

DISCOURSE ACTS AND CLAUSE PROCESS OPTIONS:

an Investigation into the Spoken English  
used by Teachers and Pupils during Selected  
Lessons in some Secondary School Classrooms  
in Urban Areas of Nigeria.

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## DISCOURSE ACTS AND CLAUSE PROCESS OPTIONS :

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Susan Myra Durojaiye

### ABSTRACT

The research reported in this thesis has as its setting the secondary school classroom in Nigeria, where English is used as further tongue medium of instruction. In order to investigate the use of English as medium across the curriculum, the spoken language of teachers and pupils during forty lessons, ten from each of four subject areas, was analysed. The method of analysis used focuses on the discourse rank act and the grammatical rank clause. The occurrences of discourse acts and choices from process options within the clause are identified and analysed, as are interactions between the two ranks. Features within lessons which appear to influence these occurrences and interactions are also identified and discussed.

The findings of the investigation indicate that the teachers in the present sample, on the whole, tend to use a wide range of both discourse acts and clause process options. The pupils, on the other hand, tend to use a more limited range on both measures. With regard to the interaction between discourse acts and the clause process options expressed within them, the findings suggest that patterns of choice from the clause process options within certain discourse acts reflect the acts' discourse function. Some apparently subject-linked features are identified in the patterns of choice from the clause process options. The predominance of minor clauses in pupils' spoken English is seen as a cause for concern in the further tongue English setting. Teaching devices which apparently affect the amount of practice pupils are given in using a wider range of discourse acts and clause process options are identified. The implications of the findings for the training of teachers in the use of spoken English across the curriculum are discussed, as are the limitations of this study and its implications for future research.

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## CHAPTER ONE

### ENGLISH IN NIGERIAN SECONDARY SCHOOLS

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## CHAPTER ONE

### English in Nigerian Secondary Schools

#### 1.1. Present Position of English in Nigerian Secondary Schools

In Nigeria, English is used as medium of instruction at Secondary School Level. All pupils who manage to gain secondary school places will be expected to use English as medium for all subjects on the curriculum except, of course, for subjects such as French or the major Nigerian languages. This use of English as medium of secondary school instruction seems likely to continue in Nigeria for a considerable time (Brann, 1977; Lagos, Federal Ministry of Education, 1977); the problems attendant upon it demand continued investigation.

English, when used as medium of instruction, must serve teachers and pupils as the means of spoken and written communication in the teaching and learning process. Whatever the curriculum subject being studied, English will be the chief means of communication in the classroom. Although, in the various subjects, other channels of communication such as textbook material, diagrams, charts, models, formulae, blackboard examples, and so on, may be frequently used,

English, the language of the classroom, is the major channel of communication. Diagrams and formulae will be interpreted or expressed in English; a "running commentary" in English often accompanies demonstrations or the building up of formulae on the blackboard. The language of the classroom, the medium of instruction, has a major role to play in the teaching and learning process.

As well as serving as medium of instruction in the secondary school, English appears on the school curriculum as a subject in its own right. The pupils have anything from perhaps as few as four to as many as seven or eight English lessons each week. These English lessons have a two-fold aim. First, they are intended to develop the language skills which pupils need in their use of English as medium. Second, they are directed towards the development of appreciation of the English language and of literature written in English as a worthwhile subject in its own right. The degree to which this dual purpose of English as a subject on the school curriculum is manifested depends to a large extent on the English syllabus, on the English teaching materials available, on the training and attitudes of the teacher, on the language policy of the school, on the allocation of periods to English language and to literature in English and on various other factors which may differ from school to school. In some schools, the English department is seen as a "service" department with its main function focused on English-medium skills;

in others, this attitude may hardly be found at all. The published course books available for use at secondary level also reflect different approaches to the subject "English", some emphasizing communication skills relevant to pupils' work across the curriculum, others biased more towards what might be termed 'personal' and 'expressive' uses of English.

Most importantly, however, the English language is not the mother tongue of the pupils who must continue to learn and use English in this situation. It has, for them, the status of "further tongue" (Brann, 1977), being acquired in the process of formal education and perhaps being one of two, three or more languages which the pupil acquires and uses for different purposes (See 1.4).

#### 1.1.1 The Relationship Between English and the Nigerian Languages at Secondary School Level

At secondary school level, English and the Nigerian languages are seen as fulfilling complementary roles (Bamgbose, 1969). While English functions as medium of instruction throughout the Federation, the major Nigerian languages (Hausa, Igbo and Yoruba) are seen as having equally important status as a means of preserving Nigerian culture and promoting national unity. The National Policy on Education (Lagos Federal Ministry of Education, 1977) recommends "that each child should be encouraged to learn

one of the three major languages other than his own mother tongue" (Section 1, para. 8). This increasing emphasis on the three major languages as subjects on the secondary school curriculum is, according to Bamgbose (1976), the most that can be expected for many years to come. There is a strong current of opinion in the country that every Nigerian should know another major Nigerian language (Brann, 1972). Such opinion reflects the concern of educators to ensure that formal education fits pupils for their role in society, a society in which over half the Nigerian population are speakers of any one of the three major languages (Brann, 1972), while estimates vary from 5% to 15% with regard to the proportion of the population speaking English (Bamgbose, 1971; British Council, Lagos, 1974). While this conferring of equal status on the major Nigerian languages in the secondary curriculum is as yet only a current trend, it can be predicted with confidence that it represents an inevitable and desirable future development.

#### 1.1.2 Parallel Situations in Other West African Countries

The role of English in Nigerian secondary schools is duplicated in other countries of West Africa. Ghana, like Nigeria, is a multilingual nation state; that is, distinctive segments of the indigenous population use more



than two languages for intra-national communication (Gbademah, 1975). While calls for an indigenous lingua franca are heard in Ghana, there is little evidence that the role of English in secondary and higher education will change for some time to come. Gbademah's (1975) survey revealed unanimity on the role of English at the higher levels of education, while additional study of Ghanaian languages as subjects on the curriculum was advocated (Boadi, 1976). Similarly, in Sierra Leone, English functions as medium of instruction from secondary school level upwards, while similar calls are heard there for increased prominence to be given to the languages of Sierra Leone as secondary school curriculum subjects (Fyle, 1976).

While the "further tongue" in the Republic of Benin is French rather than English, the relationship between French and that country's own languages is very similar to that between English and the local languages in Ghana, Sierra Leone and Nigeria. In Benin, the Revolutionary Military Government has declared that the status of local languages must be boosted at secondary school level. Again, the motives for such action are closely tied to questions of promoting national unity and culture (Yai, 1976).

Thus, at secondary school level, the dominant trend seems to be the maintenance of "further tongue" (English or French) as medium of instruction, while giving

increasing prestige to local languages as subjects on the school curriculum. However, secondary level education cannot be viewed in isolation. The pupils who attend secondary schools have come to them from primary school systems in which the language situation is quite different to that at secondary level. It will be necessary to look at language policies at primary level also, in order to obtain a correct perspective for the study of English-medium problems at secondary school level.

### 1.2 The Language Situation at Primary Level

Present language policy at primary school level appears to be much more likely to change in the near future than that in secondary schools. In Nigeria, Ghana and Sierra Leone, primary schooling is typically carried on for the first three years using a local language as medium, while English is taught as a subject. In year three or four, a switch is made to English as medium of instruction. However, in areas where the multiplicity of local languages and the lack of any one dominant regional language makes this procedure impractical, primary schooling may be through the medium of English throughout (Boadi, 1976; Gbedemah, 1975; Taiwo, 1972; Fafunwa, 1975). There are powerful arguments against the continuation of such policies.

### 1.2.1 The Mother-Tongue/Other-Tongue Debate

Increasing dissatisfaction with the policies described above (1.2.) is being expressed, on the grounds that the young child learns better in the mother-tongue (Fafunwa & Bliss, 1967), that under the present system, most children leave primary school literate in neither the mother-tongue nor English (Afolayan, 1976; Bamgbose, 1976; Fafunwa, 1975); and that, in any case, only a small percentage of primary school leavers go on to secondary education, while for the majority, primary education is terminal (Bamgbose, 1976). It is also argued that, in fact, many primary school teachers rely on a local language as the true medium of education long after the recommended transfer to English at primary three level (Bamgbose, 1969; University of Ife, Institute of Education, 1971; Fafunwa, 1975) and that this is particularly the case in rural areas (Boadi, 1976). While the real problems of using a local language as medium throughout primary school are recognized (Taiwo, 1976; Marinho, 1976; Afolayan, 1966), particularly in the areas where a multiplicity of languages are spoken, both educationists and politicians are calling for increasing use of local languages as medium of instruction at primary level. Such calls range, in Nigeria, from the three major languages (Hausa, Yoruba and Igbo) to as many as nine regional languages plus the three major languages (Marinho, 1976). The problem in Nigeria is heightened by

the multiplicity of Nigerian languages (400 distinct languages according to the count by Hoffman & Williamson, 1972; 395 listed by Hansford et al, 1976). The problems of selection and discrimination in such a situation are enormous. However, it seems at the moment that "Nigeria is steering towards a national trilingualism (Hausa, Igbo, Yoruba) and an individual triglossia (Mother-tongue, other tongue (community language) and further tongue (English))" (Brann, 1977). The Primary Education Improvement Project in the north of Nigeria also reflects this trend (UNICEF, 1969), having as one of its aims the development of bilingual (Hausa/English) education for the first three years of primary school.

#### 1.2.2 Implications for English in the Secondary School

The language policy which at present prevails at primary level (1.2.) produces primary school leavers with serious problems of inadequate mastery of the language which they must go on to use as medium of instruction throughout the secondary school. As Fafunwa (1975, p. 214) states: "Parents, government officials, teachers and others complain that the products of these primary schools are neither proficient in English nor in the mother-tongue", a view which is shared by many educationists (Tomori, 1974; Afolayan, 1976; Bamgbose, 1966). This situation has existed for a considerable time. A survey of English language

teaching needs and problems carried out in 1966 concluded that the heart of the ELT problem in Nigeria is to be found at primary level (Jacobs, 1967). Obidi (1975) draws attention to the large proportion of unqualified teachers at primary level.

These inadequacies have the effect of making much of the English teaching done at early secondary level remedial in nature (Banjo, 1970). Teachers of English at that level must attempt to correct faults, to prepare pupils for the use of English in the teaching and learning of both new subjects and familiar ones at more advanced levels, and at the same time, to teach English as a curriculum subject in its own right. In order to fulfill this complex role successfully, teachers of English must know exactly what the needs of their pupils are in these three respects—remedial work, English medium skills and English subject skills. Whether, in fact, their training fits them for the task will be discussed later in this chapter (1.6).

Such knowledge of pupils' needs becomes even more important when primary schooling is through the medium of a Nigerian language, with English taught as a subject only. In such a system (for example, the Ife six-year Yoruba-medium primary project), it is argued that pupils' need for remedial English at early secondary level will be less, as they will have been taught English as a subject throughout primary school by a specialist teacher trained

in English language teaching. This, it is hoped, will produce a better command of English by pupils than can be achieved when all primary teachers are expected to teach English and to use it as medium for other subjects (Afolayan, 1976; Fafunwa, 1975).

