the most stable in terms of turn over of staff, unlike the newer faculties. The total number of staff teaching Agriculture and Agriculture-related disciplines are about 118. This number also forms roughly a quarter of the total teaching staff in the university.

## **1.4 The Research Context: The Faculty of Agriculture**

This section mainly describes the composition of the Faculty of Agriculture in terms of the number of departments and the courses offered to first year students by these departments, including general (university) and particular (faculty and departmental) entry requirements.

The Faculty of Agriculture is composed of seven departments<sup>4</sup>. These are:

- 1. Agricultural Engineering**
- 2. Horticulture**
- 3. Animal Science**
- 4. Animal Health**
- 5. Agronomy**
- 6. Natural Resources**
- 7. Dairy and Food Technology**

In addition, there are three other departments that offer agriculture-related courses, namely:

- 1. Agriculture and Home Economics**
- 2. Agricultural Education and Extension**
- 3. Agricultural Economics and Agri-Business Management**

The former two are in the Faculty of Education and Human Resources while the latter is in the Faculty of Arts and Social Sciences.

The Faculty offers various diplomas and undergraduate and graduate degrees namely:

1. Diploma in Animal Health
2. Diploma in Dairy Technology
3. B.Sc. in Agricultural Engineering
4. B.Sc. in Agriculture
5. B.Sc. in Animal Production
6. B.Sc. in Dairy Technology
7. B.Sc. in Horticulture
8. B.Sc. in Natural Resource Management
9. M.Sc. in Animal Production
10. M.Sc. in Horticulture

The Faculty of Education and Human Resources offers three Agriculture-related courses at diploma and undergraduate levels namely:

1. Diploma in Agricultural Education and Extension
2. B.Sc. in Agricultural Education and Extension
3. B.Sc. in Agriculture and Home Economics

These are offered by the Department of Agricultural Education and Extension and the Department of Agriculture and Home Economics respectively.

The Faculty of Arts and Social Sciences offers four Agriculture-related courses at diploma, undergraduate and Masters levels namely:

1. Diploma in Farm Management
2. B.Sc. in Agricultural Economics
3. B.Sc. in Agri-business Management
4. M.Sc. in Agricultural Economics

These courses are offered by the Department of Agricultural Economics and Business Management.

#### **1.4.1 Entry Requirements for Undergraduates Students**

Entry requirements for undergraduate students are explicitly stated in the university common entrance requirements. Additional requirements are also determined by the various departments. Generally, students entering undergraduate courses need to have attained at least an average grade of C+ in the Kenya Certificate of Secondary Examinations (KCSE). This minimum requirement includes at least a pass in English language. This is not to say that students who do not have a pass in English language as a subject will not be admitted but since English is the medium of instruction and the language through which students are examined, they are expected to have a linguistic proficiency that is high enough to have enabled them to compete in an extremely competitive 'educational rat race' (Love 1991). Only about one tenth of the quarter of a million students who sit for the KCSE manage to enter the university. It is seen as an added advantage to have a good grade in the English Language.

In the Faculty of Agriculture proper, the minimum entry requirement in addition to university minimum admission criteria, is a pass in K.C.S.E. or equivalent examinations in Physical Sciences, Biological Sciences and Mathematics at a minimum grade of B. Admission is also given to outstanding students with diploma certificates from recognised universities who have passed with distinction or credit or equivalent. Each department,

however admits students depending on the minimum grades they require on K.C.S.E subjects that are relevant to the courses that students want to study in the university.

#### **1.4.2 First Year Undergraduate Courses in the Faculty**

A total of fifty courses is offered to first year students in the Faculty of Agriculture. These courses range from agriculture courses to basic courses in the physical and natural sciences. Approximately half of these fifty courses are offered directly from the agricultural departments mentioned above. These agriculture courses are:

1. Introduction to Agricultural Engineering (AGEN 111)
2. Workshop Technology (AGEN 122)
3. Hydrology (AGEN 132)
4. Technical Drawing (AGEN 171)
5. Introductory Drawing (AGEN 170)
6. Workshop Technology (Practicals) (AGEN 120)
7. Introduction to Farm Power (AGEN 121)
8. Introduction to Animal Science (ANSC 211)
9. Introduction to Food Technology (DAFT 101)
10. Introduction to Natural Resources (NARE 101)
11. Principles of Resources Management (NARE 201)
12. Anatomy of Domestic Animals (ANHE 310)
13. Principles of Range Management (NARE 201)
14. Agricultural Process Engineering (AGEN 192)

15. Weed Science (AGRO 217)

16 Introduction to Soil Science (AGRO 161)

Agriculture-related courses offered by the three Agriculture-related departments are:

1. Principles of Human Nutrition (AGHE 121)
2. Introduction to Fibres and Fabrics (AGHE 131)
3. Food Selection and Preparation (AGHE 122)
4. Family Life Education (AGHE 141)
5. Introduction to Agricultural Economics (AGEC 101)

In addition, there are basic courses meant to introduce the student to the disciplines in general:

1. General Economics (AGEC 102)
2. Principles of Economics (AGEC 100)
3. Financial Accounting (AGEC 141)
4. Business Studies (AGBS 100)

Like all other Faculties, the Faculty requires students to study what are called common core courses that include Communication Skills (COMS 101).

These other common core courses are:

1. Development Studies (DEVS)(in four parts)
2. Introduction To Computers (COMP 101)
3. General Mathematics (MATH 101)

Development Studies is a multi-disciplinary course which includes Philosophy, Economics, Government and Diplomacy, History of Science,

Environmental Studies, Science and Technology, Literature and Socio-Cultural Studies, Ethics and Law, and Economics and Trade.

All these courses must be taken by students before they graduate.

Communication Skills, however, is currently taken only in the first year and currently lasts for one semester. Some students take it in the first semester while some take it in the second. Agriculture students taking Communication Skills in the first semester<sup>5</sup> are those who take the following degree programmes:

1. B.Sc. Horticulture
2. B.Sc. Natural Resources
3. B.Sc. Agronomy
4. B.Sc. Agricultural Engineering
5. BEd Science

Those taking it in the second semester are;

1. B.Sc. Dairy Technology
2. B.Sc. Animal Production
3. B.Sc. Agri-business Management

One important fact that is immediately apparent from our look at the course components for all the Agriculture students is that half the courses they take in the first year are courses from outside the Faculty. These are mainly from departments in the Faculty of Science (such as Botany, Zoology, Chemistry, and Physics), meant to provide basic instruction in the scientific process. (The analysis of examinations in Chapter 8, for instance, includes



some examples from these departments). This observation will be revisited in Chapter 10.

### Notes

1. The Egerton University Catalogue 1992/93
2. These fellows were composed of both lecturers in linguistics, communication and technology and several subject specialists. Some of these part-time staff have since become full-time teachers of CS.
3. In 1992, the government designated various public universities as 'Centres of Excellence' in at least one field of research. Thus, Nairobi University was designated the centre of excellence in Legal and Medical Studies. Kenyatta and Moi Universities were designated centres of excellence in Educational Studies and Environmental Studies respectively.
4. The Egerton University Catalogue 1992/93
5. In 1993, however, all Agriculture students were taking Communication Skills in the first semester.

## **CHAPTER 2**

### **ISSUES IN ESP: PAST AND PRESENT**

#### **2.1 Introduction**

It is indisputable that there has been a phenomenal growth in research and practice in language for specific purposes in the last quarter of a century. This growth and development has been documented in several books (for example Swales 1988, Robinson 1980 and Robinson 1990) and articles (from Stevens 1977 to Johns and Dudley-Evans 1991). The development of writing research and practice has also been reviewed (see for example Krapels 1991, Silva 1991, Leki 1991 and Raimes 1991).

This chapter reviews a sample of these previous studies and relates them to the context in which the present research was carried out. The Chapter is divided into five sections. Section 2.2 examines a sample of past research in ESP which investigated various academic discourse genres. Section 2.3 looks at claims about ESL students' writing in academic contexts, while section 2.4 reviews research into writing tasks in university courses. Section 2.5 discusses the relationship between the studies reviewed and the present research. Section 2.6 is a short summary of the whole chapter.

#### **2.2 Text Analysis Research**

In this section, I start by reviewing previous research which I broadly call text analysis research. These pieces of research, beginning with Tarone, Gillette, Dwyer and Icke (1981), set out to investigate various features of

academic and professional discourse genres. Since this type of work has been crucial in establishing current views of what constitutes good practice in academic writing, I intent, by reviewing these articles, to highlight aspects that are relevant to the present research, namely, the kind of information that students need to know about scientific texts that they will be required to either write or read. These aspects include not only linguistic features prevalent in academic writing but also the way writers have used these features of language purposefully (communicatively) to produce a text.

The first four studies ( Tarone et al 1981, Anania and Akhtar 1985, Malcolm 1987 and Gunawardena 1989,) belong to the 'rhetorical tradition' (Robinson 1991:24). They analyse voice and tense in order to determine their rhetorical functions in specific genres. Adams Smith's (1984) research is also in this group but it analyses the rhetorical functions of the author's comments in medical texts. The second two pieces of research by Swales (1981, 1984) and Hopkins and Dudley-Evans (1988) belong to the genre tradition and are concerned with the creation of a pedagogic framework for the analysis of the organization of texts.

In general, however, it can be argued that both categories of investigators believe that it is important for ESP teachers to understand genre features in order to enable learners to understand:

the features of a particular text that make it a 'good' text - in the sense that it performs the function for which it was intended and that it is acceptable by the community for whom/within which it was produced

(Hopkins and Dudley-Evans 1988:113).

Tarone et al's (1981) research is perhaps the first study of specific purpose language which can be classified as truly genre-based. The study's aim is, the researchers claim, to analyse specific use of language within one field. Tarone et al also claim that theirs is a departure from the frequency analysis of voice in English for Science and Technology (henceforth EST) previously done by other researchers. Their research, they argue, is an examination of the use of voice within one genre in order to determine the functions they fulfill within that genre. They do this by comparing the use of the passive with the active voice within the genre of astrophysics journal articles.

They observe that, contrary to the popular notion that the passive is the most frequently used voice in scientific discourse, the case for astrophysics does not tally with this view. They note, unsurprisingly, that the active is the most frequently used in the articles they examine. Having noted thus, they make three generalisations which they regard as specific to the use of the active and the passive verbs in the two papers, namely:

- a) the active *we* verb form is used by writers of astrophysics journal papers to indicate points in the logical development of an argument where they have made a unique procedural choice, whereas the passive is used when the authors are simply following standard or established procedure
- b) the plural active is used by the authors for their own work and also to cite contemporary work which does not contrast with theirs
- c) they use the passive when they refer to their future work.

Though their research was limited by the number of articles they had analysed (they were only two), they were confident that this was an original analysis which could be replicated to capture knowledge of rhetorical functions which condition the choice of the passive in particular EST genres. Swales (1985) considers their analysis to be one which offers 'a responsible statement about a minute fragment of the enormous volume of scientific writing' (Swales 1985:190). In his view, it raises pertinent questions regarding three issues, namely, (a) how to most usefully categorise scientific writing (b) whether linguists are providing the kind of explanations needed in the ESP context and (c) whether unique explanations of English usage are needed by some contexts.

The second study by Malcolm (1987) looks at the rhetorical functions of tense. Her study attempts to answer the question of whether tense usage in scientific discourse is governed by; (a) rhetorical functions unique to a particular genre, or (b) the same temporal meanings governing tense choice in general English. Her research, she claims, departs from earlier studies which largely assert that tense in scientific discourse is non-temporal. Rather, she argues that tense choice incorporates both context-independent temporal meanings and context-dependent uses. She notes that Comrie (1985), argues that the basic temporal meaning of tense remains unchanged regardless of its use in particular contexts. In addition, he suggests that a linguistic account is the best possible interpretation of tense in a particular context in terms of the interaction between context independent meaning and context dependent use, rather than solely interpreting from contextual uses. Malcolm claims that her analysis of twenty

experimental reports from the Journal of Pediatrics agrees with Comrie's view. She observes that tense can not only be correlated with rhetorical uses unique to a genre, as in the case of the journal articles, but also that these correlations can be accounted for by the same temporal meanings reminiscent of general English tense categories.

Her analysis proposes a hierarchy of sociolinguistic categories, namely, **components of the situation, rhetorical functions and temporal meanings** which together, account for tense usage in scientific writing. These categories, are 'organised in such a way that the set of categories at a higher level affects the possible range of categories at a lower level' (p. 32). For example, the components of a situation such as medium, setting, purpose, and participants affect the categories at the next level down the hierarchy, namely, the rhetorical functions which are specified by two axes of orientation: the referential and the deictic.

Malcolm also proposes that an adequate theory of tense was needed to account for both obligatory constrain and strategic choices that provide authors with the capability to manipulate temporal references for their own rhetorical purposes. In the discourse community that produces experimental reports, for example, she sees experimental reports as a forum for discussing the implications of specific studies on the development of theory. In this genre, she notes, writers are sometimes able to 'manipulate the temporal identity of a referent' so that they are able to 'present temporal references to aspects of the research process in a way that advances their own perspective' (p.32). Writers

are allowed to choose tense in aspects of research process where they feel fits to whether they want a process to be seen as a 'timeless or omni-temporal' generalisation.

Her study, she argues, provide teachers with a schema with which they could analyse the rhetorical structure of experimental reports. In addition, it would also aid students in understanding how tense in English works on a broader context than hitherto claimed by other ESP researchers.

In contrast, the third study by Hanania and Akhtar (1985) is an attempt to show the interdependence of grammatical form and rhetorical function in writing. The research attempts to identify the relations between verb form and rhetorical function and their manifestations in various sections of the genre of M.Sc. theses in three fields of Biology, Physics and Chemistry.

Their frequency profile of finite verbs of English scientific writing reveals that, in terms of overall verbs, the actives exceed the passives (54% to 46%) thus agreeing with Tarone et al's observation (1981). Their analysis also indicates significant differences emerging between the different rhetorical sections of the theses. In the **Introduction**, they note that apart from the frequent use of the active, there was also a higher frequency of the present over the past tense. They regard this as due to the rhetorical function of the introduction in which the writer makes background generalisations, establishes assumptions and states the purpose of the work. In the **Literature Review** section, they notice a slight shift to the past tense, but little in the use of the

active. This, to them, implies that the passive is not the main form needed to review past literature.

In the **Methods** section, however, the passive constitute 70% in the past tense. The use of the active drops from 60% to less than 30%. Again, this not only identifies the section as the rhetorical section where passives are preponderant, but it indicated the passive as 'closely associated with the rhetorical function of describing procedures followed and experiments performed by the writer' (p.53). They also note that though the **Results** and **Discussion** sections conform to the overall broader pattern of verb use, a noticeable rise in the use of present tense and modals in the **Discussion** section is governed by the communicative function. In this instance, they suggests that the simple present expresses generalisations and conclusions based on the results of research while modals qualify interpretations and conclusions.

The study also yields differences in the use of the passive in the **Methods** section in the three disciplines. Whereas in both Chemistry and Biology, the use of the active is frequent in four sections, the rise of the passive in the **Methods** section is significantly higher than that of Physics (40% compared to only 10%). Tense shift from present to past is also noticeable in the **Methods** section in the two disciplines whereas there is no change in Physics. The use of modals also dwindles from 10% to 1% in the two disciplines whereas there is minimal change in Physics (11% to 8%). They believe that these differences have to do with the nature of research in Physics which is more



mathematical and theoretical than the other two disciplines. Physics, they suggest, is largely concerned with discussion of mathematical models and their application to the problem at hand, so that there is little narration or report of practical work as is found in the other two sciences.

The other research by Gunawardena (1989), examines ten articles in Biology and Biochemistry journals in order to find out whether there is a correlation between a specific tense and rhetorical function. In particular, the study attempts to establish whether the meanings conveyed by the present perfect are related to the rhetorical functions in four rhetorical divisions, namely, **Introduction, Methods, Results, and Discussion** sections. To do this, she determines the number of present perfect constructions and their meanings in each of the four sections in terms of six parameters that she devises. These are:

- (a) a past experience with current relevance,
  - (b) an inclusive present- a situation that began in the past and that continues in the present,
  - (c) a retrospective present which connects a past event with the present state as having consequences bearing on the present,
  - (d) a repeated action- an action that went on over time in the past,
  - (e) a completed action, at the moment of speech or a very recently completed action,
  - (f) an expanded perfect- an uncompleted action which implies an element of relatively longer time, which began before and may continue afterwards
- (p.267).

Her results indicate major differences in number of occurrences between the rhetorical sections but no major differences between the two disciplines. For

both, the number of occurrences in the **Introduction** and **Discussion** are the same.

The results also show a close relationship between rhetorical functions of the **Introduction** and meanings conveyed by the present perfect. She also notices that the present perfect was used predominantly to describe past experiments reported by earlier research or current research relevant to a present study. It also conveys the meaning of past experience with current relevance. Where the use of the perfect is found in the **Methods**, it has an additional meaning of a completed action in a description of a method of experimentation used by previous research. Her findings, she asserts, differ from earlier conclusions by Lackstrom et al (1970) which had suggested that the present tense occurs where technical rhetoric needs to express a generalisation. However, she claims that it supports Oster (1981) that the present perfect tense is used to claim generality about past literature. Though it also supports Quirk and Greenbaum's observation that the perfective has an 'ability to involve a span of time from earliest memory to the present' (Quirk and Greenbaum 1973:14), it disagrees with their assertion that the perfective is governed by time adjuncts in the clause. She observes that

authors do not use time or frequency indicators with the present perfect when they are referring to their own research in the present study, or in reference to long-term continuing or repetitive processes of discourse ( p.270).

Results also differ from Lackstrom et al's distinction between past and present perfect, in which they argue that the two tenses are used for different rhetorical purposes depending on the importance of the past literature to a present study.

From her research, she suggests that the teaching of tense in EST, in this case the present perfect, should include its communicative purposes in rhetorical divisions of scientific research papers.

Adams Smith's research (Adams Smith 1984) examined author's comments in journal articles from the British Medical Journal (BMJ). Her rationale for such a study stemmed from her claim that from her experience, student's main language problems are in three main areas, namely, that they have difficulty in

- (i) distinguishing main ideas from supporting details or examples,
- (ii) distinguishing objective statements of accepted facts ( core generalisations) from author-marked observations of hypothesis, opinion or recommendation,
- (iii) recognising the comparative force and scale of intensity of related linguistic items, for example, **must, ought, should**, and so on.

After classifying and differentiating the various categories of articles of medical journals into **clinical case notes, research papers and editorials**, she investigates the second claim by trying to highlight the place of the use of the subjective element in the journal and the purpose for which an author uses subjectivity. The scope of her research on subjectivity goes beyond its manifestation in modal constructions to include other attitudinal markers which

signal the author's subjectivity, such as **metaphors, evaluative verbs, and adverbs**. Some of these markers, she notes, have been reported in Kress(1976:198) and Swales (1981). These, she points out:

play an important part in any genre which involves evaluation and advice-giving and stands out particularly clearly in certain types of article in medical journals as a result of abrupt, clear-cut breaks between the objective and detached reporting found in the methods and results sections and the more subjective author involvement in the discussion section  
(p. 27).

By examining the 'micro-acts' in separate sections of the articles, and looking at how they are actualised, she marks out the words and phrases that indicate the author's attitude. She categorises these into three types;

- i) verbal elements of modality and modal auxiliaries,
- ii) non-verbal elements of modality, that is, related nouns, adjectives and adverbs (after Kress 1976:193),
- iii) various frequent words occurring in various articles which indicated attitudinal tone.

She admitted that items in the third category are open to debate since some of them, for example, **only**, could be categorised as both subjective and objective depending on the context.

Her examination of clinical notes indicates that they contain three sections, namely, **Introduction, Results and Methods, and Discussion**. Of the six introductions she examines, only two have instances of modals or attitudinal markers. Similarly, the results and methods section have only three instances of subjectivity in a total of 197 lines. In the last section, however, there is a

significant difference with the previous section. This section contains an average of 1 author's comment to every 2.2 lines.

The second type of genre she examines is the research paper. These are longer, broader in scope and have a higher proportion of author's comment than the case notes. In the introduction, for example, the ratio of author's comment is higher (1:3.7) compared to case notes (1:4.9). In the comment and discussion sections they are identical (1:2.2). The difference between the case notes and research papers is the strong evidence of presence of attitudinal markers in the introductory section of research papers. Adams Smith notes also that aspects of author's comments in clinical notes are almost exclusively epistemic, that is to say that they deal with the truth value of the thesis, whereas in the research paper, there is also a significant number of recommendations and expressions of obligation such as *should*, *must*, and *evaluation* and *emphasis*.

The third type of genre of journal articles she examines is the editorial which she regards as '..the freest in form, the most heavily attitudinally marked, and syntactically and linguistically more complex...' (p. 32). Of the six editorials she analyses, three deal with different aspects of treatment, two with diagnosis and one with aetiology (causes of diseases), with an average length intermediate between case notes and the research papers. Interestingly, verbal modality in her data consists of 54% of the subjective, the same as in research papers (clinical case notes is 42%).

In summary, Adams Smith (1984) identifies examples of how the subjective element is introduced by the author through verbal modality, non-

verbal modality and attitudinal markers. In her research, seven most common purposes for which the subjective is used are:

- a) assessment of probability or possibility (with respect to epistemic purpose),
- b) recommendation or expression of obligation,
- c) evaluation, including comparison, approbation and disapprobation,
- d) emphasis to underline important items,
- e) ability,
- f) disputation, argumentation and concession
- g) expected or unexpected outcomes.

All these, she explains, form the rationale for which authors involve themselves in medical discourse. She concludes that it is important not only to train students in the meaning of modals but also their need to

acquire a sensibility to the wider range of lexical expressions by which author's comments are actualised, as well as the intensity of frequently used lexical items (in order to) understand all the illocutionary force of author-marked statements found in articles in medical journals.  
(p.35).

She also sees the analysis of genre as a way of discovering how knowledge is organised. This, she is convinced, will enable teachers to equip students with tools to deal with the organisation of knowledge within disciplinary genres.

Taking the research closer to direct classroom objectives, Swales' (1981, 1984) research, which stemmed from his dissatisfaction with 'the prescriptive and under-researched character' of introductions in the Report Writing course he was teaching, looks at the communicative purposes for which introductions are

written. He notes that the communicative roles of the introduction varies from one introduction to another and are also much more complex, since

the opening paragraph presents us with a wealth of options: we must decide how much background information to include, we must decide how far opposing views should be taken into account; and we must decide whether it is better to announce our conclusion and justify them or to lead the reader step by step, or to present a set of arguments and then destroy them (the 'strawman' procedure).

(Swales 1984:78)

He therefore, set out to survey 48 journal articles from the sciences, medicine and the social sciences. His preliminary discourse analysis revealed that there was a general tendency for the articles to have a structure which he characterises in terms of 'Moves' as follows:

**Move One** *Establishing the Field*

a) by asserting centrality

OR

b) by stating current knowledge

**Move Two** *Summarising Previous Research*

**Move Three** *Preparing for Present Research*

a) by indicating a gap in previous research

OR

b) by raising a question about previous research

**Move Four** *Introducing the Present Research*

a) by stating the purpose

OR

b) by outlining the present research

This model, he suggests, has pedagogical significance to the teaching of Academic Writing because, he believes, the introduction is the section in students' written work where their communicative competence is tested more

than in any other sections. This model, therefore, could help students 'to call upon (any) useful expectations as to how the introduction might be arranged'.

In the same vein, Hopkins and Dudley-Evans (1988) sought to find a system of analysis that could describe the texts that students have to be able to produce or understand. This system, they argue would operate in such a way as to enable the differentiation of different types of texts, while also providing pedagogically useful information regarding the nature of these different types of texts.

Through the investigation of discussion sections of articles on irrigation and Master of Science (Biology) theses, they hoped that the framework they set out to create would be able to provide for a pedagogically useful description of the organisation of texts. They take issue with earlier approaches to analysis of texts as inappropriate because they had been only capable of grouping texts on the basis of similarity rather than difference. The authors hold that Swales' 'Moves' model is a promising step in the right direction because it details both information content and structure, and also interactional features of language used in texts. This, they believe, reflects a more accurate view of the writer's purpose than the very general categories such as **classification** or **definition** that had been characteristic of earlier EAP course specifications. However, they feel that it is necessary to expand some parts of Swales' model. For instance, they expand Move Two, that is, **Summarising Previous Research**, so that it becomes part of a more general move which introduces and summarises research parameters that they term **Defining the Scope of Topic**.



By comparing the two text types, they discover the differences between the various rhetorical divisions of these genres. They observe, for example, a difference between the structures of the discussion sections and introductions. The discussion sections, for example, does not follow a linear sequencing, but show a clear cyclical patterning in the writer's choice of moves, with only one obligatory move apparent, that is, **Statement of the Result**. They suggest that M.Sc. dissertations show a tendency for the writer to move in a cyclical manner but from a lower to a higher Move except **Move One**, which could appear in any point of the cycle. The emphasis on these cycles, they note, is very much on how the interpretation of the results relates to previous research.

Hopkins and Dudley-Evans believe that their approach produces a better system that is fairly specific enough to be understood for its functional utility. They argue that it could be used to describe communicative events in terms of those features of the text that relate to the content of a writer's message such as how the message is organised internally and the implicit or explicit features of what the writer/speaker is introducing. In addition, it could also show how the speaker or writer accounts for the audience. They contend that this system of analysis would be

flexible enough to recognise.....shifting emphasis and name/label/code in a way that is meaningful in the context of a particular discourse, to take into account the multifunctional nature of language use  
(p.114).

They conclude that the cycle is the main unit of organisation and argue that the notion of cycles is useful in the analysis of the informing sections in articles and dissertations which are always long. They suggest that the cycles

contain categories that *arise from the text* and describe transactional, interactional and logical functions of language in such a way as to reflect the speaker writer's constantly shifting 'foregrounding' of these aspects (authors' emphasis).  
(p.119 ).

In broad terms, it can be said that these pieces of research have investigated different genres. They represent research on tense and voice done on two genres, namely, articles (Tarone et al 1981, Malcolm 1987, Gunawardena 1989 and Swales 1981, 1984) and theses or dissertations (Hanania and Akhtar 1985 and Hopkins and Dudley-Evans 1988). Furthermore, some of these were also investigations into different sections of genres ( For example, Hanania and Akhtar, and Swales looked at introductory sections of theses and journals respectively while Hopkins and Dudley-Evans focused on discussion sections). Each of these genres, Shaw (1992) points out, serve different functions in the discourse community. For example, he observes that articles inform horizontally to peers while dissertations or theses inform upwards to superiors.

The six studies reviewed above, as had been observed at the beginning of this section, have given us insights into present views on academic writing. In particular, they detail characteristics of genres in academic discourse and the purposes for which writers use certain features in their writing. In the context of

the present study, this sample represents not only past research in ESP but also deals with issues that are addressed in this research, namely:

- a) whether the characteristics noted above can be found in the types of written work that undergraduate students are required to produce in the context of the present research
- b) what the aspects investigated by this previous research, namely, tense use and voice, and features of introductions, methods, results and discussion sections of genres in scientific discourse tell us about what science students need to know regarding genres of academic writing that they encounter in their studies
- c) how this knowledge of characteristics of academic writing could give us insights into the teaching of CS to agriculture students

Even though the present research does not strictly focus on the issues raised by these previous pieces of research such as tense and voice, the study is informed by general principles of the communicative nature of academic writing and how the identification and differentiation of various genres as communicative activities is one pedagogically useful way of assisting learners to understand the nature of the types of writing they encounter or those they are required to produce in their studies. As shown in Chapter 6 for instance, one of the useful ways of identifying students' needs is finding out about the types of written work that they are required to do (and the requirements for each) in their subject areas. Furthermore, Adams Smith's research raises issues with regard to undergraduate students' proficiency which form part of the present study, such

as students' inability to distinguish main ideas from supporting ones and the use of modals and other attitudinal markers, aspects in written discourse that, as shall be seen (Chapter 9 ), are sources of difficulty in the students' written work in the Kenyan ESL context, which partly stem from their inability to understand the communicative nature of written work. In the next section, therefore, more issues with respect to the writing proficiency of ESL students are highlighted.

### **2.3 ESL Students' Writing Proficiency**

This section reviews some of the observations made by various practitioners of ESP concerning the proficiency of ESL students. Some of the observations reviewed here are from research and observations in the ESL environment, whereas some are a result of research done by ESP practitioners in both the ESL and the native speaker (L1) contexts. Those claims that are mainly attributed to observations from students' written work are highlighted.

Basically, writing proficiency research can be divided into product-based and process-based observations. Process-based claims refer to research into the writing processes of ESL learners; product-based ones refer to those that have been made following the examination of the written work by ESL students. Some of these, however, are not backed by any substantive data. However, this is not to say that the claims have no weight. The problem is that more often than not, there has been little or no attempt to try to test these claims through research especially in certain ESL contexts. As noted in Chapter One, for instance, very little research has been done to show what kind of problems, linguistic or otherwise, the students face in the use of English in university education in

countries like Kenya. The fact that these claims have formed part of the theoretical input or basis for materials design and teaching necessitate ESP practitioners in these contexts to test these claims with empirically obtained data.

### **2.3.1 Process Research in ESL Writing**

Process research has given us a lot of information about the writing processes of ESL learners as compared to native (L1) speakers (Krapels 1990). In terms of ESL writing research, teaching and learning, Zamel (1983) notes that very little attention had previously been paid to process and the teaching of ESL writing continued

as if form preceded content , as if composing were a matter of adopting conceived rhetorical frameworks, as if correct language usage took priority over purposes for which language is used (Zamel 1983:167).

Zamel's (1983) writing process research is based on the argument that teachers ought to understand how the process through which written work came to be produced and why 'it assumed the form it did'. Her research follows the tradition of work undertaken in the 1970s by Emig (1971) whose research revealed the complex and non-linear nature of composing processes, by Pianko (1979) who looked at and described the 'unfolding' nature of college freshman compositions and Perl's (1980a) and Faigley and Witte's (1981) research on the revision strategies of both skilled and unskilled writers. Zamel also claims that there is a similarity between skilled ESL writers and their native counterparts, wherein both type of writers experience writing as a process in which they

endeavour to create meaning as they explore ideas and thoughts while at the same time create the best 'form with which to best express them' (p.168). She also contends that certain composing problems seem to transcend language factors as they are shared by both types of writers.

Apart from discovering the individual nature of the writer's strategies to 'get into' a topic, Zamel's observations corroborate Perl's (ibid) earlier observations of the recursive and generative nature of the composing process. However, Zamel notes that though students were seemingly aware of the recursive properties of writing, it was clear that their understanding was manifest in different ways, some of which were not always effective. Skilled writers, for example, could review a sentence or two or sometimes reconsidered a whole idea which usually went beyond the sentence boundary whereas the least skilled tended to look at the writing in a piece-meal fashion; they were not able to develop a substantial thread of discourse very successfully, rarely making changes that affected meaning. In terms of accuracy, Zamel found that the students had problems with articles, agreement, and usage. She claims, however, that these were 'more the result of an incomplete control of the language than carelessness' (p.175).

Another research which looks at the difference between native and non-native speakers is that of Jacobson (1986) who reports on a study of students' report writing through his observation of the procedures and problems faced by both speakers of English with respect to laboratory work and experiments in a Physics laboratory. Though his research looks at the issue of competence by

comparison of native and non-native speakers, it can nevertheless be classified as process-oriented. The research diverges from earlier research, notably, Ewer and Latorre (1969) which had looked at competence in terms of structural features that give rise to grammatical competence. Jacobson examines student competence in terms of strategies that they use in a classroom, that is, on how they use language to communicate meaning or compensate for instances when they fail to communicate.

According to responses from the instructors, non-native speakers tended to follow instructions from the laboratory manual rather than those given by the instructor. Moreover, it was observed that one non-native speaker, for instance, was not able to request information with sufficient background information, hence the student's problem took a longer time to solve than a native speaker's. In addition, Jacobson observes that non-native speakers' overall reports lacked balanced because they failed to distinguish between extraneous and essential information.

The two examples of process research above, however, came up with different conclusions. Zamel concluded that there are 'remarkable similarities' between both 'skilled' ESL and L1 writers with regard to their process of writing. This, to her, confirmed her argument that Second Language research, teaching, learning and theory building stands to gain from research insights into native speaker language teaching and learning. On the other hand, Jacobson's conclusions do not indicate any similarities between L1 and non-L1 speakers.

How does this relate to the present research? Zamel's observation about unskilled writers' tendency to look at their writing in a piece-meal fashion has also been claimed to be one of the problems of students in Kenya (see sub-section 2.3.3 below). Even though the present research does not investigate the writing processes of the students in this context, this inability to see the connections between and among the various parts of a piece of written work is manifested in the students' written products, where, the failure to see the communicative value of certain aspects of discourse such as linking devices were observed (see, for example, Chapter 9 Section 9.2.3). In addition, Jacobson's observation that students' work lacked balance was one of the problems observed in the students writing in their subject areas in the present research context ( Chapter 9 section 9.5).

### **2.3.2 Research in Students' Written Work**

The previous sub-section looked at some of the views of students' writing ability with respect to studies aimed at uncovering the processes used by writers in creating a text. This sub-section examines results from investigations into students' actual writing. Broadly, the section begins by noting those issues which have been suggested as problem areas of foreign students' writing in academic contexts. Here, two issues are highlighted. The first is the issue of audience or reader expectations. In this, it has been argued that foreign students sometimes fail to perceive the requirements of the audience because they find themselves operating in a cultural vacuum. The second is what I broadly term 'linguistic' aspects of foreign students' academic writing. Here, a review of



what the studies that have looked at students' written work in academic contexts note about foreign students writing competence.

#### **a) The Expected Readership**

Some researchers have pointed out that one of the problems that students often have is their inability to perceive the audience to whom they write. Reid (1987), for example, suggests that the problem that ESL students face in the university context is not fundamentally that of proficiency, but rather one of limited or skewed perception of what the reader expects. She argues that international students who find themselves operating in a cultural vacuum sometimes resort to inappropriate coping strategies that puzzle and sometimes irk the reader. She, therefore, proposes that foreign students would benefit from learning about awareness of the audience when writing in this context.

This cultural vacuum, according to Ballard and Clanchy, also exists because of students' lack of 'native-like intuitions about vocabulary, syntax, tone, style, formality and organizational patterns' (Ballard and Clanchy 1988). In such a scenario, their English language ability does not equip them to see anything wrong in their own writing. They propose that students need to be socialised into their disciplines by being trained to understand purposes of disciplinary discourse and its production.

These problems of lack of awareness of audience and knowledge of accepted practices when writing to a discourse community are, however, not confined to non-native users of English only. Houghton (1984), for instance, observes that in general, university students, both native and non-native

sometimes fail to 'play the rules of the game' in essay writing. L1 speakers do not always perform well since 'they operate under different rules from the reader/marker, or may not know that despite apparent freedom they are given, there are, in fact, rules to be obeyed' (p.48). Houghton notes that in the USA, it has been generally recognised that college students are not necessarily proficient writers. Writing is regarded as difficult and something that needs to be taught. Thus it has been necessary to provide for freshman composition and rhetoric classes.

However, from Houghton's view, students from overseas are likely to be more handicapped to a certain extent in attempting to master these rules of the game. The origins of this handicap is, according to her the result of several factors. Firstly, she suggests that rote learning could have been encouraged during the students' first degree. This encourages students to present ideas of others uncritically, a serious problems particularly for postgraduate students. Secondly, she contents that there are significant factors of a cultural nature. She argues that in some places, the written word is regarded as sacrosanct and therefore cannot be disputed. In certain communities, she suggests, young people are not expected to be argumentative and are expected to conform to the status quo and simply produce what they have read.

The problem of reader awareness has also been observed in a study of African students. Skelton and Pindi (1989), while investigating problems of Zairean students, conclude that students' consciousness of readership was a problem that was consequent on their inability to understand 'the academic

game' because they had not acquired the appropriate context for organising their writing. In addition, they felt that it was possible that one of the problems was that students may not have had enough competence in English to recognise their work was incoherent.

#### **b) Observations about Students' Writing**

Houghton (1984), in her analysis of student essays in the language class, reported that students had problems with writing a balanced essay, a problem already noted in the findings of Jacobson discussed above. One of the problems that she observed was that in the analytical sections of these essays, her students tended to write at length on parts that they were familiar with but gloss over parts they found difficult. Secondly, students were unable to summarise their work even when they rely heavily on books. The third problem was that they were unable to give examples in the analytical section to back up their theoretical claims. Fourthly, they find it difficult to differentiate between the points of the theories mainly because of poor skills in reading.

Similarly, Adamson's case study (Adamson 1990) which examines ESL students' use of academic skills in content areas also points to this problem of lack of tools of critical analysis. His comparison of the written texts of two Iranian students revealed that one student who was less fluent chose a 'less ambitious but safer' strategy by writing what he (Adamson) terms as a 'safer' answer. This answer showed a lack of critical analysis of the issues under discussion. He also observes that though the second student attempted to be

much more analytical in her work, she still had problems with creating convincing academic arguments.

In general terms, Adamson felt that students had a tendency to 'speculate or philosophize from personal experience', an observation akin to Reid's (1987) view that ESL students work sometimes contain elaborate language which is 'highly philosophical and generalised'.

Hall et al's (1986) research on writing proficiency of the ESL Engineering students claims that though the students may be reasonably fluent in English, they have problems with coherently organizing their ideas. This leads to their failure to 'reveal the thread of their own thoughts because they lack 'independent, critical, and self-monitoring approaches to inquiry' (p.148).

They argue that students need to consider that information can be consciously structured. They observe, for example, that students often fail to 'establish the field' in the way explained by Swales' 'Moves' pattern (Swales 1981, 1984). In addition, they feel that students needed to be able to distinguish two levels of cohesion in a text. that is, (i) macro-cohesion, in which topics are linked with each other and with the world outside discourse, and (ii) micro-cohesion, where sentences are linked together. They came to the conclusion that the solution to the problem lay in the students being helped to look at 'the whole process of negotiation of meaning , not just something disparate called writing'.

Skelton and Pindi's study mentioned above also report that transfer of French rhetorical frameworks at the level of lexis and sentence affect whole

stretches of discourse. This tend to create what they termed 'logical problems' in the students' writing. In terms of cohesion, for instance, they found that, in the use of cohesive devices, students who had a limited range of options sometimes resorted to using the wrong ones with the result that they achieved imprecision in meaning. Weaker students, for example, who used fewer connectors than the relatively better ones, used 'and' for a variety of functions. Again, as we see in the analysis of students' writing in the Kenyan context, the issue of organisation in written work is one of the problems observed, particularly with regard to the use of cohesive devices, which as noted, the students seem to also display the use of a limited range of them (Chapter 9 section 9.2.3, 9.3.2, 9.4.1).