At the same time, the need for an analysis of the kinds of English skills involved in the use of English as medium of instruction, in order to direct the teaching of English effectively, is highlighted by the mother-tongue primary project. While this aspect of English teaching has always demanded attention, projects such as the Ife one have increased awareness on the part of educationists of the analytic tasks which must be performed. Hilken (1973) mentions that "just what English is required for successful participation in a secondary course is not precisely known, and is the subject of research within the (Ife) Project" (p.1). Afolayan (1976) gives more detailed information about the kind of work being undertaken. He states: "To define the English required as the medium of secondary education we need three kinds of data, first, data concerning the books, pamphlets and articles prescribed or suggested for the various courses, second, oral and written data on the type of English used by both pupils and teachers, and third, data obtained from questionnaires and interview questions directed at both secondary school teachers and pupils. In all three cases, the data must be

linguistically examined and analysed" (Afolayan, 1976, p. 128). In order to meet this requirement, workers in the Ife project are collecting samples of the English spoken in learning situations by primary class six and secondary class one pupils and teachers, with a view to using the analysed material in designing an intensive English course for secondary one pupils leaving the mother-tongue primary project. However, the approach to this task at Ife is limited to Yoruba-speaking children and teachers and, while analysis at the levels of phonetics, phonology, grammar, lexis, register and usage is being carried out (Afolayan, 1976) no attempt is being made to analyse the samples at the discourse level. The present study involves a wider sample and a different analytic approach which will be seen to be complementary to the Ife project's efforts.

It is evident from the above that awareness of the need for carefully designed secondary English courses directed at the needs of pupils in their use of English as medium can be heightened by developments and practices at primary level.

### 1.3. English in Post-Secondary Education

Just as consideration must be given, when secondary school English is the subject of investigation,

to what goes on in English teaching at primary level, so, too, must the post-secondary stage be taken into account. The use of English as medium continues from secondary into higher education. That is, the university student of engineering, for example, will attend lectures given in English, read textbooks, journals and manuals written in English, and will present his own project reports and essays in that language. Yet, particularly in the case of science students, formal instruction in English language is likely to have come to an end with the West African School Certificate (WASC, comparable to British 'O' levels). Entry requirements for Universities stipulate a W.A.S.C. qualification in English Language largely because of this continued use of English as medium. It is pertinent to ask, therefore, whether secondary school courses in English prepare students for the English language skills needed for advanced study.

#### 1.3.1 Problems at University and Teacher-Training College Level

In his report of an inquiry into English language examining, Grieve (1963) describes the concern expressed by the Nigerian Universities at the fact that candidates without the basic English language skills needed for higher education were in fact being admitted to University courses. In a memorandum submitted to Grieve by the staff of one of the universities, for example, the following comments



were made:

"As teachers in the University, we are deeply interested in the attainments in English of the successful candidates who come on to us. In our experience, very few of them have the skills essential to satisfactory work in the University. Their understanding of spoken English, their ability to express themselves orally, and their power to read effectively, are far below what is necessary" (Grieve, 1963, p.61).

The creation, within many of the Universities, of units whose task it is to attempt to remedy such English language problems reflects the perennial nature of these problems at University level. The University of Ibadan, for example, has its "Reading Centre"; the University of Lagos has recently established the "Centre For the Use of English and Reading." The production of English courses aimed at University and College students, such as that by Banjo and Unoh (1976), recognizes the handicap imposed on students in higher education by their inadequate English language skills. Such units and courses are available to all students, as it is recognized that the problems of using English as medium in higher education affect all students regardless of their particular subjects of study.

In teacher-training also, the same problem is

found. For example, Aleyideino & Hawes (1971) describe an in-service education programme devised for teachers in Northern Nigeria which suffered from high drop-out rates, high failure rates in the examinations and a considerable fall in enrolment. This is attributed in part to the teachers' inability to study on their own, caused by a lack of study skills. The importance of language in study skills is acknowledged. The previous education of these in-service candidates had not provided them with the language skills needed for further study. This is recognized by all the teacher-training institutions in Nigeria, which offer general English courses to their students. The University of Lagos Faculty of Education offers courses in "communication skills" to its Associateship and Nigeria Certificate in Education (N.C.E.) students. At the Advanced Teacher Training College (A.T.T.C.) in Owerri, Eastern Nigeria, a course on "communicative English" is offered to all students. The A.T.T.C.'s at Uyo, Port Harcourt, Ondo, to name just a few, offer similar courses in general English. Some teacher training colleges offer remedial English courses (Cavaye & Wagoner, 1967).

Such courses have a two-fold aim; first, they are designed to help trainee teachers to improve their own English and to pursue their studies successfully and second, they are intended to develop an awareness in future teachers of the importance of English as medium in the secondary

school. Conferences on high-level teacher training (University of Lagos, 1969; Federal Ministry of Education, Lagos, 1971; Federal Ministry of Information, Lagos, 1972) have recommended that all intending teachers should be given courses in communication skills designed to make them aware of communication problems. As well as these general English courses offered to all trainee teachers, future teachers of English itself are given a considerable amount of guidance, training and information in connection with the problems of using English as the medium of instruction in the secondary school.

Unfortunately, the courses for trainee teachers of subjects other than English often, in practice, place more emphasis on improving the teachers' own language skills and less on their future pupils' language problems or the role of language in the teaching/learning process.

This emphasis on the importance of language in teacher-training is also found in other West African countries. For example, the Institute of Education, University of Sierra Leone (1975) offers in-service courses designed with the special English language needs of pupils studying technical and commercial subjects in mind. The course designers state that "technical teachers have no less a responsibility for their students' linguistic skill than the General Studies teacher; they have an important part to play in training the students to use the language needed

for the study and understanding of their special fields" (p.2). In Ghana, too, the importance of a teacher's ability to communicate through the effective use of spoken English is recognized and teacher training colleges are criticised for not placing a greater emphasis on spoken English in their curricula and examinations (Asiedu-Akrofi, 1972).

### 1.3.2 Implications for English in Secondary Schools

Remedial work in English language at post-secondary level is a common feature of university and teacher training college courses. Remedial work at that level can hope to achieve only a very limited success, as errors and weaknesses are of long standing. Students do not have the flexible reading habits, varied writing skills, ability to use appropriate style and vocabulary and aural/oral skills which would fit them for successful study (Tiffen, 1969; Banjo, 1970). It would seem that the secondary school system is failing its pupils in vital aspects of language skill essential to the successful pursuit of further studies. As the Secondary English Curriculum Committee (Ibadan, 1973) state, "The English we teach must therefore serve the needs of our students in their whole education. Students learn English in order to learn through English" (p.2). Perhaps by analysing just how learning through English takes place in the secondary school classroom, an approach to English teaching can develop which may reduce the need for remedial work in English at higher education levels. Such analysis

may also serve to make teacher education programmes more directly relevant to the language problems of secondary school classrooms.

#### 1.4 English in Its Wider Context in Nigeria

Just as language policies and problems at primary and higher education levels have implications for English in the secondary school, so too does the position of English in Nigerian society as a whole. As well as its role in formal education, English is used in government, as the official language for records, instructions, and so on; in business and commerce, for transactions and publicity; in the mass media, for spreading information and propaganda; in the creative arts and literature, a dynamic Nigerian literature in English having thrived for years; and in both internal and external social communication situations. English is therefore linked to educational advancement, job opportunities and fuller participation in social and cultural life (Bamgbose, 1971). However, this is true for only a small proportion of the population. While English does, undoubtedly, fulfil all these functions for some Nigerians for some of the time, the Nigerian languages and pidgin English are also used by many for the same purposes. The role of English in the life of the majority of Nigerians who speak it is perhaps not overwhelming (Ubahakwe, 1972), while the percentage of Nigerians who actually speak English may be as low as 5% (Bamgbose, 1971).

Doherty (1970), for example, found that teacher training college students surveyed would seldom use English in the home (68%), or for entertaining, buying and selling (38%), although more than 90% stated that they would use English for official purposes and for outside communication. Kerr (1972), in a survey of 100 Yoruba speakers representative of a university community, concluded that Yoruba tended to be dominant in most listening and speaking situations, while English dominated their reading and writing. Thus, even for members of the elite group at the apex of the educational system, English is by no means the primary means of communication.

On the other hand, Pidgin English can fulfil many of the functions which standard English performs and can, moreover, do so for a far greater proportion of the population. Pidgin English is spoken by the greatest number of Nigerians, it may be used as medium both inside and outside the classroom, in staffrooms, offices and homes, for trade and by workers, for radio and television programmes and in Nigerian literature (Akinluyi, 1977). In Nigerian society are found varying degrees of multilingualism, ranging from the virtual monoglot, with the same language in home, community and primary school, to the polyglot with from three to five languages (Brann, 1972). A Nigerian may acquire his mother tongue, then pidgin, and only later, English, or he may acquire his mother tongue, then a regional language such as Hausa, and only then, English (Ubahakwe,

1972). Of his languages, English may perform more limited functions than any other. In effect, the domain of English (Fishman, 1972) is limited and is not even exclusive to English.

#### 1.4.1 Possible Effects on English in the Secondary School

The out-of-school language environment of secondary school pupils may hardly support the English teacher's efforts. Sofenwa (1975) talks of the "wide disparity and confusion between the language of the textbook, the curriculum, the English language class and the Nigerian society outside the class" (p.125). A secondary school pupil moves from the school situation, in which demands on his English language skill are of many different types, into an out-of-school environment in which he may hardly hear or use English in any of the most common everyday situations. It would seem that little reinforcement of the English the pupil learns in school is available outside, particularly in the kind of everyday personal situations which many English courses still make the focus of their attention. The actual use of English, limited as it often is to formal education, is a strong argument in favour of analysing pupils' needs in terms of English as medium of instruction and concentrating on those in an effort to make English teaching efficient at least in the area of greatest need for and use of the language.

### 1.5 Secondary School Pupils' Background and Their Attitudes Towards English

The argument presented in 1.4.1 above gains some support from the evidence provided by surveys of pupils' background and opinions. For example, the Secondary English Curriculum Committee (Ibadan, 1973) commented that, "It is most significant that in surveys of what they (the pupils) want to read, talk and write about in English, the central curriculum subjects like Science, Social Studies and Agriculture rate very high. They realize that English is the gateway to progress in their education. They want centres of interest in English relevant to their other subjects." (p.2). This is true in other West African countries also. In Sierra Leone, for example, large surveys of pupils' interests were carried out in 1959, 1961 and 1967, in which it was discovered that English is regarded as the key to success by pupils and that "thus, surprisingly enough in spite of its difficulty as evidenced by a relatively low achievement level, English grammar is one of the most popular subjects in the school curriculum" (Ferron, 1973, p.232). Similarly, Nwana (undated) found a high level of interest in English language among secondary school pupils in the Nsukka area of the East Central State of Nigeria, an interest which he attributes to the importance of English as medium of instruction, as key to success, and as symbol of one's degree of education. However, Nwana found that pupils' self-rated achievement did not relate



to their actual achievement, which was much lower. Interestingly, the higher the class which pupils were in, the lower the level of their self-rating in English. As public examinations loom nearer, it would seem, pupils realize the inadequacies of their English-medium skills. Tomori (1970), using Schonell and other tests, found that Nigerian secondary school pupils scored  $\frac{1}{4}$  below mother tongue speakers of English and yet are expected to use English as medium. This conflict between high expectations and low levels of achievement presents urgent questions which demand research, re-thinking and renewed efforts on the part of English teachers, course designers, teacher trainers and research workers in English teaching.