Another piece of research that has looked at organisational problems of undergraduate students' writing is Doushaq's research (Doushaq 1986). His study of stylistic errors in the written work of Arab students reports that the majority of students' problems in written English stem from mechanical, stylistic and rhetorical sources. This, he suggests, lead to students' inability to have an adequate match between what to communicate and how to communicate. His research indicated several errors with regard to organization of writing, including all levels of text cohesion, weaknesses with respect to development of ideas and use of language functions.

Doushaq argues that students do not seem to have received any adequate training in textual organization even in Arabic. This resulted in negative transfer from Arabic to English. Many students also seem to be unaware of the necessity of developing and sequencing ideas especially in extended discourse. In terms of

textual coherence, students show weaknesses in the use of synonyms, use of repetition, and use of substitutes, especially noun and verb substitutes. They showed a limited range of the use of connectors, mostly restricted to **and, but, while and because**. These are observations, as already noted above, are prevalent in the present research context.

At the level of lexis, he found three main categories of weaknesses. The first was that students did not use the appropriate academic vocabulary. A high degree of redundancy was also displayed by the students in the number of words they used to convey an idea while also using two or more words to mean the same thing. This results is also similar to those of Skelton and Pindi (above).

According to Doushaq, students' weaknesses in written work in English is also partly due to the fact that the students had not been trained in writing for academic purposes in Arabic (their first language) hence a positive transfer of skills was limited. This of course raises the question of whether Arabic for academic purposes training would necessarily enhance the students proficiency in English.

In one African ESL context that is similar in most cases to the Kenyan one, Love (1991a and 1992) has also observed weaknesses in the written mode of students' work. She notes that areas of **description and generalisation, comparison and contrast, comparison and classification and explanation**, are sources of weakness in students' writing in science. She notes, for example, that students sometimes fail to answer the second part of a question that requires them to do more than one task because they are apparently unable to see the

need to be explicit and precise, skills which are especially important in scientific discourse. This imprecision, she suggests, occurs because of the students' choice of the wrong prepositions, for example, when they want to express location and direction, and verbs which create vagueness in their work. The result was that students ended up producing statements which in her view violate the rules of precision by being too general, or under-generalised, or insufficiently definite.

Like Houghton (1984), Adamson (1990) and Hall et al (1986), Love also notes that students lack what she terms 'analytic competence'. Students tend, according to her, to be 'pre-occupied with discrete facts, hence failing 'to achieve an integrated body of knowledge of a subject or to develop sensitivity to the methodology of a discipline' (1991:30). She feels that this lack of a mental schema is likely to contribute to the students' inability to learn and communicate competently within subject areas. This, she suggests, is because the students are not aware of how academic disciplines structure their own models of discourse in text. Her observations about students' weaknesses particularly as concerns description and classification, as shall be seen, were also found in the present research.

### **2.3.3 A View from the Present Research Context**

So far I have made observations about students' written work from contexts far from the present research context and have noted that some of the observations are also noticed in the analysis of students' writing in this context.

To look at the past views of students' writing in the present research context, a starting point is Burnett's observations (Burnett 1991). Burnett,

having taught in this context, makes claims mainly based on his observations in Kenyan university classrooms. He argues that despite having acquired grammatical competence, students seem to lack communicative competence, leading to their inability to 'process a text or even an utterance, for its communicative value.(They) are conscious of what the speaker is **SAYING**, but not what he is **DOING** (with the language)' (Burnett 1991, author's emphasis).

In his view, his students were unable to process a text beyond the sentence level because they could not see the coherence in the whole text. Their inability to follow signals which indicated the functional value of an utterance meant that they were unable to recognise, for instance, whether it was an *example*, a *reason* or a *comparison*. Because this led to their uncertainty about the texts they encountered, students tended to process text by isolating items of information from within a sentence and hence miss out on significance and meaning which can only be recovered through the understanding of relationships between sentences in a text. He felt that because of this problem, students tend to be at a disadvantage when they find themselves in the academic context 'where many speakers spend their time arguing a thesis, in other words, using the language to *do* something' (author's emphasis).

His observations in most cases, clearly echo Love's research results noted above. And like Love's observation on students' weaknesses with regard to understanding functions in discourse, such as classification and description, Burnett's claims are also among some of the findings in the present research.



To summarise, this section has looked at several issues which past studies observed as sources of weaknesses in undergraduate students' writing. One of these is the lack of awareness of audience expectations. Observations about the nature of their work also revealed problems with respect to their 'analytical competence'. Furthermore, their work also displayed weaknesses with respect to organisation, where wordiness and limited capability to use cohesive devices has been noted. Process research also uncovered the tendency for unskilled writers to revise their texts in a piece-meal fashion, an observation that was also suggested to be a source of difficulty in the present research context where students are seen to process texts at a sentence level. These observations, as have been noted were noticed in the analysis of students' written work in the present research.

In the next section, I look at research that attempts to show the nature of requirements of university courses and how the information can be used to equip students to overcome some of the writing problems.

#### **2.4 Research into Writing Tasks of Disciplinary Discourse**

In this section, I look at three studies, namely, Horowitz (1986a, 1986b, 1986c), Braine (1989) and Canseco and Byrd (1989) which represent investigations into the nature and classification of writing tasks in examinations and essays that undergraduate students are required to undertake in their disciplines. At the end of the discussion, I shall, as in the previous sections, relate the findings to those of the present study.

Horowitz's research (Horowitz 1986b, 1986c) stems from his criticism of the process approach which, he argues, 'gives students a false impression of how university writing is evaluated' (Horowitz 1986a). Moreover, he suggests that earlier studies on academic writing did not satisfactorily answer the question of the kinds of writing that students typically write in the university context. Some of the previous research, he notes, had asked both university students and faculty members to rank lists of academic tasks and skills in order of importance. Others had asked them to indicate the frequency with which tasks were performed. These, he asserts, did not show what tasks were more common since researchers were not agreed on any scheme to classify academic tasks which, he points out, is necessarily prior to eliciting responses about their order of importance. If they had done so, he argues, then it would have been perfectly acceptable to ask the respondents to choose the tasks they considered most important. Furthermore, he criticises the methodology used and what it actually found. For him, the use of a questionnaire or interview may prove unreliable because it

leaves open the question of whether the data reflect what the respondents do or what they think they do or what they want the researcher to think they do

(Horowitz 1986c).

He, therefore, set out to find out what 'the professors actually require', by doing a survey to find out about the kinds of academic writing in the university students' context. His approach, he believes, would yield information which

could aid practitioners of EAP to create realistic writing tasks for their classrooms.

Horowitz's first piece of research (Horowitz 1986c)<sup>1</sup> was one half of his research on the types of tasks and prompts required of students in the university classroom: the other half being the analysis of essay examination prompts<sup>2</sup>. In the first half of the project, he attempts to create a classification system that describes the nature and types of writing tasks that undergraduates are required to do. His classification, he claims, has

enough specificity to capture essential differences among tasks and enough generality to place into the same category essentially similar tasks which might appear to be quite different (e.g., two tasks from different subject areas).

He classified his findings into seven categories, namely,

- a) **summary of or reaction to readings**
- b) **annotated bibliography**
- c) **report on a specified participatory experience**
- d) **connection of theory to data**
- e) **case study**
- f) **synthesis from multiple sources**
- g) **research project.**

In the first category, that is, **summary of or reaction to readings**, nine samples of this type of task from six departments of both arts and sciences, required the student to read a list of articles from a journal or journals then write a summary. This was to be a student's critique of the readings presented in

a summary. This was to be a student's critique of the readings presented in 'academic style'. In some cases, students' own opinions or feelings were expected. The instructor gave explicit help on organisation through presentation of an outline of how to write.

In the second category of **annotated bibliography**, Horowitz found only one sample from biology. In this sample, the instructor provided a topic and instructions on how the students should group a minimum set of entries. A professional journal with model annotations was also given.

Nine samples from four departments fitted the third category of tasks, that is, **report on a specified participatory experience**. In this sample, students were required to either observe or participate in an experience whose aim was to create a certain effect. They were then expected to report the experience within an interpretive framework formed by questions. They were also expected to draw conclusions 'about the meaning of the experience' (Horowitz 1986c:450). Horowitz suggested that laboratory reports would fit in this category.

In the fourth category which dealt with **connection of theory to data**, he found ten samples from three departments. In this, students had to learn about theories either from reading or from lectures. Data was to be obtained by searching through readings or from the students' personal experience. Students were usually given the name of a theory or theories or were asked either to provide through illustrations how a given theory worked or to find a theory that would explain certain data.

In the fifth category, namely, the **case study category**, Horowitz found five samples of tasks which required students to solve a problem using what they had learned in class or a theory. The instructor provided the data so that the students either wrote a conclusion or gave suggestions or provided justifications for a certain plan of action. This was sometimes administered as a group project.

The sixth category, that is, **synthesis from multiple sources**, contained fifteen samples from ten departments. Various requirements were called for here. These included summarising research, finding an answer to a problem and slotting in information to a 'topicless thesis statement'. Instructors in most cases gave explicit specifications with regard to content either by providing a question outline or by listing issues that they required students to cover. According to Horowitz, this category was typical of a library research paper. He also claimed that two types of essays could be identified, namely, one type which required critical analysis and another which required students to simply provide information.

The final category, the **research project**, had five samples from two departments. This type of task was sometimes also done as a group project. In most cases, specific details were given on the organization of the research or report. These sometimes contained headings or subheadings. The students then wrote a proposal or proposed designed and carried out the task through a survey, an experiment or quasi-experiment.

After this classification, Horowitz looked at the nature of the writing tasks themselves. He observed, for instance, that in most cases the tasks were

highly controlled. About 65% (35 out of 54 tasks) had detailed instructions provided regarding content organisation. This he claims, show that students are not expected to create the organization of the library research paper 'out of nothingness'. In the light of this, he proposes that the overriding assumption to be examined is 'what one does when one writes depends on what one is given to begin with' (p.453). In the academic context other than for English composition, creative writing, literature and ESL, the nature of the writing he examined, he argues, emphasised recognition and re-organisation of data. This also de-emphasises invention and personal discovery. This means that the tasks that students were expected to perform did not create personal meaning, but rather, they were required to find, organise and present data according to instructions provided.

In terms of the nature of the tasks, he noted that many of the assignments were highly controlled by the instructors who provided very detailed content specification which included headings and subheadings. In addition, he also attempts to link his findings to the practices in the teaching of writing to foreign students. He suggests that teachers can use this knowledge to 'create tasks which simulate the essential characteristics of real university writing assignments' (1986c:449), through a team-teaching approach in which subject course content provides information on which a language course could be based. Alternatively, he suggests that students doing similar courses can either be brought together to an ESP class in which the language instructor can choose topics that come from those courses or for general ESL classes, 'the syllabus can be organised around

extended topic-centred units of general interest, perhaps chosen by the students themselves' (1986c:456). He felt that though the sample of the responses was small enough to warrant caution on drawing generalisations, the data seemed to show trends which made it possible for preliminary conclusions to be drawn regarding the range and the nature of undergraduate tasks found in the undergraduate environment.

Another research project that followed Horowitz's approach reported above was Braine's (Braine 1989). His study attempted to examine non-examination assignments given to students in various academic courses. He therefore used Horowitz's classification system to analyse sixty one assignments from ten undergraduate courses which consisted of a substantial writing component in Natural Science and Engineering Departments.

Braine proposed to look at each category in terms of both procedural aspects, that is, the pre-writing activities that the students have to do before they can write an assignment and what they are actually required to produce. Firstly, he classified his data into five primary categories, namely, i) **summary of or reaction to readings**, ii) **report on a specified participatory experience**, iii) **report on a simulated participatory experience**, iv) **case study** and v) **synthesis of multiple sources**. Categories (i), (ii), (iv), (v) identified with four of Horowitz's categories described above.

In the first category, that is, **summary of or reaction to readings**, he found three samples from two departments (Microbiology (2) and Home Economics (1)). In this category, students were supposed to work individually.

Instructors provided a list of journals and possible topics but in most cases the format for the writing was not specified. Again, like Horowitz's observation, the summaries of the articles were to be followed by a critique in the academic-style.

In the second category, that is, **report on a specified participatory experience**, students worked in groups even though they had to write the tasks individually after sharing data and references. The interesting thing about this is that students on some courses who were expected to write reports on a series of unrelated lab experiments, similar reports were given different labels, namely, *progress, memorandums, standard experiments, technical reports, and final reports*. In Engineering, however, courses set semester-long projects with periodic reports and a final report, which was longer. All these samples required a laboratory report format which was either indicated in outline or given in a laboratory manual. The significance of this category is that 52 samples out of the 61 from both Natural Sciences and Engineering fitted into it.

The third category, **report on a simulated participatory experience** was a new category he formulated. According to him, this category was significant because 85% of the samples in his data fitted into it. He felt that a closer examination was needed to find out more about the laboratory report format tasks which comprised 36 of the 52 samples which fitted into this category. In this category, one sample labelled **research article**, came from Microbiology. Braine suggests that this category is related to the second except



that in this case the procedures were much more highly controlled as the task detailed:

the type of research performed, the organism which was the object of the research, the procedure for experiment and data that was obtained  
(p.7)

Students were then required to expand on this in a lab report format which was provided in outline where they were supposed to perform this task individually, by simulating an experience that was 'beyond the classroom', that is, they were expected to write the report as if they were writing to a specific professional journal.

The fourth category, that of **case study**, was a different assignment in that students were given a task in which they solved a problem. In this, the students worked individually to justify an action or suggest a possible course of action. There were two samples from civil engineering, labelled **proposal** and **report**.

The last category, that of **synthesis of multiple sources**, had three samples from engineering (1) and home economics (2). In this, students worked individually. The topics for research were related to what the students had already covered in their courses. This, according to Braine, adopted a format much like library research, even though students were not provided with explicit instructions on the format. All they were given was a list of bibliographical sources.

A very important aspect that Braine's research also addresses is the issue of audience. He notes, for instance, that some students were required to write

professional-style assignments. In the sample, 25% of the tasks required students to write to an audience other than the instructor. Braine feels that this proportion of Science and Technology writing is significant as it shows that even at the more 'academically' oriented undergraduate level, students are required to write for audiences outside the university, though only as a simulation. This observation, he proposes, is significant for pedagogy since it suggests the need for students to adjust their writing with respect to shifts in audience requirements.

As noted previously, Braine emphasises the need to have a detailed analysis of the second category. His cursory examination of the category shows that a laboratory report of this nature would require

summary, paraphrase, seriation, description, comparison, contrast, cause and effect, interpretation and integration of scientific data into a text (pp.9-10).

Unlike Horowitz's claim that writing requires the writer '....to find, organise, and present data according to fairly explicit instruction' (Horowitz 1986c:455) in which a student is required to translate tasks into 'a sequence of academic information processing' (Braine 1989:12), Braine believes that his study indicates that science and technology demands 'a variation of academic information processing sequence, as well as more emphasis on the contributory skills than is required in the other disciplines' (p.12). By contributory skills, he means those skills that require the student to use their linguistic abilities as well as their understanding of subject matter to write essays that are acceptable to the reader. These are skills like summary skills, paraphrase and so on. He feels that

this is important particularly for foreign students because reports had noted that these students sometimes tended to plagiarise other people's writing which they had consulted because they found this to be more appealing to their 'own halting prose'. In all the five categories that he examined, he contends that all of them required students to be able to use summary and paraphrase skills.

In the second half of the study, Horowitz looked at 284 essay examination prompts. He classified these prompts into four main categories and several sub-categories. By expanding the concept of instructional verb as given by Swales (1982) to include all organisational markers, this enabled him to come up with a small set of organisational categories into which a significant number of frames could be incorporated. His analysis concentrates on what he termed 'primary organisational instruction' (secondary instructions are those given in the earlier study reviewed above). These organisational categories are:

- (a) Displaying familiarity with relations between concepts**
- (b) Displaying familiarity with a process**
- (c) Displaying familiarity with a concept**
- (d) Displaying familiarity with argumentation**

In each of these categories he gives examples of the kind of 'linguistic realisations' that fit into each. For example, in the first category, **displaying familiarity with a concept**, the sub-categories ranged from a) dictionary-style definition of a concept ('Define the term X') through showing familiarity with

**the function or purpose of a concept ('List and explain the functions of X')**

**to a sub-category with unspecified prompts ('Describe X's theory of Y').**

He acknowledges that the nature of the categories he proposes is not exhaustive since their boundaries occasionally merged. However, he feels that this blending at the 'edges' reflects

**areas of continuum of human cognition that have special significance in modern academia.... into which the English-speaking world pours its academic knowledge...where arguments are found.**

**(Horowitz 1986b:109).**

His conclusion is that the strength of his analysis was in its coverage of diverse departments and, therefore, it would prove particularly useful for those teaching students studying a range of courses. He advises those who teach ESP classes that are narrowly focused to use this typology for further analysis of essays from more departments. With regard to the use of the typology in the classroom, he suggests that it would be useful for foreign students to learn to recognise these typologies. In so doing, he feels that they would be in a position to make reasonably good guesses about what is required of them by the instructor.

For the present study, the second piece of research on prompts was pertinent. As we see in Chapter 8, this categorisation was used to classify the types of examinations questions in the Kenyan university context. As we also note, the categorisation not only revealed its efficacy but also that in classifying the questions among the various categories, it was possible to note the existence of double prompts and double task prompts which had not been noted in

Horowitz's categorization and which the present study notes, have implications for the teaching of examination-taking, particularly with regard to helping students to write a balanced answer.

The first approach was not used because no essay assignments were found in this context which could be described in the same way. The only coursework 'assignments' that were found were grouped together with examinations because they had been designed like examination questions and had been given to students as Continuous Assessment Tests under examination-like conditions.

Another study that looked at writing requirements in a university environment is by Canseco and Byrd (1989). Their research used a slightly different approach to Horowitz and Braine in which their objective was to find out about the types of writing assigned to students by analysing official institutional documents, namely, course syllabuses. By examining these documents they were able to come up with an idea about the types of written work that students do in disciplinary areas.

They started the research by examining 55 course syllabuses from seven departments offering courses in Business Administration. First of all, they were able to classify the types of written work into seven categories of what they termed writing assignments. These were, a) examinations, b) problems and assignments, c) projects, d) papers, e) case studies, f) reports, and g) 'a group of miscellaneous writing assignments'.

Having identified these, Canseco and Byrd also set out to investigate the nature of the requirements in some of the written work. For instance, they found that in some of the written work, students worked in groups and that some instructors required students to provide an outline of projects or papers. Their profile of the frequency of all this written work showed that the examination was the most frequent type of written work required in the College of Business Administration, with 52 of the courses requiring students to take final examinations. The second most frequent type of assignment was problems and assignments which was required by 22 courses. Projects were also frequent (in 20 of the courses). They also noted a wide variety of terms used to describe the written work in the College. These terms were frequently used to refer to one type of written work. For example, they found that in projects, seven terms were used to describe projects, namely, **class project, term project, minor project, major project, regression project, library project, and research project.**

The study also looked at the types of prompting, that is, the kinds of explanations given by instructors regarding the format and content of written work. Canseco and Byrd observed that there were two types of prompts in some of the courses, namely, prompts that specified format and those that specified content (See Appendix 9).

What they found significant in these prompts was the often highly structured and instructor controlled nature of the written work. They note that this supports Horowitz's earlier observations regarding this issue. From these findings, the researchers suggest that the emphasis of the process approach on

free selection of topics by students and invention of their own organization for their writing would not be a realistic preparation for the US academic world.

Though the study was into requirements of graduate student courses, the researchers suggest that this type of study could be replicated for undergraduate courses. They also note that it would be particularly useful to find out the characteristics of prompts and other types of control that instructors have over written assignments. From their findings, they make several suggestions regarding preparing foreign students to the US academic world, namely:

- a) students should be in a position to interpret syllabuses to know what was required of them in their written work,
- b) students need to understand the various terms used to describe written work,
- c) language instructors should find out from the course instructors about areas of difficulty that foreign students have with respect to taking examinations in relation to other written assignments.

Canseco and Byrd's observations such as terminology for written work and nature of prompts in assignments gave insights into the present research. For instance, as noted in Chapter 6, it was evident that there was a confusion with regard to the plethora of terms used to describe writing in the Faculty. The three suggestions above are therefore as relevant to the context the two researchers were analysing as much as to the current one.

## **2.5 Discussion and Conclusions**

As I have noted, some of the problems observed with respect to written work in the contexts of the sample of research reviewed here were also noted in the present research context. These are problems such as a) lack of awareness of the necessity to include audience expectations, and b) linguistic problems such as wordiness and students' use of limited options of devices to link both the individual sentences and the whole text as well as communicative ones like difficulty with distinguishing main ideas from those that are subordinate, knowledge of the communicative value of cohesive devices. Moreover, past research on genre and requirements of undergraduate writing tasks described by Swales, Hopkins and Dudley-Evans, Horowitz, Braine and Canseco and Byrd furnished the present study with insights into the development of a conceptual framework for identifying data that was analysed in order to identify the academic writing requirements in the Kenyan context.

In summary, these studies are of significance to the present research in two ways. Firstly, Horowitz's, Canseco and Byrd's studies gave insights which were used to examine institutional practices present in the context of the research. The examination of course syllabuses as done by Canseco and Byrd was one approach used to find out about what the culture of the context of the present research requires of students with respect to writing (see Chapter 5). Secondly, by mapping the essay and examination tasks that were found in the present study to the categories exemplified particularly by Horowitz, the efficacy of this categorisation was confirmed as a pointer to the usefulness of



these kinds of analyses of written assignments in different disciplines (Chapter 8). The main point here that seems to emerge in these studies is that language instructors have to be as acquainted with disciplinary culture as possible if language courses they offer are to be of any use to the students.

Although the African ESL context has been acknowledged as different from the contexts described above in that it is 'an intermediate context' where students are not

students who have an inadequate grasp of grammatical structures of the language or whose vocabulary is severely limited.....but....have achieved success in a highly competitive educational rat race through the medium of English ( Love 1991 ibid.)

it is, however, evident that the problems observed in students coming mainly from EFL contexts are also exhibited by students in this context. Furthermore, it has also been pointed out that students in this context sometimes tend to overestimate their linguistic proficiency with regard to their ability to communicate successfully in the academic context. This characteristic is also shared with the native speakers of English who sometimes do not feel the need for anymore learning of 'English' even though, like the counter-parts from the second language context at issue here, they have not necessarily been learned to use English in academic contexts. Love, however, observes, like Houghton already mentioned, that the pressure on the second language learner is greater than on the native speaker.

## **2.6 Summary**

In the previous six sections, I have attempted to look at past research and how they relate to the present research. I have looked at a sample of past studies in ESP and observed that even though most of the subjects of the studies and the contexts in which these studies were carried out did not include those from contexts like Kenya, the problems in students' written work the past research noted were also found in the present study.

In order to look at the context of undergraduate studies in Kenya, I also reviewed studies that sought to find out about students' requirements in terms of writing in the university environment. In the next Chapter I discuss the theoretical and practical issues that underlie these past research and the relevance to the present one.

### **Notes**

1. Although Horowitz's study of non-examination tasks was his first study, it was published later than his study of examination prompts.

## CHAPTER THREE

### ISSUES IN ESP: THEORY AND PRACTICE

#### 3.1 Introduction

In the previous Chapter, I reviewed a sample of research in three broad areas, namely, a) rhetoric and genre, b) students' proficiency, and c) institutional requirements in academic writing. Since the present research seeks to identify the academic writing needs of the Kenyan university students through identifying types of writing tasks that they do, how they measure up to the faculty requirements for performing these tasks, and what the faculty requirements are, it is useful at this stage to look at how writing instruction has been shaped by perspectives from social construction theory. Firstly, I start by presenting a summary of the underlying assumptions of the social construction theory. I shall largely refer to Berger and Luckmann's (1966) explanation of the process of social construction. Even though their arguments are concerned with analysis of social construction of reality in the wider sense in the sphere of the sociology of knowledge, they do suggest in their conclusions that the theory is applicable to the sociology of language. I wish, however, to highlight aspects of the theory that are pertinent to this study, namely, the processes of **institutionalisation and socialisation.**

In the second part of the Chapter, I look at issues of a practical, and pedagogic nature that have been pertinent to the ESP enterprise in the past three decades. I present four factors that are seen as central to ESP research, teaching

and learning. These are: the communicative approach, language analysis in ESP, definitions of needs and approaches to needs analysis.

### **3.2 Social Construction: Institutionalisation and Socialisation**

The theory of social construction holds that all human activity, in so far as it is not 'biologically given or derived from any biological data in its empirical manifestation' (Berger and Luckmann 1966:70), is socially constructed. Thus, knowledge and reality are constructed within a social order, which is itself a creature of human activity, hence also socially constructed.

As a result, human activity, which is prone to 'habitualisation', 'becomes cast into a pattern....which can be reproduced with an economy of effort' and 'can be 'apprehended by its performer *as* that pattern' (ibid p.71 authors' emphasis). Because these habitualised patterns are socially constructed, they become institutionalised through 'a reciprocal typification of habitual actions by types of actors' ( p.72). Shared habitual actions, by being typified, become institutions. These institutions generally manifest themselves in 'collectives' which contain a sizable population. This institutional world is perceived as a reality- an objective one, though it does not obtain an ontological status separated from the human activity that created it. It cannot, as it were, be wished away. It does not diminish if the individual does not or cannot comprehend it.

This world cannot be understood by introspection but one has to 'go out' and learn it, through the process of socialisation, that is, through a 'comprehensive and consistent induction into the objective world of a society or sector of it' (p.150). More specifically, the process consists of 'internalisation of

institutional or institution-based sub-worlds'. This process of socialisation takes place in the context of specific social structures which have contents and measures of 'success' and which in turn have 'social-structural conditions and social-structural consequences' ( p.183). The individual undergoes the induction which involves the acquisition of role-specific knowledge through learning language that consists of 'role-specific vocabularies'. These vocabularies consist of semantic fields 'structuring routine interpretations and conduct within an institutional area' (p. 158).

Thus, language plays an important role in making the products of human activity comprehensible. The semantic fields or 'zones of meanings' that are linguistically circumscribed become established as classification schemes or prototypical area which differentiate objects and concepts. These fields are build through selective accumulation of what constitutes a stock of knowledge to facilitate transmission from one generation to another.

Berger and Luckmann were, as I noted earlier, concerned with the construction of social reality in societies. But their explanation of society, through the process of construction, also implies that, the process can create theoretically infinite number of 'sub-worlds' or 'sub-universes'. How is this then relevant to the present concern for identification of academic writing needs of undergraduate students? To understand the significance to which the theory of social construction underpins the present study, I look at how practitioners in language teaching and research have interpreted and applied the concepts described in the theory with particular reference to academic writing.

### **3.2.1 The Notion of Discourse Community**

The theory of social construction is seen as relevant in apprehending the reality of institutions in which human activity, that is, processes of social construction, are manifested. In the context of teaching and learning, these aspects have been taken on board in order to understand, to use Berger and Luckmann's terms, the 'typified procedures for the passage of tradition from knowers to the non-knowers' (p.88). This consists of understanding the stock of knowledge of the institutional order which consist of 'assemblage of maxims, morals, proverbial nuggets of wisdom, values, beliefs.... (which is) a body of transmitted recipe knowledge, that is, knowledge that supplies the institutionally appropriate rules of conduct' (p. 83).

In the academic world, the notion of discourse community is inspired by these theoretical underpinnings. A discourse community is perceived as a social reality in which the processes of habitualisation, institutionalisation and socialisation take place. Swales (1990) has attempted to define the concept of a discourse community in six parts, which is in keeping with the social constructionist view. This is:

1. A discourse community has a broadly agreed upon set of common public goals,
2. It has mechanisms for intercommunication among its members, for example, journals, newsletters, etc.
3. These 'participatory' mechanisms are essentially for information and feedback;
4. A discourse community utilises and possesses one or more genres in the communicative furtherance of its aims;
5. It also has some specific vocabulary to which prominent members can and do add to, and
6. The discourse community has a threshold level of members with a suitable degree of relevant content and discorsal expertise.

suitable degree of relevant content and discursal expertise.

Though Swales' description of the social reality of the discourse community relates to a more specific manifestation of a professional discourse community, nevertheless, the features he highlights can also be seen to reflect the 'wider' institutions as manifested in, say, the university. In the context of the present research particularly, the university as an institution, is conceptualised as a microcosm of the much wider social reality that Berger and Luckmann describe, in so far as the activities in the university are based on 'reciprocal typification of habitual actions'. The institution is seen, therefore, as a 'collective' consisting of 'typification of shared habitual actions' (p.72).

The university and its various parts, as socially constructed realities, fulfill the criteria of a community in the general sense in which Berger and Luckmann envisage as well as the more specific one that Swales describes. For instance, one of the goals of the university and its members (teachers, students, administrators, and so on) can be envisaged, in a general sense, as a shared one of producing an educated society. Moreover, at another level, the university can be perceived as consisting of 'sub-worlds' (such as disciplinary areas) in which habitualisation, institutionalisation and socialisation takes place.

### **3.2.2 Academic Writing and Social Construction Theory**

Once institutions have been socially constructed, various techniques are then derived so that they may be used in furtherance of socialisation. Since potential actors need to be socialised into the institution, they must acquire knowledge through these techniques that the institution has derived. One of

these 'techniques', for instance, is academic writing. Because the social constructionist view maintains that writing is a social activity constructed in a social context where writers and their readers use various 'mechanisms for inter-communication', the potential actor has to not only have some knowledge of the institution's '..attitudes, beliefs and expectations..' (Ede and Lunsford 1984), but also acquire the techniques of communicating with the community.

Since the social constructionist approach also views the discourse community as pivotal in, among other issues, setting linguistic requirements for those writing within it, in order to enable learners to communicate effectively with the discourse community, the approach advocates the socialisation of learners into the community by teaching them the rules of discourse as accepted in the community for which they will produce text. These rules, and not those of the external community (such as school, village or nation) are seen as the standards for teaching and evaluation. The best way to equip students in this context, it is suggested, is through:

research in genre and research on the range of and nature of writing tasks assigned by university instructors in a wide variety of subjects areas.

(Horowitz 1986c)

Genres of writing ( Swales' 'mechanisms of intercommunication') are defined in relation to the discourse community. The concept of genre has been defined by Swales, for example, as comprising of 'a class of communicative events, the members of which share some set of communicative purposes'



(Swales 1990:58). Thus, using an appropriate genre consists of furthering the process of social construction.

Swales borrowed the ideas for the conceptual framework of genre from a number of sources, namely, a) variety studies, b) skill and strategy studies, c) situational approaches, d) notional functional approaches, e) discourse analysis, f) writing context studies, g) cultural anthropology. These, he claims, have contributed to the shaping of genre studies in language teaching and learning research. He sees variety studies, for example, as consisting of a perspective that considers the value of linguistic responsibility. It is for this reason that he sees genres analysis as a model that should not 'ignore the actual properties of (communicative) events in the real world' (Swales 1990:13). Genre analysis as a model of description and explanation recognises the diversity of use of language in disciplinary discourse and encourages the need to identify this diversity.

His claim for the need to identify communicative purposes owes its origin to the notional and functional approaches to language learning which signified a commitment to communicative purpose and learner need. The attractiveness of genre as a descriptive and explanatory model of disciplinary discourse lies not only in its being a device which can be used to illustrate the structure of units of language beyond the sentence but in highlighting purpose as important in understanding why disciplinary discourse is structured the way it is. A functional concept in genre analysis, for example, is not important in itself but the rationale for its use at a certain juncture that is important. This, Swales observes, is important for the learner in that an awareness of the use of a certain

function, say, argumentation, at a certain juncture helps to raise the consciousness of the learner to seek to find out the rationale for its existence within the overall context of a text as well as the language forms best needed to express it.

Similarly, skill and strategy studies have thrown light into how experts process information in a genre-text using certain reading strategies. It has been noticed that strategies employed by experts have contributed to changes in certain fields (for example in Huckin's research (Huckin 1987) in molecular biology) so that 'titles are becoming more informative, abstracts more prevalent and prominent' (Swales 1990:15). Swales analysis of 'Moves' in research articles (Swales 1981, 1994 reviewed in section 2.2), for example, shows that each 'move' has a purpose within the overall context of the article. For instance, in establishing a territory, a writer's intention, as Swales observes, is to show the discourse community the centrality or the significance of the research. He further observes that 'the amount of rhetorical work' is dependent on factors such as 'the existing ecological competition, on the size and importance of the niche to be occupied....etc.' (Swales 1990:142).

This, to him, is valuable to the study of construction of text-task sequences in genre-based approaches. Genre-based studies should aim to show that the use of certain strategies (for example in reading) do not necessarily lie with an 'idealised scientific procedure' (as in the case reported by Bazerman 1985 on reading strategies of seven research physicists) but with communicative purpose, for example, in reading to find results. Such findings have been

corroborated by research on changes in format, style and content of academic writing through time in Economics (Dudley-Evans and Henderson 1990). These researchers suggest that one of the reasons for change in organisational pattern and content is due to a changing relationship between a reader and a writer, where a writer's purpose depends on, for example, the assumptions s/he has of the editor's knowledge of the field. Myers (1988) also shows how the 'tug-of-war' between the editors and the writers change the eventual form, style and content of research articles sent for publication by two molecular biologists.

Brookes and Grundy (1990) observe that genre is acknowledged as one of the most influential concepts behind accepted methodology for teaching EAP. For them, it is a descriptive and analytical framework which can be used to determine what is likely to be relevant in the teaching of reading and writing in the academic situation. An understanding of the conventions of a genre, they note, allows a writer at the planning stage to consider what choices s/he has to make about 'elements expected in the writing of a particular genre' (p.28). Moreover, a thoughtful and discriminating reader is able to understand the purpose of choices in the syntax and structure of a text if s/he is aware of the conventions of genres under which s/he is operating. Such an understanding is likely to be profitable to the learner in the case where 'the learner is writing instrumentally, and is more anxious about fulfilling requirements than expressing new ideas' (p.28) Furthermore, what we read considerably affects how we eventually write. This concurs, for example, with some of the research

claims reported in Krashen (1984) on reading-writing connections and the development of writing competence.

In EAP academic writing then, genre analysis is a model which can be used by practitioners of to explain how certain formats, style or contents are employed for the expression of certain purposes in academic writing discourse. It has enormous value in that in understanding the rationale, for example, for using certain formats, styles, a teacher can assist a learner to communicate more effectively with the discourse community.

Thus the social reality of academia and its specific manifestations in disciplinary areas can only be apprehended and comprehended through socialisation into it. Furthermore, those who hold the social constructionist view with regard to EAP look at needs analysis as involving, among other things, research on how discourse is structured with respect to communicative purpose in the disciplinary genres in an academic community (Love 1991).

The next sections explain the practical and pedagogic aspects that underlie ESP research and teaching.

### **3.3 ESP: First Principles**

It is appropriate at this stage to start by presenting four questions posed by Mackay and Mounford (1978) which they suggest need to be answered before adequate courses in ESP can be established. These questions, which address, respectively, sociological, linguistic, psychological and pedagogical factors, are:

1. What are the characteristics of the learner and what are the learner's requirements for learning the language?

2. What kind of descriptive apparatus is appropriate to account for the language used by scientists and technologists?
  3. Orientation to what theory of learning is appropriate in EST to reflect our concern with the teaching of communicative as well as linguistic competence?
  4. What skills are to be taught, in what order, and how are the relationships between skills to be authentically presented and practised?
- (Mackay and Mountford 1978:10)

These questions address areas which assume importance with respect to the research questions that the present research sets out to answer (see Chapter 1 Section 1.3). In the next three sub-sections, therefore, I deal with the first three questions that have been addressed in ESP, namely, theory and approaches to teaching and learning in ESP, language analysis and needs analysis.

### **3.3.1 The Communicative Approach**

The developments of theoretical perspectives in Language for Specific Purposes (LSP) in general have paralleled developments in theories of language. In particular, changes in approaches to ESP have also gone hand in hand with development of approaches to linguistic analysis (Swales 1984, 1985, Raimes 1991). One of the most profound changes in teaching in LSP was the introduction of the communicative approach to language teaching. This was a result of dissatisfaction with earlier approaches that emphasised the structuralist and behaviourist pre-occupation with attempts to make students to learn 'correct habits' through knowledge of the language system. This approach had become increasingly questionable as it was argued that the skill for which a learner uses

language as a means of communication may not be a consequence of learning the language as a formal system'. The communicative approach was envisaged as one which emphasised the 'problem-solving' role in which the learner was seen as a contributor in composing and interpreting discourse (Mackay and Mountford 1978).

This perspective meant a shift in focus from pre-occupation with what was perceived as the learner's language deficiency resulting from what s/he had failed to learn correctly earlier, to effective communicative use of what s/he had already learned, so that teaching and learning emphasised

taking advantage of what the learner already knows, from study in his (sic) own language, about the organisation of scientific discourse and the way in which scientific procedures are represented in language, the teacher can lead the learner to an understanding of how scientific communication in English handles these functions.

(Mackay and Mountford 1978:9 researcher's parenthesis)

This communicative approach suggests an approach to teaching language 'which recognises that the acquisition of receptive and productive knowledge of a language must involve the learning of rules of use as well as the rules of grammar' (Allen and Widdowson 1978:76, after Hymes 1971).

### **3.3.2 Language Analysis in ESP**

The earlier model of language through the structuralist and grammatical paradigm was seen as not sufficiently 'delicate' to enable us to give a clear description of learners' needs. This perspective, typified by Ewer and Latorre (1969), failed to provide for a sufficiently systematic description of the communicative functioning of language. Tasks were described in terms of 'tense

usage and structural patterns, which could only serve the needs of understanding some of the code features of the language system'. This, it was pointed out, was inadequate. What was needed was an approach that would enable us to describe tasks in terms of purposive macro-skills which the learner needed to be able to use such as 'abstracting technical articles, monitoring radio broadcasts, taking an active part in seminars, report writing based on experimental procedures, etc.' (Mackay and Mountford 1978:9-10). Earlier studies like *frequency studies*, which focused on the word and the phrase levels suggested that the frequency of occurrences of certain forms or structures were significant characteristics of scientific discourse. Thus, it was suggested that the peculiarities of scientific discourse were of a 'quantitative nature' (Hoffman 1981). This approach, however, was criticised as being descriptive and lacking in explanatory adequacy. Moreover, it was seen as treating discourse as merely an exemplification of the language system (Allen and Widdowson 1978). Language description, it was argued, was not going to be one that gave an inventory of 'code features of the language system' but also 'the communicative features of language use' (Mackay and Mountford 1978:8). Such inventories, it was acknowledged, could be useful in facilitating the establishment of certain features of syntax and lexis that typify communicative patterns such as defining, describing, explaining, classifying, making deductions and so on.

The argument in favour of the *rhetorical approach* to linguistic analysis in ESP, therefore, sought to redress the limitations of isolated frequency studies. This 'discourse approach' looks at features of scientific English in terms of the

author's rationale for choices of particular aspects of language rather than their frequency alone (Selinker, Lackstrom and Trimble 1970). Research with respect to this approach noted that scientific writing was different from other forms of written language in terms of degree and not in kind (Trimble 1985). Subsequent studies (for example, Tarone, Dwyer, Gillette and Icke 1981 and Malcolm 1987) on the use of the active and passive voice in scientific texts sought to determine the rhetorical reasons for the choice of either with respect to development of a text or the expression of the author's meaning (see Chapter 2 section 2.2).

With the development of communicative approaches to language teaching and learning, it was felt that an appropriate description of the language characteristic of that which the learner was required to handle was needed. Language as communication was seen as an aspect of other subjects so that an essential part of learning any subject was learning how its contents are expressed linguistically, that is, 'how language is used to give expression to certain reasoning processes, how it is used to define, classify, generalise, to make hypotheses, draw conclusions and so on' (Allen and Widdowson 1978:59).

One approach that has been advocated as fulfilling this criteria is *genre* analysis. Genre has been interpreted as comprising of 'text-types' such as editorials, research papers and case reports (Salager-Meyer et al 1989). These texts have a systematic difference according to the conventional attitude of the writer to the reader, for example, the writer offers pure description in the case reports, advice in research papers, and judgment and value in the editorials (Robinson 1990:25). In Salager-Meyer Meyer et al's case the text-types in their



study are seen as examples of sub-genres of the genre of medical English. In other cases, however, text-type has been seen as superordinate to domain (for example of Medical English) so that editorials for example are composed of medical editorials, physics editorials, and so on. Swales interpretation is slightly different from Salager-Meyer et al. For him, genre encompasses more than text-type. Even though he considers, like Salager-Meyer et al, that authorial purpose is central, he departs from their consideration of the effect of the author's purpose on grammatical forms to the rationale for rhetorical choice of functions, for instance, classification. He suggests that purpose is explained with reference to the wider professional culture where genre is seen as a communicative event which has been standardised with a goal or a set of goals that are mutually understood by participants and occurring within a functional setting (Swales 1986).

Broadly, the genre approach continues to have a profound influence on current developments in ESP. Some current research has focused on the social and institutional aspects of content with some researchers advocating the use of genre as a classificatory system. Much current research is concerned with 'revealing the essential differences between (a) genre...and other genres and also between the various sub-genres' (Dudley-Evans 1987:2 see also Chapter 2 section 2.2).

### **3.3.3 Needs Analysis: Approaches and Definitions.**

Needs analysis is now widely accepted as a pre-requisite to specifying objectives of language learning in all language programmes (Brindley 1989). At

a general level, it has been suggested that the perception of needs, and hence definition, lies in looking at the 'subjective bases and educational values that underlie language programme design' (Berwick 1989:51). This will enable us to understand the appropriate orientation to take with respect to needs analysis. Essentially, six orientations that form a spectrum which can inform language programme design have been envisaged by Berwick (1989). For instance, programme design may be based on an *organised body of knowledge*. Here, programmes emphasise a direct link between an academic discipline or an established body of knowledge, for example, linguistics, and content and procedures that are used in teaching. It is also possible to design programmes that are based on *specific competences*. This orientation emphasises instrumental reasons as the major component of design. Here performance objectives and learning of skills is seen as important.

Some programmes can also be designed with respect to the *interests and needs of the learner* (which incorporate consultations with learners 'at some point' during needs analysis) or they may be designed with respect to *cognitive and learning processes* (which aims to include strengthening the learners' ability to examine and solve problems on their own).

Programmes with an orientation towards *social activities and problems or feelings and attitudes* may also be developed. In the former, a social 'survival' syllabus can be envisaged as in the case of immigrant education syllabuses. The latter would incorporate humanistic and affective values. In such a programme, it is argued, the objective of learning is to create a capacity for bringing people

together. Thus, by developing a person through language learning, more 'openness' is created.

These approaches however, do not tell us what particular groups of learners need. In other words, they do not specify *who needs what, as defined by whom* (Hutchinson and Waters 1987). This lack of specification, it has been noted, was a problem in earlier Language for Specific Purpose programmes. These programmes had failed because certain considerations were not made regarding the perception of needs. In these programmes,

either no consideration was given to the actual use the learner intended to make of the language or because the list of uses drawn up by the course designers was based on imagination rather than an objective assessment of the learner's situation, and proved to be inaccurate and in many cases entirely inappropriate to his (sic) real needs

(Palmer and Mackay 1978:3, researcher's parenthesis).

One definition (Brindley 1989) that has been suggested is to look at needs as arising out of a gap between present situation ( for instance learner's present linguistic, communicative or other form of competence, and the desired (target) situation, that is, what learners need to be able to do or, in the case of the sixth orientation, what the present course/programme is not able to address).

With respect to LSP, therefore, stress is given to the establishment of objective (instrumental) needs which are seen as a gap between the learner's language performance and the desired language performance in a particular communicative situation. Here, the learner is seen as a language user and his/her needs are perceived as resulting from a 'discrepancy' between his/her present ability to use language in a specific area and linguistic and communicative

requirements in a particular communication situation (Berwick 1989). Thus, this orientation entails the collection of detailed information on objective needs which will enable course designers to understand the target situation that the learner would be operating in. This approach does not rule out the inclusion of subjective needs because it is envisaged that cognitive factors, learners' personal goals and social roles can also be considered as relevant input in determining language content.

An ESP course syllabus, therefore, consists of specifying the requirements that learners need to be able to fulfill in an English-medium situation. ESP programmes, then may be seen as goal-oriented, the study of which is intended to fulfill some instrumental purpose, namely, to help the learner to study or work effectively using the English language (Robinson 1990).

#### **3.3.4 Methodological Issues in Needs Analysis**

Principally, there are two approaches to needs analysis that have been envisaged in the ESP world. One approach seeks to carry out an analysis of learners' strengths and weaknesses at the initial stage through a present situation analysis or PSA (Robinson 1990, after Chambers 1980). An example of this type of analysis has been developed by Richterich and Chancerel (1973, also 1980) which gives an extensive framework for identification of 'requirements which arise from the use of... language in the multitude of situations which may arise in the social lives of individuals and groups'. They suggested that an analysis of needs of an initial situation can be obtained from three sources, namely, the learners, the language department and the 'user institution'. From

these sources, the learner's language ability, views on teaching and learning can be established.

Richterich and Chancerel's model comprises of two levels of analysis. These are the **language level** and the **learning level**. At the language level, they suggest that language needs, on one hand can be established by identifying two components, namely, a) the language situation, that is, the who aspect (those involved in the communication process), and the spatial and temporal aspects (when and where the communication process takes place) and b) the language operations which comprise the function that an act of communication is required to fulfill, the objects to which the act will relate, and the means that is used to produce the act.

At the learning level, the same components (learning situation and learning operations) are envisaged as comprising of the same categories (agents, time and place for the learning situation, and functions, objects and means for the learning operations). The categories in the learning situation will enable us to arrive at the definition of learning needs while the learning operations will 'be translated into learning acts representing the strategies students will have to apply to learn the language acts.

The second approach is the analysis of needs that take into consideration target-level needs through a target situation analysis or TSA (Chambers 1980). The most comprehensive model of target-level analysis is by Munby (1978). Munby's model establishes a profile of needs through feeding information obtained from these parameters through a communication needs processor

(CNP). These parameters are 'dynamically-related' in such a way that each successively inputs information to (an)other parameter(s)

The first parameter, **participant**, forms 'input consisting of the minimum amount of potentially relevant information concerning identity and language' (Munby 1987:34). The participant's identity is considered relevant when viewed in the context of 'the participants role set (interaction) and when placed in a spatial context (setting), while the language dimension is intended to identify the participant's target language and where possible, his/her command.

The second parameter involves the identity of the type of specific purpose language (LSP). In addition, this parameter seeks to establish the purposes for which the target language is required. In an educational setting, for example, this entails identifying the disciplines or study areas of the participants who were identified in the previous parameter. This parameter is termed the **purposive domain**.

In the third parameter, information is sought regarding the **setting**. This setting contains three elements, namely, spatial (where the participants will be based, for example, a hotel), temporal (when the target language is needed, including the extent and the frequency) and psycho-social (the type of environments to which the language is to be used). This information acts both as constraints on the original input and feeds into latter parameters. The physical setting feeds into two other parameters, namely, **dialect** (the fourth parameter that specifies the type of dialect required to be used by the participants) and

**communicative event** (the fifth parameter that specifies what the participants are required to do) while the psychosocial setting feeds into the **communicative key** (the ninth parameter that identifies the manner in which participants need to produce or understand language).

The other parameters are **interaction** (that seeks to establish the social relationships obtaining between the participants and those s/he is expected to interact with, **instrumentality** (which establishes the required *medium*, whether it is written or spoken), *mode* (which identifies whether it is for instance, a monologue or dialogue) and *channel* (whether it is face-to-face or print), and **target-level** (which requires the identification of the participant's target level of command of the language).

The profile of needs at this stage is pre-language. Once this profile has been obtained, it forms the input into the next stage for interpretation in terms of language skills required for its realisation.

Although Munby's model, like Richterich and Chancerel's, is considered an ambitious one which seeks to establish both objective and subjective needs, this is only a first step in programme design which in broad terms, consists of parameters for programme design (Richterich 1983). This alone will not produce a teaching syllabus. What an institution needs to do, is to get 'information on the current and desired interaction patterns of learners including their perceived difficulties' while also seeking 'information on their ability to use English' (Brindley 1989:64).

Munby (1978) initially viewed present situation analysis as representing constraints on analysis of the target situation (Robinson 1990). For him target situation analysis needed to be conducted first, though he later conceded (Munby 1984) that only political factors should be considered at the initial phase while the rest of the factors such as time, resources, and styles and traditions of learning should be left until the time the syllabus is being specified. It has also been argued that instead of calling them 'constraints', it may be useful to consider them as 'options' (McDonough 1984). For most cases however, it is agreed that both approaches are useful and indeed it is possible that both analyses can be used to complement each other (Bloor 1984).

The usefulness of Munby's model is that it is a comprehensive data bank which can be useful as checklists of the resultant syllabus (Robinson 1990). In addition, the model also codifies target level performance which may help in gauging 'the stage at which good enough competence for a job is reached' (Robinson op.cit p.9).

### **3.4 Relevance to the Present Research**

Insights from the social constructionist theory is adopted in this research for several reasons. As I have noted earlier on, the research area is envisaged as an institution that is socially constructed, engages in social construction and students are envisaged as apprentices to the community who are trying to 'apprehend the objectivated reality' of the institution (Berger and Luckmann 1966:84).



As I also mentioned in Chapter 2 (Sections 2.3 and 2.4), the social constructionist view as espoused by some practitioners of EAP (for example, Horowitz and Swales) claims, rightly in my view, that an EAP course should mirror what actually goes on in the students' academic career. The social constructionist theory, in my view, has explanatory adequacy that would establish the instrumental requirements of students' academic writing because it best exemplifies the essential spirit of the relationship between the academic institution and the students in embracing the notion of discourse community. What is to be taught in a programme of the kind envisaged in the CS course can be determined by the requirements of the university community in the form of what it defines as characteristics of success in the subject area (Davies 1988) or a clear idea on what language behaviour is required by the faculty (Wilson 1986). These behavioural objectives need to be drawn up in terms of what students actually do in their academic work at the university.

To this end, the principles of social construction underlie the focus of the present research, that is, identification of realistic requirements demanded of the students by the university. Thus, it is necessary to establish the nature of the institutional practices through looking at not only the 'mechanisms of intercommunication' but also what instrumental needs, in communicative terms, that students are required to fulfill in the various academic writing assignments.

The social constructionist perspective, therefore, allows the present research to gauge how students measure up to the institutional culture through their display of communicative and linguistic competence. This means that a

needs analysis carried out is one that envisages an examination of the students' present communicative competence and also the establishment of the target situation. This target situation includes identifying not only the communicative requirements but also the types of writing tasks that students are required to do. Such a needs analysis looks at the learner as 'pragmatic and oriented primarily toward academic success, meeting standards and requirements' (Silva 1990:17).

In summary, the establishment of an ESP course that will meet the needs of learners requires a researcher to adopt an approach to needs analysis that is informed by choice of an appropriate theory of language that will enable him/her to get a relevant description of language characteristics that addresses realistic needs. Such a theoretical approach enables the researcher, for instance, to define realistically what kind of needs should be addressed and what the relationships obtaining between the teachers and learners and the learning environment are. Based on these insights, the next chapter looks at the methods adopted to this end for the present research.

# **CHAPTER 4**

## **RESEARCH METHODS**

### **4.1 Introduction**

As noted in the previous two chapters, this study is a complex one requiring collection and analysis of various disparate but related data which can be used to identify the academic writing needs of first year undergraduate students in one Faculty, namely, the Faculty of Agriculture in Egerton University. This chapter, in addition to explaining in detail the methods of collecting the data and the types of data collected, also includes the conceptual framework which guided both the collection of data and the analysis.

Section 4.2 illustrates this conceptual framework devised to harmonize the various methods of data collection used in the study. It also acts as a heuristic device for the analysis of the data collected. Section 4.3 lists the types of data collected and explains their relevance to this research, while Section 4.4 looks at the design and implementation of the questionnaires. Section 4.5 discusses the data collection and sampling procedures. Analysis of data is explained in section 4.6 and the limitations of the study is given in section 4.7.

### **4.2 The Conceptual Framework**

The conceptual framework for this study was conceived on the premise that certain aspects of an institution can give information about writing requirements of apprentice writers. These aspects are seen as channels through which the 'actors' in this socially constructed 'sub-universe' participate. In the

context of this research, therefore, these are identified as examination questions, essay assignments, laboratory manuals, course outlines and the University Catalogue. In addition to information from these documents, lecturers and students are also regarded as sources of information. The diagram below shows how the relationship between these sources is conceptualised.

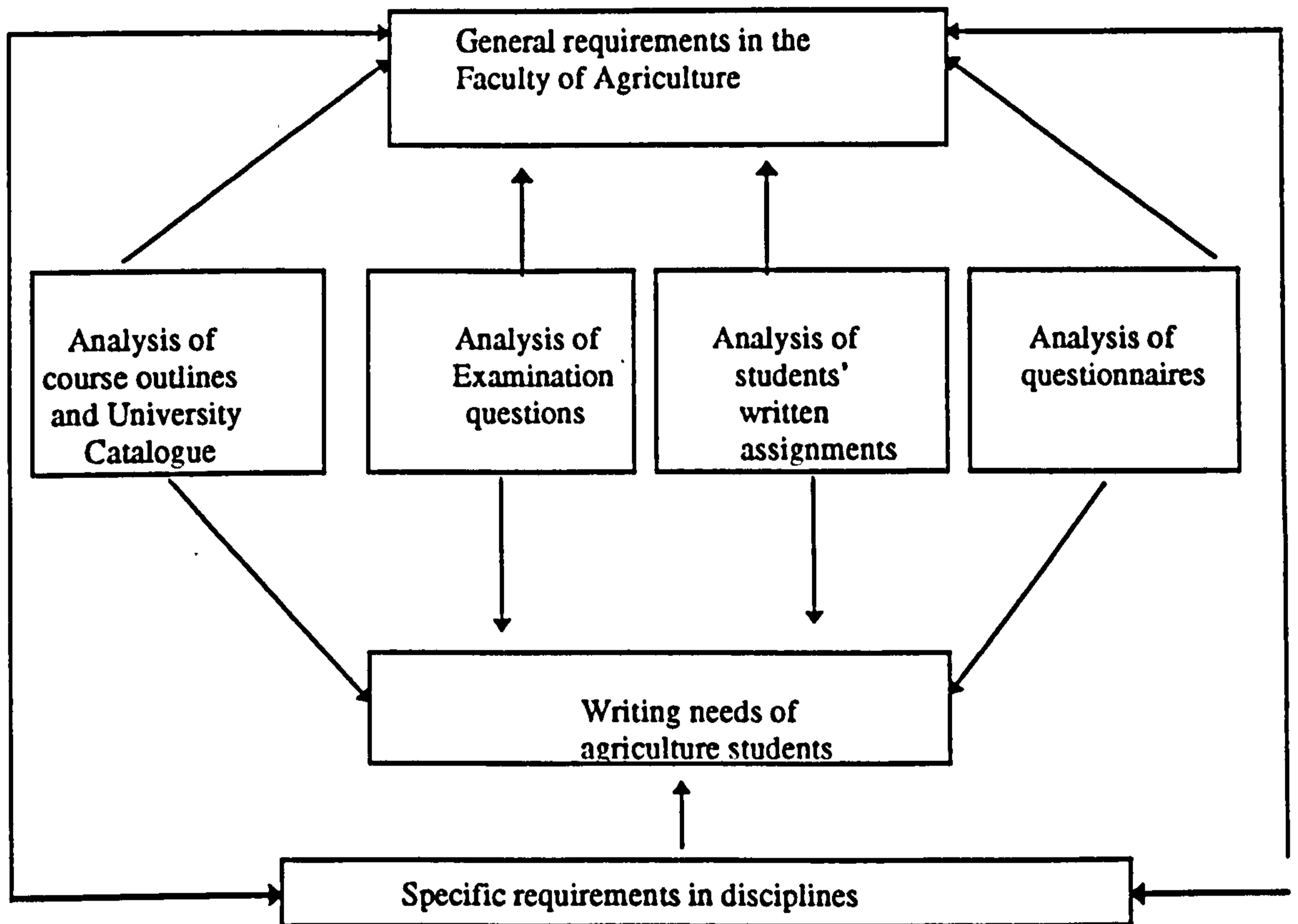


Figure 4.1 Conceptual framework of the research

This diagram serves as a minimal guide to giving us a principled way of relating the various disparate data into one whole. This way, it is possible to show how the requirements of a rhetorical community (Horowitz 1986) or

institutional culture (Muchiri 1994) can help in making pedagogical decisions about written language needs of a particular group of students.

An analysis of these institutional documents can also tell us much about the specific requirements of a discipline. As shall be noted particularly in the next two chapters, since the students in the Faculty of Agriculture do not study one discipline alone (agriculture) but other disciplines as well, (for example, Economics and Agronomy), it is necessary to look at requirements of these various disciplines. In other words, the writing needs of agriculture students are not based on a discipline called 'agriculture' but on requirements of a host of disciplines as disparate as Physics and Economics. These specific requirements of disciplines are conceptualised as different from and informing on the requirements in the Faculty of Agriculture. It is also envisaged that the Faculty informs on the requirements *in* the other disciplines that students study. For instance, the Faculty decides what courses of other disciplines are relevant to agriculture students in the Faculty. Thus, the agriculture students do not study other disciplines, *per se* but with respect to the requirements in the Faculty (see for example Appendix 1 on general objectives of the Faculty programmes). In the final chapter, I return this framework will be revisited in order to gauge how the various parts have informed us about the students' writing needs in the Faculty.

### **4.3 Types of Data Collected**

Essentially, seven types of data collected are analysed, namely:

1. Institutional documents that relate to Egerton university in general and courses offered to undergraduate students in the Faculty of Agriculture in particular.
2. Student assignments done during the first semester of their first year
3. Subject specialist staff questionnaires
4. Student questionnaires
5. Communication Skills staff questionnaires
6. Sample essay examination questions given to first year undergraduate students
7. Sample essay examination scripts of agriculture students in the Writing Skills section of the CS examination done at the end of their first semester.

#### **4.3.1 Institutional Documents**

The collection and analysis of documents has long been recognised as useful in educational research and can be used as supplementary to information obtained using other methods (Bell 1987). Some institutional documents used by researchers can sometimes be regarded as inadvertent sources as they are usually produced for other purposes. In the context of this research, for example, the documents collected below were not deliberately produced for research purposes (as they have been used in this research). The Catalogue, for example is a kind of prospectus which informs those interested in the university on the kinds of courses offered in the various departments of the university.

In the context of ESP, useful information about students' writing needs have been obtained through analysis of documents that relate to students' area of

study (Horowitz 1986c, Braine 1989). These documents are seen as the means through which the students and teachers communicate. They are part of the contractual relationship between students and the institution (Canseco and Byrd 1989). They are also ready-made data for which a language researcher can use to determine the disciplinary requirements. In my view, it is important data that an ESP practitioner should analyse before any other data as it contains the absolute minimum of what the subject professors expect from the course and the students.

For this study, three types of institutional documents were collected for analysis. These are:

1. A copy of an up to date University Catalogue (1992/93) from the University Registry
2. The latest (1993/94) subject course outlines obtained from lecturers in the Faculty of Agriculture
3. Copies of the latest laboratory manuals (1990/91) obtained from some of the agricultural and science departments.

The University Catalogue was chosen as the primary source of information regarding general entry requirements to the university, including some of the general and specific requirements of courses in individual faculties and departments and course descriptions. In addition, the catalogue was consulted on the aims and objectives of the various courses at both the departmental and faculty level (see Appendix 1 on a sample of specific degree programme requirements). This information forms the basis on which the lecturers design

their course outlines. The catalogue was also consulted for the purpose of obtaining the list of members of staff in the Faculty of Agriculture who were approached in this study.

The subject course outlines, on the other hand, were obtained for the purpose of determining information on the requirements of each of the courses. This consists of: a) what will be covered during the semester, b) who will teach them and c) what type of written work students are expected to produce. In the Egerton University context, course outlines are based on the descriptions of courses found in the University Catalogue. Thus, they were logical candidates for analysis to complement the course descriptions in the catalogue. They consist of the minimum of the topics in the courses that the lecturers expect the students to cover in the course of a study period. Moreover, some course outlines give instructions on the types of written work or writing types/tasks that students are expected to write in the course of the semester. That is, they indicate the kinds of recognised 'genres' in the subject areas (context). At the same time, they contain the topics to be covered (content of the course).

Laboratory manuals were collected as data as they are regarded as complementary to the other documents described above. It was regarded as an important source of information on the requirements for students writing scientific reports in general and laboratory reports in particular. The laboratory manuals that were obtained contained the various tasks and types of laboratory that students are expected to do in the course of their first year. In addition, they contain instructions regarding the format of the laboratory reports.



The University Catalogue was obtained at the very beginning of the research period in January 1993. It was a logical step to get it right at the beginning as it was regarded as a primary source of information on the Faculty of Agriculture (see Chapter 1). It was able to give initial information on the courses done by undergraduate students in their first year and the nature of these courses.

However, it was necessary to verify with the Faculty the list of members of staff and the courses taught in each of the departments. This verification was necessary for two reasons. One was because the turn-over of lecturers in Kenyan universities is generally high and each year the list of members of staff in a Faculty changes. The second reason was that the service courses that the students study in each department were not indicated clearly in the catalogue. It was found, for example, that a course in Zoology that has been given a 4-level status (meaning it is a course that would usually be taught in the fourth year) had been 'revised' to a 1-level status to be taught to first year students.

Once an accurate list of the lecturers teaching first year agriculture students had been obtained, they were first of all approached for the course outlines that they were going to use at the beginning of the semester in April 1993. Some of the course outlines obtained had been used the previous year (1991/92) but the lecturers were asked to confirm that the same outlines would be followed at the time of this research. In total 18 course outlines were collected (see sections 5.2 and 5.4).

### **4.3.2 Students' Writing and Writing Tasks**

Essay assignment and examination questions were also collected for this research for the purposes of analysing the types of tasks that students are expected to do. The latest examinations questions (1992/93) were obtained from the university library while essay assignment questions were obtained from the subject-specialist staff in the Faculty of Agriculture. A total of a hundred and forty three essay assignment and examination questions were collected by the researcher. These were from twenty two courses offered to agriculture students from both the Faculty of Agriculture and the Faculty of Sciences (see Table 8.1).

Samples of students' written work were of three kinds: those from the task given by the researcher to the same students at the beginning of their first semester of their first year in 1993, those which had been given and marked by a subject lecturer, and those marked by Communication Skills staff . The first assignment administered by the researcher was a 'general' essay given at the beginning of the year. The second assignment was a field report written by the students in the middle of their first semester in the one department. The third was an essay examination task done by the students in the CS Writing Skills section of the course at the end of the first semester.

The essay examination questions used in this study were obtained from the University library. This was possible after identifying the courses that the students were studying in their first year (see Chapter 1, subsection 1.4.2).

Where the most recent copies were not available from the library, the researcher approached the departments offering the course.

All the essay examination and assignment questions collected had to fulfill four criteria, namely:

- a) They were not more than three years old
- b) They had been given to the students of the present education system
- c) They were set for students in the Faculty of Agriculture
- d) They represented a sample of courses studied by students in the

Faculty.

The first criterion was necessary because any assignments or examinations which were set earlier than 1990 had been done by 'A' level students from the previous education system (see Chapter 1, section 1.1). Because the two groups of students from the two systems were being taught concurrently in 1990, the second criterion was also necessary to rule out the 1990 examinations for the 'A' level group. The third and fourth criteria eliminated other essay assignments and examinations done by students in other Faculties.

The total number of the first written assignments collected, that is, the initial essay given by the researcher was 547. In order to make the sample that was to be analysed representative of all the subject areas from which the essays were collected, the essays were initially divided according to subject areas.

These were nine subject areas, namely:

1. Dairy and Food Technology - 38 essays
2. Agricultural Education - 112 essays

3. Agricultural Engineering - 58 essays

4. Horticulture - 97 essays

6. Agricultural Economics - 65 essays

7. Natural Resources - 53 essays

8. Animal Production - 48 essays

9. Agribusiness Management - 76 essays

From these groups, 90 essays were selected for analysis, 10 from each subject area. Some of the essays were rejected on the basis of their being too short and were not considered as containing sufficient data. Others rejected were two letters that students wrote as they were untypical as the majority of the students wrote essays. Several essays were also rejected if the students' handwriting was not legible.

For assignments written by students in their subject areas, subject specialist lecturers were approached for samples. These were more difficult to obtain as assignments are usually returned to students after they are marked. In addition, because of larger classes some lecturers opt to give fewer essay assignments (see Chapter 6 section 6.3.3). Moreover, students treat these assignments as essential for their revision before the end of semester examinations and are often unwilling to part with them. However, the researcher managed to get a total of twenty five reports from one lecturer who agreed to get a sample from his class in Natural Resources. These reports had been written in the middle of the semester by students studying Natural Resources (see Chapter 9 section 9.3).

The last set of written work was obtained from the department of Languages and Linguistics at the end of the semester<sup>1</sup>. A sample of forty-two essays from nine departments was obtained for this purpose (section 9.4). This written work formed part of the students' CS examination at the end of the semester of their first year (July 1993). The choice of the sample was done with the help of CS lecturers. Essentially, a selection of essays was made based on the students' scores in the Writing Skills section of the exam (see Appendix 10). As the lecturers marked the section out of thirty points, students were selected on the basis of whether they got less or more than ten marks. Of the forty-two essays, therefore, thirty-two essays in the sample belonged to those who got less than ten while the other ten, were for those got more than ten marks were selected on the basis that they had relatively satisfactory marks. More of the sample came from those who scored fewer marks as it was felt that these was the group that were likely to display weaknesses in writing around which the CS unit could design its course<sup>2</sup>.

#### **4.4 The Questionnaires**

Questionnaires have been recognised and recommended as one of the methods for investigation of language needs (Schroder 1981, Mackay and Mountford 1978). In the educational setting, they are frequently used as tools to supplement collection of documents (Robinson 1991:12). In research that requires information from a large sample, the questionnaire is seen as having its advantages. However, earlier uses of questionnaires to find out about student needs (for example Kroll 1979, Johns 1981, Bridgeman and Carlson 1984) have

been criticised for preconceiving types of writing tasks, 'forcing on the respondents the particular scheme used in each survey' (Horowitz 1986c).

In the present research, questionnaires were used as supplementary to the other methods described above. They were chosen because the research sample was large (see 4.4.3 below). The design of the questionnaire was informed by previous research into problems that non-native users of English encountered in writing in academic environments (see Chapter 2 Section 2.3), and an attempt was made to avoid the imposition of preconceptions on the subjects.

#### **4.4.1 Questionnaire Design**

The questionnaires were designed towards the end of the first year of the researcher's scholarship at Warwick University in 1992. They were based on a check-list of what the researcher needed to elicit, informed by the research questions (subsection 1.3.1).

In total, forty questions were finally prepared for the three questionnaires. Of these, eleven, fifteen and fourteen questions were in the students', subject specialists' and CS staff questionnaires respectively (see Appendices 3, 4 and 5). Unfortunately, a plan to pilot the questionnaires at Egerton University had to be abandoned owing to interruptions which led to two closures of the university during the field research period. However, in place of a pilot session, the questions were thoroughly revised in consultation with CS staff at the university.

#### **4.4.2 Aims of the Questionnaires**

In general, the main aims of the three questionnaires differed. The students' and subject-specialist staff questionnaires, for example, mainly sought to elicit responses about the types of written work done in first year undergraduate courses. The CS staff questionnaire, on the other hand, sought to find out mainly about the developments in the CS course since its inception in 1990.

Although these general aims appear to be different, they do not imply that the questionnaires were designed in such a way as to elicit mutually exclusive responses. Each questionnaire was designed to elicit some responses which would be complementary. For example, both the subject specialist and CS lecturers were asked about their views on students' writing ability, a question that the students were also asked. Both the students and the subject-specialist lecturers were also asked about the types of written work done in the first year. Consequently, it was possible to group the questions into five categories which would be analysed together (see 4.5.1 below).

#### **4.4.3 Procedures of the Administration of Questionnaires**

As has been noted above, three different questionnaires were administered to three different subjects, namely, the first year undergraduate students in the Faculty of Agriculture, the lecturers who were teaching these students during the period of the research and the CS staff in Egerton.

For the subject specialist staff, fifty members of staff who were teaching first year undergraduate agriculture students were initially identified for the

purposes of eliciting their responses on a number of aspects regarding their students' writing (Appendix 4). These lecturers included both those teaching agriculture courses and those teaching service courses (see Chapter 1) in the first semester of the 1993/94 academic year.

Since the lecturers needed to have some knowledge of the students in order to complete the answers, this questionnaire was administered in the second half of the semester. Copies of the questionnaire with a covering letter were sent to them in May 1993. This was done two months earlier than the students' and CS staff questionnaires in order to allow enough time for them to be returned. Of the fifty copies sent, twenty eight were returned, a fifty six percent return rate'.

As the administration of the student questionnaire was expected to involve an estimated 800 students (see Chapter 1 subsection 1.3.2), the help of the CS staff was sought for this purpose. They agreed to 'donate' one hour of their class time to ask the students to fill in the questionnaires.

Unfortunately, during the period that had been projected for the administration of the questionnaire, the second of the two disturbances in the university culminated in an abrupt closure of the university. Luckily, the students were recalled within a month. However, the students were given only two weeks to complete their courses and take examinations. This made the administration of the questionnaire rather difficult as some of the students were not willing to do anything that would not help them in the examinations which were only two weeks hence'. Fortunately, some of the students still had some



remaining lessons with some of the CS lecturers and were willing to assist in filling in the questionnaire. Thus, some parts of these lessons were utilised for this purpose. As a result, two hundred and forty-one questionnaires were administered to the students of which two hundred and thirty-two were returned.

The CS questionnaire was the final one to be administered in the last week of the semester. This questionnaire was the smallest and easiest to administer. Of the nine questionnaires sent out eight were returned'. Initially, it had not been expected that the CS staff would also be teaching agriculture students at the time of the field work research (see footnote 5 in Chapter 1 and also subsection 1.4.2). So some of the questions about students' ability had been designed originally as questions (see for example, questions 2, 3, 13 and 14 in Appendix 5) on the writing competence of students studying the natural sciences in general. As the researcher was in close contact with the CS staff throughout the period, they were told to answer these questions with special reference to the agriculture students they had been teaching then. Their responses to these questions ( analysed in Chapter 7), therefore, directly refer to the agriculture students who wrote the essays and answered the questionnaire. In addition, the researcher was able to ascertain their views of these students through informal discussions.

#### **4.5 Analysis of the Data**

Since the data was extensive, it was necessary to use different methods of analysis for each of the data collected. The questionnaires were analysed with the help of the Statistics Package for Social Scientists (SPSS). They were,

therefore, initially coded and prepared for the SPSS programme. Once the statistical results had been obtained, the questions in each questionnaire were grouped into categories for comparison. This is explained in section 4.5.1 below.

A check-list of questions were formulated to guide the analysis of the University Catalogue and the Course Outlines. These are given in section 4.5.2 below. The analysis of actual written work was largely informed by both the students' and the lecturers' responses regarding their views of writing problems encountered. Section 4.5.3 below explains this.

#### **4.5.1 Questionnaire Analysis**

In order to harmonize the responses to questions in the three questionnaires, it was necessary to devise a framework which would capture the general relations between and among some of the questions and the responses. The questions were, therefore, classified into five categories and the responses analysed accordingly. The five categories are as follows:

##### **CATEGORY A: Departments and Courses**

This category contains those questions which asked about the departments in which students and lecturers were affiliated. For the students, in addition to asking them to indicate the departments they were also asked to indicate courses that they were studying at the time of the research. There were two questions in the students' questionnaire regarding the departmental affiliation of the students. These were questions 1 and 2 (Appendix 3 ).

Likewise, the subject specialists were asked to give the departments and the course or courses which they were teaching at the time of the research. They were also asked to give the number of students that they taught in each class. The subject specialists' questionnaire also contained two questions of this nature. These questions were questions 1 and 2 (Appendix 4). For the Communication Skills staff, these were questions that asked in which Science departments that they had taught or were teaching (Questions 1 and 2 in Appendix 5).

### **CATEGORY B: Types of Writing Activities**

Category B consisted of questions which asked about the types of writing activities given to students in the course of their undergraduate programme. Responses to these questions were mainly in the students' and the subject specialists' questionnaires. From the student questionnaire, there were two questions which asked students to list the types of written work they had done and those they expected to do in the future ( questions 3 and 4 in Appendix 3). In the subject lecturers' questionnaire, there were three such questions regarding the types of written work they gave to their students in the subject specialist areas (questions 4, 5, 6 and 8 in Appendix 4 ).

For the Communication Skills staff, there were no direct questions regarding the kind of work that students in Agriculture or other subject areas that they had taught. However, some parts of question 4 ( Appendix 5 ) could be seen as responses to the types of written work in subject areas targeted by lecturers in Communication Skills. It will also be noted shortly that one of the

types of written work that students indicated that they had done was in Academic Communication Skills.

### **CATEGORY C: Student Proficiency**

Questions in Category C asked about students' proficiency in the use of written English. These questions were covered in all the questionnaires in various ways. The subject specialist and communication skills staff were asked directly what they saw as problems in students' written work. The students however, were asked what they felt were problems with their written work.

In the subject-specialists' questionnaire, there were six questions regarding the writing ability of the undergraduate students that they had taught (questions 3, 10, 11, 12, 13 and 15). For the Communication Skills staff, there were two questions, namely, questions 13 and 14. The questions in the students' questionnaire that related to this aspect were those that asked the types of written work they encountered problems in and the types of problems (linguistic or non-linguistic). There were three such questions namely, questions 5, 6, and 7.

### **CATEGORY D: Modes of Assessment**

Category D covered those questions which asked about the mode of assessment of students' writing and any actions taken on students' writing problems. Lecturers were asked what aspects in linguistic or otherwise they gave importance to in their marking of students' work. There was a total of eight questions in the student and subject specialists' questionnaire, six (questions 8,

9, 10 and 11 in Appendix 3 ) for the students and two (questions 5, 7 and 14 in Appendix 4 ) for the subject lecturers.

### **CATEGORY E: Communication Skills Course**

These questions were mainly those directed at the Communication Skills lecturers. They were meant to elicit answers about the Academic Communication Skills course and its projected direction. These were all the rest of the questions in Appendix % apart from questions 13 and 14 which asked them about their views concerning students' writing ability.

On another scale, the responses from subject-specialists are divided into three groups, those from the Faculty of Agriculture, those for Science Departments and those offering multi-disciplinary courses, that is, Departments of Languages and Linguistics offering Academic Communication Skills , Department of Philosophy offering Development Studies and the Department of Computer Science offering common-core computer courses. This division enables us to compare the differences in responses of Agriculture lecturers with those from outside the Faculty teaching the same agriculture students. Chapter 6 Section 6.2 illustrates some of these differences.

#### **4.5.2 Analysis of Institutional Documents**

The check-list of questions formulated was based on what was thought to be necessary for students to understand in the Catalogue and the Course Outlines and descriptions. The information from these was mainly based on Canseco and Byrd's (1989) list of information contained in a typical syllabus. These were re-phrased into questions as follows:

1. Do the course outlines and the University Catalogue give any instructions:
  - a) relating to types of assignments, tests, examinations?, b) reference books/materials?, c) procedures for writing tasks?, and d) lecturers' names?
2. Do they explain how students should study, for example, attendance of classes, laboratory hours, and so on?
3. Do they tell how courses are graded?
4. Do they tell what skills students are required to develop while studying the course(s)?
5. Do they give the weighting of practical versus theoretical work?
6. What type of audience(s) do they expect students to be aware of?
7. What instructions are given concerning (project) research?
8. Do they tell us how written work in particular is evaluated?
9. Do they give the frequency or number of tests, assignments, examinations?

#### **4.5.3 Analysis of Writing Tasks and Students' Written Work**

The essay assignments and examination questions were analysed using Horowitz's (1986) categorisation of essay examination prompts (explained in Chapter 2 Section 2.4). However, as also noted in the same section, whereas Horowitz analyses essay assignments differently from examinations, in this study, essay assignments were analysed together with examination questions.

In broad terms, actual work written by students was analysed with respect to stylistic and rhetorical features (see Chapter 9). The second essay assignment, namely, the field report in Natural Resources was analysed with respect to the

genre of a report. This entail finding out how much students were able to approximate to the genre features of a report (see Chapter 9 section 9.3). In addition, the writing was analysed with respect to whether the students showed an awareness of the audience they were supposed to address and whether they followed instructions regarding what they were supposed to do in each of the three essays.

This method of analysis was preferred because the results of the analysis could be compared with responses from the students' and lecturers' questionnaires regarding students' writing ability (Chapter 6). This enabled the comparison of the responses with how the students actually wrote. Moreover, by doing these comparison, it was possible to make general comments on students' writing ability with respect to the conceptual framework that is illustrated in Section 4.2 above.

#### **4.6 Limitations of the Research**

There are several limitations in this study. First of all, research into writing needs of undergraduate agriculture students should ideally incorporate a study of needs of all the undergraduates. This study was limited to the study of first year students only. This means that the results only reflect needs of first year undergraduate students in this faculty.