Just as pupils' opinions support arguments for a functions-oriented English teaching approach, so, too, does information about their out-of-school environment provide evidence about the lack of reinforcement for English language learning in the pupils' background. Tomori (1974), in a survey of 896 primary school pupils, found overcrowded homes, poor sleep, malnutrition, lack of books and materials which could all militate against successful English language learning. Investigations of socio-economic background and education level of parents (Yoloye, 1971; Ogunlade, 1973) show the importance of such factors in the academic achievement of pupils and that the average Nigerian pupil can expect little intellectual support from home. When, in addition to all this, spoken English of the type learned in school may be rarely used outside school, pidgin English or Nigerian languages often

being used instead, the handicaps facing secondary school pupils in their efforts to do well in English must be seen as considerable.

1.5.1 The Need for Secondary School English Courses to Take Pupils' Background and Attitudes into Account

On the available evidence, it can be argued that secondary school pupils in Nigeria are highly motivated to learn English successfully, as they see it as the key to academic success. Their desire to learn English is inextricably linked to the functions which they expect the language to perform in relation to their studies. An approach to English teaching which emphasises personal, expressive use of the language in everyday situations (situations in which pupils would be much more likely to use a Nigerian language or pidgin English, in fact) will not satisfy pupils' expectations and needs. If English courses and English teachers can help pupils to acquire the English language skills which they need to participate effectively in the teaching/learning process, they will be meeting the first priority of pupils' English language learning efforts. In trying to achieve this aim, the fact that pupils' out-of-school environment contains little to reinforce their English language learning must be taken into account. Only then can efficiency and relevance be achieved in English teaching. One must look at the present English

syllabus and examinations to see how far these aims and problems are recognized.

#### 1.6 The Present Secondary School English Syllabus and Examinations

The secondary school English syllabus and examinations in Nigeria have been greatly influenced by the Grieve report (1963), which led to a definite move away from an over-emphasis on literary skills to a concern with "the kind of language needed to cope with practical situations in everyday life" (Grieve, 1963, p.16) In 1969 at a conference on high level teacher training it was agreed that "existing English courses in schools and universities are inclined to be too literary in content, whereas the real need was for the development of language skills" (Conference Proceedings, p.45). At present, it is the policy to teach composition skills with the emphasis on varied types of writing, ranging from personal-expressive to impersonal reporting. Letter-writing is given detailed attention. Notemaking and summary skills are taught and are highly valued because of their usefulness as study skills. Reading skills necessary to pupils, from detailed comprehension to rapid reading for information, are approached through materials selected from other school subjects as well as strictly English-subject materials. Grammar and lexis are taught through practice rather than analysis, in the hope that pupils will acquire an easy

control over the grammatical structure of the language. In some of the detailed syllabuses provided for teachers there is an evident awareness of the need to help pupils to develop English-medium skills. In the Ibadan English Teachers' Handbook, for example, the English teacher's attention is drawn to the use of 'if.....then' sentences, instructional forms, simple descriptions, complete paragraphs involving reference to a diagram, and so on, in an appendix on "Examples of Types of Writing Expected by Science Teachers in Forms 1-3" (Secondary English Curriculum Committee, Ibadan, 1973, p.115).

Some of the English courses in use in schools are designed to help pupils to acquire the English-medium skills they need (Montgomery, 1970, for example). Such courses, when used by teachers who appreciate their aims and methods, can prove effective in the classroom, incorporating, as they do, a wide selection of reading material and language practice drawn from sources across the curriculum. However, many schools still use courses which do not adopt such a thorough English-medium approach (Ogundipe & Tregidgo, 1966, for example). When, coupled with inappropriate or boring course books, one finds teachers with inadequate training, classes with large numbers, and pupils without many of the necessary materials, all the expressed concern of the policy makers with English-medium skills is often to no avail. In many schools, the W.A.S.C. examination

in the fifth form, with its objective test of grammar and lexis, its composition, summary and comprehension tests, dominates the English teaching. Teachers follow a course book designed to train pupils to succeed in their examination and this is often done quite rigidly. In addition to varying standards in course books, teacher-qualifications, pupil numbers and English syllabuses, an aspect of English which receives inadequate attention at present is spoken English. There is still no compulsory oral test in the W.A.S.C. English examination, in spite of Grieve's strong recommendation that there should be (Grieve, 1963). It is possible to get an 'A' in English at W.A.S.C. "without being able to speak the language intelligibly" (Banjo, 1970, p.155). Even in 1963, Grieve was criticizing existing oral examinations on the grounds that "at no point is there a test of the comprehension of the spoken word in the form of continuous discourse" (Grieve, 1963, p.72).

Today, not only is this still the case but secondary pupils also need not take any oral English test at W.A.S.C. level. With the tendency of examination content to become the major influence on the school syllabus, this lack of emphasis on oral/aural skills is reflected in the classrooms. Yet it is in speech and listening skills that pupils are involved each day in their work across the curriculum. When they go on to higher education, they will again rely on listening and speaking skills to understand

lectures, participate effectively in tutorials, and so on. In 1963, Grieve suggested that teachers of other subjects placed little value on the standard of the English used by pupils to convey facts. At that time, he urged that all W.A.S.C. examination papers should be marked with some weight given to English expression because of the good "backlash effect" to the schools which would result (Grieve, 1963). In 1978, not only is this not the case, but W.A.E.C. (the West African Examinations Council) actually advises its assessors for subjects other than English to mark for facts regardless of the way they are expressed (personal communication, 1978). The effect of such policies on the English syllabus in the schools can only be to militate against collaboration in language matters across subject boundaries and to remove emphasis from efficient teaching and learning of English-medium skills. On the one hand are educationists and English specialists emphasising the importance of linking work in English lessons with what goes on, in language terms, in other subjects (Bamgbose et al, 1966; Moody, 1969; Banjo, 1970; Munby et al, 1973), while on the other hand are examining bodies which place little value on oral English or on the standard of written English in examinations in other subjects. The result of this can often be that "teachers of Science, Mathematics and Geography, for example, are more interested in giving a mass of information and in making sure that their students master and reproduce

it than in insisting, for themselves and for their students, on 'correctness' in the use of the English language" (Ezeakunne, 1972, p.65).

### 1.7 The Need for Analysis of English-Medium Skills

With all the above background information taken into account, the need for an analysis of the English-medium skills which pupils require becomes evident. While English will probably continue to be used as medium of instruction at secondary level for some time, the increasing status of Nigerian languages as medium at primary level, as subjects at secondary level and as favoured means of communication outside the school will perhaps tend to focus English teaching efforts specifically towards the skills needed to use the language successfully in the teaching/learning process. Surveys of pupil opinion and of English-medium problems at higher education level certainly present strong arguments in favour of a functions-oriented approach to English teaching. If this is to be achieved, evidence must be provided as to just what demands are made on pupils' English language skills in the secondary school classroom. Particularly in view of the present lack of emphasis in English teaching on oral/aural skills, both in the English syllabus and in the examinations, and in view of the importance of these skills at all levels of formal education, an analysis of their role in the classroom could provide

evidence of the direction which English teaching could take in order to become more related to pupils' real language needs than it often is at present. It is hoped that the work reported in this study will go some way towards providing such evidence.



## CHAPTER TWO

### THE MEDIUM OF INSTRUCTION AND THE TEACHING AND LEARNING OF SUBJECTS ON THE SECONDARY SCHOOL CURRICULUM

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## CHAPTER TWO

### THE MEDIUM OF INSTRUCTION AND THE TEACHING AND LEARNING OF SUBJECTS ON THE SECONDARY SCHOOL CURRICULUM

#### 2.1. Tasks Facing the Secondary School Pupil

Against the background, described in chapter one, of inadequate English-language learning at primary school level, of lack of support for English-language learning activities outside school, and of a pressing immediate and future need to use the language in formal education, the secondary school pupil in Nigeria can be seen to be faced with formidable tasks. To some extent, these tasks are also faced by pupils in mother-tongue English classroom situations. The introduction of subjects new to the pupil, and the pursuit of familiar subjects at new levels of difficulty, are common to both. Textbooks and their language levels can place unreasonable demands on first and further-language speakers of English alike (Rosen, 1972; Durojaiye, 1971; UNESCO, 1974). Both conceptual and linguistic problems are faced by both types of learner, some of the linguistic problems differing in kind, others only in degree. Certainly, for the further-tongue speaker, "the very period that finds the individual's new language

(English) in a chaotic whirl is the period of maximum language-thought accommodation" (Abiri et al, 1966, p.11). However, just as the pupil using English as further tongue and medium of instruction can be hindered by inadequate learning of the language, so too can the mother-tongue speaker encounter problems arising from her linguistic background, out-of-school environment and the unfamiliar language use encountered in school. Treadaway (1976), writing in a further-tongue context, argues that there are three levels of understanding of language: the language itself, its referential meaning, vocabulary, syntax, and so on; the uses of language in the classroom, in teacher-pupil interaction situations; and the wider socio-cultural situation of the language, its social, political, historical and educational context and the linguistic background of pupils and teachers. These three levels are obviously common to both mother-tongue and further-tongue speakers of English. With this in mind, evidence from the literature, while drawing mainly on studies carried out in further-tongue situations, will include studies carried out with mother-tongue speakers which are regarded as particularly relevant. In this chapter, it is intended to concentrate on the use of language in the teaching-learning process, with particular reference to the different subjects on the secondary school curriculum.

## 2.2 English and the Teaching and Learning of Mathematics

The English used in the teaching and learning of mathematics "shares with the rest of educated English its central core of tenses, pronouns, singular/plural distinctions, and so on. Grammar, pronunciation, spelling are the same when the subject matter is mathematics as in any other kind of English" (UNESCO, 1974, p.121). In addition to this 'central core', however, are found special mathematical terminology, special uses of everyday words and expressions, heavy use of devices in the language which express relations of causality, dependence and restriction, all of which combine to form the "register of mathematics". Strevens (1974) also mentions "additional features of quantification, symbolization, and the verbalization into natural language form of the precise logical relationships which underlie mathematics" (p.62). As well as special language features, non-verbal features such as diagrams, formulae and symbols also form an integral part of what Widdowson (1974) would wish to call "discourse" rather than register, as he sees the concept of 'register' as being too concerned with linguistic forms alone. In the mathematics lesson, then, language "represents concepts, describes experiences, organizes experience (through instruction, or when used by the learner in his own work), describes and discusses diagrams, verbalizes mathematical notation, defines new concepts for the learner, creates

through logical deduction concepts which are new to everybody and checks the validity of creative intuitions" (Clark, 1974, p.81). This is true for both mother-tongue and further-tongue speakers in the mathematics classroom.

Particularly where modern mathematics is taught, the demands on pupils' and teachers' language may be even greater. Modern mathematics emphasises the relations of mathematics to other aspects of a pupil's life; it tends to redefine simple words rather than coining new ones as traditional mathematics did; problem solving, discussion, applications of mathematical ideas to a pupil's own interests and experiences, are all advocated as the modern approach to mathematics teaching and learning (Bassler & Kolb, 1971; Assistant Masters' Assoc., 1973; Watson, 1976). In examinations there is "significant verbal content" and "increasing verbal ability is called into play (which) should cause some concern to examiners who think they are testing exclusively mathematical ability" (Mitchelmore, 1975, pp.298 and 304). The role of English in the teaching and learning of mathematics demands investigation, especially in situations where English is the further-tongue rather than the mother-tongue. This concern with the role of English prompted the UNESCO symposium (1974) on 'Interactions between Linguistics and Mathematical Education' and the subsequent CASME workshop (1975) on 'Languages and the Teaching of Science and Mathematics with

Special Reference to Africa'. Both stressed the need for research.