The second limitation is the nature of the data collected and analysed. Again, ideally, the study of writing needs should attempt to incorporate the textbooks that students read in their disciplines. This would enable research in writing needs to explore the writer-reader relationship. Disciplinary textbooks

prescribed for students to read can influence how students write in a discipline (Swales 1986, Brookes and Grundy 1990). In addition, analysis of these 'products of disciplinary discourse' can tell us more about disciplinary requirements (Love 1991). However, it was not possible to include an analysis of textbooks without spreading this study too thinly.

The third limitation was an issue beyond my control. Because of interruptions in the academic year during the field work research, I was not able to return to the respondents to interview them on issues that arose out of their responses to the questionnaires. For instance, some lecturers' responses to open-ended questions were ambiguous regarding the students' linguistic ability. Some for instance wrote 'grammar' as a problem. It would have been interesting to check the writers' precise meaning here. Unfortunately, due to lack of proximity to the respondents, it was not possible to conduct follow-up interviews during my phase of data analysis.

### **Notes**

1. As the examinations were done during the period of this study I was able to help in the marking of the Writing Skills section of the examination.
2. In general terms, however, the majority of students scored poorly in the Writing Skills section of the examination.
3. By a lucky coincidence, the CS lecturers were also teaching the same students who were the subjects of this research at this time. This meant that apart from responding to general questions about science students, they were also able to give responses about the writing problems of the agriculture students who were the subjects of this research. It was, therefore, possible to compare their responses with those of subject specialist lecturers.
4. Some of the subject-specialist lecturers had large classes (see Chapter 6 Section 6.3.3). I felt that it would be more convenient to send out the questionnaire earlier



before they got too busy trying to finish marking any outstanding work. In contrast, I was in close contact with the CS lecturers throughout the field work period (see footnote 1 above) and was therefore able to 'badger' them to return their questionnaire.

5. Personal communication from two of the CS lecturers.

6. The ninth questionnaire not returned had been sent to a part-time lecturer in CS.

## **CHAPTER 5**

### **ANALYSIS OF INSTITUTIONAL DOCUMENTS**

#### **5.1 Introduction**

This chapter contains the results of the analysis of institutional literature from Egerton University. These documents are principally published as sources of information for those teaching and/or studying in the various departments in the institution. It is also a source of reference for those interested in the institution and its various components. In this Chapter, the documents have been used as a source of information about the nature and types of undergraduate writing that first year students are required to do in the Faculty of Agriculture. The use of these documents for the purposes of establishing language needs of the institution is only a secondary function though not an unimportant one. What it can yield for EAP is the information behind the 'contents' themselves as has been demonstrated by the analysis discussed in Chapter 4 (section 4.3.1) above. If used properly, this literature can have pedagogic value for teachers of EAP by helping them to gauge the language requirements of departments or the institution as a whole. The value of such information for EAP teaching and learning has been documented by similar research by Horowitz (1986), Braine (1988) and Canseco and Byrd 1989, (discussed in Chapter 2 section 2.4).

As mentioned in the methodology section in the previous Chapter, this literature includes **course outlines** and **manuals** normally given to the students at the beginning of the year or semester, and the **University Catalogue** which is

published annually. The course outlines, in most cases, reflect what is contained in the university catalogue. But there are certain kinds of information in the course outlines that are not found in the catalogue and vice versa. This will become clear in the ensuing discussion.

The catalogue and course outlines are analysed together as they basically complement each other in terms of content and requirements of each course. For instance, the catalogue is the source of information about courses for which the lecturers use in the writing of course outlines. The manuals on the other hand, are analysed separately basically because they are laboratory manuals and hence reflect only the requirements of one type of written work, namely the laboratory report.

In Section 5.2, a list of documents that were analysed is given. Section 5.3 looks at the contents of the Catalogue in detail while section 5.4 presents information found in the course outlines. Section 5.5 shows the types of written work required of students as indicated in these documents. In section 5.6, a detailed look at one of the types of written work, namely, the laboratory report is given. The last section is a summary of observations and the conclusion to the chapter.

## **5.2 The Documents**

As noted in Chapter 4, eighteen course outlines were selected for analysis. These course outlines are from nine departments in both the Faculty of Agriculture and the Faculty of Science. Half of the course outlines analysed are from the Faculty of Agriculture. These are:

1. Workshop Technology ( AGEN 120)
2. Electrical Engineering ( AGEN 181)
3. Introduction to Farm Power (AGEN 190/121)
4. Agricultural Process Engineering (AGEN 192)
5. Introduction to Natural Resources (NARE 101)
6. Principles of Range Management (NARE 202)
7. Anatomy of Domestic Animals (ANHE 310)
8. Introductory Soil Science (AGRO 161)
9. Weed Science (AGRO 217)

There were also two course outlines from the Department of Agricultural Economics ( Principles of Micro-economics (ECON 101), and Principles of Macro-economics (ECON 102)). The other seven course outlines were from four departments in the Faculty of Science. These were Departments of Botany ( Plant Physiology (BOTA 201), General Genetics (BIOL 101), and General Microbiology (BIOL 102)<sup>1</sup>), Zoology ( Entomology (ZOO 402)), Chemistry ( Inorganic Chemistry (CHEM 100) and Organic Chemistry (CHEM 102)) and Physics ( Mechanics and Properties of Matter (PHY 100)).

The laboratory manuals that were analysed were first year manuals from five subjects namely, Biochemistry, Chemistry, Physics and Animal Production. These are analysed in section 5.6 below.

### **5.3 Contents of the Catalogue**

As it has been noted previously (see Chapter 1 Sections 1.4), the Catalogue furnished this study with general information about institutional requirements such as entry qualifications and the nature of the institution and its component parts. The typical Egerton University Catalogue, among other aspects, contains a description of all courses offered by the various departments in the university, including the number of hours that each course is expected to take, the credit factors for each course, the rationale for each course and rules of the institution regarding teaching, attendance at lectures, examinations, and so on. The course descriptions in the catalogue, however, are less detailed than the course outlines themselves.

For this research, the most relevant part of the Catalogue is in the specific objectives of the educational programmes in the University. Each Faculty has both general objectives (reflected in the types of degree programmes) and specific ones (reflected in the specific courses). In the Faculty of Agriculture, for example, the Catalogue indicates that the study of degree programmes offered in the Faculty is to enable students to acquire both theoretical knowledge and practical skills. Some of the terms used to describe the objectives of the degree programmes in the Faculty are listed below:

- *do consultancy work*
- design, modify and direct
- test and advice
- *do research*, training, and extension
- perceive the importance of agriculture
- teach theory and skills of crop and animal production

- *pursue advanced training*
- effect proper methods of raising crops
- *carry out basic and applied research*
- *make analysis of critical factors*
- *carry out simple but meaningful scientific research*
- *be able to analyse and evaluate*
- *be able to communicate knowledge to relevant members of Kenyan society*

These aims and objectives clearly emphasise the development of both conceptual and practical knowledge during the students' undergraduate career.

Furthermore, the items italicised, for example, all involve a degree of competence in written English.

The objectives of first year courses reflect this balance between the development of technical skills and conceptual knowledge. This is embodied in the contents of the multidisciplinary nature of the degree programmes that students follow in the Faculty. The Catalogue, for instance, illustrates this about the Faculty of Agriculture as follows:

Realising that most of the graduates will be deployed to work with rural communities, subjects such as Sociology, Communication, Extension and National Development strategies are included in both degree and diploma curricula.  
(EUC 1993:159 researcher's emphasis).

Thus, it can be seen that the programmes in the Faculty takes into consideration the need for students to acquire good communication skills for their future work<sup>2</sup>.

#### **5.4. The Course Outlines**

Generally, a course outline in Egerton University, as I have noted above, describes a course in more detail than the University Catalogue. Typically, each

outline is about two pages long (compared to an average of ten lines per course in the Catalogue). The outline contains:

- i) The name or names of the lecturer/s responsible for the course
- ii) Reference books recommended for students to read
- iii) Name and code number of the course ( for example, AGEN 101, PHY 101, AGRO 217, etc)
- iv) Course objectives and course content
- v) Course description (mostly given in the same way as in the university catalogue)
- vi) Grading system for examinations and other assessed work (which includes written work)
- vii) Procedures for field work (laboratory procedures are found in the lab manuals)

All the course outlines analysed generally fall into this pattern. One (ECON 102) in addition, informs students of the importance of attendance at all classes during the semester because the size of the class would not permit lecturers to arrange for any tutorials. (See Chapter 6 on the issue of class sizes).

Most of the outlines include detailed lecture topics and sub-topics with a description of contents extrapolated from the university catalogue. In some, topics are given which are covered within a given time frame (for example, week by week) while others list topics to be covered during the semester. Generally, however, topics to be covered are organised in a linear order ranging from a level that may be characterised as easier (for example the introduction,

which is also less detailed to more detailed work and more taxing to the student).

Introductory courses to the specialist disciplines (Agronomy, Agricultural Engineering, Animal Production and so on), are explained as dealing mainly with 'concepts rather than details of topics listed; it is an overview and introduction to more detailed.....courses to follow' ( Introductory Soil Science AGRO 161). Though the rest of the course outlines do not indicate this, the University Catalogue states that the first year courses are basic courses to introduce the students to scientific skills and their chosen disciplines. It notes that:

during the second, third and fourth year, courses concentrate on underlying applied sciences and practices to each field of study (EUC 1993:159).

All the course outlines analysed with the exception of two (Inorganic Chemistry and General Microbiology) list the titles of textbooks to be used in the course. Some outlines recommend as few as two textbooks while others contain more (for example, the Weed Science course (AGRO 217 had fourteen recommended books). One outline, written for the Principles of Range Management course (NARE 202) gave particular page numbers to be read. These were pages from books that were recommended to the students as 'a must read' by the lecturer (personal communication). It was also found that lecturers use various terms for the textbooks they require students to read. Most of them use the terms **textbooks** or **texts**, while others use the term **references**. One of the lecturers (Macro-Economics ECON 102) divided the recommended readings



into references and textbooks. Under references were other texts which are not books, namely reviews, abstracts, surveys and journals.

### **5.5 Types of Written Work**

The course outlines list a wide variety of the types of writing that the students are be expected to write in the various courses during the semester. The various terms used to describe these varieties are i) examinations, ii) assignments, iii) tests, iv) continuous assessment tests, v) quizzes, vi) project work, vii) practical work, viii) laboratory work, ix) mid-term examinations, x) field reports, and xi) written reports.

Apart from the use of differential terms, none of the course outlines, however, indicates any difference between the various types of written work. A few of the courses (AGEN 120, AGEN 192) differentiate between other written assignments and Continuous Assessment Tests (henceforth CATs) while the others do not. For these courses, CATs refer to mid-term examinations whereas assignments are 'take away' work that require students to do some limited library research before writing up. For the others ( Weed Science AGRO 217) practicals, projects, and assignments are regarded as CATs. The use of the term 'project work' in Engineering (AGEN 102, 192) also differs from the rest. Project work in Engineering refers to the practical exercise in which students use engineering tools to produce an item in a workshop whereas in Agronomy this involves research or the carrying out of (an) experiment(s) and subsequently the writing of a report on this.

In general, all other written work done during the semester in each course accounts for 30% of the total marks for the final semester grade. The other 70% comes from the end of semester examination. However, there is little indication of how many marks are allocated to each piece of the written work. Of the eighteen course outlines, only two indicated the marks allocated for each of piece of written work. In Inorganic Chemistry (CHEM 102), the marks are divided into i) Practicals - 10%, ii) Assignments - 5%, and iii) CATs - 15%. In Electrical Engineering (AGEN 181), the marks are divided between laboratory work taking 20% and mid-term examinations taking the rest (10%).

Most course outlines do not give any time-table for written work. Only a few indicate vaguely when CATs take place (usually twice a semester) while others indicate mid-term exams<sup>3</sup>. The most frequent types of written work indicated in the outlines, apart from the end of semester examinations are CATs (see also the next Chapter Section 6.3.2). There are no indications of procedures for writing up any type of work in the course outlines.

From this observation, it appears that the course outlines in general indicate that students are expected to do a number of written tasks in the various courses. However, neither the outlines nor the catalogue yields much about differences between and among the various 'types' of written work indicated. Nor do they show what is involved in writing.

## **5.6 Laboratory Manuals**

In contrast to the two types of documents analysed above, laboratory manuals are much more explicit about the procedures for the writing up of

laboratory reports. For example, the Organic Chemistry manual gives an extensive explanation regarding the format and the content of laboratory results and observations as follows:

Your notebook should be organised and legible, but need not be a work of art. Your instructor will probably have specific instructions concerning the format of the notebook. Before coming into the laboratory, you may be asked to write out; a notation of the title and statement of purpose of the experiment; complete equations for all reactions involved; the physical constants of reactants and possible products; the molar quantities of your reagents, including the identification of the limiting reagent and maximum product yield; and a brief outline of the experiment and its reference. In the laboratory keep a running account of what you do, especially noting what you observe. Your results and discussion of the results will probably be recorded after the close of the lab session. Some flexibility in format and style may be allowed to you, but proper records of your experimental results must answer certain questions. When did you do the work? What are you trying to accomplish in the experiment? How did you do the experiment? What did you observe? How do you explain your observations? Your notebook must be written with accuracy and completeness. (Lab. Manual Organic Chemistry 1992:4-5)

Here, we see that students are told that the format *may* flexible but the instructor may have specific instructions on this, that content is crucial ('proper records..... *must* answer certain questions') and that precision is very important too ('...*must* be written with accuracy and completeness').

The Inorganic Chemistry manual has a shorter version with format and content intertwined. It indicates that students are expected to visualise an experiment in terms of the following;

- i) the main objective
- ii) the theory involved
- iii) the procedure to achieve the main objective
- iv) the recording of the results
- v) the analysis and discussion of results
- vi) the conclusion

( Lab Manual Inorganic Chemistry 1992:1)

It seems here that the organisation is not flexible as the following instruction shows:

In writing your report you *should* follow the order as given above (i) to (vi) (sic) (ibid p.1, researcher's emphasis).

The Physics and the Biochemistry manuals include headings which are indicated as 'headings found in most biochemical papers'. They indicate also that there is flexibility with respect to the format of a report, but mention that, in general terms, the headings would follow the pattern: **Introduction, Materials and Apparatus, Experiment or Method, Results, Discussion and Conclusion**. The Physics manual informs students that the conclusion is the most important part of a report. Here again, as in the Organic Chemistry Manual, accuracy is crucial. It notes that the report:

should contain only what actually follows from the measurements obtained and it should never conclude what it cannot be deduced from the results obtained. It must reflect the aim of the experiment. For example, in an experiment whose aim is to use Newton's Second Law to determine the force exerted by a spring, the conclusion that 'Newton's Second Law is True' is a wrong conclusion since this particular experiment has not proved it.  
(Physics Lab. Manual 1992:5)

The manuals also indicate that there is a difference between what the course requires and what is directly expected of the students in the process of writing or performing laboratory practicals (termed 'tests' in the Physics Manual). For example, the Physics manual explains to the students that they will encounter different types of experiments with different aims. It points out that some experiments are 'repeats or modifications of important historical experiments which you can use to verify what you read' while others serve

pedagogical purposes 'in that their purpose is to teach...useful techniques and skills...' (Physics Lab Manual, 1992:6). It adds that the purpose of laboratory work is both a learning process as well as a training one, that is, in certain cases, students are expected to acquire practical skills on how the apparatus is used while in others learn how the apparatus works.

The laboratory report is seen as a means to an end. The Biochemistry Manual, for example, informs students that the aim of a report is to 'communicate results in a form in which they are understood. Writing up of a laboratory exercise is good practice for the more exacting task of producing a scientific paper' (Biochemistry Lab. Manual 1993:1). The manuals also remind the students that their reports are written to be read by an audience. They are, therefore, expected to write a report that is 'understandable to an intelligent reader, and should include sufficient details for him/her to repeat the experiment if possible' (Physics Lab. Manual *ibid.*p.3). Accuracy is also seen as important.

From this study of the manuals, it appears that students are expected to look at the nature of laboratory work as twofold: on the one hand, the aim is to learn to conceptualise in the field of science and on the other, to train in skills of experimentation. In all these, students are expected to understand the necessity of accuracy and precision in reporting scientific experimentation, aspects that are dealt with elsewhere in this study (Chapters 6 and 9).

## **5.7 Summary and Conclusion**

In this Chapter, the major objective of analysis of institutional documents was to find out what types of written work students are expected to do.

Particularly, information was sought concerning format, content and procedures of writing up of each of the types of work as well as any stated differences between and among the written tasks.

It was found that the course descriptions indicate varieties of written work for most of the courses. Those mentioned in the course outlines are: CATs, projects, assignment topics, research topics, mid-term examinations, quizzes, and examinations. Written reports are given various terms, for example, **technical reports, field reports and term reports**. In all the course outlines, it is evident that students in various courses are expected to write a variety of types of written work: pieces of work that are all graded and go to make up the final grade at the end of the semester (see also Chapter 6). Thus, writing activities become a mode of assessment in all the courses.

However, apart from the laboratory manuals which have detailed instructions on the format for writing up of laboratory reports, the rest of the documents do not indicate how the various types of written work should be presented. There is evidence of control in laboratory reports even though the manuals indicate some 'flexibility' in format. In some cases, the choice of topics for research projects come from students with help from lecturers. But these are in later undergraduate years (fourth and fifth years). In overall terms, however, first year undergraduate students in the Faculty are assigned topics by their lecturers and hence do not have much choice (EUC 1992:174). (It is also shown in Chapter 8 that there is a high level of teacher control with respect to the type of questions that students choose to answer in the final examinations).

Despite the lack of any substantial instructions on writing in science, there is evidence (Section 5.3 above) that the Faculty objectives are intended to make students proficient in developing technical and conceptual skills and good communication skills. Information from the Egerton University Catalogue also shows that the Faculty has always recognised the importance of training students to develop good communication skills, in both writing and in oral presentations. For example, before the establishment of the CS course, students used to attend a course called Technical and Report Writing (AGED 348). This course was intended to:

prepare students in the skills of developing and presentation of technical information. The students will be exposed to writing of proposals and final reports. The types of reports handled include research proposals, project proposals, research reports, progress reports, project reports, feasibility studies, periodic reports, manuals, evaluation reports and oral reports.  
(EUC 1992:273).

Since the introduction of CS, however, some subject-specialist lecturers feel that CS was a better course and felt that there was no need for their students to attend the Technical and Report Writing course any more'. Moreover, it was felt that the previous course was more specialised since it dealt more or less with only one type of writing, that is technical reports. However, some departments still recommend this course to students'.

What is evident from this investigation at this point is that there is need for more explicit instructions with regard to the nature and types of writing required of students in the Faculty. In the next Chapter, I pursue this issue

further when I look at written work and analyse views of the various writing problems encountered by students in the Faculty.

### Notes

1. The Botany and Zoology departments used to be one department (Biological Sciences). After the division, they still continue to jointly offer 'general' courses (in Biology and Genetics.)
2. Despite the fact that this is seen as a necessity for oral communication in a rural environment using the national language, Kiswahili, the extension officers are expected to *write* annual reports to the Ministry of Agriculture *in English*.
3. The mid-term examinations form part of the course work or continuous assessment
4. Some subject specialist lecturers expressed this view during meetings of the 8-4-4 Sub-Committee in 1990. The sub committee, in which I was a member, had been charged with the task of looking at the nature and contents of the common-core courses that had been proposed for the new undergraduate students.
5. The course is still an integral part of the diploma courses in the University. Students doing diploma courses in Agriculture and Agricultural Education are taught. Until recently, students of the earlier education system were also being taught.



## **CHAPTER 6**

### **QUESTIONNAIRE ANALYSIS**

#### **6.1 Introduction**

As outlined in Chapter 4 (Section 4.4), three questionnaires (Appendices 3, 4, and 5) were administered, one to each of the following groups:

- 1. First year undergraduate students doing Agriculture and Agriculture-related courses**
- 2. Subject specialist lecturers who taught these students**
- 3. Communication Skills lecturers**

This chapter looks at the first two sets of questionnaire responses, that is, students' and subject-specialists' ( Responses from the CS staff are analysed in Chapter 7). In Section 6.2, the number and varieties of lecturers and students who responded to the questionnaire are given. Section 6.3 covers the results of the section of the questionnaires concerning the types of written work that students had done. The students' responses about the types of written work they expect to write in the future are also be presented. Terminology for the varieties of written work is analysed in Section 6.4. The problems that students encountered in written work is covered in Section 6.5. This includes responses from both agriculture students and subject-specialist staff who taught them. In Section 6.6, views from subject staff concerning students' writing proficiency and the importance that they attach to certain aspects when assessing students' writing are analysed. A comparison of responses from students and staff with

those of overseas students in British institutions is done in Section 6.7. This also covers British subject tutors' views on difficulties they observed in overseas students' written work including their ranking of certain aspects in their assessment. Section 6.8 is the summary and conclusion.

## **6.2 The Responses**

### ***a) Lecturers***

Fifty questionnaires were sent to the same number of lecturers who were involved in the teaching of the first year Agriculture undergraduate students. Twenty-eight of these questionnaires were returned. Of these, fourteen (14) were responses from lecturers in the Faculty itself and one Agriculture related department (Agricultural Economics and Agribusiness Management). The responses were from lecturers teaching in eight departments. These departments are:

1. Agricultural Economics and Agribusiness Management
2. Agricultural Engineering
3. Agronomy
4. Animal Science
5. Animal Health
6. Natural Resources
7. Agriculture and Home Economics
8. Dairy and Food Technology

The other 14 responses were received from lecturers from other departments teaching what are called 'service courses' to the same Agriculture students. Nine

students. Nine of these were from lecturers in the Faculty of Science which offers the bulk of the service courses. The subjects and the number of subjects who responded are given in the table below.

Subject	No. of responses
Zoology	4
Physics	1
Mathematics	3
Chemistry	1

Table 6.1. Responses from the Faculty of Science

Five responses were also received from lecturers teaching the same students in the Faculties of Education (EDHURE), Arts and Social Sciences (FASS) and the Department of Computer Science (Table 6.2).

Course/Faculty	No. of responses
EDHURE	3
FASS	1
Computer Science	1

Table 6.2. Responses from other Faculties

Of the twenty-eight questionnaires returned, twenty-seven contained usable data which form the basis of the analysis of lecturers' responses in this study.

## ***b) Students***

Regarding the students' questionnaire, of the 241 questionnaires administered, 232 of them were returned, a 96.3% return rate. The percentage distribution of the responses between departments is given in Table 6.3 below.

<b>Department</b>	<b>%Response</b>
<b>Agribusiness Management</b>	<b>33.0</b>
<b>Agricultural Economics</b>	<b>06.0</b>
<b>Agricultural Engineering</b>	<b>05.6</b>
<b>Agronomy</b>	<b>17.6</b>
<b>Animal Science</b>	<b>24.0</b>
<b>Natural Resources</b>	<b>13.4</b>

**Table 6.3. Percentage of students' responses per department (N = 232)**

These were students studying for seven undergraduate degrees, namely;

- i) B.Sc. in Agricultural Economics**
- ii) B.Sc. in Agribusiness Management**
- iii) B.Sc. in Agronomy**
- iv) B.Sc. in Agricultural Engineering**
- v) B.Sc. in Wildlife Management**
- vi) B.Sc. in Range Management**
- vii) B.Sc. in Animal Production**

70% of the departments were represented, which, as will be seen was sufficient to demonstrate any variation among departments in the types of written activities.

## **6.3 Writing in the Faculty**

As explained in Section 4.5.1, those questions that were specifically asked to elicit responses about the types of written work done or expected to be done by students are analysed together in one category (CATEGORY B). These questions were mainly in the students' and the subject specialist staff questionnaires. In the questionnaire for students, these were questions 3 and 4 (Appendix 3). From the subject specialist lecturers' questionnaire, these were questions 4 and 5 (Appendix 4).

As also outlined in Chapter 4, the responses in the questionnaires are compared in four ways. First, comparison is made of responses from the students and the lecturers. Secondly, comparison is made among the responses of three groups of lecturers, namely, the lecturers in the Faculty of Agriculture itself, those teaching basic science service courses and those who taught common core courses to the same students'.

### **6.3.1 Types of Written Work**

Analysis of both the students' and lecturers' responses regarding the types of written work done over the semester show that students do a wide variety of written work. Twenty terms were used to indicate this variety. These are tentatively grouped into four major types below. The starred items in the brackets were written in by both lecturers and students.

1. Reports (*laboratory\**, *project*, and *field\**)
2. Written assignments (*essays\**, *essay assignments*, *written assignments*)
3. Examinations and other tests (*examinations*, *continuous assessment tests\**,

*quizzes, mid-term examinations, laboratory tests, class tests, fill in answers, short answer questions)*

4. Research (include *library research, group research or collaborative research, individual research, research papers, semester papers, dissertations*)

The following table shows the percentage responses of students regarding five of those 'types' of written work which they believed they did.

Type	% responses
Essay assignments	72.1
Laboratory reports	97.4
Field reports	54.1
CATs	02.4
Research	54.1

Table 6.4. Percentage responses from students concerning written work done (N=232)

I write **believed** because the percentage responses from both the lecturers and students seem to indicate a confusion regarding some of these terms. For instance, as we can see in the table above, whereas most of the students indicated that they had done **laboratory reports**, only 2.4% filled in **CATs**, written work that 74.1% of the lecturers (Table 6.5 below) recorded as having been done. Moreover, responses from students in the same department point to a confusion whether they had done **CATs**. I return to this apparent confusion in sub-section 6.3.3 below.

Type	% response
CATS	74.1
Essays	51.9
Laboratory reports	33.3
Field reports	11.1
Library Research	07.4

**Table 6.5 Types of written work lecturers claimed they administered (N=27)**

In comparison to the total number of responses given above, those from lecturers teaching agricultural courses are also presented. The lecturers recorded that they gave only four types of written word to students (Table 6.6).

Type	% response
CATs	22.2
Laboratory reports	22.2
Project reports	11.1
Essay assignments	11.1

**Table 6.6. Types of written work given by agriculture lecturers<sup>2</sup> (N=6, NR=3)**

Here we can see that the percentage responses were relatively similar to the overall responses with respect to laboratory reports. However, CATs and the essay components were lower than the overall. Whereas CATs were still the one of the two forms of assessment in these courses, in relative terms, essays seem to have been one of the least popular.

The responses from the science lecturers offering service courses to agriculture students were also analysed. Again, we see that CATs and laboratory

reports are the most prevalent type of written work, and relatively higher than the overall. Here no essays are given at all.

Type	% response
CATs	77.7
Laboratory reports	55.5
Field reports	11.1

Table 6.7 Types of written work given by science lecturers (N=9)

Concerning those teaching common core service courses in Development Studies and Computer Science, CATs are the most popular with essays being the second most prevalent form of writing.

Type	% response
CATs	80.0
Essay assignments	60.0
Laboratory reports	20.0 <sup>2</sup>

Table 6.8 Types of written work given by other lecturers (N=5)

From this observation, therefore, one can see that in overall terms, CATs are not only the most prevalent forms of written work given to the students in the Faculty but also that the sciences courses tend to offer CATs and laboratory reports and no essays at all. In the 'social science'- based courses (Development Studies and Education), both CATs and essays are given more than in all the other courses. Laboratory reports seem to be also more prevalent in the science service courses than in the overall courses offered to agriculture students.



### 6.3.2 Future Writing

Regarding what future writing they expected to do, **essay assignments, laboratory reports and field reports** occupied the upper end of the scale of responses by the students while on the lower end of the scale, the other expected 'types' of written work were **term papers, research papers, proposals and dissertations** (Table 6.9).

Type of work	%age responses
Essay assignments	51.5
Laboratory reports	71.7
Field reports	71.2
Research	44.3

Table 6.9 Types of future writing expected by students (N=232)

The other types students listed were those they regarded as future written work outside their undergraduate programme. These are:

1. Writing books
2. Writing novels
3. Letter writing
4. Newspaper articles
5. Advertisements
6. Postgraduate dissertation writing.

One of the interesting things that this question (Q4 in the students' questionnaire Appendix 3) yielded was not only the kinds of varied responses that the students gave for future writing but also the number of responses

compared to the earlier question (Q1 of the same questionnaire) on the types of written work already done. It seems that, in general terms, students expect to do less of certain 'types' of written work in their future academic years. For instance, the 51.5% response for essay assignments is less than the earlier response (72.1% Table 6.5). For laboratory reports, the response was 71.7% compared to 97.4%, approximately 25% less.

On the other hand, the students expect the variety of types of written work in the future to increase. The students in general expect the number of types, at least going by the terminology they used, to increase for most of the courses. For example, in Agricultural Engineering, they indicated eight types of future written work, in Agronomy, eleven different types, in Animal Science they listed fourteen, and in Agribusiness Management, nineteen.

There are several reasons for the disparity in the responses to the two questions analysed so far. On the one hand, the responses seem to indicate students' immaturity and ignorance regarding the nature and meaning of some of the terms they used and uncertainty about the general nature of writing in their degree programmes. For instance, some students did not give any response to this question at all while others (four students) said they had not been told about the nature and types of future written work.

On the other hand, it seems that the students' perception of their subject areas is not clear to them. It seems that the students perceive that since the first year is mainly composed of basic science introductory courses (see Chapter 1 Section 1.4), those in the 'hard' sciences will do less writing and more

'practical' work in their course work in the future. This is a misconception, because, even though there may be a perceived reduction of *types* of written assignments due to specialization, the writing content in the future undergraduate courses is substantial and much more demanding both in terms of language, quantity and rigour in analysis. Another related but slightly different reason is their perception of certain types of writing as advanced level work done in postgraduate or professional fields. Indeed some of the students were explicit in stating that they regarded dissertations, project proposals and research papers as postgraduate or professional work.

This is not to say that the students are to blame for this state of affairs. As young undergraduates in their first semester of their first year, perhaps it was too much to expect them so early in their academic careers to have a level of sophistication in their knowledge of the nature and types of writing they have encountered or expect to encounter in, say, their third or fourth year. Nevertheless, these impressions point to the necessity for these students to begin as early as possible to have some idea of these types of written work, albeit in a less sophisticated. This seems to me to validate my earlier suggestions (Chapter 5) regarding the necessity for more explicit the descriptions and explanations about written work in the institutional documents . Moreover, it is important for the students to understand the importance of writing skills in their subject of study. This way they are more likely to take advantage of the writing skills instruction in the CS programme. I return to this issue in Chapter 10.

### 6.3.3 Continuous Assessment Tests

As noted earlier, in overall terms, 74.1% of the lecturers indicated that CATs had been administered. But looking at responses in terms of the three groups of lecturers, some interesting pieces of information begin to emerge. The comparisons in Table 6.11 below gives us a different and significant picture.

Courses	%age
Overall	74.1
Agriculture	22.2
Science	76.9
Common core	80.0

Table 6.10. Comparison of responses of the three groups of lecturers about CATs

We can see that there is little variation between percentages of lecturers teaching common core courses and science lecturers who administered CATs. These percentages are, however, contrasted significantly with the responses by agriculture lecturers. Only 22.2% indicated CATs. At first it was thought something was wrong with the statistics. A look at other questions in the questionnaire and the responses, however, elicited something which seemed at first unrelated to the research into writing types. This was the issue of class size. It emerged that there was a relationship between class size and the choice of types of written work given by the lecturers. Lecturers who had a fewer number of students in class seemed to administer other types of writing while those who had more students tended to give CATs. In table 6.12 below we can see the percentage of lecturers in each of the divisions and the range of class sizes.

Courses	%age	Class Size
Agriculture	77.8	50 - 149
Common core	40	350+
Basic sciences	53.9	250+
Basic sciences	23.1	450+

Table 6.11 Class sizes per major areas related to percentage of lecturers who administered other types of written work.

It suffices at this stage to note that class size seems to have affected the variety and quantity of written work that students do in the variety of courses examined.

#### 6.3.4 Examinations

When the questionnaire was being drafted, it was planned that essay examination writing would be treated separately. The issue of examination writing will be treated in more detail in Chapter 8. However, at this point, I think it would be useful to make a few points concerning the relationship between examinations and CATs. As noted elsewhere, CATs are in fact done under examination conditions. This clearly means they should not be termed continuous assessment tests at all.

#### 6.4 Terminology for Written Work

One of the most glaring observations regarding the terms used to describe written work in the Faculty of Agriculture is that these plethora of terms, in fact, can be deceptive. I have suggested that one of the reasons (Section 6.3.2 above)

was students do not have a delicate enough perception with respect to types of written work in their courses. For example, it seems likely that they did not perceive examinations and CATs in their courses as 'written work'. This may still be a plausible explanation for students. However, it is not easy to say the same about lecturers. When the responses from lecturers were analysed it was found that the lecturers did not have a uniform way of describing the types of written work they administered.

One of the causes of this confusion seems to be that the university has no policy on specific terminology to be used in describing the various pieces of written work expected of the students. Consequently, this is now a situation where lecturers and students give different names to the same type of writing activity. For example, in the students' response to written work they had done they used *three* different names for the same type of work they did in the CS course, namely, **dissertation, research paper and term paper** (see also Chapter 7). The students' confusion with terminology in this case was in a sense a responsibility of the Communication Skills lecturers. This is because they (the lecturers) used the terms **dissertation, research paper and term paper** to describe the work the students were doing. Similarly, subject-specialist lecturers' use of terminology also suggests the same tendency. For instance, **laboratory reports, laboratory practicals, laboratory tests and laboratory research** were all used to refer basically to the same type of assignments. It was decided, therefore, that a more delicate analysis into this plethora of terms was necessary in an attempt to solve this potential source of confusion to lecturers, students and researchers.

Moreover, these terms can be used to instruct students about the nature, the similarities, the differences and relationships between and among these apparently different activities.

Looking carefully at the two examples of students' and lecturers' use of differential labels I find that these terms can be seen as not contradictory but actually complementary. It is clear that terms used to define the various types of written work reflect the institutions' and students' understanding (or discrepancy in understanding!). These typifications, in general, can be envisaged in the form of a dichotomy of terms which on one hand refer to either the *product* or the *nature of the product* and on the other as to either the *process* or *nature of process*. Thus, a **dissertation** can actually be seen as the term for the *end product*, while **research paper** describes the kind of *product in terms of the process* it took to produce and **term paper** describes the product in terms of its *temporal nature*, that is, the time it took to write it (a term)<sup>2</sup>. Similarly, it is possible to envisage the subject-specialists' use of laboratory reports as denoting *products*, **practicals**, **research** and **tests** as *processes*.

With respect to all the twenty terms used by both the lecturers and students' I have used the dichotomy described in the preceding paragraphs. Thus I have envisaged the types of written work as falling into four super-ordinate categories, namely:

1. Terms that describe the product
2. Terms that describe the process
3. Terms that describe the nature of the product

#### 4. Terms that describe the nature of the process

The twenty terms therefore, fitted these superordinate categories as follows:

##### 1. Terms that describe the **PRODUCT** itself

- a) Dissertations
- b) Essays
- c) Examinations
- d) Quizzes
- e) Reports
- f) 'Fill in' questions or answers

##### 2. Terms which describe the **PROCESS** itself

- a) Experiments
- b) Class tests
- c) Practicals
- d) Research
- e) Assignments

##### 3. Terms that describe the **NATURE** of the **PRODUCT** (*italicised*)

- a) *Continuous Assessment Tests*
- b) *Semester or Terms paper*
- c) *Mid-term examination*

##### 4. Terms which describe the **NATURE** of the **PROCESS** (*italicised*)

- a) *Class Tests*
- b) *Laboratory practicals*



- c) *Field* work
- d) *Project* reports
- e) *Written* assignments
- f) *Library* research
- g) *Individual* research
- h) *Collaborative* or *group* research
- i) *Field* practicals.

As can be seen, some of these terms overlap in that they refer to both product and process or their nature. But the point is what one chooses to emphasise (but not in the same way as the difference between a *black* board eraser or a black board *eraser!*). For instance, CATs may be seen as either *tests* (process) or *continuous assessment* (a product referred to in terms of its temporal nature).

Two of the categories that excite my interest, for example, are the second and fourth categories. These two groups may be more useful in teaching of genres because, as the superordinate terms suggests, it may reveal more about what is involved in the process of producing a text, than, say, those which merely describe the product or its nature. Admittedly, these divisions are not hard and fast, however. For instance, one can argue that **tests** and **assignments** cannot really be categorised as terms that describe processes. Furthermore, they are not sufficiently definite enough to describe a particular type of written work as for instance, the term **laboratory report** does. But the point in trying to categorise these terms this way enables us to see some very interesting issues

which can be useful in the teaching of academic writing particularly with respect to the types of 'genres' found in the university classrooms. By categorising these two terms as processes, I am taking the view that they can reflect activities that entail some writing processes ( the process of doing a written test, for example). This perspective can, in my view, be more productive in the sense that it could enable the language teacher, for instance, to regard writing (of whatever type) as also consisting of processes (drafting, making paragraphs cohere, for example). Hence, students can be trained to look at writing as a purposeful activity consisting of using various strategies (including communicative ones) rather than looking at a finished product without understanding how it came to be.

The sense of confusion described here is addressed further in later sections and also in the last Chapter, but it suffices to say here that perhaps one of the responsibilities of the Communication Skills course should be to make sure that all terms are analysed and classified in order to be able to know not only what each writing type involves but also how this information can be used to enlighten students of the kind of writing required in their subject areas, what they are required to do for each case in terms of format, content, organization, and so on.

### **6.5 Students' Problems in Written Work**

In this section I look at students' and lecturers' responses concerning students' problems in their writing. I then highlight what I have loosely termed **linguistic and non-linguistic problems**.

The first question that students were asked with respect to writing was whether they felt they had problems in their work. The students' and lecturers' responses were almost identical. 82.4% of the students were in the affirmative compared to 88.9% of the lecturers. 17.2% of the students felt they did not have any problems as opposed to only 7.4% of the lecturers. With regard to the types of work they had problems with, students mentioned some of the most important types of written work. These were:

**a) Laboratory reports**

Concerning this, 40.3% of the total number of students indicated this as difficult. This percentage is less than those who had indicated that they had done laboratory reports (97.4%), but a substantial number nevertheless. In terms of responses from individual departments, two of them had an even higher percentage. In Agricultural Engineering and Agribusiness Management, these were 61.5% and 71.4% respectively. The other departments had comparatively lower figures, namely, 22.5% in Natural Resources, 14.2% in Agricultural Economics, 34.8% in Agronomy and 19.7% in Animal Science.

**b) Semester papers**

It is interesting that the same percentage (40.3%) as those who had indicated problems in laboratory reports also mentioned problems with their writing of semester papers. However, this figure is actually higher at approximately 71% of those who had indicated that they had written semester papers (54.1%). In terms of individual departments, for example, it seems that in some of them, virtually all the students who filled in the questionnaire indicated

that they found difficulties with the writing of these papers as the table below shows.