### 2.2.1 Some Language-Based Problems of Pupils and Teachers in Relation to Mathematics

It has been pointed out (Barnes et al, 1969; UNESCO, 1974) that teachers may take for granted the special language used in teaching their particular subject. They may simply assume that only certain aspects of the mathematical register, or mathematical discourse, need explanation and attention during mathematics lessons. Most commonly, the aspect which teachers recognize as demanding special attention is the subject's terminology. Teachers without linguistic awareness can make the mistake of assuming that pupils' ability to deal with mathematical discourse is relatively high. The teacher's own facility can blind her to pupils' linguistic difficulties. One of the major recommendations of the UNESCO symposium (1974) was that greater attention should be paid, in teacher education, to raising the level of linguistic awareness in student-teachers; through courses on an interdisciplinary basis and through classroom research (UNESCO, 1974, p.124).

Where teachers of mathematics are themselves further-tongue speakers of English, one would predict that it is likely that they will have a greater awareness of linguistic restrictions imposed on their pupils by

language-learning problems. Having struggled to use English as medium throughout their own secondary and higher education, they may have a sympathetic awareness of pupils' difficulties. This is borne out to some extent by the fact that textbooks written for secondary class one pupils by subject specialists who are themselves further-tongue speakers of English familiar with local conditions are found to have language levels suited to the pupils who will use them (Durojaiye, 1971). (The same is true of textbooks written by mother-tongue speakers of English in collaboration with English-teaching specialists, all of them with first-hand experience of local English-language standards and problems).

On the other hand teachers of subjects other than English may themselves have an inadequate command of the language and often have no information on the actual standard of English, particularly spoken English, which their pupils have achieved by early secondary level. Even where courses on "English across the Curriculum" or "Communications skills" exist, as they do in some institutions (1.3.1.), the research evidence on local pupils' and teachers' use of English in the teaching-learning process, which could provide course material and aid course design, is lacking. This is particularly true in the case of spoken English. The research project reported here is designed to go some way towards filling that gap.

From the pupils' point of view, the problems facing them in the mathematics lesson may be many. The English used in class for teaching mathematics may exceed in complexity the pupils' level of attainment in English. Pupils may not be able either to fully understand the teacher's presentation of mathematical material or to respond adequately to the teacher's questions, because of inadequate command of aural/oral English skills. There may be a lack of fit between concepts and their expression in the mother-tongue as opposed to the further-tongue, as has been shown by Gay and Cole (1967), Philip (1973) and Taiwo (1974; 1976). Written material used in mathematics lessons may be beyond their level of reading skill.

Pupils and teachers may lean towards methods of learning and teaching which are becoming increasingly outdated in mathematics education. Their problems in using the further-tongue as medium may detract from the success they can achieve in mathematical problem solving, for example, yet this is an aspect of mathematics which is emphasised in modern maths. Ogunyemi and Bettie (1974), in an investigation of cognitive preferences in mathematics among Nigerian Secondary School pupils, found that when offered three different ways of expressing a mathematics idea, graphic, statement, and formula, most pupils preferred formula. The writers suggest that this indicates that the use of formulas is emphasised in secondary school mathema-



tics instruction when mathematics problems have to be solved. Such an emphasis on formula runs counter to modern approaches to mathematics, which stress the process and its interpretation in terms of the pupils' own language and experience, rather than the product of other men's minds (Watson, 1976). I would like to suggest that this reliance on formula may in large part be due to problems of pupils and teachers in the use of English for mathematics teaching and learning. Research conducted on an interdisciplinary basis could help to identify some of the factors at work. Morris (1974) reports studies of arithmetic attainment in bilingual children in which bilinguals were found to have lower levels of attainment than monolinguals in problem arithmetic but equal levels in mechanical arithmetic. Morris suggests that this difference "almost certainly reflects the fact that in mechanical arithmetic the student is simply required to carry out a computation indicated by a mathematical symbol, whereas in problem arithmetic he is required to read and interpret a passage in prose" (p.27). He also mentions a study carried out in an African country (giving no further details, unfortunately) in which children using the vernacular did better at mathematical problem-solving than children using English, while no such difference was found in mechanical arithmetic.

### 2.2.2 The Need For Research into Interactions between English as Further-Tongue and the Teaching and Learning of Mathematics

In the classroom situation, even mechanical arithmetic is subjected to "verbalization into natural language form" (Stevens, 1974, p.62). Spoken English is used by pupils and teachers throughout mathematics lessons. Yet there is an almost total lack of research evidence as to how it is used, what speech skills are expected of pupils, and so on. The UNESCO report (1974) stressed the urgent need for interdisciplinary research. Indeed, where research evidence is available on mathematics teaching and learning in English-medium classrooms in Africa, there seem to be only tantalizing references to the role of language, largely because the researchers have, so far, been qualified not in linguistics but in mathematics or psychology. For example, Beard (1968) studied the development of mathematical concepts among Ghanaian children aged 8 to 10 years, comparing them with British children of the same age. While finding many similar patterns of development of mathematics concepts in the two different groups, it was the case that the Ghanaian children were slower in their development of some concepts of space, form and pattern than the British children. Beard suggests that this may be due in part to lack of 'helpful spatial experience' in the Ghanaian children's environment and recommends that the school environment be

designed to make up for this lack, largely through an emphasis on teaching methods involving apparatus and practical work. It is merely suggested (Beard, 1968, p.4) that the fact that "the Ghanaian children are in the process of learning English in which some at six years, and others later, pursue their education, whereas the English children are not obliged to learn a second language" may contribute to differences in development. Just how this might happen, and to what extent, is not the concern of Beard's study, yet it may well be that problems arising from the use of a further-tongue to learn mathematics at this early stage are just as important as the environmental factors.

That mathematics educators do recognize the important role of language in the learning of mathematics, particularly in a further-tongue situation, is again demonstrated in the work of Hendrikz (1973). Like Beard (1968), Hendrikz mentions the possible influence of the further-tongue on pupils' development of mathematical concepts. However, her attempts were limited to the investigation of the relation between a home language other than English and the development of mathematics concepts, for the non-african subjects in her study of African, Asian, Coloured and European secondary school pupils in Zimbabwe. The consideration was limited to the non-African pupils because evidence on the home language of the African pupils

was scant. Finding very little specific influence of language on performance in science and mathematics tests by non-African pupils, Hendrikz acknowledges that "it would not be permissible to conclude from this that the influence of a vernacular home language is insignificant as far as African pupils is (sic) concerned" (p. 148). Taiwo (1974; 1976) has shown the potential 'lack of fit' between the expression of mathematical concepts in first and further languages in the case of Yoruba and English. Until we have the contribution of linguistic research to the study of mathematics education, an important aspect will be neglected, as the UNESCO symposium recognized. Without such interaction, the full nature of the problem will not become clear. When research is carried out by mathematics educators whose major interest is in measuring mathematical skills, results tend to offer little insight into the role of language in the process.

### 2.3 English and the Teaching and Learning of Science

Many of the features of mathematical English (2.2.) are also found in scientific English. Both varieties of English share a central core with the rest of educated English; special scientific terminology occurs, just as mathematical terminology does; special uses of everyday words and expressions are found; non-verbal features such as diagrams, formulae and symbols abound. Just as modern mathematics emphasises that subject's relevance to everyday experience, its interpretation and discussion, so too

does the modern approach to science teaching. Carin and Sund (1975) point out the relationship between science and mathematics. Just as mathematics does, science reveals relationships, involves extrapolation and interpolation, and cultivates objectivity. Both mathematics and science are concerned with problem solving and their instructional approaches overlap. In all this, language is used in certain ways typical of science and mathematics.

One of the features of this use of English for science is the far greater use of what Strevens (1971) calls 'grammatico-logical operators' than would be found in other types of English. These are the group of words in English that are essential for the expression of complex, abstract ideas - words and expressions like 'although' 'as a result of', 'for the purpose of'. To express a logical sequence of ideas, certain linking words are necessary in English, words like 'furthermore', 'thus', 'in addition to', and so on. Science, according to Strevens (1973) involves understanding, describing and explaining the nature of the universe. In order to do this, special features of the language are utilized. If scientific learning is to take place, certain kinds of relationships and habits of thought must be expressed through language. Causality, apposition, opposition, restriction, all require specific language items for their expression.

Like Strevens, Widdowson (1974) sees scientific

language as communicating in a certain manner; describing, reporting, giving instructions or an account, and so on. Widdowson identifies basic cognitive and methodological processes in scientific enquiry, which involve both verbal and non-verbal means of expression. Scientific English is "a way of using English to realize universal notions associated with scientific enquiry" (Widdowson, 1974, p.32). Wilkins (1976) identifies "semantico-grammatical categories" which interact significantly with grammatical realizations in speech. Notions of time, quantity, space and matter, together with categories of communicative function such as suasion, obligation and evaluation, are combined to produce grammatical realizations in speech. All these writers are concerned with the way in which the nature of the subject, its aims and sources of material, affect the kind of language used in the process of learning and teaching it. As was stated at a conference on high level teacher training (Lagos, 1969), "the quality of the understanding of English by school pupils has serious implications for the teaching of science" (p.45). Not just the pupils' understanding of all the special features of English identified in scientific language is important, however; they will be required to use these features themselves, in spoken English in the classroom and in their own writing. How this ability is developed in the classroom and what problems are encountered in the process has been

the subject of investigation, particularly in mother-tongue English situations, but much more analysis is needed of further-tongue classroom situations.

### 2.3.1 Science Teaching Methods and the Role of Language

Modern science curricula, both in Africa (Whittle, 1977) and elsewhere (Lansdown, 1971; Rowe, 1973; Carin & Sund, 1975) are more practical and pupil-centred than before. Pupils are to be encouraged to think critically, show an awareness of cause and effect, report observations accurately, show an appreciation of the ways in which scientific ideas develop, classify and quantify scientific information and abstract and express common features and underlying patterns. The teaching methods recommended to achieve this inevitably place much greater demands on pupils' and teachers' use of language than was previously the case (Stevens, 1976). In the mother-tongue English setting, Lansdown et al (1971) developed a method of teaching elementary science through investigation and colloquium which places great emphasis on the essential stage of "talking together about" science in the learning process, which follows the initial manipulation of science materials. It is through such 'colloquium' that many of the concept-seeking skills are developed. These skills include the communication and description of observations, the ability to make clear and accurate statements relevant

to scientific concepts, the ability to notice discrepant events, find external likenesses, to classify, make analogies, and so on. Pupils are seen as working towards, through language, the construction of scientific 'models' which explain phenomena. Teachers are trained in the techniques of teaching science through investigation and colloquium. It is suggested that by coding children's statements during a colloquium, the dynamics which lead from data to personal, conceptual skills can be identified. As Lansdown puts it, "Since nothing except the colloquium occurred to bridge the gap between the concrete 'here' and the more abstract 'there' we must assume that the power of the colloquium propels investigators along the learning road" (p.136).

The categories which Lansdown presents for coding pupils' speech bear striking resemblance to those offered by writers such as Strevens and Widdowson. They deal with concept-seeking skills, such as communicating, thinking and quantifying, and with levels of concept attainment, such as comparing and classifying external likenesses, finding hidden likenesses and working towards generalization, the formulation of models and hypotheses, and the ability to infer and predict. While these categories cannot be used for detailed linguistic analysis, they do show how talking about, around and through something develops understanding and learning.