Department	% with difficulty
Agricultural Engineering	100
Animal Science	100
Agronomy	77.8
Agricultural Economics	75
Agribusiness Management	58.3
Natural Resources	33

Table 6.12 Percentage of students with difficulty in semester papers

This rather high figure is not difficult to understand since this was work that was administered by the CS unit and students found it a problem because the language demands were higher than in subject areas.

### c) Essay assignments

Responses from individual departments or degree courses is as follows:

Department/Course	%age responses
Agricultural Engineering	0.8%
Natural Resources	12.9%
Agricultural Economics	14.3%
Animal Science	16.1%
Agronomy	17.1%
Agribusiness	19.2%

Table 6.13 Percentage of students with difficulty in essays as per department/course

Unlike the other types of written work, students do not seem to feel that they have many problems here as only 16.7% of the total number of students indicated difficulty with essay assignments. In general, the response was approximately 23% of the total percentage of those who had indicated that they had written essay assignments (see table 6.4). Although this seems a relatively small percentage in comparison with the other written work above, it is possible to see this as a plausible percentage because it compares with up to 24% of students that lecturers indicated as either having serious communication problems or having totally inadequate grasp of writing skills for university studies (see Section 6.6 below).

It was also evident from the responses, however, that some students misunderstood the question in the questionnaire and gave different answers. For instance, twenty-one students responded that they had problems with getting *reference material* for their work. Four said that they were overwhelmed by work due to shortage of time, while four indicated that they had problems with Communication Skills. One actually said he failed to understand some of the questions given by subject lecturers (he certainly failed to understand the question!).

Even though subject lecturers, as noted in the analysis of the students field reports in Natural Resources (Chapter 9 Section 9.3), sometimes choose not to penalise students even if they (students) miss to include certain required elements, (for example, an introduction), perhaps it is only because of their level (first year) that this lenience is seen as the exception rather than the rule. It

certainly is the case that they will do more research on their own later in their undergraduate careers and there is no indication that the lecturers will be more 'lenient' then. As some of the students have indicated research as future work, it is likely that some of the problems will persist perhaps even as lecturers become stricter.

## **6.6 Assessment of Students' Proficiency**

### ***(Linguistic and non-linguistic problems in students' written work)***

This section deals with Category C (see Chapter 4, subsection 4.5.1) of the responses. These are students responses concerning the process of writing in the Faculty, their views on their writing ability and the subject-specialist lecturer's assessment of their writing.

With respect to their views on what they regarded as problems in their work, students were given a choice aspects which were loosely called 'aspects of language'. These are:

- a) Grammar
- b) Grammatical structure
- c) Understanding assignment topics
- d) Understanding subject matter
- e) Arranging and developing appropriate formats for presentation of ideas
- f) Using a wide variety of vocabulary

98.4% of the students ticked various aspects while only four of them stated that they did not have any problems. Most of those who ticked indicated more than one aspect. For the purposes of this report, these six aspects are

divide into to groups loosely termed 'linguistic' (numbers (a), (b) and (f)) and 'non-linguistic' (number (c), (d) and (e)).

**a) 'Linguistic' problems**

In this group, 33.4% of the students mentioned that they had problems of a grammatical nature. Of this 6.4% indicated **grammar** while 27.0% ticked **grammatical structure**. A slightly lesser percentage (30.5%) indicated difficulty with **vocabulary**. In contrast, a higher percentage (48.1%) of lecturers felt that students had problems with **grammatical accuracy** while a lesser number 22.2% indicated **inappropriate language**.

**b) 'Non-linguistic' problems**

Students indicated that they consulted more on what may be termed 'non-linguistic' aspects of their written work. Slightly over a quarter (25.8%) of the students ticked **understanding assignment topics** as a problem, while 36.9% of them felt they had difficulty in understanding **subject matter** of their courses. Almost two-thirds, that is, 65.2% said that they had problems with **arranging and developing appropriate formats or presentation of ideas**. This is an interesting aspect because 96.3% of the lecturers indicated that they regarded **organization and planning** as a mark of well-written work. They also rate **content and ideas** with the same importance (96.3%), closely followed by **clarity of expression** (92.6%). These three aspects, that is , content and ideas, appropriate format, and clarity are three aspects that, respectively, 63%, 55.6% and 63% (respectively) of the subject-specialist lecturers felt impeded students

from communicating well in written English. Furthermore, 87.5% of CS lecturers also indicate that science students frequently have organisational problems in their written work.

It appears here, therefore, that subject lecturers rated linguistic problems comparatively lower than 'content' and 'non-linguistic problems'. But the rating is not really that low since we have seen that the percentages are 81.5% and 85.1% for grammar and vocabulary respectively. However, a closer look at the distribution of the percentages among the two options given to the lecturers, namely; A LOT and SOME, tells us something more interesting about the importance attached to each of them as the following table illustrates.

Aspect	Rating	%	Aspect	Rating	%
Grammar	A LOT	22.2	Organisation	A LOT	77.8
	SOME	59.3		SOME	18.5
Punctuation	A LOT	18.5	content and ideas	A LOT	81.5
	SOME	40.7		SOME	14.8
Spelling	A LOT	29.6	Clarity	A LOT	74.1
	SOME	59.3		SOME	18.5

Table 6.14 Comparison of rating of features in students' writing by subject lecturers.

In fact subject lecturers do not give linguistic aspects A LOT of importance, but only SOME, whereas with respect to the mainly 'content' aspects the percentage rating between A LOT and SOME is more or less opposite to rankings they give for the mainly linguistic aspects.



## **c) Consultation and Guidance in the Faculty**

### **I) Consultation**

Although almost half (48.1%) of the lecturers indicated that students had grammatical problems and that over 80% of the lecturers considered grammatical accuracy and appropriate vocabulary important, they did not indicate any consultations at all with students regarding these aspects. This is reflected also by the students' responses with respect to what they consulted their subject lecturers about (Question 9 Appendix 3). Only seven students mentioned that they consulted their lecturers on grammatical problems while between 18% and 29% consulted them on assignment topics and subject matter.

The lecturers were also asked about the nature of writing problems that they dealt with which arose out their consultations with students. 22.2% recorded that they consulted on problems of content. But by far the most common problems dealt with during these consultations were organisation-related, with 77.7% of the lecturers using terms like *organisation*, *format*, *technical layout*, and *style of writing (scientific format)*. This was in five types of written work, namely, a) **essays, laboratory reports, field reports, projects and CATs.**

### **ii) Form of Guidance**

In overall terms, 77.3% of the students indicated that lecturers gave instructions to the whole class. Only about a quarter pointed out that they were given guidance individually or in groups (26.2 and 24.5% respectively). It is interesting to note that even though 90.7% of the students reported that their

lecturers usually gave guidance on writing, only 60.9% consulted them. This despite most (82.4%) of the students and lecturers (88.9%) acknowledging the existence of problems in their (students') written work. It is also instructive that only seven students indicated that they consulted their subject-specialist lecturers on grammatical problems. The reason could be that this was thought this was a problem for language teachers'.

#### **d) Lecturers' Views on Students' Writing Competence**

Two questions in the lecturers' questionnaire asked them to give an assessment of their students' writing ability. One of them (Question 2 Appendix 4) asked them to indicate ranges of ability in five ability ranges, namely:

- a) Excellent
- b) Good
- c) Sufficient to cope with the course
- d) Insufficient to cope with the course
- e) Totally inadequate for university study

The responses were initially graded within four ability ranges indicated in the two options juxtaposed in the table below:

<b>Percentage with sufficient grade</b>		<b>Percentage of totally insufficient</b>	
<b>%age of students</b>	<b>%age of lecturers who agree</b>	<b>%age of students</b>	<b>%age of lecturers who agree</b>
0-24%	18.5	0-24%	92.6*
25-49 %	48.1	25-49%	-
50-74 %	33.3	50-74%	-

Table 6.15. Lecturers perception of students' writing competence (\* NR = 7.4%)

Almost all (99.9%) thought that three quarters of the students had **sufficient** writing skills for university study with over a third (66.7%) of them classified up to 24% of the students as **excellent**. It was also found that at this upper end of the scale, 37.4% of the lecturers thought about 5% of the students had excellent writing skills. On the lower end of the scale, however, almost three quarters of the lecturers (74.1%) thought 5% of the students had totally inadequate skills for university study (92.6% also indicated that up to 24% in this level). The lecturers were also asked to estimate their perception of the students' communicative proficiency (Question 12 Appendix 4). The choices were given, namely, a) **no communication problems**, b) **occasional communication problems**, and c) **serious communication problems**. Again, at the initial instance, these were each graduated into four ranges of ability in terms of percentages between 0 and 100, that is, a) 0-24%, b) 25-49%, c) 50-74% and d) 75-100%. Here again the results from the two 'extremes' are juxtaposed in table 6.16 below.

<b>no communication problems</b>		<b>serious communication problems</b>	
<b>ability range</b>	<b>%age of lecturers who agree</b>	<b>ability range</b>	<b>%age of lecturers who agree</b>
0-24%	29.6	0-24%	70.4
25-49%	22.2	25-49%	14.8
50-74%	22.2	50-74%	03.7
75-100%	14.8	75-100%	-

Table 6.16. Lecturers' perception of students' communicative ability (N = 27, NR = 4)

Here again we can see that a substantial percentage (70.4%) of the lecturers regard almost a quarter of the students as having serious communication problems. Like the first responses (Table 6.15), approximately twice as many lecturers thought that five percent of the students had no communication problems as compared to those 5% who had serious problems ( 28.8% compared to 11.1%).

### **6.7 Comparison with Students and Staff in British Institutions**

I mentioned at the beginning of this chapter that I will compare the results with those found by Weir (1988) (see also Chapter 7 section 7.7 for comparison of these responses with those of CS staff ). In this section, I relate the responses particularly with respect to three elements that Weir looked at, namely, a) the difficulties overseas students experience, b) the proportion of students and staff who see these aspects as causing problems, and c) the proportion of staff claiming to attach importance to these aspects in their assessment of students' written work. The following table illustrates the comparison between responses in Weir's research and those from the present research. The responses from students and staff in Weir's research are in brackets.

'Aspects of language'	% age of students	%age staff	Importance to staff
Using a wide variety of vocabulary	30.5(61.9)	22.2(66.9)	37.0 (41.3)
Appropriate grammatical structure	27.0 (40.4)	48.1 (71.4)	22.2 (43.3)
Clarity of expression	- (40.7)	63.0 (70.2)	92.2 (90.9)
The subject matter	36.9 (29.9)	63.0 (60.6)	96.8 (91.8)
Arranging and developing written work	65.2 (35.8)	55.6 (65.5)	96.3(82.1 )

Table 6.17 Comparison of writing difficulties with Weir's research results.

From this table it can be seen that comparable percentages of British and Kenyan staff place importance on the two 'non-linguistic' problems, that is, **organisation and subject matter**, though a slightly higher percentage of Kenyan staff claim to place more importance on organisation. A comparable percentages for both also claim that these are aspects that they find problematic in students' work. For students, however, more Kenyan students than overseas students in British institutions find organisation and development of written work as difficult.

With respect to 'linguistic' aspects, the percentage of overseas students is almost twice that of Kenyan students regard grammatical structure and vocabulary as problem areas. It is also interesting that the number of British staff who place more importance on grammatical structure is also almost twice that of Kenyan subject-specialist lecturers. Almost the same number, however, claim to place importance on vocabulary. Separately though, it is interesting that

about the same percentage of students and staff in both contexts regard linguistic aspects as difficult areas.

It seems therefore, that, given these responses, it is clear that staff consider content, clarity and organisational aspects of students' written work as more important in the sciences in general and the agricultural faculty in particular than linguistic factors. Furthermore, a comparison of both responses from both British and Kenyan staff point towards a uniform agreement with respect to the importance of these aspects. However, there seems to be a contradiction with respect to linguistic aspects of students written work. Whereas, the 'obvious' aspects like grammatical structure and vocabulary are not regarded with the same importance as the 'content' aspects, it appears that both Kenyan lecturers and British staff find *clarity of expression* to be as important. This should make us ask ourselves how there can be clarity without good command of varieties of grammatical structure and vocabulary. It seems the answer may lie in finding out what the lecturers and tutors understand by the term **clarity**.

## **6.8 Summary and Conclusion**

This chapter is essentially an analysis of questionnaire responses from both subject specialist lecturers and agriculture students. The chapter started with a look at the variety of responses from these two subjects concerning written work in the faculty of agriculture. It is clear from the responses that students in the faculty are expected to do a wide variety of written work in undergraduate studies. However, from the analysis of the responses, it appears that there is a confusion with respect to the plethora of terms written in by both

the lecturers and students. A tentative categorisation into four major categories is initially given. These categories were **research, reports, written assignments and examinations and other tests**. A pedagogically useful though also tentative categorisation is also proposed to eliminate this confusion at least with regard to teaching of CS. This categorisation, I propose, can be useful in lending itself to the teaching of the communicative nature of the process of writing. I also believe that the category that centres on the process of writing may be more useful in focusing students on the nature of the writing types proposed and the communicative requirements of each.

I also noted that students assume that in the future years, written work in their subject areas will decrease, though they expect the variety to increase. I suggested that this could be because of uncertainty about writing requirements of the subject areas and indeed the whole faculty. This seems to me to point to the necessity for more explicit instructions concerning the writing in their subject areas than available at present. These instructions could include the types of written work and the requirements for each.

With regard to problems in written work, it was observed that a substantial majority of students feel that they have difficulty with their work. The kinds of problems were divided into two, namely 'linguistic' and 'non-linguistic'. In general, most students felt that they encountered difficulty with respect to organisational aspects of writing. These are aspects that a majority of lecturers also felt the students had problems in, aspects of written work that they give a higher importance in their assessment. The responses were also compared

with responses from the British context as regards non-native speaker's problems with written work. Here it was found that in general, the responses of both Kenyan and British subject-specialist staff point to a uniform agreement with respect to aspects given importance in undergraduate students' written work. However, it is pointed out that there seems to emerge a contradiction since both also rank clarity of expression as the fourth highest in importance, an aspect which is felt is concerned with attributes that cannot be realised without a writer's command of linguistic aspects. It is proposed that it is necessary to find out what the lecturers mean by *clarity*.

Another observation was that some types of written work are administered more frequently than others. This seems to correlate to the sizes of the classes. It appears that some lecturers who had larger classes tended to give CATs more often than those lecturers with fewer students. Class size has been observed as one of the issues<sup>6</sup> that has affected even the nature of written work that lecturers in Kenyan universities administer. For example, it has been noticed that more and more lecturers are resorting to structured questions in tests and examinations because they are easier to mark (Muchiri 1994).

In conclusion, therefore, it would seem that with respect to the Kenyan CS teaching, first, CS lecturers need to be aware of the different types of written work that students do in the various subject areas. This would require finding out what the differences are among these writing types. One suggestion, as I have pointed out is to categorise the various types of written work in subject areas in terms of the nature of the processes that each of these writing entail.



This would help to focus on writing as a purposive communicative activity. Furthermore, this kind of writing instruction course with a focus on what the students are actually required to do in their subject areas would seem to have both content and face validity.

In addition, the CS instructors need to take into account both linguistic and non-linguistic aspects of writing during their instruction on writing in subject-specific areas. It seems that with respect to teaching EAP courses that Weir's suggestion that practitioners should not be unduly concerned with accuracy is not entirely true. Clearly the fact that 90.9% of the British staff (and 92.2% of Kenyan lecturers) consider clarity as important in written work should make EAP teaching to consider accuracy along with the other aspects.

Lastly, it appears that there is a kind of relationship between the students' concern for organisational features of texts they have to produce and the level of importance accorded to these features by subject-specialist lecturers. Perhaps, with the collaboration work between CS staff and the subject-specialists (especially when the issue of clarity becomes *clear!*), the same effect may also make students to show more concern for the 'obvious' linguistic features which they need to master to be able to have clarity of expression. Even though they claim not to have linguistic problems, we see elsewhere in this study (Chapter 9) that this is not the case.

All these areas of concern that I have touched on, in my view can be tackled more by CS staff creating a situation which will enable subject

specialists to have useful input into the course. After all, the success of their students depend on what they require them to do in the various courses.

In the next Chapter, therefore, I examine, among other things, the CS staff views with regard to a collaborative approach to CS teaching in subject areas.

### Notes

1. These were analysed separately from the data in Appendix 12.
2. Responses from nine lecturers from the faculty of Agriculture *proper* were also analysed *separately*
3. The laboratory reports in this group were only given in the Computer Science.
4. Actually the term is a misnomer! The accurate term should be a semester paper because of the time it takes, since the term has been replaced by the semester in the academic calendar. Likewise, mid-term examinations, should be termed mid-semester examinations.
5. In informal talks, most of the lecturers felt that the CS lecturers could assist students more by teaching them the 'basics of grammar'.
6. One of the CS study fellows at the University of Leeds is currently doing a Ph.D. research on large classes in Kenyan universities. It is hoped that her research will throw some light into what the CS can do about large classes and perhaps other subject areas can benefit from this too.

## **CHAPTER 7**

### **THE VIEW FROM CS STAFF**

#### **7.1 Introduction**

As I have noted in Chapter One, the Academic Communication Skills Course (CS) is taught to first year students as one of the common core courses in all the universities in Kenya. I have also given the background to the project that launched the course. In this section I look at responses to the CS questionnaire (Appendix 5). Essentially, this chapter covers five major areas of importance on which the lecturers were asked for their views. Section 7.2 indicates the lecturer's experiences with respect to the science departments that they have taught in for the previous four years. In Section 7.3, their responses concerning aspects of the syllabus that are emphasised in the academic writing skills section of the course are presented. Section 7.4 deals with aspects of materials, design and development. Here, lecturers' responses to questions regarding the kind of materials they use and their mode of production is also considered. In Section 7.5, the assessment of students needs is covered. Lecturers' responses with respect to the types of assessments they carried out in order to design materials and course syllabuses for the various students are given. A look at their responses with regard to the direction they project for the course is given in Section 7.6. These include the role of subject specialists and students in the input to the CS syllabus specification. CS lecturers' views on the proficiency and communication problems observed in Science students' undergraduate writing are presented in Section 7.7. Comparison is made of their responses

with those of the students and the subject-specialist lecturers (analysed in Chapter Six). The last section evaluates these six areas and some conclusions are drawn.

## 7.2 The Lecturers' Experiences

As I have pointed out elsewhere, the eight lecturers were all teaching agriculture students at the time of this research. In general, all eight lecturers indicated that since the beginning of the course in 1990, they had taught students in most of the Science departments in the university ( Table 7.1).

Department/Course	% of responses
B.Sc. (General)	25
B. Ed. (Science)	25
Horticulture	37.5
Agricultural Engineering	25
Animal Production	25
Natural Resources	25
Dairy and Food Technology	25
Agronomy	12.5
Agricultural Education	12.5

Table 7.1 Science Departments/Courses Taught by CS Lecturers.

Of the ten' lecturers in the department, eight of them had taught in at least two agriculture or argiculture-related departments. Most of them had also taught students in the Faculty of Education and the Faculty of Arts and Social Sciences. This seems to raise serious implications about this present need for teachers to work with many faculties since no teacher has time enough to become familiar with the linguistic requirements of any one group

of students. As we shall see in section 7.6, however, the CS unit feels that the right direction is for individual lecturers to work with fewer departments.

One of the most worrying aspects of teaching the CS course seems to be the issue of class size (see also Chapter 1 Section 1.2). From relatively small classes of about forty students in 1990, the present sizes have more than doubled so that by 1993, 62.5% of the lecturers had classes that were over a hundred students. Only one lecturer was handling a smaller class (40) at the time of this study. (But only because this was the total number of students in the department).

### 7.3 Skills Emphasised with Respect to Writing

In response to question 3 (Appendix 5) regarding the aspects of the syllabus that lecturers focused on with respect to writing, their responses are given in table 7.2 below.

Aspects emphasised	%age responses
Organisation	100
Specific Discourse features	62.5
Appropriate Vocabulary	50
Grammatical Structure	25
General Discourse features	12.5
Referencing	12.5

Table 7.2 Aspects covered in writing skills

As we see, all the lecturers responded that they emphasised the **organisation of paragraphs and essays** while 62.5 % also taught discourse features related to the disciplines. Half of the lecturers indicated that they taught appropriate vocabulary. It also appears that few lecturers regard

grammatical structure as warranting attention and yet as we see elsewhere in this Chapter (Table 7.5) that 75% of them believe students have problems of a grammatical nature.

The lecturers were also asked what the course prepared the students to do in English (Question 4 Appendix 5). Their responses (Table 7.3) indicate that the lectures believe the course prepares students for various aspects of academic work in general. Lectures are regarded as very important to the students' academic life, hence the greatest emphasis is put on this.

Aspect of the course	% responses
Read books in their field of study	87.5
Read journals in their field of study	75
Write reports in their field of study	87.5
Take notes from lectures	100
Listen to lectures	100
Make notes from textbooks	75
Answer examination questions	50
Oral presentation	12.5
Write CVs, Memos, etc.	12.5

Table 7.3 Aspects for which the course prepares students.

Of those who teach report writing, all of them followed the stages suggested by Bloor and St. John (1988) (see also Appendix 8).

#### 7.4 Materials Used

As I mentioned in Chapter One, the general orientation of the present course is eclectic and exploratory in that lecturers experiment with various modes of teaching. This means that a variety of materials have been developed. The lecturers were, therefore, asked the nature of the materials

and how they designed them. As we can see (Table 7.4), in terms of development, most of the lecturers indicated that the materials they used were developed 'in-house'. Some of these lecturers (25%) qualified this response by indicating that they also borrowed some of the materials 'from elsewhere'. This was mainly from other Kenyan universities and published texts. The 'in-house' materials were mostly designed either collaborative or individually. These are summarised in the table below.

Nature of materials	%age of responses
Collaborative	62.5
Individual for own use	50
Individual but shared	12.5
Mixed	12.5

Table 7.4 Materials designed for CS

When asked whether there were any materials developed with any particular discipline in mind, half the lecturers were in the affirmative. They indicated that the materials were designed on the basis of scientific texts to suit what they perceived were the needs of the science students they were teaching at the time. However, all the lecturers indicated that they used other materials to supplement other non-subject-specific materials. 25% indicated that they also used materials from other universities (one indicated particularly Nairobi University). Two lecturers also used newspapers and other published materials that were relevant. One lecturer indicated that he used students' responses on 'what they imagined to be their problems and weaknesses' to develop additional materials for his classes. Only 50% of the lecturers indicated that they ever used the original 'official' materials

developed by the British Council for CS courses in Kenya, that is the Bint et al (1990) or the Egerton course book (See Appendix 7 of an extract from Bint et al).

### **7.5 Needs Assessment**

The lecturers were also asked whether they had done any form of needs assessment with respect to specific needs in the students' areas of study in general (Question 9 Appendix 5) and writing needs in particular (Questions 10 and 11) and what the nature of this analysis entailed. Here, all indicated that they had done some needs analysis of one type or another with fifty percent of them indicating that they had looked at the course outlines of the various courses in subject-specific areas. 37.5% indicated that they consulted subject-specialist lecturers, while 62.5% consulted students. 37.5% also indicated that they had done some genre analysis. Three lecturers indicated that they had done at least three types of needs analysis, namely, **consulting students, consulting subject lecturers and looking at course outlines.**

With respect to academic writing in particular, only two lecturers indicated that they had done any analysis. This was in the form of limited textual analysis of texts that students read in their subject areas.

### **7.6 Future Orientation**

Regarding the direction that they thought the CS course should go (Question 13), most (75%) felt that the course should be as discipline-specific as possible. Half of them, however, felt that, for practical reasons, at least with respect to the present situation, the materials to be developed



should be mixed across broad areas such as **Sciences or Humanities**. As for whether they had taken steps to make the course more discipline-specific, three quarters of the lecturers were in the affirmative, with only one indicating no action in this direction. Those who were affirmative indicated project work using, as has been noted earlier a process-product approach as envisaged by Bloor and St. John (1988) to writing academic papers. The lecturers claimed that in this process they put emphasis 'on conventions practised by individual departments'. One interesting direction which one of the lecturers mentioned was the affiliation of lecturers to various departments. Most of the lecturers are convinced that this is the right direction for the course<sup>2</sup>. I return to this in the conclusions below.

### **7.7 Views of Students' Writing in the Sciences**

The lecturers were asked two questions ( Questions 13 and 14) regarding the suitability of science students' writing for academic work. The first question (13) asked about the most common types of communication problems that they noticed while the second asked about their opinions concerning which of the problems, including their frequency, impeded students from communicating well in written English.

The five most common problems that the lecturers wrote in the space provided were **clarity, general organisation, grammatical structure, ambiguity and appropriate vocabulary**. **General organisation and grammatical structure** was noted as the two most common problems (75%). In addition, 25% of the lecturers regarded clarity and inappropriate vocabulary as problems common in the students' writing. Only one lecturer

suggested ambiguity as a problem. Unlike, general organisation and grammatical structure, these three aspects, however, are not seen as impeding students from communicating well in written English. The frequency with which these were thought to impede communication is given in the table below.

Problem	Frequency		
	Frequently	Often	Rarely
Ambiguity	12.5	-	-
Clarity	12.5	-	-
General organisation	37.5	37.5	-
Grammatical structure	37.5	37.5	-
Vocabulary	25	-	-

Table 7.5 Frequency of Common Communication Problems

Interestingly, **organisation** is also an aspect that the subject specialist (55.6%) felt was a problem with the students' written work, though with regard to grammatical structure, a fewer percentage (48.1%) of subject specialist indicated this grammatical structure as a problem. (section 6.6). The CS staff's responses are higher than the subject-specialists but closer to those of the British staff in Weir's research with regard to grammatical structure (75% compared to 71.4%). A higher percentage, however, view organisational problems as a problem (75% compared to 65.5% of British subject staff).

## **7.8 Summary and Conclusion**

The CS lecturers' responses revealed four important points. These are a) the direction of the course, b) the nature of students' writing, c) subject-specialists' and students' input into the course, and d) cooperative teaching.

It seems clear that the course has undergone a dynamic change since its inception in 1990. This is indicated by the fact that the earlier course texts are becoming peripheral to the course (see 7.4 above) as lecturers attempt to develop materials they believe are more beneficial to students' subject-specific needs. It is also clear from their responses that they believe that cooperative teaching is necessary for the time being, given that the course is seen as one of the common core courses (the other courses are taught cooperatively too). However, the lecturers believe that the benefits of the course would be more profound if it was geared to the students subject-specific needs. One way of doing this is to attach CS lecturers to specific departments so that they will be in a position to obtain more input from both the students and the subject-specialist lecturers.

With regard to the nature of students' writing, the lecturers responses indicate that the students' problems are both 'linguistic' and 'non-linguistic' (Table 7.5). These aspects are also indicated by both students and subject-specialist lecturers (see Chapter 6 Section 6.4). All (students, subject-specialist and CS lecturers) therefore regard organisation of written work as the most prevalent problem. This seems to be re-inforced by the content of the present course, which pays serious attention to this (Table 7.2).

The responses in general indicate that the course is regarded as primarily preparing students to listen and make notes from lectures (Table

7.3). This is also indicated in the description of the course in the university catalogue (Appendix 2). However, there are several areas that the course does not seem to have adequately dealt with so far. Though preparing for examinations is one of the areas mentioned, it seems that only half the lecturers feel that it is important enough to warrant attention.

As concerns students' writing tasks, the lecturers indicate that the course prepares students to write reports in their field of study (Table 7.3). Other types of academic writing tasks do not seem to receive much attention. For instance, only half of the lecturers included examination preparation as part of the course and yet writing examination answers is one of the most important tasks that the university requires students to do at the end of every semester (As noted in Chapter 5 section 5.5, 70% of the marks are allocated to end of semester examination).

Even though the students regard report writing as a problem (see Chapter 6, Section 6.4), it seems that there is a danger of emphasizing one writing task over the many other writing tasks. Moreover, there is evidence that students in different departments do not write reports of the same kind (Chapter 6 Section 6.2). For example, some field reports (as noted in Chapter 9 section 9.3 for Natural Resources) are different from laboratory reports. It is also not clearly spelled out whether students were being taught the general principles of writing a report and how the aspects marked (Appendix 10) relate to their specialist areas. In addition, no distinction (if any) is made between a *report* and a *research paper*, hence some students, going by the titles on the projects, seemed confused about what they were required to do and what they were being taught (see also Chapter Six Section 6.3).

Related to this, it is also evident from this project work done that the students' input was incorporated during the choice of topics for their projects. However, no input was obtained from subject specialist lecturers. Since most of the students generally choose a topic from their subject areas, I feel the subject specialist lecturers would offer much more insight into suitable topics as well as departmental conventions of writing a report. As it was noted in Chapter 5 with respect to laboratory reports, for instance, some of the manuals advised students that a specific format for writing a report may be indicated by individual tutors.

With regard to needs assessment, the lecturers indicated that they had done several assessments. This is evidenced by their responses to questions regarding materials development which show that diverse and dynamic ways have been adopted (Table 7.4). Clearly the lecturers, in my view, are moving in the right direction by looking at course outlines and consulting with both subject lecturers and students. However, it seems that these analyses have not been thorough enough to show the kind of writing needs that students in subject areas really need. Moreover, the materials produced (including those 'borrowed') seem to suggest a *cooperative* approach between the CS lecturers themselves rather than a *collaborative* one between the CS staff and subject lecturers.

It seems to me, therefore, that a much more rigorous examination of the aspects indicated by the lecturers is necessary so that the course can be more beneficial to students in subject areas. In Chapter Ten, I return to these points in the light of the research findings and make recommendations for both the direction of the course. This will include the nature of the students'

writing needs and how it affects the present course. I will also make suggestions regarding the role of subject-specialists.

#### **Notes**

1. The ten lecturers include this researcher.
2. The issue of team-teaching or closer collaboration of some sort between the subject lecturers and CS has been suggested several times. During the course of the field work for this study, a conference was organised at the university with the help of the British Council to bring the subject specialists closer by making them understand some of the areas of concern that the present course was attempting to address. The Vice Chancellor, who opened the conference, was 'enthusiastic' about the whole idea.

## **CHAPTER 8**

### **TYPOLOGY OF ESSAY AND EXAMINATION QUESTIONS**

#### **8.1 Introduction**

It was noted in Chapter Five that written examinations in Egerton are given more weighting (70:30) than the other types of written work. In view of this, I suggested in chapter 7 that CS lecturers need to consider the teaching of answering of examination questions to students more than they currently do. In order to do this, it is necessary to look at the nature of the examination questions that students are required to answer in the various courses. This chapter, therefore, represents an attempt at classifying the various types of questions taken by first year students in the Faculty of Agriculture. Essentially, the chapter attempts to answer the following questions:

- 1. What are the general features of first year undergraduate essay topics and examination questions?**
- 2. What do these features tell us about what students need to know?**
- 3. What features of format and/or content do students need to be aware of?**
- 4. Is there a significance in the nature of the distribution of prompts (specific or general) across disciplines or courses?**

As mentioned in Chapter 4, both types of questions (essay and examination) are analysed together because, unlike those used by Horowitz (1986c), the essay assignments collected were examination-type essays that students either wrote out in class or in an examination-like environment

(explained in Chapter 6 ). Section 8.2 presents the general features of the questions including the marks allocated to different types of questions per department. In Section 8.3, questions are classified according to the categories of prompts. Here, the questions are categorised into the categories and subcategories proposed by Horowitz (see Chapter Two Section 2.4). The nature of these prompts is discussed in Section 8.4 while in Section 8.5, a summary of the results and conclusions are presented.

## 8.2 Types of Questions

A hundred and forty three essay assignment and examination questions were collected from ten programmes listed below.

Programme	No. of Questions	No. of courses
Agric. Engineering	11	2
Agric. Economics	12	2
Agronomy	24	4
Natural Resources	7	1
Botany	29	4
Chemistry	22	2
Biology	8	1
Physics	9	1
Animal Health	9	1
Zoology	26	4
Totals	143	22

Table 8.1 Number of questions collected per course

These are mainly the programmes from which students were required to select at least one course in their first year. Thus, the sample consists of courses that



agriculture students enrolled in in their first semester.

The first observation is that, in the majority of courses in the sample collected for this research, students were given no choice of questions but were required to attempt *all* the questions in each examination. Generally, the number of questions set for the examination in each course range between five and eight. Only one course (Principles of Macroeconomics) offers choices. But even this course has one compulsory question and the choice of the other two questions is limited to a choice among only a total of four questions.

Secondly, in most of the papers, the maximum number of marks to be given for each question is indicated, allowing the students to know which questions carry most marks. In general terms, equal marks are allocated for calculations and/or drawings/illustrations. Table 8.2 below gives a summary of the marks allocated to the various questions in a sample of courses.

Programme/Course	Type of question	Marks allocated
Animal Health	Multiple Choice	2
	Brief explanation	2
	One word answers	1
	Detailed answers	6-8
Zoology	Brief explanation	5
	Extensive writing	30
	List/one word answers	3
Chemistry	Calculations	2
	Brief explanations	3-4
	Detailed writing	5
Agronomy	Calculations	4
	Brief explanations	2-3
	Extensive explanations	12

Table 8.2 Examples of Allocation of Marks in Examinations

This is only a 'snapshot' of the whole but this pattern of allocating marks in this way suggests that the writing component is a very important requirement for passing examinations in the Faculty since, with the exception of the Chemistry examination, all papers allocate the highest marks to longer pieces of written prose requiring detailed attention to the topic as the following summary of percentage marks allocated for detailed and short answers indicate.

Ratio of detailed writing to brief (Animal Health)	60:40
Ratio of detailed writing to brief (Zoology)	61:39
Ratio of detailed writing to brief (Chemistry)	43:57
Ratio of detailed writing to brief (Agronomy)	75:25

Table 8.3 Ratio of marks allocated for extensive and brief writing

The third observation is that of the 'physical' nature of the questions collected. Most of the questions are divided into sections (1(a), 1(b), 1 (c) and so on) and sub sections ( (a) (i), (ii),(iii), and so on). The following item from Soil Science (Agronomy) is an example of such a type of question:

- (1) 1. Explain the following concepts:
  - a) (i) cation exchange
  - ii) regolith
  - iii) salinization
  - iv) sodication
  - v) reserve acidity
  - b) Differentiate between the following;
    - i) specific charge and surface charge density
    - ii) a 2:1 clay mineral and 1:1 clay mineral
    - iii) volumetric water content and gravimetric water content
    - iv) air-filled porosity and degree of saturation
    - v) porosity and voidration

Strictly though, this is not a *question* in the literal sense as it is not an interrogative but two imperative sentences containing *prompts* ('explain' and

'differentiate') which spell out the task(s) that a student is required to do. The term *question* will, therefore, be used to refer to the overall item, such as the above numbered example. The term prompt will reflect what is required to be done. It is possible to have more than one prompt in a question as the example above shows. The question above in fact contains more than one prompt.

Section (a) of question 1 contains two prompts. One requires students to **display familiarity with a process**. 'Cation exchange', 'salinization' and 'sodication' are all chemical processes and explanations for these necessarily involve the display of familiarity with the *processes* to which they refer. The second prompt, is one that entails the display of **familiarity with a concept**. Here, the student is expected to show knowledge about 'reserve acidity', a property of certain soils. In the second section, we find another prompt different from the previous two. This prompt requires the displaying of **familiarity with relations between concepts**. In this instance, a student is expected to show knowledge of the 'concepts' of *charge, water content, porosity, saturation*, and so on. Again, like the term 'question', concept is used loosely by the examination setter. Thus, *salinization, sodication, cation exchange* are not concepts in the same way as *air-filled porosity* is.

It was mentioned in Chapter 2 (Section 2.4) that Horowitz does not tell us how the questions that he examined were constructed. The examples he gives us are all of the type that contain one prompt which requires students to do one task. He does not tell whether each prompt represents one question that needs to

be answered separately. Thus the outcome of his analysis does not actually tell us whether there are cases where prompts or tasks required by the prompts relate to others within a question. Because of this, the impression we get seems to be that each question in his data has only one prompt. This issue is covered in more detail in the next section.

### **8.3 Types of Prompts**

There were two hundred and eighty-nine (289) prompts identified in this sample. These all fell into four categories. However, it was found that there was a marked difference in the distribution of the prompts in the categories with respect to the different courses and subjects. In Agricultural Economics for example, there were no prompts that required the students to display familiarity with or describe a process and only one prompt of this nature was found in Animal Health.

In overall terms, most questions contain prompts which fall into the first two categories, namely a) displaying familiarity with a concept and b) displaying familiarity with a relationship between or among concepts.

#### **a) Category I. Displaying familiarity with a concept**

In this category, there were one hundred and forty-four prompts. These are divided into the following five subcategories with examples from various courses:

##### ***IA. Dictionary-style definition***

Example:

'Explain the following terms as used in internal combustion engines' (sic):

- i) mechanical efficiency
- ii) thermal efficiency

iii) volumetric efficiency  
(Agricultural Engineering)

### ***IB. Example***

Example:

'Give one example of each herbicides (sic) which can be classified within each of the following groups (i-iv):

i) foliar-applied, post-emergence, translocated, non-selective

ii) soil-supplied, residual, pre-plant incorporated

iii) soil-supplied, residual, selective

iv) foliar-applied, post-emergence, contact action.

(Weed Science)

### ***IC. Significance***

Example:

'Why is that (sic) scientific names are preferred to name organisms instead of their common names?'

(Botany)

### ***ID. Physical Description***

Example:

'List the physiological and nutritional characters used in identification of microorganisms'

(Biology)

### ***IE. Function or Purpose***

Example:

'Pinacocytes, Choanocytes and Porocytes are cells in the body of sponges. What is the function of each?'

(Zoology)

The distribution of these types of prompts is indicated in Table 8.4 below. Note the distribution of most prompts in the first two subcategories, namely, A.

*Dictionary-style definitions* and *D. Physical descriptions.*, which in most papers, these seem to be the most common subcategories.