Rowe (1973), in a textbook for teachers of elementary science in the U.S.A., develops an inquiry based science programme with an individualized approach. Rowe's work includes a section on language in science teaching which is of relevance to most classroom situations. First, Rowe produces evidence from 800 transcripts of science lessons in city, suburban and rural schools, showing that the typical science lesson there has an inquisition-like nature. Teachers asked questions 2 or 3 times per minute, pupils were required to reply on average within one second; if no reply was immediately forthcoming, the teachers rephrased the question. Pupils themselves rarely asked questions. This is obviously far removed from the aims and approaches of modern science teaching. In order to investigate how this inquisition approach could be mitigated, Rowe introduced the concept of 'wait-time'. This is the time between a question and its answering or rephrasing. In other words, Rowe got teachers to slow down the interchange rate of a discussion. The effect on pupils' and teachers' behaviour, particularly their language behaviour, was dramatic. With increased wait-time, pupils' responses became longer; the number of unsolicited but appropriate responses increased; failures to respond decreased; confidence increased; the expression of speculative thinking increased; teacher-centred show and tell decreased and child-child comparing of materials

increased; more evidence was followed by inference statements; the number of questions asked by pupils increased; they proposed an increased number of experiments themselves; 'slow' pupils contributed more; and the number of disciplinary moves necessitated by pupils' behaviour decreased.

On the teachers' part, with increased wait-time their responses showed greater flexibility and they made fewer discourse errors; the number and kind of questions they asked changed, fewer questions being asked more of which called for reflection and clarification of meaning; and teachers' expectations about the performance of certain children tended to change. For both pupils and teachers, role relationships changed to some extent because of all this.

Rowe's research demonstrates that even in a mother-tongue English situation, classroom practice will differ radically from the ideals of modern science teaching unless teachers are given specific techniques which they can use to affect the quantity and quality of classroom talk. How much more might this be the case in classrooms where both teachers and pupils are further-tongue speakers of English, where new science curricula are introduced into schools without appropriate re-training of teachers or necessary changes in teacher-training

institutions (Whittle, 1977) and where examiners comment on students' poor standard of expression and teachers' lack of ability to communicate readily (W.A.E.C. examiners' report, quoted in Whittle, 1977). As Lewis (1968, p.128) comments, "In the countries where the need for improving and expanding the provisions for the teaching of science and mathematics is greatest the quality of the majority of teachers leaves much to be desired, and the supply of teachers professionally qualified to teach science and mathematics is woefully inadequate".

A survey of science teaching in 294 secondary schools in Nigeria (Thollairathil, 1973) found that a major portion of the time in science lessons was taken up by the teacher talking or at the most demonstrating experiments occasionally. In integrated science lessons, laboratory activities by pupils were never undertaken in 43% of the schools. Field work or group discussion formed no part of the science activities in more than 60% of the schools. The conclusion of Thollairathil's study was that teaching methods were authoritarian, theory was taught as absolute knowledge and teaching methods which encourage pupil-centred activities were conspicuously lacking. Cole (1975) shares this view, stating that "science and other school subjects are taught at the secondary level not for the purpose of gaining useable knowledge and skills... but to prepare the learner to pass examinations"

(p. 316). Yet a small pilot study of Nigerian pupils' preferred activities in science lessons (Bajah, 1974) showed that "irrespective of the type of topic, all the science students want to see science taught largely through experimentation" (p. 28).

### 2.3.2 Some Language-Based Problems of Pupils and Teachers in Relation to Science

Strevens (1971) sees the learner of advanced science, in and through a foreign language, as being involved in a process made up of overlapping stages. There is the acquisition of minimum basic competence in the language; then, the acquisition of control over what Strevens terms 'generalizing concepts'; finally, the assimilation of the concepts of science. Simultaneously with the other stages occurs the learning of scientific vocabulary. The 'generalizing concepts' identified by Strevens involve some linguistic aspects, such as command of the special features of scientific language and ability to describe relationships and talk abstractly about generalizations. They also include general educational aims such as habits of thought which facilitate an objective, rational outlook and the ability to make generalizations, discern relationships, and so on. Then there are scientific and mathematical skills which are non-verbal, like practical numeracy, the ability to visualize in graphs and diagrams, and the use of statistical statements.

While the timing of these stages is obviously different for a further-tongue speaker of English using the language as medium from mid-primary level than it would be for the adult learner using English as a foreign language such as Strevens (1971) has in mind, the definition of these stages raises interesting questions. Does a Nigerian secondary school pupil leave primary school with this 'minimum basic competence'? The evidence suggests otherwise (1.2.). Strevens suggests that 'generalizing concepts' such as he describes are part of the general education of most young people reaching upper secondary level. What might be the effect of that general education having taken place through a further-tongue medium? How are these general aspects of learning fostered in the typical Nigerian secondary school classroom? Strevens (1971, p. 271) points out that "what is almost universally the case is that foreign languages are taught with aims unrelated to science, and even where the foreign language is used in the teaching of science this is done with little professional acknowledgement of the special conceptual tasks facing the foreign learner". It is interesting to ask how far the same might be true of further-tongue English situations. Is there any relationship between the spoken English skills taught in English lessons and those required in science lessons?

All the new African science curricula described

by Whittle (1977), such as the Sierra Leone Core Course in Integrated Science, the Swaziland Integrated Science Programme, the Integrated Science Course in secondary classes one and two in Nigeria, seek to promote two-way communication between teacher and pupils. Yet the Nigerian student teachers surveyed by Whittle placed 'English language' as second, in order of importance, of the aspects of science learning which cause most difficulty to secondary school pupils. Case (1968), a science teacher in Malawi, became concerned about "why she was failing to communicate scientific ideas to her pupils" in science lessons in which "the emphasis is on speech" (p. 15). Although she chose to try and identify the difficulties by analysing errors in pupils' written work, and only anecdotal spoken English material is presented, remedies are suggested in the form of practical teaching methods. Here, again, can be seen the concern with language problems which science teachers feel the need to work on and in which they need the cooperation and applied skill of linguists. The teacher of science may herself be faced with problems which arise from inadequate command of English as further-tongue. Strevens (1976, p. 56) speaks of "general, unanalysed difficulties of mutual comprehension between teacher and pupil, especially in spoken English." He describes how a teacher may be capable of reading and writing English adequately but incapable of speaking the English of science satisfactorily. Indeed, Strevens (1976)

sees applied linguistics as bridging the gap between the scientist with language needs and the language teacher with pedagogical solutions. If the two are to be brought together profitably, research must identify the kinds of language use involved for both pupils and teachers. Particularly in the area of spoken language in the classroom, little comprehensive evidence is available. The present project attempts to offer an approach to the accumulation and analysis of such evidence.

### 2.3.3 The Need for Research into Interaction Between English as Further-Tongue and the Teaching and Learning of Science

Using pupils' untutored statements made during the colloquium stage of science lessons, Collison (1974) in an adaptation of Lansdown's approach (2.3.1.), studied science-concept formation in Ghanaian primary school children. As in Lansdown's method, pupils manipulated science materials (the 'investigation' stage) and then came together to discuss their observations and ideas in a colloquium. Collison, too, sees the colloquium as an opportunity to verbalize conceptual experience. Collison was concerned with comparing the ability to verbalize conceptual experience in the mother-tongue with that in the further-tongue, English. As well as measuring the number of statements made in the local language as opposed to English, when the different languages were used as medium in different

classes, Collison found that statements were more complex and that models were more readily formulated in the mother-tongue. Of particular interest is the fact that a qualitative analysis of pupils' statements in the mother-tongue revealed an ability to express thoughts more completely than was possible using English. His conclusions lead him to suggest that, at primary school level, pupils will be better served if the mother-tongue is used as medium. This research into science teaching at primary level in Ghana emphasises the benefits of using mother-tongue as medium at that level which have already been discussed (1.2.1.). Policy changes to mother-tongue medium at primary level may well come. However, at secondary level, pupils must use the further-tongue as medium to learn science. There is a real need to improve the necessary skills of verbalization in English at secondary level, found so lacking by Collison at primary level. By identifying how spoken English functions in the science classroom, some insight might be gained into how such improvement might be brought about. Research into spoken English in the secondary school science classroom is scarce in Africa, as Whittle (1977) has pointed out.

There is also the need for research into ways of making science teacher education productive in terms of teachers' linguistic awareness. In Whittle's (1977) survey of 45 universities and 31 advanced teacher training Colleges in 18 anglophone countries in Africa, questionnaire data showed that teacher-training courses gave attention



first, to theoretical aspects of methods of science teaching and the development of practical motor skills; second, to feedback and interaction; and third, to communication, decision-making and 'realism'. 46% of the respondents said they use interaction analysis in their science teacher training courses, and many lecturers and tutors mentioned 'developing communication skills' as one of the aims of science education. While large surveys of this type can produce an overall background picture of science teacher education the fact remains that questionnaire responses are notoriously statements of intent rather than descriptions of actual practice. With particular reference to the "communications skills" aspect of science teaching, the fact that Whittle included 'communications skills' and 'dexterity' in the same item may have given a false impression of the importance attached to communication skills in existing science teacher training programmes. 'Dexterity' is an important attribute of the science teacher involved in laboratory work, and in placing emphasis on this item in their responses it may well have been 'dexterity' rather than 'communications skills' which attracted attention. Even then, this aspect came third in the list of priorities.

To complement evidence of the type provided by Whittle (1977), it is necessary to get down to actual classroom observation and the details of interaction in science teaching and learning. Detailed analysis may yield

useful data for communications skills units in science teacher training courses, if language in the science classroom is studied. As Young (1974, p. 60) argues, "it is not prescriptions for better 'methods' that are needed, but accounts of the practices of teachers and pupils within the (science) laboratories and elsewhere ..... it is from such work and the possibility of pupils and teachers critically examining their own practices as learners..." that the broader approach to science education can come. In Young's opinion, we must first identify how teachers and pupils arrive at their own understanding of science if we are to be able to facilitate the process effectively. The role of spoken language in this process is the focus of the present study.

#### 2.4 English and the Teaching and Learning of Other Secondary School Subjects

Evidence from secondary school classrooms where English, as further-tongue and medium of instruction, is being used to teach and to learn other subjects on the curriculum, such as geography and history, is scant. More work in this field has been done at primary level (for example, Wingard, 1963; the work of the Curriculum Development Centre in Zambia, reported in Morris, 1974). However, detailed linguistic analysis of the spoken English used in even the primary school classroom has been largely lacking. Wingard's (1963) study was not systematic and, as Widdowson (in Dakin et al, 1968) points out, concentrated

more on lexical aspects rather than subjecting the English used in lessons in the different subjects to grammatical analysis. Perren (1968) emphasised the value in secondary teacher training of "some detailed analysis of the language used by teachers of a particular subject in the classroom" (p.170) but no case studies are presented.

One detailed study of the use of English as medium at secondary level is that of Treadaway (1976), who studied the understanding and use of English in the teaching and learning of geography in some Ugandan secondary schools. In Uganda, new geography syllabuses, like the new mathematics and science syllabuses demand new approaches to language in the classroom. Treadaway (1976) argues that as well as the problem of learning new concepts and the words which represent them, which is shared by mother-tongue and further-tongue speakers, pupils using English as further-tongue and medium must also learn new words for previously formed concepts; must modify concepts previously formed in the mother-tongue to correspond with those expressed in the further-tongue; and must learn concepts for which no word at all exists in the mother-tongue. In an attempt to analyse just how this happens, Treadaway presents a variety of material: transcriptions of tape-recorded geography lessons; extracts from the relevant geography textbooks, and vocabulary lists linked to the subject. He compares the functions of language

in a geography passage with those in an English passage, using an adapted version of Britton's (1972) analysis of language functions. He also presents an interaction analysis using Flanders-type categories. By approaching the problem from all these different directions, Treadaway is able to present quite a comprehensive picture of how the language used as medium affects and is affected by the teaching and learning of a particular secondary school subject, in this case, Geography. His study, showing as it does the special vocabulary of the subject, the way language and subject content interact in speech and in writing, and the patterns of teacher-pupil interaction in the geography lessons recorded, is a valuable one. Treadaway found a predominance of teacher-talk and of closed, factual questions in these geography lessons, leaving little room for pupils to come to terms with and to practise all the different aspects of English use related to geography. Treadaway chose to carry out an analysis of as many aspects of English as possible within the confines of one particular curriculum subject. His approach yields dividends and shows how useful such detailed analysis can be. By presenting many extracts of the language data, he also makes it possible for others to follow his analysis closely. There is, in addition, the need to study each of these aspects in depth, however.

The emphasis on teacher-talk and on factual questions found by Treadaway in geography lessons in some

Ugandan secondary school classrooms is echoed in a study by Adejunmobi (1972) of the objectives of history teaching in some secondary schools in Nigeria. Teachers in 30 grammar schools in Western Nigeria were unanimous in emphasising the importance of factual knowledge in history teaching. These teachers had qualifications ranging from a degree plus a teaching diploma down to the minimum secondary education acceptable for entering teaching at that time, yet all of them stressed the importance of facts. This is attributed mainly to the influence of external examinations, which emphasize the acquisition of factual knowledge to the virtual exclusion of other important objectives of history teaching. While the graduate teachers expressed a wish that critical thinking should receive more emphasis in the history class, the overall picture was one of little active pupil participation in the classroom. This echoes the situation found in science classes in Nigerian secondary schools described earlier (2.3.1).

In situations where English as mother-tongue is used in the secondary school classroom, similar findings are not uncommon. Barnes (1969) found that in English, history and religious education lessons, teachers used more questions demanding facts and few demanding reasoning. As Barnes points out, the pupils will inevitably, in such a situation, conclude that facts are the most important

aspect in the learning of history and will direct their efforts accordingly. Even in the mother-tongue situation, rote-learning of facts involves problems of inadequate comprehension and lack of appreciation of the essential nature of the subject. In the further-tongue situation, the risk of memorising whole stretches of prose presented at a level of language with which pupils are not equipped to cope is doubly serious and yet appeals to pupils and teachers alike, perhaps largely because of their language-based difficulties. English teaching specialists have recognized these problems, both in the mother-tongue and the further-tongue situation. For example, in a mother-tongue context, Doughty and Doughty (1974, p. 103) comment, "it is unfair to teachers of English, to other subject teachers, and most of all to pupils, to think that 'language' is 'English' and therefore need only come up for consideration in the context of 'English class'". They go on to describe an approach to language teaching which can be used cooperatively by teachers across all curriculum subjects to enable pupils to use their own kind of language to make new learning their own and also describe how using it, in communicative discussion with pupils, makes teachers themselves more linguistically aware. Similarly, in the further-tongue situation, Moody (1969) urges that the English teacher must link what he and his pupils are doing with what goes on in other subjects, by using textbooks from other subjects for compre-

hension work, by selecting composition topics from other subjects, by focusing supplementary reading and library work on other subjects and by working with other subject teachers to identify the 'registers' of the different curriculum areas, which can then be actively taught in English lessons.

### 2.5 'Convergence of Interests' in the Secondary School

In situations where English is further-tongue and medium of instruction in secondary schools, teachers of English must prepare their pupils not only in the English subject area but also in the English language skills needed for work across the curriculum. They have, therefore, a curriculum-wide responsibility which is not common among specialist teachers at secondary level. In training such teachers of English, special attention ought to be paid to the nature of their task and efforts directed at heightening their awareness of the complex position and role of their subject. In order to train teachers of English in this way, there is a need for detailed information on the nature of the functions which English performs across the curriculum. Such information can be gathered through research into the use of English as medium. Without such detailed analysis, thorough preparation of teachers of English cannot be achieved. Just as teachers of English must be alert to the demands

made by the curriculum on the English language skills of their pupils, so, too, must teachers of other subjects develop an awareness of the role of language in the teaching and learning process. Teachers of all subjects must gain insight into the ways in which they, as teachers, use that language to communicate in the classroom and what they expect of their pupils in terms of language skill. A feature of teacher-training programmes, for teachers of the different subjects on the secondary school curriculum, should be the analysis and appreciation of the role of English as medium in the classroom. If such training is to be given in a convincing and meaningful way, research evidence on the actual use of English as medium to teach subjects such as mathematics, history and physics must provide a basis for the insight to be cultivated.

There is, therefore, a convergence of interest (Stevens, 1976) to be found in the secondary school where English as further-tongue is used as medium of instruction. Teachers of English need information on the ways in which English is used across the curriculum in the teaching and learning process, so that they can prepare their pupils in the necessary language skills. Similarly, teachers of other subjects through the medium of English will be better equipped to help pupils effectively if they, as teachers, develop insight into



the role of the language in their classrooms.

### 2.5.1 Science-Oriented Language Courses

Recognition of this convergence of interests has led, in some cases, to the creation of science-oriented language courses. Strevens (1971) advocated radical changes of this type, stating that "only some such drastic remedy seems likely to provide a massive improvement in the effectiveness of science education in the developing countries" (p. 273). Particularly in higher education where English is used as a foreign language in the study of advanced science, such courses may indeed be effective. Ewer (1971, 1972) describes such an attempt embodied in English language courses at University and Polytechnic level in Chile, where the need for teachers of English to develop an appreciation of the role of science (and scientific language) in modern life is recognized and the needs of students to master scientific English have led to intensive science-oriented English courses. Ewer found that general English courses tended to be written in artificially simplified language and that teachers tended to use the same simplified manner in their explanations and questions, thus giving students little opportunity to bridge the gap between this artificially simple 'school' language and the English actually used by scientists, which is typically full of

reservations, modifications, comparisons and extensions. Similarly, Allen and Widdowson (1974) present ways of teaching scientific discourse in English to students in higher education and comment that "the general English instruction which is provided in secondary schools has in most cases proved to be inadequate as a preparation for the use which students are required to make of the language when they enter higher education" (p.3). These writers are speaking largely from the standpoint of English as foreign language and medium of advanced science instruction, however. Secondary school pupils expected to use English as further-tongue and medium of instruction for all subjects need much more than the narrow range of specific skills which a purely science-oriented course would give them. The communicative skills necessary to such pupils may well be a kind of 'cline', or gradual progression, from the use of English to study, say, literature in English, to English for science at the opposite end. In countries such as Nigeria, where a dynamic Nigerian literature in English has flourished for decades, science-oriented language courses would not, in my opinion, meet pupils' language needs. The English used in classrooms where geography or history or social studies are being taught may again vary from that of literature or physics classes. While the validity of adjusting the English course to meet the real needs of the pupils is unquestionable,

these needs will be wider, in the further-tongue situation, than a narrow science-oriented English course could cover.

### 2.5.2 The Integrated Course

Particularly at primary level in areas where English is used as further-tongue and medium of instruction, integrated courses have been developed in which the teaching of language skills and the teaching of the various subjects are coordinated, again in recognition of the interactions between language and subject-learning. Examples of such courses are found in the Singapore Primary Pilot Project and the work of the Zambia Curriculum Development Centre (Morris, 1974). The language policy in the Singapore project is that bilingualism should be promoted and to this end the English, mathematics and science curriculum 'block' is taught through the medium of English; the history, geography and civics 'block' is taught in the mother-tongue; and the third block, comprising music, physical education, etc. can be taught either in English or the mother-tongue according to preference. The aspect of this project of greatest interest here is the fact that the teaching of English, mathematics and science has been coordinated and, in the upper classes of primary school, the activities in lessons in mathematics and science are

exploited for language learning purposes also. Similarly, items taught in the language units support the learning activities in mathematics and science. To achieve this, cooperation between subject specialists has been crucial.

The principle of linguistic integration also governs the Zambia project, in which the teaching of mathematics, social studies and science are coordinated with the teaching of English. From the point of view of the present study, what is of interest here is that these projects show the possibility of integrating work in English with work in other curriculum subjects at primary level. Might it be possible that at secondary level, also, integration of some kind could be achieved, particularly in the teaching and learning of the spoken English skills needed for successful participation in the classroom? If such an attempt is to be made, these skills must first be identified. One approach to this is to study exactly what goes on in terms of spoken English across the secondary school curriculum in further-tongue situations.

### 2.5.3 The Intensive English-Medium Course

In Tanzania, where use of Swahili as medium in primary schools is, at present, followed by use of English as medium for secondary and higher education, the problem

of relevant English courses has been attacked with some vigour. Until the future adoption of Swahili as medium for secondary education, problems of switching to English may be heightened. Isaacs (in Gorman, 1970) describes how an awareness of English language needs across the curriculum at secondary level prompted the development of an intensive foundation course at secondary class one level. It is recognized that "it is not only the pupils who lack the training and skills to cope with learning in English" but that "the same is true of most of the teachers, who are not equipped for the teaching situation" (p. 71). The intensive foundation course is taught by all teachers, so that they gain some insight into their pupils' communication problems.

In the course, reference skills, aural and reading comprehension, faster and extensive reading, together with special structural exercises taught by the English specialist, are all intended to help pupils develop the skills they need to use English as medium. Once the six weeks of intensive English are completed, 13 periods per week are allocated to English for a further 12 weeks. It would seem, from the report, that this is a welcome recognition of the crucial position of English on the secondary school curriculum. However, two doubts present themselves. First, evaluation of the effectiveness of this scheme is not presented. Experience has often shown that

a well-motivated scheme can flounder in the face of practical realities. Secondly, and more important from the point of view of this writer, the foundation course allocates little time to aural comprehension. The bias seems to be towards reading skills. Although the topics are approached through ability group work, group discussion and pupil-teacher consultation, it can be asked whether enough attention is paid to the spoken English skills which pupils must develop for classroom communication. Again, the need to identify these skills through research and then to incorporate their development into English courses appears as a gap in otherwise well-directed efforts.

Munby et al (1973) certainly recognize the value of the Tanzania course material and recommend the aural comprehension material for use in Nigeria. The aim, stated in the Tanzania course (Isaacs, 1971), that the pupil must be helped to understand spoken English of the kind met in all lessons in the secondary school, is certainly a desirable one. By selecting the passages to be read aloud and followed by oral questioning from material in all school subjects, practice in some aspects of spoken English in the classroom is certainly given. However, there may be other important aspects which an analysis of the spoken English actually used in English medium classrooms might help to identify.

## 2.6 The Need for Research into Spoken Language in English-Medium Secondary School Classrooms

Throughout this chapter, an attempt has been made to show the interactions between different subjects on the secondary school curriculum and the language in which they are taught and learned. Particular emphasis has been placed on the evidence which is available from classroom situations in which English is used as further-tongue and medium of instruction. Much of the available evidence suggests that there may be a predominance of formal classroom organization with the emphasis on teacher-talk and a factual approach. Research evidence on the role of spoken English in these circumstances is scant. Yet it may well be the case that certain spoken English skills and routines are found in classroom interaction regardless of the subject being taught. Such features could perhaps be identified and analysed through research into spoken English in the classroom.