Programme	Category		Subcategory			
	I	A	B	C	D	E
AGEC	6	2	-	2	-	2
AGEN	10	4	-	-	5	1
AGRO	17	6	5	2	1	3
ANHE	17	3	3	-	8	3
BOTA	31	12	-	4	10	5
CHEM	11	9	1	-	1	-
NARE	5	2	1	1	1	-
PHY	24	18	1	4	1	-
ZOOL	23	2	3	-	17	1
TOTAL	144	58	14	13	44	15

Table 8.4 Distribution of prompts in Category I and its subcategories

However, we also see that in most subjects, there are more prompts of the first subcategory requiring definitions than in any other subcategory. It is only in Botany where there is an almost equal distribution of these two subcategories while Zoology seems to have more of the latter. This is interesting because the two subjects are in the same discipline (Biology). Indeed, they are, as it were, two sides of the same coin. One reason could be the nature of the courses. For instance, in one course outline in Zoology (Entomology), the course outline indicates a lot of 'descriptive' aspects such as *taxonomy of insects, anatomy, morphology and morphology of head, thorax and abdomen*. Furthermore, in the Zoology course, laboratory activities following the lectures are concerned with

classification of insects, a descriptive activity. Botany on the other hand, seems to be concerned with students understanding concepts. In one course outline for instance, (BIOL 101), there are a number of 'definitional' terms used. For example, *principles of plant taxonomy, definitions and rules of nomenclature, definitions of science, biology and botany.*

One other interesting finding is that there are hardly any prompts that require students to write any physical description in either Chemistry or Physics.

Only one was found in each. These are:

**Chemistry:**

'State Charles' Law and give a graphic sketch'

**Physics:**

'Describe how a beam of plane polarised light may be produced by:

(i) reflection

ii) double refraction'

Instead, most of the prompts in these two disciplines required students to give definitions. For example:

**Chemistry:**

'Explain the meaning of the following terms:

(i) Normality

ii) Molarity

**Physics:**

'State Snell's Law of refraction and define the refractive index'.

**b) Category II: Displaying familiarity with relationships between concepts**

In this category, there were ninety-one prompts distributed among eight subcategories. The following are examples of the type of questions containing the various prompts in this category from the various papers.

***IIA. Similarities and differences***

## **IIA1. Description of differences (also similarities)**

Examples:

'How are the human intestinal worms, *Ascaris umbricoides* and *taenia solium* structurally different?' (Zoology)

'Why is the heat of neutralisation of a strong acid and a strong base almost always the same?' (Chemistry)

## **IIA2. Accounting for differences**

Example:

'Fishes, Whales and sea turtles are all aquatic vertebrates. How is their evolutionary history different?' (Zoology).

## **IIA3. Classification**

Example:

'State the main characteristics of modern scientific farming' (Agronomy)

## ***IIB Cause and Result***

### **IIB1 Temporal cause**

Example:

'Why are the pteridophytes not as abundant today as they were during the coniferous age?' (Botany)

### **IIB2 Goal**

Example:

'What are the objectives of tillage?' (Agricultural Engineering)

### **IIB3 Contributing factors**

Example:

'Explain briefly how the following factors influence the rate of chemical weathering: (i) particle size (ii) nature of minerals (Agronomy).

### **IIB4. Result**

Example: (Diagram provided)

'What would be the effect of adding the following ions in the above equilibrium: (i)  $\text{H}_3\text{O}^+$  (aq) and (ii)  $\text{OH}^-$ ' (Physics)



## II B5. Process of causation

Example:

'How do light, temperature and carbon-dioxide levels affect the rate of photosynthesis?' (Botany)

In this category, most of the papers had an evenly balanced distribution of prompts among the eight subcategories.

The general distribution is shown in Table 8.5 below:

Programme	Category	Subcategories							
		A1	A2	A3	B1	B2	B3	B4	B5
	II								
AGEC	12	3	2	1	-	-	1	4	1
AGEN	5	-	3	-	-	1	1	-	-
AGRO	20	4	1	2	1	2	7	3	-
ANHE	1	-	-	-	1	-	-	-	-
BOTA	13	1	1	2	2	-	3	1	3
CHEM	12	3	4	-	1	1	-	2	1
NARE	3	-	-	1	-	1	1	-	-
PHY	9	4	-	2	-	-	2	1	-
ZOOL	16	3	1	8	-	-	1	1	2
TOTAL	91	8	12	16	5	5	16	12	7

Table 8.5 Distribution of Prompts in Category II.

With regard to individual papers, we see that in most cases, there was also an evenly balanced distribution of prompts amongst the subcategories. Papers

from all the programmes had at least a prompt in four or five of the subcategories, with the exception of Natural Resources and Animal Health which had the lowest number of prompts in this category (each having three and one prompts in total respectively).

One of the reasons why there are fewer prompts found in these papers may be because the examination questions were collected from only one course unlike the other subject fields (see table 8.1 above). Nevertheless, we can see that one of the subject areas (Physics) with the same number of courses analysed as Natural Resources and Animal Health, had more prompts in this category. Furthermore, in Zoology, half (8) of the total number of prompts (16) required **classification**, contrasting with its related subject, Botany. We can see that in the four Botany courses (the same number as in Zoology), only two prompts require classification ('Differentiate between the various types of colloids and give one example of each as they are found in nature').

This seems to suggest that the distribution of prompts is also dependent on subject areas rather than only on the number of courses.

### **c) Category III: Displaying familiarity with a process**

There were forty six such prompts of this nature in the sample (Table 8.5 below). Most of these prompts (33) ask the students to describe a process. Only seven prompts require students to write a narrative. These are all found in papers from Zoology (4) and Natural Resources (3). The following are examples of these types of prompts requiring familiarity with a process, taken from each of the subject areas:

## **1. Agricultural Engineering:**

'Briefly highlight the chemical processes by which biomass material is converted into producer gas'.

## **2. Agronomy:**

'Give detailed laboratory procedure for the determination of mechanical analysis of soil (include apparatus and reagents) to the point of determining the textural class of the soil.

## **3. Animal Health:**

Trace the development of the Mesoderm from the primitive streak.

## **4. Botany:**

'Discuss the application, absorption and translocation in relation to weed control by paraquat (Gramoxone) used in controlling annual grass weeds'.

## **5. Chemistry:**

'Write a report on the titrimetric determination of carbonate-bicarbonate mixtures'.

## **6. Natural Resources:**

'Explain how you could apply the concept of range condition in stocking a cattle ranch'.

## **7. Physics:**

'Explain capillarity in terms of adhesive and/or cohesive forces'.

## **8. Zoology:**

'Name all the stages of the life-cycle of the following species of nematodes. Indicate for each species whether the life-cycle is direct or indirect: (i) *Haemonchus contortus*. (ii) *Oesophagostomum radiatum*'.

The distribution of these prompts are as follows:

Programme	Category	
	IIIA	IIIB
AGEC	-	-
AGEN	7	-
AGRO	8	-
ANHE	1	-
BOTA	14	-
CHEM	3	-
NARE	2	3
PHY	2	-
ZOOL	2	4
TOTAL	39	7

Table 8.5 Distribution of prompts in category III

Here again, as in the previous category, we see that there is a significant contrast between Botany and Zoology.

**d) Category IV: Displaying familiarity with argumentation**

This category had the fewest number of prompts, with only three found in papers from two courses, namely Agricultural Economics and Physics. They are of two types, that is, they asked students either to present an argument that is generally found in the 'public domain' (general thinking) or that which 'belongs to some individual or group' (Horowitz 1986b) (ascribed argument). These are:

**Agricultural Economics:**

**General Thinking:**

'Do you think the potato growers in Nakuru District would benefit from a bumper year in which yields are high? Would your argument be different if it were a bumper wheat crop?'

**Physics:**

**Ascribed Argument:**

'Justify the use of a Kilowatt-hour by the Kenya Power and Lighting Company'.

No prompts were found that required students to show 'critical thinking', that is, to 'present and defend their own thesis - ideas, judgments, hypotheses, or analysis of previously unseen data' (Horowitz *ibid.*).

#### **8.4 The Nature of Prompts**

We have seen how the prompts are distributed among the various categories and subcategories. In this section, a further discussion of each of the categories and the nature of the prompts in each will be discussed. Though the categories above have been differentiated, it is still true, as Horowitz suggested, that this is by no means clear-cut. This section attempts to show, with the help of examples, how this is the case.

In most of the samples collected it appears that certain conclusions can be drawn about the nature of the prompts which are unique to each of the subject fields. It is also possible to draw some conclusions regarding the courses in first year undergraduate studies in the Faculty of Agriculture. One important finding to note is that in the sample analysed, an unexpectedly large number of items has double tasks or double prompts. In fact, except in Agricultural Economics and Chemistry (which had only one example each) and Animal Health (which had none), six other subjects display this characteristic. The subject fields with questions with double task prompts or double prompts are listed below:

Course/Programme	Prompts
Agric Engineering	5
Agronomy	6
Botany	11
Natural Resources	3
Physics	5
Zoology	3

Table 8.6 Distribution of double prompts in various courses

In cases where there are double prompts within one examination item the candidate is required to then display a multiplicity of familiarities. For instance, in Agricultural Engineering, most of the questions requiring a physical description (three out of the five noted above) also encapsulate a prompt requiring a candidate to display familiarity with a process. Note that in example 2, in fact a candidate is required to show how two processes work. These (prompts in parentheses) are:

1. '*Sketch and label* (physical description) a single plate clutch and *explain its operation*' (process).
2. '*Using diagrams* (description), *show how* (process) engine power is transmitted to the drive wheels, and *explain how* (process) the gear is engaged in a three speed transmission'.
3. '*With the aid of sketches* (description), *describe the operation* (process) of a four stroke cycle compression ignition engine'.

Only one question require candidates to display familiarity with relation between concepts. This was:

1. 'Indicate on a well labelled sketch, *the forces which comprise the draft* of tillage equipment and *derive* the simplified equation for draft'.

Three 'double task prompts' in Botany are also of this type. These are:

1. 'With the aid of a *diagram*, explain the anatomical processes leading to the formation of the following in angiosperms:  
a) pollen grains  
b) embryo sacs'.
2. 'Give an illustrated account of reproduction in *Rhizopus*'.
3. 'Fig. 3 is....shows the evolutionary tree of the Besseyan Cactus. Explain its three lines from the bottom to the top and from the left to the right'.

In the first two examples, the diagrams are ones that help to illustrate to the examiner that the students are familiar with processes, in both cases, two reproductive processes. Note also the subtle way in which the examiner uses two different ways to prompt the students to display familiarity with the process of reproduction. In the first case, a longer explanation, '*anatomical processes that lead to the formation of the following angiosperms*', is given while in the second, it is reduced simply to '*reproduction in Rhizopus*'.

In Agronomy, prompts specifying function encapsulate prompts specifying cause and effect relationships. These are:

#### **IE + IIB4 (Function + Result)**

##### **Examples:**

1. 'Describe the responsibilities, activities and achievements of any agricultural research centre'.
2. 'Discuss the roles of agriculture in national economic development with specific illustrations of how each role is being made in Kenya'.

#### **IIB2+IE (Goal + Function)**

##### **Example:**

1. 'What are the objectives and activities of the Agricultural Development Corporation?'

#### **IA + IIB3 (Definition + Contributing factors)**

##### **Example:**

1. 'What is hysteresis and what causes it?'

### **1B + IIB3 (Example + contributing factors)**

Example:

1. *'List five factors which influence the activity of herbicides'*

Another way in which the double prompts are given in the sample is when they are separate rather than comprising one 'question' as in those examples given above. They either form part of a 'compound question' or a 'question within a question'. Several examples were found in most of the subjects. These are:

### **IB + IIB3 (Example + Contributing factors)**

Example:

'Give an example of a pure monopoly from Kenya. What are the conditions that might give rise to monopoly?' (Agricultural Economics)

### **IA + IIB3 (Definition + Contributing factors)**

Example:

'What is meant by field efficiency as used in relation to farm machinery operations? Briefly explain the factors which affect the draft of a given implement'. (Agricultural Engineering)

### **IIB2 + IB (Goal + Example)**

Example:

'Outline the objectives of protecting the biological as well as the physical resources in rangelands. List any four forms of habitat destruction which are evident on Kenya's rangelands' (Natural Resources).

### **IA + IVB (Definition + Ascribed argument)**

Example:

'What is a Kilowatt-hour? Justify the use of this by the Kenya Power and Lighting Company'. (Physics)

Several examples of double task prompts found are given below:

### **IB + ID (Example + Physical description)**

Example:

'State the activities and locations of the main rural-based agricultural industries in Kenya' (Agronomy)



### **IA +IC (Definition + Significance)**

Example:

'What is relative velocity? Explain why in most cases we do not refer to the terms(sic) relative velocity when referring to a body in motion'. (Physics)

### **IA +IA (Definition + Definition)**

Example:

'For liquid flow, define:

- a) laminar flow
- b) a tube of flow' (Physics)

### **IA + IB (Definition + Example)**

Example:

'Briefly define the following terms. Give an example of a parasite in each case: i) binary fission (ii) multiple fission (iii) conjugation (iv) syngamy' (Zoology).

The words *define the following terms* do not actually ask the students to give a dictionary definition of the terms but the process that the terms entail in this case. So in actual fact the prompts do not lie in the task but in the concept itself.

The examples of double task prompts given above seem to be mainly those of the first category, that is, those requiring the students to display familiarity with a concept. There are, however, also some double prompts which, though both fall in the same category, require the students to write tasks of the same (sub)category twice. For example, in Natural Resources there were two such questions, given below:

### **IIIA+IIIA ( Process + Process)**

Example:

- a) 'Explain how you would apply the concept of range condition in stocking a cattle ranch. How would you detect the upwards/downwards range trend of the same ranch after a period of time?'
- b) 'Briefly describe autoecology and synecology. Using examples, explain how range management problems may be solved by the study of synecology' (Natural Resources)

The second example requires, in addition, both definition in the first prompt and exemplification in the second.

## 8.5 Summary and Conclusions

In this Chapter, I have looked at the distribution and the types of prompts found in examination questions collected from nine departments in which courses are offered to agriculture students. From this investigation, several generalisations can be drawn. These are:

### *a) Distribution*

One of the significant findings in the analysis of essay and examination questions is that, except for one programme (Chemistry), the questions that required students to include a significant written content in the answers were allocated more marks than questions with little written prose. Another finding is that there seems to be a predictable pattern in the distribution of prompts with respect to first year undergraduate courses. For instance, of the two hundred and eighty-nine prompts found in the one hundred and forty three questions examined (Table 8.1), a significant percentage (approximately 50%) of the prompts were in the first category, that is, the category of prompts that required students to **display familiarity with concepts**. Another significant number of prompts (32%) required students to **display familiarity with relationships between or among concepts**. In contrast, only approximately 17% and 1.0% of the prompts required students to display familiarity with, respectively, **a process and argumentation**. This distribution seems suggests that courses in the first

year, in the main, are courses that familiarise students with principles or ideas in the subject areas and, it is on this basis that they are examined.

***b) Differentials in subject areas***

Concerning the various subject fields, it is also noted in the analysis that the nature of the prompts is not predictable from what may be interpreted in some cases as related subjects. For example, in the case of two biological subjects, namely, Botany and Zoology, there is a significant difference between the type of prompts in all the categories identified. This difference, it is suggested, can be seen from the type of information gleaned from course outlines, reflecting the content of the courses in each of these two subjects (see Section 8.3).

***c) The nature of the prompts***

While analysing the prompts collected, it soon became clear that whereas they all fitted into the categories proposed by Horowitz, the nature of the tasks required in the majority of the subjects require students to display multiple familiarities (Table 8.7). In some subjects, some examination questions have double task prompts (for example, a prompt requiring *definition* followed by another prompt requiring explanation of *process*) or there may be double prompts (requiring for instance, two *processes* to be explained). It is suggested that this pattern of double tasks or prompts may be predictable with respect to subjects.

**d) *Problems with definition of the term 'concept'***

In this analysis, it was also found that questions that ask students to explain scientific 'concepts' or 'principles', do not necessarily involve the display of familiarity with an *idea per se*. It would seem that when students are asked to state certain Laws or Principles in science, the examiner may actually be asking them to display familiarity with processes. For instance, when students are asked to 'define binary fission' (Zoology) or 'Hess's Law' (Chemistry) they are not being asked to give a dictionary-style definition but also (or perhaps only) show that they know what the processes are. This problem of definition of what is required of the students when asked to state or define certain scientific laws is revisited in the last chapter but here it would seem to me that this raises the issue of balance in a student's answer. When a students are required to include both a dictionary-style definition and an explanation of a process, then they would have to know how much of each task is required.

In conclusion, it would seem that the first year examinations in the Faculty of Agriculture are not only varied with respect to the distribution of the type of prompts but also that, from the analysis of the examination questions above, differentials in the types of these prompts may be due to requirements in subject areas. The nature of the prompts themselves, I suggest, could be significant in determining how students are taught to answer examination questions in the various subject areas. The implications of these findings to the teaching of CS are given in Chapter 10.

## Notes

1. There were one hundred and fifty questions in all but seven of them did not require writing more than a sentence, that is, they were either structured questions with 'fill in' gaps requiring one or two word answers or they were 'true or false' statements. These were found in Animal Health and Agricultural Economics.
2. Biology papers are included in the subject areas of either Zoology or Botany because the courses from which the papers are taken by students cover either of these fields. For instance, BIOL 102 is entitled Vertebrate Zoology while BIOL 101 is entitled 'General Botany and Plant Taxonomy'.

## CHAPTER 9

### FEATURES OF STUDENTS' WRITING

#### 9.1 Introduction

In Chapter Six, students' and lecturers' perceptions of their (students') ability to write in English were examined. Various aspects of language that they felt hampered the students from communicating well in written English were also highlighted. This Chapter further addresses the issue of students' proficiency by examining actual writing done by students during their first year. This Chapter essentially addresses the third research question, namely:

1. What is the nature of the writing competence that students bring to the university situation and how is it related to the demands of the discourse community's judgment of appropriate academic writing?

From samples of the three assignments, namely, a) a 'general essay' written at the beginning of the first semester, b) a field report done by twenty five students taking a Natural Resources course in the middle of the first semester, and c) a CS essay examination written at the end of the first semester, several stylistic and rhetorical aspects of the students' writing are examined.

These features are, namely:

- i) how students introduce the topic
- ii) to what extent they are able to follow prompts (as evidenced in their

- introductions)
- iii) to what extent they are aware of the audience they are addressing
  - iv) to what extent they are also aware of the conventions of the genre in which they are writing
  - v) coherence: how they use various devices to link ideas
  - vi) how they develop ideas
  - vii) how they sequence these ideas
  - viii) how they described or related concepts or processes.

For the second essay, the lecturers' evaluation of their students' work is also considered. This in essence adds to the information taken from the lecturers' questionnaires on how they evaluated their students (see Chapter 6, section 6.6).

## **9.2 The Initial 'General Essay'**

As mentioned in Chapter 4, this initial written work was given to the students by the researcher at the beginning of the semester in order to gauge their writing ability on entry to the university. It was felt that this would enable us to gauge their problems at the beginning vis a vis the requirements of the faculty. This assignment was fairly general to their area of study, that is, it was an essay on an 'agricultural' topic. Below is the task that was given:

---

(2) Kenya is a country whose agriculture is one of the mainstays of the economy. Recently a commission was set up to look into the problems existing in this sector. Putting yourself in the role of a farmer, a business person, an agriculture scholar, scientist, or researcher, give suggestions, in not more than two foolscap pages, of factors which you feel will benefit the sector. Choose from the factors given below. (You may include any two factors not mentioned which you find relevant).

- i) Giving incentives to farmers through fair pricing of farm products and inputs
  - ii) Training farmers in good production techniques
  - iii) Training agricultural extension officers
  - iv) Agricultural education and research
  - v) Giving subsidies to farmers to encourage them to produce more
  - vi) Making loans easily available to farmers.
- 

As noted in Chapter 4, five hundred and forty-seven essays were collected from the students studying in eight departments representing nine subject areas, namely, a) Agronomy, b) Agricultural Economics and Agribusiness Management, c) Agricultural Education, d) Horticulture, e) Dairy and Food Technology, f) Animal Production, g) Agricultural Engineering, and h) Natural Resources. From these, a sample of ninety essays, ten from each department were chosen for this analysis ( a sample of 20 essays were chosen from Agricultural Economics and Agribusiness Management) .

Extensive examples from the students' writing are used to illustrate the types of weaknesses or strengths that they displayed in their written work. Some of the examples contain various 'mechanical errors', particularly **punctuation and spelling**. Since these were not part of the aspects under investigation, they are ignored. The examples used for illustration here are, therefore, reproduced exactly as the students wrote them and no corrections have been made to these errors in punctuation or spelling.

### **9.2.1 The Introduction**

The introduction has been acknowledged as a 'difficult' communicative event (Swales 1984). It has also been noted that one of the many problems that students in the native speaker contexts mention is that of starting to write an



introduction. Given this, it has been suggested that the problem for non-native speakers would be larger. Jordan (1988), for example, looks at this problem with respect to introductory paragraphs in essays and examinations written by overseas postgraduate students and concludes that many students are neither aware of the contents of the introduction nor the elements that constitute a paragraph.

In view of this observation, part of the analysis of the students' written work also consists of finding out what they wrote in their introductions. As instructions had been given, students would have been expected to show a) the role they were taking, b) the purpose of the writing, c) to whom they were writing, d) what they were writing about, and e) the nature of the 'genre' they were writing in.

In general, their introductions were of two types. Some students chose to start with a thesis statement. For example:

(1) Agricultural sector is a mainstay of the economy of Kenya. Agriculture is practised in the form of production systems, enterprises or farming systems, and the purpose of agricultural practice generally enhance the growth of the economy.

A majority ( approximately 75%) of the students in the sample chose to begin with a statement of purpose. For instance:

(2) As a farmer I would like to air my views of which may be of help if Kenya as an agricultural country wants its farm outputs to increase.

The rest chose to write both a thesis statement and a statement of purpose. The following example illustrates this.

(3) Agriculture is the main sector in the Kenyan economy and, therefore, it should be given the first priority. And therefore putting myself in the role of a farmer, I could suggest the following points.

In addition to stating the purpose, a substantial number of students (close to 50%) clearly stated their role in their essay. Those who did this used almost identical expressions to do this such as *as a farmer, as a scholar, as a scholar interested in agriculture, as an extension officer, as a Kenyan citizen.*

With regard to proficiency, we can see from the above examples that some students show some success in writing an introduction. Others, however, still display weaknesses with respect to proficiency and tend to write unnecessarily long-winded thesis statements. The following is an example of such a thesis with a run on sentence.

(4) Kenya being an agricultural country give each and everyone a role to play to produce more. We need to feed our stomachs with not only the quantity but quality, we need surplus to uplift the balance of payment.

There were some cases where the introduction contained features more appropriate to spoken discourse. For example:

(5) I would like to speak on behalf of all farmers in the entire country about their activities and the problems they encounter on their daily routine work. Myself being one of them. To begin with I would like to highlight the following issue.

The consequence of inability to write an introduction that signaled the purpose of writing and the role taken by the students seems to have contributed to their writing a general essay which did not address the issues directly but only obliquely. In the process, they took a rather 'disinterested' and detached view of the issues. For example;

(6) Agricultural sector is a mainstay of the economy of Kenya. Agriculture is practised in the form of production systems, enterprises or farming systems, and the purposes of agricultural practice generally enhance the growth of the economy. *This can only be achieved if the persons involved in this chain are enlightened about what is expected of them.* (researchers' emphasis)

As we can see, this student began with a general introduction which did not quite come off. The purpose of the writing is signaled in an oblique way and hence the student does not take responsibility for the essay.

Below is another example.

(8) If the following suggestions are put into consideration, then I am certain that the agricultural sector will be revived, hence economic reforms.

In general it seems that those students who signal their work through the use of a relevant thesis statement, a statement of purpose and awareness of the role they are taking helps them to focus on what they are supposed to do. Moreover, it shows that they understood the instructions given, particularly with respect to the roles they are supposed to assume. In the next section we see how their awareness of audience differ from students to student.

### **9.2.2 Awareness of Audience**

Another problem that has been identified regarding non-native users of English is their inability to recognise the audience they are addressing. It is possible that the pedagogic practice of writing essays without a clear contextual setting may encourage this problem and has led to students having a 'limited and skewed perception of what is expected' (Reid 1987). In this assignment, therefore, it was felt that it was necessary to provide the students with a clear

audience other than the teacher, namely, a Commission set up to receive views from several sources (also suggested). It was then expected that students would not have a problem with identifying the audience.

However, though a substantial number as noted in the last section indicate the purpose of their writing, that is, to make suggestions, only a very small number (approximately 15%) examined in the sample explicitly indicate the audience to whom the suggestions are addressed. What is also interesting about those who do this is that none of them uses the first person, for example, *I suggest to, I urge the Commission*, and so on but instead, write in the imperative, as in the following example.

- (9) The Commission that was recently formed should see to it that the farmers are given incentives through fair pricing of both farm inputs and products.

One student 're-invents' the Commission,

- (10) The government can do this by forming a special commission which should look into difficulties affecting farmers, suggest new methods and urge the government to implement them effectively.

While another one 'quotes' the Commission as being the one giving suggestions.

- (11) A Commission was set up about alleviating problems facing farmers. It gave the following suggestions.

Basically, examples 10 and 11 are fine except that it showed that the students did not follow instructions given, that is, the task asked them to write to the commission, the commission being one of the 'givens'. Moreover, example 9, as an illustration of those who included the given audience, seems to point to the students' 'reluctance' to *take responsibility* for their own work, despite the

fact that they indicate the roles they take earlier in the introduction. I return to this aspect in the conclusion below.

Another feature noticed is that, though it was open to them what 'genre' to use, about 75% of essays examined indicate that students regarded the task as essay writing ( a number of them term it an academic essay). Approximately 10% of these, however, give the impression that the suggestions they are giving are the result of research that they themselves had done or that the suggestions are based on personal experience. For example, a few students begin in this vein:

(12) I have researched and come up with the following:

It is clearly evident, however, that students are in overall terms ignorant of this aspect of writing. Sentences that begin with phrases such as '*I would like to say*' or '*I would speak on behalf*' are indicative of this inability to realise their inappropriacy of their usage in the written mode. (Admittedly, the former is sometimes regarded as appropriate and appears in some linguistics journals').

### **9.2.3 Essay Organization**

As mentioned above, with regard to organisational features, the sample of essays is analysed with respect to a) how they sequence their ideas, b) how they develop their ideas, c) cohesion, and d) lexis (compare with Doushaq 1986).

#### ***a) Sequencing Ideas***

Concerning this aspect, less than half the sample indicate that students are aware of the need to put their ideas sequentially. However, in cases where they use a sequencer like *first*, *second*, and so on, most of these lose track of this as

they proceed further in their assignment. The following excerpt is typical of students who used this format (researcher's numbering).

- (13) 1. First, the farmers should be given incentives through fare pricing of both inputs and outputs.  
2. The government should also gave credits or loans to farmers to be able to buy farm inputs.  
3. Secondly, the government should train the farmers in good agricultural techniques.  
4. Thirdly, the government should train the agricultural extension workers.....  
5. Fourthly, the Kenya government should give agricultural education to farmers.....  
6. The government should also do research...  
7. Also, as a farmer, I could suggest that the government should give subsidies to farms.

This creates what has been called a 'staccato' effect (Booth 1985) in their work.

One of the results is that the student above loses control of the flow of the assignment and ended up repeating some points, as evidenced between numbers one and seven, and three and five. In certain cases, what was clearly a new point was mistakenly treated as a subsidiary point as numbers two, six and seven above show. In other cases, the use of inappropriate or redundant markers to sequence their points created the same effect as in the following:

- (14) 1. First and foremost as a farmer, I would like to say that the government should lower the prices..  
2. On the other hand, the farmers should be advised on better methods of producing their commodities  
3. Therefore I suggest that we farmers should be advised all the time on the type of agricultural project to take on  
4. Thirdly, the government should train more agricultural officers and personnel...  
5. In the same nutshell, we find that the quality of livestock is also low.

In terms of the physical features of the writing, a quarter of the essays analysed show that some students used subtitles to sequence their ideas. They

then devoted each sub title to one of the points such as *'Incentives to Farmers'* , *'Agricultural Education and Research'*. *Subsidies to Farmers*. *Extension Services and so on*. About half of the students sampled use an introduction and a conclusion which served to link the subtitled points together while the rest use a listing approach which was almost identical to the subtitling though the numbers indicate that they were onto another point. However, it seems that the students who used these formats had one thing in common. Their grammatical adequacy could be said to be marginal. It seems that they used these formats to hide their limited grammatical competence. Every time they attempt to write longer sentences, they start making grammatical mistakes. For instance, the following is an example, a student who represents this category of students, could produce generally good short sentences like:

- (15) a) Farmers should be trained.  
      (b) Prices of inputs such as fertilizers and pesticides should be brought down.

In longer and more complex sentences, however, this student's inadequacy is revealed:

- (16) By this way even the poor farmers and many individuals will be initiated into farming hence helping this sector of agriculture in food production.

It is difficult to see what point the student is making here.

### ***b) Developing Ideas***

As concerns the development of ideas, it was found that students occupied two extremes. On the one hand, those students who were fairly proficient treated

their points with depth that could be said to be satisfactory for their level. For

example:

- (17) One of the ways of improving the agricultural sector is by giving farmers incentives through fair prices of both farm inputs and products. The companies that sell farm inputs like seeds, for example, the Kenya Seed Company ought to sell the seeds at affordable prices. When the farmers get the seeds at a good price, they in turn plant more seeds hence increasing their production. This will boost their morale and they will continue increasing their production.

Even such fairly proficient students however, still tended to labour the points they were making. The following is another example illustrating this lack of depth:

- (18) The extension officers would play a very important role in this field of encouraging the bumper production of agricultural products. The officers would play a greater role especially in advising farmers on how best to till their fields, sow their crops in the modern ways which are recommended and economical harvest techniques. They could also play a big role in advising dairy farmers on disease and pest control methods and work hand in hand in imposition of quarantine measures in cases of contagious disease outbreaks.

At the other end of the spectrum, the students showed not only grammatical and lexical inadequacy but their attempts to develop their points were rather naive and unnecessarily wordy. For example;

- (19) More and more agricultural extension workers should be trained and distributed to the whole republic even North Eastern. They will educate the people to plant crops of the right type at the right soil at the right climatic place and at the right time and more over in the right way. This leads to the intensification of agriculture in our republic.

This problem of 'waxing lyrical' is, however, not confined to the poorer students only. The following is a fairly proficient student but the writing tends to be repetitive.

- (20) To begin with, farmers should be given incentives through fair



pricing of farm inputs and output. In other words, fertilizers, seeds and pesticides should be available to farmers at permissive prices which are affordable even to small-scale peasant farmers. In line with that, farm products should fetch high prices in the market so that farmers may have more profits from their produce and will have more interest improving their farms to maximise production.

### **c) Coherence**

The use of coherence devices was an aspect that was also a problem for most students. The most commonly used coherence devices are *also*, *and*, *therefore*. However, in most of the students' work there was not only an inordinate but also inappropriate use of *also*. About half of the students in the sample used this at the beginning of every new point or subsidiary point as in the following example:

(21) Also the veterinary department should be strengthen so as to help farmers ease the burden of irrelevant drugs at very high cost. The veterinary services are few and spaced.  
Also the government should ensure.....

It was also noted that in a substantial number of cases, students inappropriately use *and also* at the beginning of sentences to make subsidiary points, to indicate another point or to relate two or more concepts.

Students also used the adverbs 'therefore' and 'thus' inappropriately as in the following:

(22) As a farmer I am more concerned about agriculture in my country as it is the major source of the country's foreign income. Therefore without developing ways and means to produce more, the country would have an imbalance of exports and imports. Thus the government and citizens and any other person in the land of Kenya should work together to attain the climax of agricultural products.

In this example *thus* is not differentiated from *therefore* even though clearly they would serve different purposes, namely, *therefore* serves in place of 'as a consequence' while *thus* serves in place of 'to this point'. Indeed, evidence from the students' writing show that they do not seem to be aware of the difference in function between these two conjunctive adverbs. Consequently they use them interchangeably.

Another feature is that more than two thirds of the students tend to avoid using anaphoric elements in their work. This can produce unnecessarily clumsy sentences as in the example below;

(23) In order to make sure that this is eradicated the government should ensure that the farm *inputs* are sold to farmers in a fair prize affordable to both large-*scale* and small *scale* farmers. To effect this, the government should take responsibility of importing the *farm inputs* in order to save farmers from greedy importers who charge *inputs* at very high prizes. Also the government should ensure that the goods produced by *farmers* are marketed at an encouraging prize so as to add morale to *farmers* to produce more.

(See also examples (18),(19) and (20 ) above).

#### **d) Lexis**

Even though this was only a 'general' assignment, about 20% of the students show a surprising grasp of technical vocabulary. For example, a number of students comfortably use phrases like:

(24)

- the price of farm inputs can be lowered
- the high cost of farm inputs
- agricultural products are sold at low cost
- farmers should be given long-term loans with low interest
- quality products that command higher prices in the market
-

However, by far the biggest problem that the students had with lexis was wordiness. In overall terms, students used far too many words to convey an idea. For example, the following are two examples of two students, one fairly proficient (25) and the other less so (26).

(25) There is need to keep the farmer appraised on latest findings on crop varieties and animal breeds.

(26) More research should be done on what species of crops that can do well in our country. Then these species be interbred in order to get hybrids which will be appropriate in matters pertaining to climate and the soil types.

Some of the less proficient students end up losing track of their ideas and occasionally end up producing grandiloquent and comical statements as in the example below:

(27) Thus, being a scholar, who many of my colleagues (Kenyans) look up, I hereby to the best of my capacity take at least four of the problems and their solutions.

Another source of difficulty found in over three quarters of the essays was the tendency to over-use certain modal auxiliaries. With the less proficient students, there was over-use of the modal *should* as in the following:

(28) ...the government *should* think of giving incentives...  
...the government *should* ensure that the farm inputs are sold...  
...the government *should* ensure that the goods produced by farmers...  
...the farmers *should* be given...

(29) These *will* encourage more farmer to put more effort both in animal husbandry and plant husbandry. This *will* make the country to be able to sustain itself and hence the cost of importing *will* decrease. This *will* benefit our country even though the shiling is devaluing.

On the other scale, however, about ten percent of the essays indicate that some students tried to use more than one kind of modal auxiliary as in the example below.

(30) Concerning the products or the farm outputs the prices *should* be good enough and stable thus increasing their profits but this should not be extreme at the detriment of the consumers, it *should* be beneficial to all the people in the country. As a result this *will* give the farmers that morale for producing more...

In general, however, students seem to use the one modal *should* inordinately more than others.

From these examples so far, it seems that in their introductions, there is evidence that some students attempt to 'focus' their writing by using various aspects of an introduction such as writing a thesis statement or stating the purpose of the writing. This is used to various degrees of success. However, a tendency towards writing longwinded introductions which tend to blur the purpose of the writing was also evident.

With respect to instructions, half of the essays in this sample showed an understanding of the usefulness of contextualising writing, that is, by writing to a given audience. However, despite this, the other half indicate that some students still tend to ignore this. This failure to follow instructions seems to contribute to the writing of 'detached' prose which display the students' reluctance to take responsibility for their work, despite the fact that they were supposed to write their own suggestions.

With regard to organisation of the writing students also displayed the use of various cohesive devices to link their ideas. Again, in certain cases, it is

evident that some of the students fail to follow through the choice of these linking devices (*first, second, third, also* and so on) and consequently, they create a 'staccato effect' in their writing. In addition, some showed a limited use of anaphoric elements. Furthermore, in using these devices, some students fail to differentiate between subsidiary and major points.

Finally, concerning lexis, some students were noted to have displayed a grasp of 'technical' phrases. However, most students tended to labour some points by using more words than necessary. In addition, a limited use of certain vocabulary items such as modals was also noted. The next section is a continuation of analysis of, among others, how the aspects already dealt in the sections above feature in the students' writing in a subject area.

### **9.3 Students' Initial Competence in Subject Area**

In this section, a sample of reports written by twenty five students in the department of Natural Resources (NARE 101) is examined. The first section starts with the question of what constitutes the features of a field report as an academic genre. The format and outline of the report is also given. An analysis of stylistic devices used by the students is also carried out in the same way as the other two assignments (above and below). A sample of those students who scored the highest and the lowest marks is also analysed to find out what aspects of the report the examiner marked as relevant and how these were marked (Section 9.5)

### 9.3.1 The Field Report as an Academic Genre

This assignment required students to write a report on a field trip they had undertaken. In the report, in addition to giving background information (indicating the history of the park and the purpose and reasons for its establishment), they were supposed to describe what they had found out in a national park. As in all other academic genres, certain features can be ascribed to the field report genre. Since this was a written task in a subject area, an attempt is made to establish the main features of a field report as an academic genre. This is necessary in order to how students organised their assignments.

In general, the format of the field report in Natural Resources department was envisaged by the department to be the same as that of the laboratory report. Indeed the process of observation is termed a *field lab* (lecturers of Natural Resources- personal communication). However, the field report under examination differed from the traditional report (see Chapter 5 Section 5.6 on lab reports) in that, apart from the introduction, the rest of the report can be envisaged as mainly consisting of a description of the phenomenon which the students observed in the field trip (with an optional conclusion). Thus, the report can be envisaged to have the format given in outline below. The contents of the various parts of the report are summarised.

#### **A. Introduction:**

1. The date and destination of the field trip,
2. Purpose of the trip,
3. Preliminary facts of the phenomenon to report,  
e.g. i) location and size of the park,  
ii) a short history and purpose of establishment of the park

#### **B. Materials and Methods:**

4. Source(s) of information,

- e.g, i) Park personnel
  - ii) lecturer's observations (e.g. briefings before and after the trip)
  - iii) other reference material, e.g. library texts on the issue to report.
- C. Description of the 'contents' of the park (unordered)**
1. The lake habitat,
    - i) characteristics of the lake as a habitat and its place in the larger environment surrounding it
    - ii) plant species
    - iii) animal species
    - iv) relationships with one another and,
    - v) their relationship with the environment.
  2. The sedge habitat,
    - i) its characteristics and its place in the greater environment
    - i) plant species,
    - ii) animal species, their relationship with one another and ,
    - iv) their relation with the environment
  3. The grassland habitat,
    - i) its characteristics and place in the larger environs
    - ii) plant species,
    - iii) animal species, their relationships with one another and,
    - v) their relationship with the environment
  4. Woodland habitat
    - i) its characteristics and its relationship to the greater environment
    - ii) plant species,
    - iii) animal species, their relationship with one another and,
    - v) relationships with the environment.
  5. The forest habitat
    - i) its characteristics and its relationship to the greater environment
    - ii) plant species,
    - iii) animal species, their relationship with one another and,
    - v) relationships with the environment.

How do the students measure up to this? With respect to the appropriate genre, students do not show that they understand how a field report should be organised. Investigation shows that only three students indicate that it is a report. The rest of the students actually write a descriptive 'essay' of the park. Though the descriptive part of their writing is in most cases relevant, the students do not relate the nature of the titles chosen with the content. There is also no explicit description of the trip itself (the purpose, the sources of

information for the report, the method of collecting the information for the report, and so on). Only two students attempt to state the aim and the purpose of the field trip. However, only one of them is relatively explicit about what the assignment is supposed to contain. The student writes that the aim of the trip was:

To find out the plant and animals community found in the lake and its surrounding environment. Also it includes reasons as to why the area was established (sic) as a national park.