In situations where English is used as mother-tongue, the importance of sociolinguistic and applied linguistic research into the role of English in classrooms is gaining considerable acknowledgement (Chanan & Delamont, 1975; Stubbs, 1976; Barnes, 1976). Educationists are emphasising the need for classroom research which might produce valuable insights into the teaching and learning process and the role of language in that process. How much

more is such research necessary in classroom situations where English as a further-tongue is being used as medium of instruction. The teacher of English in a further-tongue setting is expected to help pupils acquire the language skills which they need in order to succeed in their other subjects. Teachers of other subjects through the medium of English need an awareness of the role of the language in teaching and learning. The analysis of spoken English in the classroom situation in a variety of subjects could provide material which might give insight into the particular problems involved.



## CHAPTER THREE

### THE ANALYSIS OF SPOKEN ENGLISH DISCOURSE IN THE CLASSROOM

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  - 3.1.1. Studies of Verbal Interaction in the Classroom.
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3.4.1. Some Questions to be Explored.

## CHAPTER THREE

### THE ANALYSIS OF SPOKEN ENGLISH DISCOURSE IN THE CLASSROOM

#### 3.1. Types of Classroom Research

Eggleston et al (1975) classify classroom research studies, according to their purpose, as:

- (i) inductive studies, which start from an 'open' position and generalize from observations.
- (ii) prescriptive studies, concerned with what the teacher should be doing.
- (iii) reflective studies, concerned with what the teacher can find out about what he is doing.
- (iv) matching studies, which seek to relate curriculum project aims and methods to actual classroom events.
- (v) process-product studies, which link teaching processes and learning through pre- and post-tests of attainment.

Of particular interest here is category (i) inductive studies, which "are by their nature exploratory; they involve the collection of a more comprehensive array of data than most other types of study and are rarely concerned with measuring the growth of student learning" (Eggleston et al, p. 53).

Such studies can, in fact, be termed "process studies" as opposed to "process-product" studies, in which learning outcomes are always measured. Not all process studies are theory-free at the outset, however. They can use modifications or syntheses of existing category systems to describe current classroom practice (Rosenshine & Furst, 1973).

### 3.1.1 Studies of Verbal Interaction in the Classroom

Into the category of 'process studies' falls much of the research that has been carried out into verbal interaction in the classroom. Stubbs (1976) traces the development of such research over a 10-year period, starting with the attempt by Bellack et al (1966) to identify the structure of teacher-pupil dialogue. Of particular interest to the present study are those analyses of classroom interaction which have been primarily concerned with linguistic data. Coulthard (1977) identifies three such descriptive systems, those of Bellack et al (1966), Barnes (1969) and Flanders (1970), in addition to the work of Sinclair et al (1972) which will be discussed in detail later in this chapter (3.1.3.).

Bellack's (1966) attempt to study the overall structure of teacher-pupil dialogue, while it provided the impetus for many subsequent investigations, did not concentrate on the details of classroom language. Classroom

dialogue is analysed by Bellack in terms of a pattern of typical moves: Structuring, soliciting, responding and reacting. These moves are built up into repetitive teaching cycles, sub-games and games in which the teacher is the most active player, determining the structure of classroom dialogue and acting as the prime 'solicitor' while pupils' main role is that of 'respondents'. This type of analysis is helpful in terms of identifying linguistic units and their patterning within dialogue structure, but it does not yield any detailed linguistic data. Dialogue is coded as it occurs, in terms of moves, rather than being analysed as language text. Flanders' (1970) system, which also codes dialogue as it occurs, is a stage further from the linguistic data, being based on temporal rather than linguistic units.

As Mischler (1972) points out, "one result of this methodological emphasis on rating scales and category systems is that little in the way of speech protocol material may be drawn upon for sociolinguistic hypotheses and generalizations" (p. 268).

While interaction analysis of the type used by Bellack (1966) and Flanders (1970) has been applied in the second language and foreign language classroom, reservations about its usefulness for the aims of the present study remain. For example, McEwen (1976) quantified individual student

verbalization in a second language classroom where French was the language involved. While she did move from the class as the unit of analysis to the individual within it, her broad categories, based on Flanders' work, give no details of the actual language used. McEwen herself acknowledges this, commenting that "it does not specify the cognitive level of verbalisation. Neither is actual content examined in detail" (p.86). Krumm (1973) applied a category system in a foreign language classroom setting, basing his categories on Flanders' interaction analysis. He, too, realises the need for more detailed linguistic analysis and points out what cannot be categorized, using such a system. It would be useful, he states, "to discriminate on the teacher's side between information, stimuli and narrow questions, broad questions and attempts to have the students talk to one another in the foreign language" (p. 166).

Krumm's main interest is in the use of category systems for interaction analysis in teacher training and such systems do undoubtedly have value in this sphere. However, the present study is more language-specific, thus making a finer analytic tool essential. The link between the further-tongue medium and the teaching and learning process is crucial to this study. As Mischler (1972) points out, "verbatim accounts are an initial requirement for developing appropriate analytic categories for the study of

language functions" (p. 268). It is necessary, in the view of Mischler (and of the present writer) to discover the structure and rules "that underlie and guide ways in which information is sought, concepts attained, and problems solved" (p.270). Broad categories of the type used by Bellack and Flanders, and subsequently applied in second and foreign language classrooms as in the studies reviewed above, cannot provide the detailed analysis required. As Stubbs (1976, p. 84) states, "there is a clear need... to pay close attention to the fine details of what teachers and pupils actually say" if we are to gain insight into the teaching and learning process.

Barnes' (1969) descriptive system is closer to the linguistic data. He concentrates, however, on only two aspects; the amount and type of pupil participation and how it is controlled by the teacher, and the nature of the teacher's questions. The system is selective in the aspects of the data which it subjects to analysis, rather than being comprehensive (Coulthard, 1977).

### 3.1.2 How Classroom Discourse can be Analysed

The need for "a close analysis of real language, observed and recorded as far as possible in natural social situations, especially in the classroom itself" (Stubbs, 1976, p.107) is now widely recognized. Little or no research

of this type has been carried out in the Nigerian secondary school classroom, the setting of the present study. There is also the need for the linguistic items of classroom talk to be first "related to the linguistic and sociolinguistic systems in which they are terms" (Stubbs, p.112) before any non-linguistic categories (cognitive, educational, sociological) can be used. Jakobovits (1974) states that an empirical task facing researchers is "to develop a descriptive system for analysing the instructional register" (p.202). Jakobovits sees talk in the classroom as a joint, coordinated activity, the analysis of which can be best approached through the "empirical analysis of written transcripts based on tape-recordings of classroom interactions" (p.203). By this means, he argues, "the teaching, learning process is described, evaluated and assessed in concrete transactional terms referring directly to the objectively visible, actual forms of sanctioned exchanges in the classroom" (p.203). In order to analyse classroom talk, then, data in the form of tape-recordings and transcripts of actual lessons, providing all the details of the language used, may be the kind of material essential for detailed linguistic study. As Hymes points out, "studying language in the classroom is not really 'applied' linguistics; it is really basic research. Progress in understanding language in the classroom is progress in linguistic theory" (In: Sinclair & Coulthard, 1975, p.6).



### 3.1.3 Detailed Analysis of Classroom Discourse

Stubbs (1976, p.85) states that the work of Sinclair et al (1972) is "the only attempt so far to provide an analysis of the underlying structure of classroom dialogue (from the point of view of) linguistic patterning". The classroom discourse analysis of Sinclair et al seeks to relate specific utterances to their significance in the larger, linguistic structure of which they form a part. Their approach is primarily a linguistic one, with its aim being the analysis of spoken language texts at the supra-sentential level. They use transcripts of tape-recorded lessons for this purpose. Sinclair et al (1972) draw heavily on Halliday's (1961) concept of 'delicacy'. Their method of description has several degrees of delicacy, each describing all the data but in a progressively more detailed way. The basic concept is one of levels and ranks, each rank being made up of one or more items from the rank below.

They propose that discourse be regarded as a new level of linguistic description, rather than simply "the higher ranks of grammar" (Sinclair et al, 1972, p.74). This is presented as an interim solution only, however, on the basis that grammatical structure alone "is not sufficient to determine which discourse act a particular grammatical unit realises - one needs to take account of both relevant situational information

and discourse position" (p. 74). They do, however, postulate an overlap between the lowest unit of discourse and the highest unit of grammar, and between the highest unit of discourse and the lowest unit of non-linguistic organization. The levels and ranks they propose are shown as:

Non-Linguistic  
Organization

-		
-		
-		
course	<u>Discourse</u>	
period	LESSON	
topic	TRANSACTION	
	EXCHANGE	<u>Grammar</u>
	MOVE	Sentence
	ACT	Clause
		Group
		Word
		Morpheme.

(Sinclair et al, 1972, p.75).

According to Sinclair et al, 1972, p. 75) "the level of discourse lies between the levels of grammar and non-linguistic organization". No one-to-one correspondence of

units between levels need be supposed, but the top of the discourse scale, lesson, may correspond roughly to the rank period in the non-linguistic level, and there may be a rough correspondence between the discourse rank 'act' and the grammatical rank 'clause'. Sinclair et al's tentative proposal of separate levels for grammar and discourse is, as they say, open to reappraisal in the light of further comparative studies of discourse which they are under-taking. Indeed, Fawcett (1973), selects the alternative - that discourse ranks are higher ranks of grammar - as preferable. Relations between the ranks of discourse and of grammar will be investigated in the present study, with particular emphasis on the clause-act link.

#### 3.1.4 Degrees of Delicacy in Classroom Discourse Analysis

The system developed by Sinclair et al (1972) has several degrees of delicacy of description. At the level of primary delicacy are three major 'moves': opening, answering and follow-up. These moves are defined both by their position in the discourse and their effect on it. The opening move is prospective and influences the production of the answering move, which fulfils the predictions and constraints set up by the opening move. The answering move is followed, in classroom discourse, by a follow-up move

which refers to the preceding answering move. Sinclair et al (1972) suggest that this pattern of opening, answering and follow-up moves is the typical 'exchange' of classroom discourse and that this is so because of the formal classroom situation, with its pre-determined roles and expectations. Whether the same pattern would be found in non-formal classrooms has still to be investigated.

At the level of secondary delicacy, each move is further characterised as of a certain type. For example, opening moves can elicit or inform; follow-up moves can accept, acknowledge, evaluate, and so on. At the level of tertiary delicacy, distinctions such as those between ordering and requesting can be made. Thus, the type of discourse analysis proposed by Sinclair et al (1972) offers varying degrees of delicacy which can be used in analysis according to the aims and interests of subsequent researchers, making discourse analysis of this type a flexible and adaptable tool. Other writers such as Smith & Meux (1970) and Malcolm (1978) have analysed classroom discourse along similar lines. Smith & Meux define teaching 'episodes' as made up of 'initiating', 'continuing' and 'terminal' phases. They see teacher's 'ventures' in terms of whether they have a particular objective in mind on an identifiable unit of subject matter; ventures could be causal, conceptual, evaluative, interpretative, procedural, etc. Within such ventures, 'moves' and their patterning

reveal teacher strategies. Here, again, an attempt to introduce several degrees of delicacy into the description can be seen. Malcolm (1978) uses categories of 'eliciting', 'bidding', 'nominating', 'replying' and 'acknowledging' acts in describing the classroom routine which forms the basic pattern for teacher-child interaction. He, too, incorporates increasing degrees of delicacy into his description, which was designed for use in studying classroom interaction in primary school classrooms of Western Australia and focuses particularly on aboriginal children's classroom participation. While Smith & Meux's (1970) categories are basically logical categories, however, and Malcolm works from a sociolinguistic viewpoint, Sinclair et al (1972) use basically linguistic categories, which makes their analytic approach more suitable for the present study. Stubbs (1975) also uses categories of discourse act such as 'elicit', 'nomination' and 'response' which bear close resemblance to the categories used by Sinclair et al. However, in the work of Sinclair et al (1972) the most comprehensive and best exemplified analytic framework is to be found and it is for this reason that it is preferred here. The detailed categories used in the analysis are given in chapter 4.