Though the first sentence is precise enough, the second one is imprecise because, in actual fact, the report is supposed to trace the history of the establishment of the park. The reasons for the establishment are only some of the aspects that the students were supposed to write about as can be seen from the outline above.

The other student is even more vague about the field trip, writing that:

This trip was an educational trip. It had been prepared in order to meet the requirements that are expected from a NARE 101 lecture.

The trip *was* not a requirement for a *lecture* but one of the requirements in the course itself. This lack of precision is also found in the types of titles chosen for the reports. Of the six varieties of titles chosen by the students, only three students use the term **report** in the title. These are:

- (1) i) Student A 'Topic: Report on trip to Lake Nakuru'
- ii) Student B 'Report on Trip to Lake Nakuru'
- iii) Student C 'Trip Report: Trip to Lake Nakuru National Park'



**ALL MISSING  
PAGES ARE  
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ORIGINAL**

- (7) a) Location of the park
  - i) Distance and position from Nakuru Town
  - ii) Size of park and lake
  - iii) History of the park
  - v) Its establishment by an Act of Parliament.
  - vi) Purpose of park's establishment
  - vii) Wildlife Conservation and tourism

If we superimpose this on the format (6) above we can see that the students introductions to the report had either inadequate or missing information.

- (8) a) The date and destination of the field trip
  - i) (Date) **Missing**
  - ii) (Destination) **Missing.**
- b) Purpose of the trip
  - i) **Missing**
  - ii) **Missing**
- c) General Description of area covered by report.
  - i) **Present**
  - ii) **Present**

As we can see, only part 7(c) above was uniformly present in twenty-two of the reports. In several of the reports, the lecturer actually wrote '*when was the trip undertaken?*'

### **9.3.3 Organization**

#### ***a) General Layout***

At a general level, half of the students divided the report into sections which covered six aspects as shown below:

- (5) i) Introduction
  - ii) History of Lake Nakuru National Park
  - iii) Size and location of Lake Nakuru National Park
  - iv) Common habitats in the Park
  - v) Plant and animal species in various habitats
  - vi) Conclusion

Each section contains one or more paragraphs. Most of the students, to various degrees of success followed a chronological order (1961-1973) in explaining the history of the park and a logical pattern in describing phenomena in the park (particular to general or general to particular).

The other organisational feature used by all but two of the students was paragraphing. In general terms, some of the students used a paragraph to develop one idea. However, those who preferred paragraphs as the only organizing principle and did not use sub-sections, tended to return to some of the points they had tackled in earlier paragraphs, leading to repetition. A few students linked the paragraphs with devices like, *first, second, another*. It is noteworthy that those who used paragraphing use these devices and in most of the cases, successfully. Their main weakness lay in the lack of variety of these devices. As in the assignment analysed previously above, students still show a limited capacity to use many linking devices. Most of those who attempt this use *another* or *also* (or *there are also*) at the beginning of every paragraph.

With respect to the development of ideas, it is evident that more than half of the students lack the ability to develop their ideas adequately. Some of them dealt with the points they were trying to put across haphazardly. For example, the following student tries to cram too many aspects into one paragraph with the result that the descriptions of the habitats end up being completely undeveloped.

(9) From the sedge, one goes to the grassland where near the sedge one mets(sic) the sporobolus spicatus grass which gives way to other grass species where we find grazer like the warthog, several species of antelope buffaloes.

It can also be seen in this example inadequate exemplification ('grazer like the warthog, several species of antelopes buffaloes'). This weaknesses is also shown by students in the use of inappropriate phrases (for example, *to mention but a few* used after a fairly long list of items) as in the following:

(10) Examples of this (sic) animals *include* (sic) buffaloes, zebras, impala, lion, baboon, warthog, giraffe, reedbuck *to mention but a few*.

There is also evidence of inability to develop clear reasons as for instance, in trying to show reasons for the establishment of the park. The following student, for instance, fails to clearly tell us the relationship between the salty lake and the richness of the wildlife and the establishment of the park.

(12) The reason for it being estamblished as a park was due to it being richest with the wildlife especially in the side of santury (birds habitation). Also the lake is salty so its water had no use in the domestic or industries.

Moreover, 'the reason' suggests that one reason will be given but then the student appears to offer two reason ('the richness of wildlife' and 'the salty water').

### ***b) Coherence***

Again, as in the earlier analysis (Section 9.2), in overall terms, over half of students' reports show weaknesses with regard to the use of coherence devices. Most of the time these devices are lacking and hence the ideas the students put forward tend to be discontinuous. As a consequence, it is difficult to see where a students' flow of thought is going. For instance, in the following

example, the relationship between the phenomena that are being described is not shown by the student:

- (13) Other 400 spp of birds are found in the park. Pelicans are found in the lake which eats tilapia fish. Pelicans came from lake Naivasha. Other birds found in the park includes cormorant bird which eats fish, African fish eagle that also eats fish, maribou stock is a bird that eats other dead animals.

Again as in the earlier analysis the reports display very little use of substitution so that when they use repetition, they tend to overdo it as in the following example:

- (14) The presence of *the park* has promoted tourism... The establishment of *the park* has also saved different types of plants and animal species. Also it is only in this *parks* that....The importance of this animals kept in *the park* is seen in the *research programmes* which use animals like chimpanzees and others for *scientific research*.

Sometimes the use of anaphoric devices contribute to ambiguity or incorrect reference as in the following:

- (15a) Before, most of the land body was a ranch and *it* continued until 1973 when the national park began. Up to date *it* has acted as a national park which attracts tourist for it diversity fauna and flora and the lake.
- (15b) Acacia xanthoploea is dominant in this area although these trees are dying in this park and others like the Meru (oak) probably due to lowering water levels. *It* is shallow rooted and therefore can survive in high water table areas. Euphorbia is also present.

Here, it is not clear whether *it* is co-referential with 'the landbody' or 'the national park' in (15a). In 15b, the referent of *it* is ambiguous between the Meru oak and the acacia.

Another weakness is the avoidance of connectives or use of wrong connectives.

- (16) The forest is not mature, it contain different spices of trees but main dorminancy is the acacia commonly called yellow river acacia. It

has shallow roots. This make the trees to die quickly when there is flood. Thus surrounding the lake flood is frequency the trees do not exist there.

This example is typical of students who were in the lower rank in terms of linguistic and communicative ability. The student here fails to link some of the sentences thereby creating run-on sentences with a disjointed and untidy flow of ideas that are not adequately developed.

### **c) Lexis**

From some of the examples above (for example, 12 and 16), we see that students' weaknesses range from use of inappropriate vocabulary to redundancy. In addition, almost all reports analysed show that students mix technical vocabulary with non-technical. For instance, they do not differentiate between individual animals or plants and the species to which they belong. For instance, most of them wrote *sporobolus spicatus grass* (instead of a species of grass called *sporobolus spicatus*), *cormorant bird* (instead of the *cormorant* or a species of bird called *cormorant*), *African fish eagle* (as a species of bird rather than eagle), *tilapia gramahi fish* (instead of a species of fish called *tilapia gramahi*), and *euphorbia candle lamp tree* (instead of *euphorbia candelabra* or a species of euphorbia).

This admixture of scientific and common terms appears to point to students' unfamiliarity with the conventions of classification in scientific reports. This is further shown in their exemplification of species of animals in their examples of animals in the park:

(17) There are different kinds of monkeys, bamboons (sic), antelopes, like impalas, others are Rhinos, warthogs, green fowl, blue monkeys.

buffaloes, waterbucks. There are common zebras called buches (sic) zebras. The giraffe are also found here.

Leaving the punctuation and spelling mistakes aside, we can see that the student has mixed both species of antelope (impalas, waterbuck) and monkeys (blue monkeys with other animals which clearly do not fit into the two categories of animals, namely, the species of monkey and antelope. Furthermore, *others* seems to imply that rhinos, green fowl, antelopes, buffaloes are examples of species of monkeys. This is one of the cases that may be at a lower rank but the general impression is that all students show inadequacy when using specialist vocabulary of this nature. In addition, it was noted that in several reports, the subject lecturer had to correct the students for confusing the specialist term **habitat** with the inhabitants of the various habitats. For example:

(18) The major habitat (sic) in the park are the flamingoes.

There also seems to be an ignorance of the verb **inhabit** and a reluctance to use the verb **live** as evidenced by the invention of verbs like *habited* as in the following:

(19) From the lake we have a marsh habitat habited by a grass spices (sic)

sporobolus spicatus.

From this, we can see that the problems that students brought into the university classroom noted in Section 9.2 can still be found in the students work in the subject area. These problems, confounded by the students' unfamiliarity with conventions of writing scientific discourse and 'genres' seem to make their inadequacy in the subject area even more discernible. The next section looks at how the students manage with respect to these aspects in a CS writing task.

#### **9.4 The CS Examination Essay**

The final essay examined was part of the CS examination given to the students at the end of their course in the first semester of 1992/93 academic year. In this essay, students were expected to write an academic essay based on the following question, after drawing conclusions from some data provided (see Appendix 10).

*(1) How could visitors to Kenya's game parks and reserves contribute towards the preservation of the flora and fauna?*

A sample of forty-two essays written by students was collected from nine departments, representing nine subject areas, namely, a) **Agricultural Engineering**, b) **Agriculture and Home Economics**, c) **Agricultural Education and Extension**, d) **Agricultural Economics**, e) **Agronomy**, f) **Horticulture**, g) **Animal Science**, h) **Natural Resources**, and i) **Dairy and Food Technology**. From this number, thirty-two of the essays were largely randomly selected from among those students who had performed poorly (those



who got less than ten out of thirty) in the writing skills section of the examination. The other ten students were those who had performed relatively well (more than 10 out of thirty)'.

#### **9.4.1 The Introduction and Conclusion**

This was, of course, a different kind of assignment since the students were trying to put into practice what they had been taught in the CS lessons where the expectation of language use are higher than in their subject areas. An examination of their essay organization, however, shows that the students did not seem to have mastered the ability to structure their work.

In general terms, about half of the sample indicate students who eschewed writing an introduction. Of the rest who attempted to write an introduction, half began with a thesis statement and a statement of purpose as in the following example:

(2) Flora and fauna refers to the plant and animal life in a given area. There is need to preserve the flora and fauna. A wide range of flora and fauna is found in Kenya's game parks and reserves. To preserve this visitors to Kenya's game parks and reserves should be involved. This is only possible if the visitors work in corporation with the management of game parks and reserves.

The other quarter tried to rephrase the question into a thesis statement but only partially succeeded in stating in vaguely ('in many ways') what the contents of their discussion will be.

3) Visitors to Kenya's game parks could contribute to towards preservation of the flora and fauna in many ways.

Those who began with a purpose statements, however, tended to be off-target as in the following example:

(4) This paper seeks to show the effect of Kenya's tourism on preservation of the flora and fauna. In the first place, this paper will deal with those who visit Kenya and finally show how much they support game preservation.

We can see also that, even though this is an examination task which asks the students to write an *academic essay*, this particular student terms it a *paper*.

Three of the students' conclusions are more like 'dedication' or 'acknowledgment' passages and have no bearing to the body of the essay as in the following:

(6) Thanks and appreciation to those interviewed. This reffers (sic) to those who helped in compilling (sic) and filling the data on (sic) the table.

Other concluding ideas do not tally with the data given:

(7) The above data has shown however that only the foreign tourist have taken the issue of conseryation at heart unlike the hoteliers and the local tourists.

About a third of the students' essays , however, do contain slightly better conclusions as in the following:

(8) To conclude, I can say that if the maximum protection of the environment in the nation parks is looked upon (sic) there is also a guarantee of preservation of the flora and fauna.

This can be contrasted with the following more successful student:

(9)All in all, committment and sacrifice must come from local and foreign tourists as well as on the Kenyan community as a whole so that the goal of maintaining flora and fauna may be realised.

Like those who wrote slightly better conclusions, this student still also fails to develop the aspects referred, that is, the kind of commitments and the kind of sacrifices called for are not specified. The reader wonders how these are related to the facts from the data (in the form of group opinions).

## 9.4.2 Organisation

Within the body of the essay, some students wrote highly personalised and conversational discourse as in the following :

(5) I do not really agree on the raising of the fees into the park; because if this is done, local tourists will not be able to go there. Maybe what should be done is, even if the fee is increased, then the foreigners should pay a much higher rate. As we find they are the ones most ignorant.

### *b) Development of Ideas*

This was perhaps by far the most serious Achilles heel in the students' writing. Although students were supposed to draw conclusions from the data given, most of them eschewed discussing the data. Those who attempted, sometimes introduced unclear information that had no connection with the data as the following example shows:

(10) Hypothesis:

1. Not many local tourists are concerned about preservation of the game reserves.
2. Many hoteliers are concerned about the hotel business other than tourism.
3. Many foreing (sic) tourists like the preservation of Kenyan's domestic tourism.

The student here seems to be applying the knowledge gained in the project work (see Appendix 8) wrongly and also in an inappropriate context (essay examination writing). This was a task that did not require students to generate or test a hypothesis or hypotheses.

One other problem is in respect to content. Evidence of inaccuracy in reading the data provided resulted in eight of the students giving incorrect suggestions:

(11) The number of visitors to the parks should be increased because less than 50% of foreign tourists, 50% of local tourists and none of the hoteliers think the parks are rather overcrowded.

The correct view from the data is that 56% of the tourists believe there are too many visitors in the parks at any one time. 50% of the local tourists feel the same. That the hoteliers did not respond to the question does not necessarily imply that they believe there are too many visitors. After all, the reason they did not respond could be because their businesses are generally far from the parks and hence could not have 'first hand' observation of the number of visitors at any one time.

In the sample also, three examples were noted of students who introduced extraneous information (italicised) not found in the data as in the following example:

(12) About 87% of the visitors have suggested that *the tourist attraction centers (sic) are to be well planted with trees of different species more specifically the ornamental ones*. This idea was supported by 100% total of local tourists and Hoteliers.

Two other students clearly misinterpreted the data as in the following:

(13) The opinions of human beings towards preservation of flora and fauna has been very minimal and negligible at the same time. The statistics show that there are different people who have different approaches/attitudes to it.

One other problem found was that the majority of the students have difficulty in relating the various facts given in the data. For instance, very little connection was shown between the opinions of the respondents (the tourist and hoteliers) and the data provided. For example, the following was typical of approximately three-quarters of the students' essays examined:

(14) A penalty should be enforced to punish people who litter the parks. They should be told the advantages of maintaining sanitary conditions to the highest level. If this is done lives of the animals and plants will be safer.

This example also represents students who try to expand on the points they are making but fail to make any direct relation between their conclusions with the opinions of the respondents. Those who interpret the data and draw conclusions still show weaknesses with respect to their reading of the data as in the following:

(15) From the table it can be seen that foreign tourists are more concerned about preservation than local tourists. The above is shown by the 87% foreign tourists who are very concerned about environmental degradation in contrast to 20 local tourists.

This student, for example, misinterpreted the data. For instance, in fact 100% of local tourists according to the data (twenty representing responses from the same number interviewed), were concerned about environmental degradation as opposed to 87% of foreign tourists. This problem of data interpretation is typical of most of the students in this sample.

### ***c) Problems With Features Of Cohesion***

As with the other two assignments analysed, little evidence of ability to use linking devices is observed here. Although most of the time students try to develop one idea per paragraph, there is evidence of failure to show any relationship between the paragraphs themselves. Of the forty two students, only three tried 'numerical' sequencing (*the first, second, third, etc.*). It is only towards the end of the essays that we find the use of adjuncts like '*in conclusion*' or '*to conclude*' (see (8) and (9) above). The most prominent aspect

noticed with the use of these linking devices, namely, '*in addition*', '*on the other hand*', was that students almost used identical words. Again, as with the other two assignments analysed, this essay showed little use of substitution. For example, the following is typical of students who avoided using anaphoric elements but repeated the same concepts and make the discourse rather laboured.

(16) *Flora and fauna* refers to the plant and animal life in a given area. There is need to preserve the (sic) *flora and fauna*. A wide range of *flora and fauna* is found in Kenya's *game parks and reserves*. To preserve *this visitors* to Kenya's *game parks and reserves* should be involved. This is only possible if the *visitors* work in corporation (sic) with the management of *game parks and reserves*.

As we can see only one instance of use of an anaphoric co-referent (*this*) is displayed by the student.

Students also displayed a tendency to overuse a limited number of logical connectors. Students tended to use *and, and also, also, so as* most of the time, sometimes with inappropriate punctuation as in the following:

17) Some pollutants include petrol fumes to both animals and plants, *also* noises which scare the animals *and also* bring about the vibrations of the earth (sic) hence shaking the plants and interfering with the ecosystem.

The students also had problems with linking ideas within and between paragraphs as in the following example.

18)The visitors to Kenya's game parks and reserves contribute a lot to environmental degradation, the majority of this people are local tourists and so they should be minimised.

*The same case* applies to wild game since the animals do not fear man and more to that, they are no longer free in their natural habitat, as is still the case the majority of people visiting this places are foreign tourists.

In this example, *the same case applies*, could be interpreted as anaphoric to 'the visitors to Kenya's game parks contribute a lot to environmental degradation' and/or that animals should, in the student's view be 'minimised'. Moreover, *as is still the case* could also mean that number of animals should be minimised because they are no longer afraid of man or that it is the foreign tourists themselves whose numbers should be reduced.

**d) Lexis**

As in the other two assignments there was evidence that students still used more words than necessary to put across their ideas as in the following:

20) The flora and fauna in the *natural environment* determines the naturalness of a particular *natural environment*, so it is everybody's duty to see that the *natural environment* should be treated in a better way so as to lead into its flourishing rather than depreciating.

There is also evidence of lexical redundancy as exemplified by the following:

(21) 'a hundred percent total'

and also the use of phrases inappropriate to written discourse. For example the use of the interpersonal rhetorical device *tell me* in the following:

(22) If they want to see the same animals, flowers or plants they saw ten years ago they should be indeed careful. Because, *tell me*, if the visitors had not been here, wouldn't our parks and reserves maintain their beauty of years ago?

The question form itself is appropriate to spoken argumentation and its use almost certainly indicates that the writer has a poor command of the structure of written argument (see also example (8) above).

## 9.5 Subject Lecturers' Requirements in Written Work: An Example

In Chapter 6, one of the responses dealt with in the subject specialist lecturers' questionnaire concerned aspects they considered important in the evaluation of students' written work (Section 6.6). This section is a further investigation into this. Here, an investigation is carried out into how the subject-specialist lecturer in Natural Resources *actually* marked the field report analysed in Section 9.3. Since the assignment had been marked by the lecturer, it was possible to glean from the marking and remarks in the assignments what the lecturer expected the students to write. This lecturer was also interviewed informally concerning some of the requirements. A statistical analysis was also done to determine whether there was any correlation between the scores given and the length of the reports (number of words), the number of paragraphs, and the number of sentences in a paragraphs. Here, the correlations were found to be insignificant ( $r = 0.2$ ). The marking scheme for this report is also compared with the lecturer's responses in the questionnaire regarding aspects considered important in marking students' work. An examination of the marking scheme (the assignment is marked out of thirty) shows that marks in this case are distributed as follows:

### (1)1. Introduction

- a) Location of Park
- |  |           |
|--|-----------|
| [In Kenya],<br>[Position and Distance]<br>[From Nakuru] [Size of Park] | → 2 marks |
|--|-----------|
- b) History of the Park:
- |  |           |
|--|-----------|
| [Year of Establishment]<br>[Purpose of Establishment]<br>[Mode of Establishment] | → 2 marks |
|--|-----------|



c) [General Characteristics of Park] → 1 mark

**2. Main Description of Park**

a) The Habitats in the Park:

[ Lake]
[ Sedge]
[ Forest ]
[ Grassland]
[ Woodland/Hills]

→ 5 marks each

An examination of the marks given to students by the lecturer shows that generally, students who scored the higher mark wrote down most of the pertinent points required in the report. The student who had the highest mark (23/30), for example, got full marks for the first part (Introduction). All the points in this students' report are enumerated in the introduction in one clear, logically structured and concise paragraph as follows:

(2) Lake Nakuru National Park is situated in the Rift Valley, Nakuru District. It is found on the southern part of Nakuru Town. The park measures 188 km<sup>2</sup>. The park was 'born' in 1961. In this year, an area was set aside by an act of parliament for the sole purpose of conserving the flora and fauna. The area consisted of the lake region only. The area surrounding (sic) the lake was then (sic) used for ranching. Later in 1973, the ranch was acquired resulting to the park measuring 200 km<sup>2</sup>. However, a portion of it was donated to some landless people, thus arriving at the present figure 188 km<sup>2</sup>. The park is double-fenced; the inner fencing comprises of life wires (sic) while the outer one is just wire meshed.

The lecturer termed the report from which this introduction is taken a 'good report'. This student follows a logical model in sequencing the facts (general to particular) which he applies cyclically throughout the introduction above and a simple but straightforward passage clearly covers all the points. For example, the description of the park's location is given in a most general (in

Rift Valley) to the most particular (the Southern part of Nakuru Town) sequence shown below.

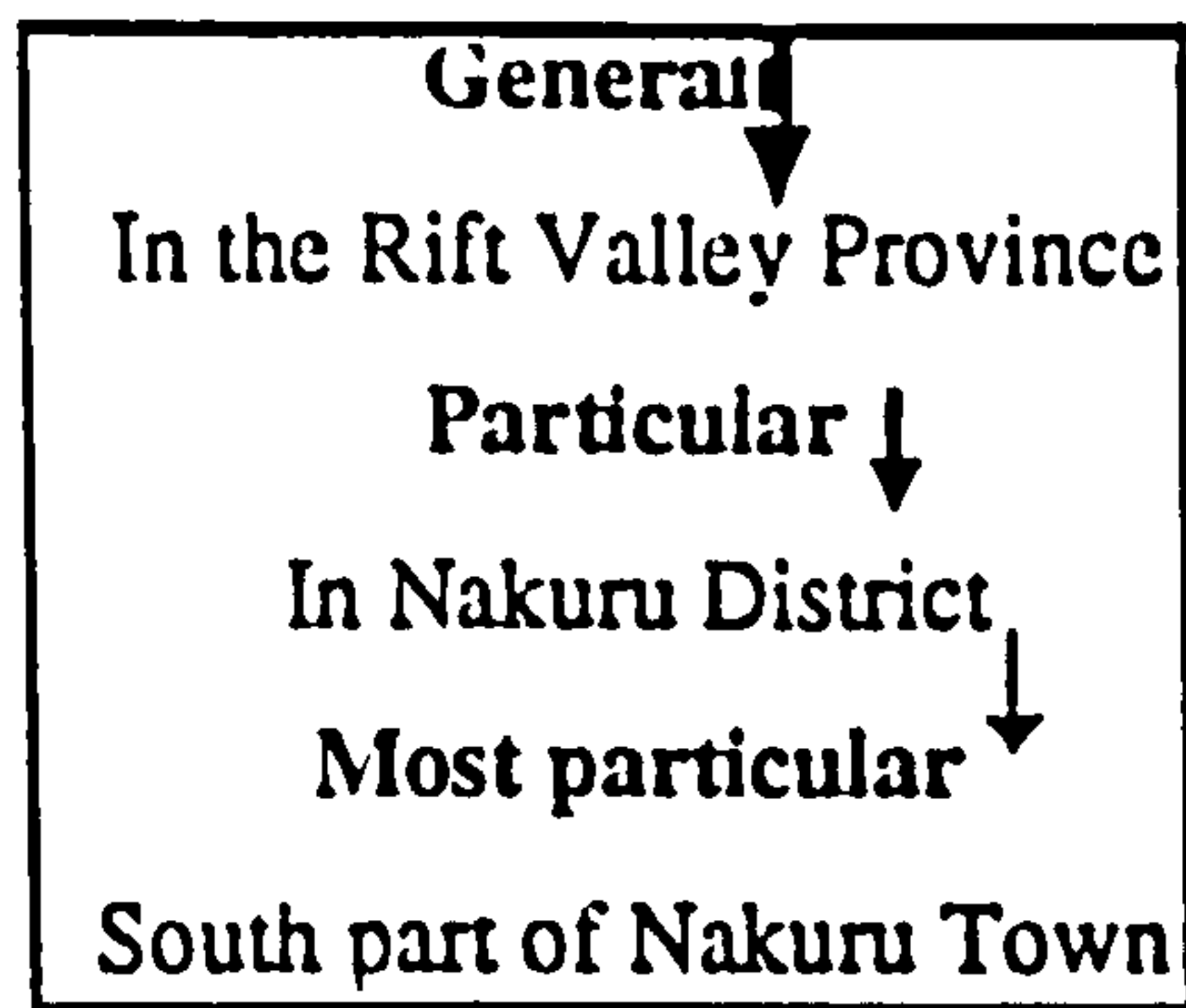


Figure 9.1 A logical introduction outline

Conversely, those students who wrote fewer points got fewer marks. For example, the student who had the lowest marks (6/30) did not get full marks for the introduction, because it had very few facts and many factual errors. Below is this student's introduction quoted in full:

(4) Size and location of L. Nakuru National Park is located in, and named after L. Nakuru-The lake covers an area of 40-43 sq km and is few kilometres from Nakuru town. The National Park covers an area of 188 km sq. It is to the south east of Nakuru Town.

History of Lake Nakuru National Park:

Initially it was a range for wildlife conservation. But in 1961, it was established as a National Park, as wildlife conservation unit, tourism as well as land use. In 1973, the rangers were granted an area of 188 sq km, and the area is enclosed with life fence. The lake where the major inhabitants are is a salty lake and has been noted to dry in dry seasons. The lake is fed by River Njoro, Dirit River, Makalia River, Ngashura and Lomdiac.

Flamingoes are major inhabitants of the park with some wild animals and vegetation.

Purpose of Establishing the Park:

- i) Gathering the flamingoes
- ii) As home for tourism units for other wild games such leopard, Rhinos, lions etc.
- iii) As an aim to curb lake silting due to silts carried by river like Makalia.
- iv) To prevent Agricultural and other unauthorized encroachment which may result in devastating effects like pollution of the lake and tampering with its natural scene i.e. vegetation.

We can summarise the introduction in outline as follows:

- (5) 1. Size and location of Park:  
a) (i) situated in and named after L. Nakuru  
b) size of lake  
c) location of lake from Nakuru Town  
d) size of National Park  
e) location from Nakuru Town  
2. History of the Park:  
f) ii) initially a range(sic) for wildlife  
g) 1961-year of establishment as a park  
h) purpose of establishment  
i) process of establishment;  
j) 1973-acquisition of 188 sq km by rangers  
k) area enclosed by life (sic) fence  
3. The lake and its characteristics;  
l) sanctuary for major inhabitants  
m) salty and dry during dry seasons  
n) fed by several rivers  
o) Flamingoes are a major inhabitants  
4) Purpose of establishing the Park:  
p) to gather flamingoes  
q) home to tourist units and other wildlife  
r) to curb lake silting  
s) to prevent agricultural encroachment and pollution

This student, on paper, has the longest introduction, and had written more points, covering a full page. However, most of the facts were incorrect. For example, the park was not initially a range for wildlife conservation but a *cattle ranch*, 188 square kilometres was not given to *rangers* but set aside for wildlife conservation and it is not a home to *tourist units* but tourists visit it ( the student's use of *other* here seems to suggest that tourist units are part of the wildlife). Moreover, in most cases, these facts (both true and false) do not seem to follow any logical sequence. For instance, the first sub-topic is part of the first sentence. In certain cases, it is difficult to know which points are major or subsidiary unlike, the other student's work above. For example, in the second

part, *History of the Park*, the purpose of the establishment of the park is mentioned as a subsidiary point but in part two it is treated as a major topic. Moreover, the overall report is disjointed and does not clearly show the facts that the lecturer expected. The lecturer's overall comment is that it is not a good report because it fails to establish clearly the habitats and the animals and plants in the various habitats.

In general terms, proficiency in writing counted. However, though most of the students who scored higher marks were the more proficient, some of them (the relatively proficient) did get fewer marks than some of the less proficient. The reason is all the facts are not included in their reports. An examination of those with the same scores does show that the content of the reports is sometimes more important in determining the marks given even if there was disparity in their proficiency in writing in English. The following two examples, one less proficient (6b) and the other fairly proficient (6a) are evidence of this fact. The less proficient student got more marks (4/5) than the better one (2/5) because a description of most of the animals community in the lake habitat are included.

(6a) The lake itself is one of the habitats in the park, it is inhabited by the 'lesser' flamingoes and the 'greater' flamingo. The lesser flamingo have a stain of pink colour but the 'greater' flamingo is dirty white in colour. The plant community in the water is mainly compost of the blue-green algae. it is estimated that about 160 tonnes of this algae is eaten by the lesser flamingo per day.

(6b) The lake is inhabited with plants, e.g. the algae, reeds and animals such as the flamingos, the pelicans, the marabou storks and the Egyptian geese among others. The pH of the lake is aver-10.5.

However, we can see that passage 6a is wordy (note for instance, the students' repetition with respect to the species of flamingos) while the second is brief but covers most of the points that the other student belabours.

The lecturer decided to not to penalise students for having failed to use a report format. Even though the lecturer had mentioned that organization and planning were important factors in the marking scheme of any written work, it was too early in the course to penalise students because they had not received detailed instruction on the format of a report (personal communication). The lecturer, therefore, exercised discretion on what was relevant in this case. Most of the marks were, therefore, awarded to content rather than presentation.

How then does this compare with the questionnaire responses? The lecturer was one of the three subject-specialist lecturers from the department who filled in the questionnaire (Appendix 5). All of them gave varying answers to question 12. Of the three, this lecturer is the only one who indicated that 90% of the students had no communication problems, with the rest having only occasional problems, compared to the two colleagues who gave the figures 58% and 10% respectively. This contrasts quite substantially with the other colleagues who indicated that 40% and 80% of students had occasional problems. Moreover, they regarded between 2% and 10% of the students as having serious communication problems, with between 2% and 5% having insufficient writing skills to cope with the courses they were teaching.

How can this disparity be accounted for? The answer seems to lie in their perception of what the lecturer regarded as important in students' writing. From

the questionnaire response, the lecturer in question seems to give no importance to grammatical accuracy or appropriate vocabulary and only some importance to spelling and clarity of expression. The other two lecturers, on the other hand, give not only some or a lot of importance to these two aspects of their students writing but also both gave clarity of expression a lot of importance. Although in the questionnaire response, the lecturer indicates organization and planning as very important, in marking the report, however, very high value is given to content and ideas.

## **9.6 Summary and Conclusions**

In this chapter, three different samples of students' written work were examined. In two of the assignments, namely, the initial assignment given by the researcher and the CS examination essay, it was established that students' work contained an introduction which was in the form of a thesis statement or a statement of purpose, or both. However, in the second piece of written work in a subject area, it was also noticed that much of what was required in the introductory paragraphs of the report was missing. In this piece of writing, students did not seem to have been aware of the conventions of writing a report. Particularly, students displayed imprecision with respect to the purpose of writing as evidenced in their choice of titles and aims of the report.

Another observation was that, overall, students followed instructions as concerns stating a role and taking responsibility for the suggestions they make. Some students also displayed clearly that they were writing to a particular audience. However, despite explicit instructions intended to help them

contextualise their writing in the first assignment, some students eschew the instructions and ended up writing an essay that does seem to have an element of detachment.

With regard to organisational features, there was evidence of inconsistency with respect to sequencing of ideas. In certain cases, major ideas were treated as subsidiary due to the use of inappropriate devices to link paragraphs. Furthermore, the students in general showed a limited ability with regard to options of devices used to link the paragraphs and the discourse as a whole.

Concerning the development of ideas, it was also noted that though attempts were made by the students to develop ideas using clear logical patterning (as shown, for instance in example 2 and Figure 9.1 above), with regard to the information content in the writing, however, there was evidence of inability to treat an idea or ideas with sufficient depth even when enough information was available as in the case of the data from the CS essay examination task.

With respect to lexis, there is evidence of students' ability to use some 'technical' or specialist phrases. A substantial majority, however, seem handicapped with respect to scientific discourse conventions of a genre or a subject as shown by the students' failure to identify and adequately categorise the species of animals in the field reports. Furthermore, they sometimes used an inappropriate admixture of scientific and common terms for certain animals and plants. As a consequence, some students display an ignorance of classification

and use of acceptable conventions of exemplification in scientific writing. In addition, students also show elements of wordiness. For example, there was not only an overuse of repetition with very little use of substitution, but also the use of too many words to express an idea.

In conclusion, it would appear that students' first year undergraduate writing shows a lack of understanding of the communicative nature of language as evidenced in the imprecision in titles and the relegation of major points to subsidiary roles through use of inappropriate linking devices. In addition, there is a lack of awareness of context as shown in failure to address the appropriate audience provided. Moreover, it appears that that though the observations here tallies with their responses with regard to organisational problems (though clearly these problems are also communicative rather than purely mechanical)(Chapter 6 section 6.5)), there are also serious linguistic problems in their work, which they do not appear to appreciate. I return to this in the next chapter.

### **Notes**

1. I would like to acknowledge my external examiner, Dr. Philip Shaw for pointing this out to me.



# **CHAPTER 10**

## **SUMMARY OF RESEARCH FINDINGS**

### **10.1 Introduction**

This study set out to identify academic writing needs of agriculture undergraduate students in an ESL context. In the ensuing sections, I summarise the research findings and make recommendations for the teaching of CS in the light of these results as well as making suggestions for further research. In Section 10.2, I start with a recapitulation of the findings from the previous five chapters (5, 6, 7, 8 and 9) through relating them to the specific research questions raised in Chapter 1 (Section 1.3). In Section 10.3, I identify the implications for the teaching of CS in the light of these findings while in Section 10.4, I discuss issues of methodology and theory. Here, I also revisit the conceptual framework which was used (Figure 4.1) with a summary of the usefulness of the framework with respect to the results. The extent to which the theoretical perspective has been useful is also noted. Section 10.5 identifies areas for further research.

### **10.2 The Research Questions**

The inquiry into the research questions was carried out through: a) analysis of institutional documents (Chapter 5), b) questionnaire responses (Chapter 6 and 7), c) analysis of essay and examination questions (Chapter 8), and d) analysis of features of students' writing (Chapter 9). This section summarises the results with regard to the first four questions. The other two questions (5 and 6) are handled in separate sections below (10.3 and 10.4) as they are consequent on the outcome of the other four questions.

***a) Research Question 1-Aspects of Written Language Use in Agricultural courses***

In attempting to answer the first research question (Chapter 1 subsection 1.3.1), this study looked for information in institutional documents, namely, the **University Catalogue, subject course outlines and manuals** (Chapter 5). In addition, responses were elicited from agriculture students and their subject-specialist lecturers regarding the types of written work done in the Faculty of Agriculture (Chapter 6).

The analysis of institutional documents and responses from both the students and the lecturers indicate that students encounter a wide variety of writing tasks in which they are expected to display their content knowledge as well as writing competence (Chapter 5, Section 5.5 and 5.6 and Chapter 6 Section 6.2 and 6.3). It is clear that even in the first year of their undergraduate life, students' work includes a substantial amount of writing. The marks given for this writing appear in the students' grades at the end of each semester and the final degree grading depends on how well they perform in written work throughout their undergraduate years.

In the institutional documents, it was also found that despite the mention of different types of writing, apart from the manuals which give extensive instructions on the writing of laboratory reports (see section 5.6), the documents do not have much information concerning requirements for written work. Furthermore, no difference is mentioned between pieces of writing. The consequence of this is that the staff and students do not seem to have a uniform way of labeling the various types of written work, a fact that sometimes leads to confusion regarding the types of writing done (see

Section 6.3). It is suggested that this lack of explicitness may contribute to the lack of precision in students' writing regarding genre requirements (Chapter 9 Section 9.2).

One writing activity that was examined in detail was the nature of the first year examination questions (Chapter 8). The questions were first of all grouped into the categories of prompts proposed by Horowitz (see Chapter 2 section 2.4 and Chapter 8 Section 8.3). Some of the interesting results of such a categorisation was noted with respect to the nature and distribution of these prompts. First, it was found that most (86.8%) of the first year questions collected from the courses in the faculty of agriculture mainly fell into the first two categories of prompts, that is, those that required students to show that a) they understood concepts and b) they understood **relationships between or among them**. Only a very small percentage (1.1%) of the questions required students to **display familiarity with argumentation** (section 8.5). Secondly, the distribution of prompts among all the categories varied with respect to the different courses from which the questions were collected. For example, differences were noted in distribution of various types of prompts between what are usually seen as two related disciplines (see section 8.3 ). Thirdly, as concerns the nature of prompts contained in the questions, it was observed that about a quarter (23%) of the questions examined had double prompts or double task prompts (section 8.4). This, it is suggested, has implications for the teaching of examination-taking as it raises the issue of how students would be expected to write a balanced answer to such questions.

Related to this, it was also noticed that in some of questions, the term 'concept' seems to be used loosely by most lecturers so that, for instance, when they ask students to '*define the following concept...*', they do not necessarily require students to give a dictionary-definition as envisaged by Horowitz but that in certain cases, students are expected to also show understanding of processes (see conclusion in Section 8.5).

It seems, therefore, that lecturers' requirements that students write good reports, essays, proposals and so on, will only be successful if students are able to clearly distinguish between the requirements of each of these types of writing. One suggestion is that a more explicit and uniform use of the various terms need to be adopted so that students can understand the differences between and among each of the types of writing that they are required to produce. Moreover, such a consistent view would lend itself to the teaching of academic writing to the students in the faculty.

With regard to examinations, it is proposed that the teaching of examination answering techniques in discipline-specific areas would benefit from such a study of prompts, their nature and distribution in subject areas. Given the variety shown by the analysis, it would be useful for CS staff to be aware of this before designing courses in answering examination questions in discipline-specific areas.

Both the varieties of writing types and examination questions are revisited with regard to teaching of CS in section 10.3 below.

***b) Research Question 2- Evaluation of students' written work in the Faculty of Agriculture***

The second research question was aimed at establishing how subject-specialist lecturers assess their students. In this study, two approaches to answering the question were adopted. In the first instance, responses were elicited from lecturers on what features they consider important when they assess students' written work. The second approach involved analysis of a sample of students' written work marked by a subject-specialist lecturer. The purpose of this was to establish how the lecturer actually marked the work (Chapter 9 Section 9.5).

In the first approach, most lecturers indicated that they place more importance on 'content' and 'organisational' aspects of written work than on 'linguistic' aspects such as 'grammatical structure' and 'vocabulary' (Chapter 6 Section 6.6). I noted, however, that despite this response, they gave 'clarity of expression' similar importance, a fact that indicates that students are also expected to have an adequate grasp of linguistic aspects.

In the second approach, I noted that, in marking students' written work, there was a process of adaptation on the part of the lecturer to lower standards as concerns the format, so that students were not penalised for organisation, despite having failed to include part of relevant information that they had been instructed to include (see subsection 9.3.2). The most important aspect considered by the lecturer, for instance, was the number of facts that the students had written down (Section 9.5).

***c) Research Questions 3 and 4 - Nature of students' writing ability and perceptions of problems in their writing***

Some of the problems mentioned in previous literature concerning ESL students' writing (presented in Chapter 3 (Section 2.3), as I have noted, were also found in Kenyan students' work. In summary, these problems are: a) ESL students' writing sometimes displays a lack of balance because of failure to distinguish between essential and extraneous information, b) students sometimes display lack of awareness of the expected readership c) undergraduate students' writing contains organisational problems. d) students do not have an adequate grasp of appropriate vocabulary, e) students' written mode shows weaknesses with respect to description, comparison, contrast, classification and explanation, and, f) their written work exhibits lack of explicitness and precision appropriate in scientific discourse.

To find out the nature of students' writing ability in the context of this study, two methods were used. One consisted of using questionnaires to elicit views from both the students, subject-specialists and CS lecturers (see Chapter 6 Sections 6.5 and 6.6 and Chapter 7 section 7.7). Here, both subject and CS lecturers were asked to comment on the students' ability in written English while students were asked to identify aspects they found difficult in writing.

In the questionnaire responses, it was noted that 81.4% of subject-specialist lecturers considered most of the students (75%) to have sufficient grades for university study. However, a substantial percentage of the same lecturers (74.1%) indicated that about 5% of the students have totally inadequate writing skills for university study and that up to approximately a

quarter (24%) of them was considered to have serious communication problems (Chapter 6, Section 6.6). In terms of areas of difficulty noticed in the students' written work, over half of the subject lecturers (55.6%) regarded organisation as one such area while a much higher percentage (87.5%) of the CS lecturers perceived this aspect as a major problem of science students' writing. In addition, the CS lecturers identified ambiguity, clarity, grammatical structure and vocabulary appropriacy as problem areas that occurred frequently in students' written work.

Concerning students' responses, a very substantial majority (98.4%) felt they had problems of various kinds in their written work (section 6.5). A slightly higher number of students (65.2%) than their lecturers indicated that they found difficulty in choosing the appropriate format for their writing. Here, I suggested that the students' concern for organisation could be related to the importance placed on this aspect by the lecturers (see Section 6.8).

In the second approach, actual written work by students was examined (Chapter 9) in order to test the previous observations about ESL students in other contexts mentioned above. Three written assignments, namely, a) a written assignment administered at the beginning of the first semester of the students' first year (Section 9.2), b) a written field report marked by subject specialist lecturer from the students' subject area in the middle of the semester (Section 9.3), and c) end of semester CS essay examination scripts, were collected and analysed (Section 9.4). In all these three assignments, samples were analysed essentially for stylistic and rhetorical features. Their introductions were examined for any explicit markers which showed that the students followed instructions given and that they were aware of the

audience they addressed. The writing was also analysed for the students' ability to use conventions of genre and organisational features such as cohesion devices used to link, sequence and develop ideas as well as to describe and relate concepts and processes.

In all the three assignments, it was evident that first year undergraduate students displayed varied abilities with respect to all the aspects examined. With respect to introductions for example, most students attempted to begin their writing with a thesis statement, statement of purpose or both (subsections 9.2.1, 9.3.1 and 9.4.1). In this, most of them succeeded. However, it was also noticed that some students wrote inappropriate introductions that suggested that they had ignored instructions that had been given to guide them and furthermore, some seemed to have assumed that they were writing a largely decontextualised essay (9.2.1). In some cases, students wrote inadequate introductions that failed to show that they were writing to a specified audience (9.2.2). In the subject area, this misconception resulted in some of the students' work lacking information relevant in a report (9.3.2). Furthermore, the titles written by students, for instance, were more suitable for 'narrative' or descriptive essays rather than that for reports. This, I suggested, shows the students' lack of awareness of the communicative value of titles or of the requirements of the report genre.

Overall, the most prevalent problems in the students' work were:

a) in both general and subject areas, students used a limited number of linking devices. For example, there was an overuse of *also*, *therefore*, *and* and *also*. Moreover, the use of these devices was inconsistent. In certain cases, it was observed that it appears that sometimes students do not seem to



realise the rhetorical functions of these devices so that when they used them it resulted, for instance in unnecessarily relegating major points to subordinate roles (Subsections 9.2.3, 9.3.2 and 9.4.1).

b) some students used vocabulary appropriate to spoken discourse (subsections 9.2.1 and 9.4.1). For instance, students used words such as *speak, tell* and *say* when they were actually referring to suggestions they were making in the written mode. In addition, there was evidence of use of more words than necessary to convey an idea (subsections 9.2.3, 9.3.3 and 9.4.1). In this, students seem to belabour points, sometimes leading to loss of direction in their writing.

c) in both the field reports and the CS examination essays, there was an overuse of repetition with very little attempt at using anaphora or substitution. This sometimes led to ambiguity in the writing (9.3.2).

d) students' work showed inability to use appropriate exemplification. Furthermore, there seemed to be a lack of awareness of conventions of classification in the subject area. The consequence of this was that their work ended up containing an admixture of technical and common vocabulary (Section 9.3.2).

e) in developing ideas, some students showed sufficient depth while others showed limited capability in relating various ideas. Some students for example, as noted in (a) above, used linking devices which sometimes relegated major points to unnecessarily subsidiary roles (9.2.3).

The implications of these observations to the teaching of academic writing in CS form the basis for answers to the fifth research question in the next section.

### **10.3 Implications for Teaching of CS**

As noted from the beginning, the motivation for the study of academic writing needs of undergraduate students in the faculty of Agriculture stemmed from the desire to develop academic writing courses for subject specific groups of students (see Chapter 7 section 7.6). The results of this research suggest that the development of such courses is not only possible but necessary given the complex nature of the target situation as found through the examination of all the aspects that this research covered. In summary, these aspects are:

#### **a) Types of written work in the Faculty**

As has been mentioned in preceding section, one of the findings about the types of written work required in the faculty was that there was lack of information about the nature of differences between these various types of work. The fact that the institutional documents examined do not give us information about requirements of each type of written work seems to also suggest the crucial nature of the subject -specialist lecturer in the design of a course syllabus that realistically mirrors both the target situation and the needs of the various students in this context. If teaching subject-specific academic writing skills entails enabling students to differentiate between the various writing activities that they encounter in their various courses and their requirements, then it would be necessary to adopt a collaborative approach to designing both the syllabus and materials. At the moment this does not seem to be the case (see section 7.8).

In Chapter 6 (section 6.4), I envisaged a tentative grouping of these writing types. I made clear that this was only tentative, but that the categorisation would seem to be a productive one in which CS academic writing courses can use pedagogically. That two of the categories ( terms that describe the process and the nature of the process) could lend themselves to the exploration of the processes involved in academic writing, I suggest, could have both face and content validity with respect to the training in skills of handling the various types of writing tasks in the undergraduate language classroom.

Thus, through a collaborative approach, the CS lecturers can devise relevant courses that contain, for example, descriptive models of these pieces of writing which explain the communicative nature of written work in science rather than 'mechanical' issues.

#### **b) Training in examination-taking**

I noted in section 10.2 that the analysis of first year examination questions indicate the complex nature of the questions in terms of the prompts and in terms of the distribution of such prompts in the courses studied by first year undergraduate students. One feature of the questions was that a significant number of them contained more than one prompt, thus requiring students to do more than one task. This would require a students to balance their answers with regard to the prompts. This seems to be crucial in the teaching of CS since, one of the problems that has been noticed in ESL students' writing is that sometimes they fail to address the second part of a question.

Another feature related to this issue of balance in an answer concerns some of the terms used by the subject-specialist lecturers in setting essay questions. Since the lecturers seem to use the term 'concept' loosely in the examination questions, this would seem to create problems about what the requirements of certain questions entail. This apparently loose use of the term 'concept' (and 'principles') has been suggested as an aspect of science which, though it 'does concern itself with processes, analysing them in explanations, in the end it interprets processes as things' (Halliday and Martin 1993:212). The CS lecturers would need to consult the subject-specialist lecturers to find out about the requirements of such 'fuzzy' questions. A more useful way is to get model answers to such questions from the subject-specialist lecturers in order to ascertain the balance in a 'double task' prompt of such nature.

Given this, it would seem that CS courses geared to training students in examination taking techniques would have to take into consideration such complexity. Furthermore, as has been suggested, if the course is to mirror what goes on in the undergraduate classroom (which include taking examinations), CS lecturers need to be aware of the nature of questions in each of the courses, even if the CS course is not a subject-specific one. Thus, I propose that the input into academic writing section of the course could include insights gained from analysis of the kind of questions that are typical of the courses the students study.

#### **d) Students' writing competence**

While this analysis, in general, can be said to have demonstrated that students have communicative problems with respect to writing in the

university undergraduate environment. it also confirms the observations by previous researchers in different contexts from the Kenyan one. This would seem to point to the necessity of the future CS courses incorporating all these insights in formulating programmes for teaching of the communicative use of language in subject areas.

#### **e) Evaluation of students' written work**

I suggested that the students' concern for aspects of organisation in their writing could be linked to the level of importance placed on this by their subject lecturers. As I also noted, given that the lecturers also placed high regard to *clarity of expression*, an aspect that clearly requires an adequate level of grammatical competence, the CS lecturers need to work closely with the subject lecturers to create a concern for precision and accuracy which, as this study has demonstrated, is lacking in the students written work in both general and subject area writing.

### **10.4 Methodological and Theoretical Issues**

#### ***a) Adequacy of methods used***

It was stated in Chapter 4 that this research brings together several methods to identify academic writing needs in a specific faculty. All these methods sought to analyse both the target situation and present situation as conceptualised in a framework ( Figure 4.1). In analysing elements of the institutional culture (the University Catalogue, course outlines and examinations) and the students' writing, this conceptual framework has been able to demonstrate that various sources of information have cumulatively enabled this study to identify these needs.

Firstly, with respect to information about the types of writing in the faculty, it has been possible to see the 'bigger picture' by triangulating results from analysis of both responses from the lecturers and students, and those from the institutional documents (the University Catalogue, course outlines and manuals). Through this, it was possible to see, for instance, that there exists a confusion as regards the terms used to describe writing in the faculty which led to students and lecturers having differing perceptions about the types of written work done. Secondly, the incorporation of these documents in the framework has demonstrated that the writing needs of first year agriculture students could not be identified by searching for information about 'agricultural' disciplines but through a whole range of courses that students study, which include a substantial number of courses in basic sciences.

With regard to individual data, the analysis, however, revealed some weaknesses in the use of certain methods. For example, even though the questionnaires furnished the research with a wide range of information as shown in Chapter 6, nevertheless, the questionnaire method seems to have acted as a double-edged sword. On the one side, it did give useful information such as the possible relationship between class size and the number and variety of tasks given by the lecturers while on the other, it revealed its weaknesses which had been noted by Horowitz (Section 2.4). It became clear that the responses regarding the use of terminology for written work needed follow-up interviews since it was not possible to know whether the responses were based on what the students thought they were doing or what the lecturer believed they were administering (or what both wanted the

researcher to believe). Nevertheless, it did raise an issue of theoretical nature, namely, the possibility of a discrepancy in both the students' and lecturer's perception of the 'social reality' of the faculty. I take this point further with respect to theoretical issues below.

*b) Research Question 6 - Issues of theory*

In Chapter 3, I stated that the theoretical perspective taken is one of social construction, in so far as this perspective regards writing and knowledge as constructed by writers having regard to requirements of a discourse community. Thus, academic writing in the university undergraduate environment is seen as judged by the way students are able to fulfill institutional requirements. Students' writing needs are seen as related to the institutional requirements whose specification entail an analysis of the general institutional culture as well as the more specific ones of disciplinary discourse. This perspective was adopted and used to inform on what the Faculty of Agriculture at Egerton University expects of students. These requirements, it was found, include good academic writing skills, a requisite that is emphasised, for instance, in the University Catalogue and the laboratory manuals ( See Chapter 5). In addition, the responses from the lecturers suggest that students are judged on how well they present their work.

Thus, in the Faculty of Agriculture, the process of writing is seen as a communicative one in which a writer, as in this case a student, communicates with an academic discourse community through mechanisms recognised as appropriate. The students' successful communication is judged on the ability to use appropriate writing skills. These skills include an

understanding of the different types of writing appropriate for the various tasks given in this academic environment as well as communicative aspects. To the extent that the university academic environment can be envisaged as a discourse community with 'mechanisms of intercommunication' (though, as noted, these mechanisms may be seen as operating vertically (student to lecturer) rather than horizontally (peer to peer)), the adoption of this perspective as a guiding principle has been demonstrated to be able to provide information regarding these 'mechanisms' and their requirements.

However, what was revealing with regard to this theoretical position was not so much that it enabled the identification of these mechanisms of communications in the university 'writing culture', but that in using the theoretical framework, it revealed a 'cultural vacuum' as regards the requirements to which apprenticed writers need to know in order to fully participate in the social construction of knowledge (or the reproduction of it).

As I have noted several times, there is evidence of confusion with respect to types of written work that students actually required to produce as revealed in the lack of a consistent and explicit terminology. In social constructionist terms, it can be said that the analysis revealed that there appears to be a discrepancy in what should be the 'reciprocal typification of habitual actions' as displayed by the use of various terms. Furthermore, the students' writing also showed this inconsistency with respect to accepted conventions in written scientific reports.

This seems to raise the issue of how the university culture in general and the culture of the Faculty of Agriculture in particular could expect the apprentice writers, who are already handicapped by the fact that they use a



Second Language, to successfully apprehend the social reality of academia without the necessary tools that, again, in social constructionist terms, would save time and effort with respect to both the tasks to be done and the respective 'psychological economies' of the participants. Moreover, the finding that the Faculty of Agriculture seems to rely on a substantial stock of knowledge constructed in other 'sub-universes' (in the form of a substantial number of courses from other disciplines), raises the question of whether the Faculty as an institution within the terms of social construction theory, may be, through defining itself on these other academic 'sub-universes' (particularly the Faculty of Science), giving its students a not entirely true impression with respect to the requirements of the Faculty itself. Are students getting a systematic socialisation into the culture? Is there a stable background to the social reality of the Faculty? To what extent is this knowledge *constructed* from outside the faculty 'reconstructed' as *agricultural* knowledge. Or is the faculty a 'split-personality' faculty? Is this condition desirable? Since, with respect to the findings, the answer seems to point towards the negative in most of these questions, at least with regard to first year undergraduates, it would appear that a study which includes whether and how the faculty adopts the knowledge of other disciplines as *its own* would be desirable.

Lastly, with respect to the role of institutional documents for furthering socialisation and institutionalisation in the university discourse communities, it would seem that they have a considerable usefulness. The university is a reading culture and, if students are expected to produce good academic work, it would seem to be incumbent upon the institution to set an

example by providing enough information with respect to what is required of the students. This information should be explicit enough to allow students to 'apprehend' a social reality that is 'real'.

### **10.5 Suggestions For Further Research**

This research concentrated on identifying academic writing needs of first year undergraduate students. Since the CS course is seen as ideally developmental, that is, it is a course that is expected to assist students in negotiating their way through their undergraduate studies, it would also be useful to investigate their needs in their subsequent years. In addition to this, the students future occupational needs outside the academic milieu is also one important aspect that is indicated in the University Catalogue ( see Appendix 1 for example). Further research could entail finding out what kinds of writing types are typical of other years and future occupational or professional writing needs.

With particular regard to examinations, it was noted in Chapter 8 that the differentials in tasks required in examinations is evident in the nature of the courses studied by the students. It would be interesting to know whether these differentials are reflected in the subsequent undergraduate years as well as between the various courses. Since the research findings here informs on the writing needs of students in the first year, it would be necessary to find out how and whether the nature of examinations change with subsequent years of their undergraduate courses.

In this research, I did not look into students' written work under examination conditions in their subject areas since it was not possible to obtain permission from the examination authorities. Moreover, the CS

examination tasks analysed clearly shows problems in students' interpretation of data. The need to analyse how they perform here seems to be desirable given that the students' success is largely judged on the way they perform in examinations. Analysis could also include eliciting students' views on the problems they encounter with respect to taking examinations. Also, since most of the written work that was analysed was not in the subject area, it would also be interesting to find out how they write other types of written work in their subject areas. This could involve a broader analysis of the communicative nature of other types of writing in the subject areas. Such a study would enable us to make more forceful claims concerning their ability to write in the various 'genres'. Furthermore, we can then be able to determine the 'genre' requirements by identifying the particular features of these different types of written work as identified in Chapter 6.

With respect to the written work collected, as was indicated, a largely rhetorical analysis was used. The compelling reason for this approach was that the study was attempting to identify areas of communicative difficulty in students' work. However, it also emerged that some of the students seem to be attempting to mask grammatical inadequacies through, for instance, the use of listing or numbering instead of continuous prose. Given that some of both the CS and subject-specialist lecturers have expressed worries about students' grammatical competence (3 CS lecturers and 48.1% of the subjects-specialists indicated grammatical problems), it seems that it would be useful for further research to look at to what extent the students exhibit grammatical inadequacies.

In Chapter 6 (section 6.7), I did a comparison between views from the British context with those found in the Kenyan context as regards difficulties in students encounter in writing in undergraduate courses. Even though this was not a comparison of like and like (Agriculture and Agriculture), still the results were revealing in as far as it shows a tendency for uniformity, for example, with respect to aspects of written work to which lecturers in both contexts give importance. It would, however, be even more interesting to compare with students' writing and the writing requirements of a comparable agricultural faculty in the native speaker environment. Such a study could involve comparable research into the whole institutional culture of an Agricultural Faculty in the native speaker environment.

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## **Appendix 1**

### **EXTRACTS OF DEGREE PROGRAMME OBJECTIVES IN THE FACULTY OF AGRICULTURE**

#### ***THE FACULTY OF AGRICULTURE***

The broad objectives of these programmes are to train personnel with requisite knowledge and skills needed to conserve and exploit effectively the available resources for food and fibre production. The curriculum of each programme provides opportunity for both theory and practice. In the first year of study, students are taught various courses in biological and physical sciences and common core courses.

During the second, third and fourth years, courses concentrate on underlying applied sciences and practices to each field of study. Realising that most of the graduates will be deployed to work with rural communities, subjects such as Sociology, Communication, Extension and National Development strategies are included in both degree and diploma curricula. In addition to on-campus tuition, field visits to farms, research stations and processing industries are organised and, at the end of third year, students are attached to the field for a period of two months.

The Faculty is continuously striving to provide adequate facilities for both tuition and research. Staff development and recruitment are being pursued vigorously in areas of specialisation.

#### ***1. Bachelor of Science in Agricultural Engineering***

##### **MAIN OBJECTIVE**

The aim of the programme is to provide an academic foundation to enable the student to practise engineering at professional level in Agricultural Engineering, Agriculture and other related industries.

##### ***SPECIFIC OBJECTIVES***

- On completion of the programme graduates are expected to be able to:
- I) Do consultancy work in their area of specification
  - II) Design, modify and direct the manufacture of farm machinery and equipment
  - III) Test and advise on suitability of machines and equipment for different crops, animals, soil and climate conditions
  - IV) Design and supervise the construction of structures in soil and water conservation irrigation and drainage at catchment and farm level
  - V) Design and supervise the construction of farm produce drying and storage structures
  - VI) Do research, training and extension in keeping with the Egerton mandate of excellence in Agriculture.

## ***2. Bachelor of Science in Agriculture***

The Bachelor of Science in Agriculture at Egerton University is intended to help achieve (national development) goals by providing highly trained personnel equipped with a broad range of both conceptual and practical skills geared towards promoting crop and animal production.

Some graduates of this programme should be able to pursue further training in specialised areas of agricultural sciences.

### ***SPECIFIC OBJECTIVES***

At the end of the programme, graduates should be able to:

- a) Perceive the importance of agriculture and particularly the role of crops and animals in providing food and fibre, shelter, clothing and cash income for the Kenyan population
- b) Effect proper methods of raising crops and animals either directly on their own farms, or indirectly through extension
- c) Carry out basic and applied research geared towards enhancement of crop and animal production
- d) integrate practices of crop and animal production with other farming enterprises
- e) Teach theory and skills of crop and animal production in appropriate agricultural institutions
- f) Pursue advanced training in relevant areas of specialisation in the agricultural sciences.

## ***3. Bachelor of Science in Natural Resource Management***

### **OBJECTIVES**

The basic objective of the B.Sc. programme in Natural Resource Management with options in Range Management, Wildlife Management and Forestry is to equip the trainees with relevant technical and professional knowledge that will enable them to manage and conserve resources effectively wherever they are employed. The specific objectives at the end of the programme are as follows:

1. Be able to apply the acquired knowledge in ecological, sociological and economic concepts to the theory of natural resource conservation, utilisation and management.
2. Be able to communicate this knowledge and management techniques to the relevant members of the Kenyan society.
3. Be able to analyse and evaluate critical issues in natural resource policy, conservation, utilisation and management.

#### ***4. Bachelor of Science in Agricultural Education and Extension***

##### **OBJECTIVES**

The fundamental objective of this programme is to equip the trainees with appropriate technical and professional knowledge, skills and attitudes in both agriculture and extension education that will make them carry out their responsibilities efficiently and effectively whether in schools, institutes of agriculture or in extension. The following are the specific objectives:

At the end of the programme, students are expected to:

- 1) Communicate effectively the technical knowledge they will have acquired to the youth and adults.
- 2) Make a critical appraisal on the application of management and organisational concepts in institutional management with particular reference to educational institutions and agricultural extension services .
- 3) Explain:
  - a) Stages of development both in education and agricultural extension.
  - b) policies and philosophical basis of education and national development
- 4) Make an analysis of the critical issues in human growth and national development and be able to relate the two concepts to learning situations for both youth and adults.
- 5) Apply the acquired knowledge in psychological, philosophical and social concepts to the theory and practice of education and extension
- 6) Demonstrate a clear understanding of the cognitive, social and practical leadership abilities that will help them assume effective leadership in the field of agriculture for rural development.

## Appendix 2

### CS COURSE DESCRIPTION AND SAMPLE COURSE OUTLINE

#### A. DESCRIPTION OF THE CS COURSE IN THE UNIVERSITY CATALOGUE

The object of the course will be to provide training in those communication skills which are particularly relevant to the student needs in the contemporary academic situation although account will be taken of the desirability of relating these skills to the students' subsequent careers.

All the four language skills will be practised i.e., reading, writing, speaking and listening, although listening will receive particular emphasis. Study skills such as note-taking, preparation of presentations, writing of essays and reports will be practised as well as academic skills such as those of synthesising and categorising information, coping with ambiguity in text, understanding abstract argument, skimming, scanning and presenting and interpreting graphs and statistics.

As an essential preliminary, students will be introduced to those aspects of language which are basic to the comprehension of long and difficult texts. This will involve discourse analysis, particularly the recognition of discourse layout, markers and metalanguage; functional and register analysis and the concepts of cohesion and coherence. Some theory will be taught but the emphasis will be on the students learning the skills by practising them.

#### B. THE COMMUNICATION SKILLS COURSE OUTLINE (COMS 101)

##### AIM OF THE CS COURSE

1. To improve training in those communication skills which are particularly relevant to the contemporary academic situation at undergraduate level.
2. To use a task-based approach using materials which are relevant and relate to the undergraduate students' main subject areas and subsequent careers.

##### *COURSE OBJECTIVES*

The objectives of the course are to:

1. assist undergraduate students to use the library facilities efficiently.
2. provide students with the necessary skills that enable them to extract essential information in lectures and tutorials.
3. use appropriate reading strategies to ensure maximum comprehension of academic texts.
4. improve the students' ability to communicate appropriately in written English at a higher academic level than previously required.

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## Appendix 3

### STUDENT QUESTIONNAIRE

Egerton University,  
Dept. of Linguistics and Languages  
P.O.Box 536  
Njoro.

Dear student,

I am a lecturer in the Department of Linguistics and Languages currently doing research on the writing needs of undergraduate students at Egerton University.

To assist me to find answers to these and help the communication Skills lecturers design better materials for writing skills training, I enclose here a questionnaire for you to fill in.

I am looking forward to hearing from you.

Thanking you in advance,

Yours sincerely,

Kibiwott P. Kurgatt

Name	
Year	
Faculty	
Department	
Degree you are registered for	

1. When did you begin your course in this university?

Year	Month

2. Which courses are you studying this semester/year?

3. What types of written work have you been asked to do since you joined the university? Tick each type.

- (a) Essays
- (b) Laboratory report
- (c) Field or practical work
- (d) Others (please specify).....
- .....
- .....

4. What other types of written work do you expect to do in future? ( Please write in below. Also include those you have mentioned in question 3 above which you will still expect to do).

5. Did you have any problems writing any of your assignments?

YES	NO

6. If YES, in which type of assignment(s) did you have problems? Please write it/them below.

7. Which of the following gave you problems in your writing? Tick where



appropriate.

- a) Correct grammar
- b) Using a variety of grammatical structures
- c) Understanding assignment topics
- d) Understanding the subject matter
- e) Arranging and developing the appropriate format or presentation of ideas
- f) Using a wide variety of vocabulary

YES	NO

8. Have you ever consulted your lecturers about your written work? (This excludes the COMS lecturers)

YES	NO

9. If the answer to the above is YES, what aspects of your writing did you consult your lecturers about? You may refer to QUESTION SEVEN to assist you in answering this.

10. Have any of your lecturers (excluding the COMS lecturers) given guidance about writing assignments?

YES	NO

11. If YES, what form did that guidance take? Tick one or more.

- (a) Instruction to the whole class
- (b) Instruction to small groups
- (c) Individual instruction
- (d) Other (please specify)


Thank you very much for answering this questionnaire. If you have any questions regarding this questionnaire or the research you may contact me at the Department of Languages and Linguistics.

## Appendix 4

### SUBJECT SPECIALIST STAFF QUESTIONNAIRE

Egerton University  
Dept. of Linguistics and Languages  
P.O. Box 536,  
Njoro.

Dear colleague,

I am a lecturer in the Department of Linguistics and Languages currently undertaking research on Communication needs of undergraduate students at Egerton University.

To assist me to find answers to this and to help Communication Skills teachers to come up with relevant teaching materials for the Communication Skills course, I have enclosed here a questionnaire for you to fill in.

Thank you in advance, I look forward to hearing from you.

Yours sincerely,

Kibiwott P. Kurgatt.

Name.....
Department.....

1. Which courses are you currently teaching? (a).....  
 (b).....  
 (c).....  
 (d).....

2. How many students are there in each course that you teach?

Course	Number of students

3. In terms of their command of writing skills in English, what percentage (approximately) of students do you rate as:

Writing Ability	Percentage
Excellent	
Good	
Sufficient to cope with the course	
Insufficient to cope with the course	
Totally inadequate for university study	

4. List the types of written assignments ( e.g. essays, laboratory reports, CATS, etc) that you have given this semester to your first year undergraduate students in the course of their study;

Course	Type of assignment(s)

5. Which of these count towards their semester/year grades? Please indicate the course in brackets alongside the type of assignment.

6. How often do you give these assignments (in QUESTION FOUR above) per semester/year? (Please indicate the frequency as once, twice or more than two times).

Course	Assignment(s)	Frequency

7. Do you require students to consult you about any of these assignments before they hand in the final draft for grading?

YES	NO

8. If YES, which ones?

- a) .....
- b) .....
- c) .....
- d) .....

9. When you have consultations with the students concerning their written assignments above, what

problems arise that you deal with?

10. Are there any writing problems that students ever consult you about?

11. Are there any special problems that you have noticed in the students' written work?

12. Do any students have problems in communicating their ideas clearly in written English?

YES	NO

13. If YES, estimate roughly, their percentages in the chart below.

Communication Problems	Percentage
Serious communication problems	
Occasional communication problems	
No communication problems	

14. How much importance do you attach to the following when assessing your students' work?

Aspects of language	Level of importance		
	A lot	Some	None
Grammatical accuracy			
Appropriate vocabulary			
Clarity of expression			
Organization and planning			
Punctuation			
Spelling			
Content and ideas			
Tidiness			
Handwriting			

15. Which of the aspects above, if any, frequently impedes the students from communicating well in their written work in your course(s)?

Thank you for filling in this questionnaire. Please return it to me at the Department of Linguistics and Languages. You may also hand it in either to the Secretary, Department of Linguistics and Languages or your Departmental Secretary. If you have any questions that you may want to ask about this questionnaire, you may contact me at the Department of Linguistics and Languages.

Best of luck in your academic endeavours.

K.P. Kurgatt.

## Appendix 5

### THE COMMUNICATION SKILLS STAFF

### QUESTIONNAIRE

Name
------

1. Which department(s) are you currently teaching?
2. In which SCIENCE department(s) have you taught Communication Skills to students?
3. Which of the following skills related to writing do you emphasize in the teaching of Communication Skills to science students? Please tick where appropriate.

Grammatical structure	
Discourse features related to students' field of study	
Specialist vocabulary	
Organization skills for paragraphs and essays	
Other(s) (please specify)	

4. Which of the following does your program prepare students to do in English? Tick where applicable.

Read textbooks in their field of study	
Read journals in field of study	
Write reports or papers in field of study	
Answer examination questions	
Take lecture notes	
Listen to lectures	
Make note from textbooks	
Other(s) (please specify)	

5. Do you use materials that you have developed in your own university?

YES	NO

6. Are these materials that you use designed with any particular discipline(s) in mind ?

YES	NO

7. If the answer is YES, which disciplines are these?

8. What other materials do you use?

9. What kind of needs analysis did you undertake that took into consideration the demands of the various disciplines that your students study?

Genre analysis	
Looked at course details on the course outlines	
Consulted subject specialists	
Consulted students	
Other(s) please specify)	



10. Have you done any analysis at all to find out about discipline-specific writing needs of the students in their subject areas?

YES	NO

11. If the answer is YES, what was the nature of your analysis?

12. What steps are you taking towards making the Communication Skills Course relevant to students in discipline-specific areas?

13. In your observation, what most common types of problems in written English do science students that you have taught encounter in their work? (Refer to questions THREE(3) and FOUR(4) above).

14. Which of these in your opinion impede them from communicating effectively in their written work? List them down below in terms of occurrences of the problems in their written work, i.e. from the most often to the rare.

Problem	Occurrence		
	Very often	Often	Rarely

## Appendix 6

### SAMPLE COURSE OUTLINE: PRINCIPLES OF RANGE MANAGEMENT (NARE 202)

#### 1. Introduction

##### *a) Historical perspective of Range Management*

- Range Management in East Africa

##### *b) Definitions*

Range Management, range land, ranch, range ecology, range ecosystems, pastures, forage, etc.

#### 2. Range resources - Ecological basis (East Africa)

##### *a) Physical environment*

- Geology - soils

- Topography - physiography

- climate

##### *b) Biological environment*

- vegetation

- animals

- land uses

Nature and spatial distribution of range resources.

##### *c) Rangeland classification in East Africa*

- criteria

- Eco-climatic classification

- Physiognomic classification.

#### 3. Range use in relation to climate and physiography

a) Elevation

b) Terrain

c) Slope

d) Rainfall

e) Temperature

f) Evapotranspiration

#### 4. Grazing in relation to plant physiology and morphology

- developmental plant morphology

- synthesis, translocation and storage of photosynthates

- defoliation responses.

#### 5. Range quality and nutrition

a) Nutritional requirement of grazing animals

b) Nutritional value of range forage plants

c) digestibility of forage.

## **6. Soil -plant and animal interactions**

**Concepts:**

- competition
- succession and retrogression
- herbivory.

## **7. Securing proper range use**

- a) the concept of proper use
- b) range site
- b) assessing range condition and trend
- d) grazing management principles

## **8. Multiple range use**

- a) the concept of multiple use
- b) planning for multiple range resource use
- c) examples of multiple range use

## **9. Course conduct**

- a) Thirty hours of lectures

b) Lab. will be conducted within the campus as well as on field trips. Weekend field trips will be carried out for purposes of assessing range condition, vegetation evaluation, range multiple use and proper use. Reports will be graded.

c) Mid-term exams will be announced two weeks in advance. Unannounced quizzes (at least two) are part of the examination in this course.

**Good Luck.**

**(Lecturer's Name , Department and Date, Month and Year)**

## Appendix 7

### AN EXTRACT FROM THE CS COURSE BOOK

#### *Background to the Course*

*A University Course in Academic Communication Skills* was written by the members of the Communication Skills Project in consultation with the staff of the four universities. The Communication Skills Project was established as a result of an agreement between the Governments of Britain and Kenya in October 1988, whereby the project would be funded by ODA and administered by The British Council. The project was to provide support to the universities in Kenya for the setting up of a Communication Skills Course for the 8-4-4 students who would be entering the universities for the academic year 1990-1991. The main objectives of the project were the training of staff and the preparation of suitable materials.

#### *Content of Course*

A University Course in Academic Communication Skills has been written as a textbook for the Communication Skills Course which is to be taught to all 8-4-4 students at university in Kenya in their first year. It consists of the following:

1. Workbook
2. Resource Book
3. Lecturer's Guide

The Workbook contains learning activities and space for written answers. The Resource Book, which is an integral part of the course and which must be used in conjunction with the Workbook, contains reading texts and references on which the activities in the Workbook are based. The lecturer's Guide suggests ways in which the course can be taught most effectively. The course is divided into five units, each of which represents an integrated study cycle with listening and reading inputs based on a theme of general interest and relevance to Kenya. At the beginning of each unit there is a major task which provides an overall purpose for the work of the unit and which culminates at the end of the unit.

#### THE COURSE OBJECTIVES

READING AND NOTE-MAKING SKILLS INTERPRETING TABLES AND GRAPHS	LISTENING AND NOTE-TAKING SKILLS	WRITING SKILLS
<b>UNIT 1 -THE ENVIRONMENT</b> 1. to appreciate the importance of background knowledge 2. to predict the topic of a text from its title 3. to skim for topic and gist 4. to determine the meanings of reference words	1. to predict likely content of lectures from their introductions 2. to recognise discourse functions and structure in lectures 3. to use abbreviations and numbering techniques in note-taking 4. to make clear notes of a lecture	1. to understand the question and to determine the structure of the answer 2. to use appropriate markers for introducing topics in an essay 3. to prepare a detailed plan 4. to write three first sentences of paragraphs and one complete paragraph

## Appendix 8

### THREE EXAMPLES OF THE PRELIMINARIES TO PROJECT RESEARCH IN CS

#### **1. General Area: Organic Chemistry**

**Problem:** The high cost of petroleum fuel and its scarcity in the country leading to its high cost and the high cost of transport and transportation of goods

**Question:** What additives can we add to automobile fuels to make them cheaper and as efficient as automobile fuels?

**Type of Research:** Generating Hypothesis.

#### **2. Topic: Wild Animal Trends in Kenya**

**Hypothesis:** The people of Kenya have not been totally concerned about the deteriorating level of wildlife conservation.

**Question:** Is the high rate of the disappearance of the endangered wild animal species, in particular, the African Elephant and the Black Rhinoceros a result of the uncaring attitude towards conservation by the Kenyan citizens?

#### **3. General Area of Research: Atomic Physics**

**Problem:** Due to the increased use of radioactive substances in the generation of energy, the radioactive remnants cause destruction to the environment and affect the genetic composition of living things.

**Question:** How does the radioactive substances affect living things and imperil the future of life on earth?

**Why the question is important:** After ascertaining how the radioactive substances affect life on earth, man will be able to look for the most appropriate ways of disposing the substances in ways that will have least or no effect on life or minimise the number of living things affected.

## **Appendix 9**

### **TWO EXAMPLES OF PROMPTS**

**Figure 2.1 An Example of a Prompt Specifying Format**

- A. All written assignments must be well organized, in an easy to read format, and neat. If your handwriting is not legible, type the written assignments. Moreover, pay particular close attention to grammar, spelling, punctuation, and understandability. Communication is extremely important in this course.**
- B. Documentation is likewise very important. Unsupported statements or opinions are worthless to the reader who desires to verify your findings. Complete and specific documentation is mandatory. For example, do not write 864 when you actually want to direct the reader to 864(c) (4)(C). Also, your references should be from primary sources, except in rare, unusual situations.**
- C. Quoting should be kept to an absolute minimum!**
- D. Assume for each assignment that you have been given research to do on behalf of a client. The information you prepare will be used by your supervisor as he or she meets with the client or with a Revenue Agent.**

**Figure 2.2 An Example of a Prompt Specifying Content**

#### **COURSE REQUIREMENTS**

**Industry Analysis Paper: Each course participant is required to conduct an analysis of a selected industry to assess:**

- 1. The level of technology uses between firms.**
- 2. The level of technology utilization for the industry as a whole in comparison to selected other industries.**
- 3. The opportunity for a specific firm to deploy information technology to improve its competitive posture in the industry. Includes description of the firm, its current competitive posture, and specific strategies for dealing with customers, competitors or suppliers, or for developing new products.**

**The paper should demonstrate a comprehensive knowledge of current capabilities of information technology and insight into the trends and anticipated developments. Evaluation criteria also include the writing style, structure of the paper, and the use of meaningful illustrations. Grammar and spelling suitable for business are expected.**

**Examination: 2 exams will be given.**

**Grading: Examinations: 60%; Industry analysis paper 40%**

**(Source: Canseco and Byrd 1989)**

## Appendix 10

### THE WRITING SKILLS SECTION OF THE EGERTON UNIVERSITY CS EXAMINATION (1993).

#### WRITING SKILLS

Question 3. Basing your discussion on the conclusions you draw from the information in Table 3 and your own ideas, write an academic essay on the question below:

“How could visitors to Kenya’s game parks and reserves contribute towards the preservation of the flora and fauna?”

---

Table 3: Opinions of foreign tourists, local tourists and hoteliers on the effects of tourism on the environment (NB: Number = 100 foreign, 20 local and 20 hoteliers).

<u>Groups’ opinions</u>	<u>Foreign tourists</u>	<u>Local tourists</u>	<u>Hoteliers</u>
People who are very concerned about environmental degradation	87	20	20
There are too many visitors at any one time in the parks- noise, petrol fumes, etc.	56	10	-
The animals are no longer afraid of man, nor free enough in their natural habitat.	17	4	5
Human settlements are encroaching on the national parks	26	4	20
The fees in the park should be raised substantially to discourage pollution	93	2	3
A penalty should be enforced to punish people who litter the park	6	18	24
More funds should be raised to care for the environment.	40	12	5
The country should aim at quality tourism rather than quantity.	27	2	5