### 3.1.5 Applications of Classroom Discourse Analysis

Coulthard (1975) suggests a variety of possible

applications of discourse analysis. It can be useful in the training of non-native speakers as teachers of English; of students for participation in seminars; of scientists in the English of science and technology. Discourse analysis can be used to describe interaction in different groups and thus help develop an awareness of how language functions within a group, making it easier for new members to fit into the group successfully and to use discourse in appropriate and effective ways. The particular interest of the present study in the teaching situation where English is being used as further-tongue and medium of instruction makes the focus of discourse analysis the identification of any typical discourse patterns in the Nigerian secondary school classroom and the possible links between such patterns and the subject being taught. Coulthard (1975) does mention that colleagues at Edinburgh are examining the effects of age of pupils, subject area and teacher on the structure of classroom discourse. Such work and that of the present study can be seen as complementary because of the English as mother-tongue and English as further-tongue situations involved.

### 3.2 Some Methodological Problems Involved in Classroom Research

Research carried out in the naturalistic classroom setting rather than under controlled laboratory conditions

is faced with methodological problems of some magnitude. That this is so, however, does not alter the fact that there is a real need for such research, especially in classrooms where English is both further-tongue and medium of instruction. The methodological problems must, however, be anticipated and dealt with as far as possible. They revolve around three major aspects of classroom research: observing, recording and judging (Eggleston, et al, 1975). The researcher must decide what to observe and must be aware of the dangers of observer bias. Recording must be as comprehensive as possible, ideally including records of visual material and non-verbal communication as well as records of verbal interaction obtained on tape. Judging must be based on a consistent analytic framework, which is logically related to the nature of the material studied and the purpose of the investigation.

Barber (1973) deals in considerable detail with "investigator and experimenter effects", mentioning nine major pitfalls in educational research which may arise whether the investigator (designer of the research) and the experimenter (the one who carries it out) are the same person or different people. These effects must be anticipated and the difficulties encountered in dealing with them must be made explicit. While Barber's investigator

and experimenter effects are primarily identified with experimental rather than observational educational research, some of them have particular relevance to the present study. These are:

- I Investigator paradigm effect.
- III Investigator analysis effect.
- V Experimenter attributes effect.

The first of these is concerned with the investigator's basic assumptions and way of conceptualizing the area of inquiry. In an experimental study, this determines the kind of questions to be asked, the type of data considered relevant and how the data will be gathered, analysed, interpreted and related to theoretical concepts. Most important in an observational study is the need to be aware of and make explicit any such assumptions. All research must have some basic assumptions and a way of conceptualizing the area of inquiry. These must, however, be presented. With regard to the investigator analysis effect, Barber emphasises that data analysis must be planned beforehand so as to avoid the temptation to choose the sections of data which look most promising, ignore others, and thereby bias the analysis. Therefore, a consistent analytic framework is required. Finally, the experimenter attributes effect, in which attributes of the experimenter may affect outcomes, is also of significance (See 4.4.).



In addition to the methodological problems outlined above, the classroom context, classroom organization, participants' relative status and non-verbal elements in the discourse must all be taken into account. Each of these methodological problems and, in particular, the ways in which they might be manifested in the present study, will now be dealt with. In this way, it is hoped, many of them will be eliminated, or at least reduced, in the research design. Those which cannot be avoided will be acknowledged.

### 3.2.1 Methodological Problems: Observing

Labov's (1972A) comments on observational studies draw attention to some possible areas of weakness in their design. However, the value of observational study is not denied by Labov. He draws attention to the 'observer paradox', pointing out that the mere presence of an observer may alter the situation in subtle ways and may make the context more formal. In a formal context, more than the minimum attention is paid to speech and speech shifts on the cline from casual and intimate to frozen and ritualistic. Labov (1972B) states that the effect of this observer paradox is seen most noticeably in the face-to-face interview situation. Its effects can be reduced by introducing life and death topics which absorb the interviewee, and by using as interviewer a peer-group member or other person sympathetic to the interviewee and

seen by him as such. Labov does state (1972B) that the effects of the observer paradox are reduced when peer-group interaction is recorded or when attention is focused on content rather than language. In the classroom situation of the present study, where a large group is involved and emphasis should be on the teaching-learning aims of the lesson, the presence of an observer may have a lessened effect. As Labov (1972A, p.117) states, "as we move away from the individual interview, our data is less complete, but closer to the language of everyday life". In the present study, it is the language of the classroom rather than of any one individual which is in focus. Therefore, some mitigating factors of situation may be present. Pupils and teachers will be speaking in a familiar setting where the rules of behaviour are familiar and where no one individual need feel too threatened (although the teacher, with an adult observer's scrutiny, may feel so more than the pupils, who may, in their turn, react in some other way). An additional facet of this problem in the present study is that the researcher and observer, a European, is working in Nigerian classrooms. This in itself may produce some change in the situation being observed. Teachers and pupils may become more conscious of the English they are using simply because an English mother-tongue speaker is among them. In an attempt to discover whether this is so, it will be necessary to vary

the observer by asking a Nigerian to do some recording also. (See 4.1.)

### 3.2.2 Methodological Problems: Recording

In recording classroom language, a variety of methods are available; their relative merits need discussion in relation to the setting of the present study. One can use tape-recording alone, with no outside individual present, the teacher or a pupil being asked simply to switch the recorder on at the beginning of the lesson and off at the end. Another approach is for the researcher herself to be present in the class, operating the tape-recorder and also making notes of events which would not appear on tape, such as use of the blackboard. Thirdly, video-tape recorders can be used, by which means both a visual and complete auditory record of the lesson are obtained.

Labov (1972A) points out that the advantage of using small size tape-recorders in naturalistic observation is that they interfere minimally in the situation and that this may outweigh the loss of some acoustic properties which larger recorders would pick up. As Stubbs (1976, p. 73) argues, "one might rightly object, of course, that the behaviour of teachers and pupils is unnatural even in the classroom in the presence of an intrusive researcher

with notebook or tape-recorder. However, people forget about tape-recorders after a relatively short period, ... and, in any case, many of the things one is interested in observing are simply not under conscious control." He, too, is of the opinion that "the natural social pressures of interacting with a group will often overcome the presence of a tape-recorder." Delamont (1976) strongly recommends participant recording in which both audio-visual records and participant observation are used. Her approach is a sociological rather than a linguistic one, however. In this way, a more complete record of a lesson can certainly be obtained but whether, as Labov (1972A) suggests, larger machines and more complicated recording procedures interfere in the situation too drastically, exaggerating the observer paradox, would have to be taken into account.

In the Nigerian secondary school classroom, the use of tape-recorders and other mechanical aids during teaching is rare except in occasional French lessons using tapes and slides. Pupils may, as a result, be more conscious of even a small tape-recorder than one might expect. Certainly, if video-tape equipment is introduced, disruption is likely to be even greater. Also, some classrooms in Nigerian secondary schools are poorly lit and the supply of electricity can be erratic. Battery pack video, which could have offset this, was not available

for use. Lack of or even only inadequate lighting could reduce the quality of video-tape recordings. Classes are large, with little space for moving around with a camera and with the chances of video-recording all participants proportionally reduced because of the number present. In view of these practical limitations, but also because of the desirability of interfering minimally while yet noting as many aspects of the situation as possible, the method of recording preferred for the present study is by tape-recorder and observer's written notes. A few video-tape recordings will be made, however, as a check.

### 3.2.3 Methodological Problems: Judging

Eggleston et al (1975) emphasise the importance of basing judgements on a consistent analytic framework which is logically related to the nature of the material studied and the purpose of the investigation (see 3.2.). Stubbs (1976) also warns against the danger of investigator bias, stating that, "In general, different researchers seem to feel justified in selecting as evidence any feature of language which strikes their intuition as interesting. More particularly, the linguistic items are selected, apparently, according to the whim of the researcher, from different levels of language, including lexis (i.e. individual words), syntax (i.e. grammatical structure), semantics

(i.e. meaning) and discourse (i.e. overall conversational structure)" (p.107). He goes on to criticise the attempts made "to relate concepts which are at quite incompatible levels of abstraction and generality" (p. 108). Perhaps the most comprehensive survey of this problem of judging is that by Neujahr (1972) who draws attention to the variety of fields on which researchers working in classroom observational studies have based their judgements. These include social psychology and its sub-field of leadership behaviour, philosophy and logic, cognitive psychology, and so on. In Neujahr's view, the specializations of the many different researchers working in classroom situations have resulted in a proliferation of approaches which may make systematic understanding of what happens in the classroom slow to develop. The comment is also made that few studies build upon one another and that "the orderly growth of knowledge might be promoted if researchers were less ready to devise their own observational systems and instead worked more closely within existing systems" (Neujahr, 1972, p. 228). In the present study, the researcher's main aim is the analysis of the spoken English used in Nigerian secondary school classrooms in the teaching-learning process. By using an analytic framework developed for detailed analysis of classroom discourse (Sinclair et al, 1972) and by resisting the temptation to change its categories to any great extent, it is hoped that some

of these criticisms can be forestalled. By building on an existing analytic system perhaps more will be learned, particularly when that system is logically related to the aims and the nature of the material of the present study.

#### 3.2.4 Methodological Problems: The Classroom Context and Classroom Organization

The classroom is seen as a context for language and learning (Barnes, 1971) to which pupils bring expectations conditioned by their out-of-school experience and their assumptions about pupil-teacher roles. This is particularly true with regard to language, as uses of language in the classroom depend on the extent of teacher domination (Bellack, 1966; Stubbs, 1976; Barnes, 1976), the way in which a teacher values pupil contributions, the meaningfulness of the language activity and the degree of 'social distance' in the classroom, as well as out-of-school attitudes towards and experience of language.

As Cazden (1972) states, "Sociolinguistic interference from contrasting communicative demands outside and in school are almost certainly more important than grammatical interferences... To reduce this interference, we have to know both what capabilities the child brings and what we want him to be able to do" (p. 309). The present study is directed at what pupils are expected to be able to do

in the secondary school classroom in Nigeria and its approach is to carry out detailed analysis of spoken language in that context, paying due attention to other factors which may be at work. For example, the fact that pupils and teachers probably use their mother tongue for many purposes outside the classroom (1.4) would seem likely to be reflected not only in teachers' and pupils' expectations about language use in the classroom context but also in their ability or otherwise to use the medium effectively.

Pupils' expectations may be conditioned by cultural features of their out-of-school environment as well as their restricted use of the second language. Philips (1972) showed how cultural patterns affect the responsiveness of Indian children in the classroom situation, child-adult relationships and learning methods outside the school often being in direct conflict with the expectations of the classroom. Indian children, in Philips' study, are shown to take a responsible but often minimally verbal role in the adult world outside the classroom. Within the classroom context, therefore, certain teaching strategies achieve a better result than others. The amount and nature of pupil verbalization in the classroom is an important feature of successful strategy where such cultural conflicts arise. In the Nigerian situation, similar factors may be at work. The degree of adult authority and



respect for adults in the community, the extent to which verbal participation from young people is welcomed, and so on, may be reflected in classroom organization, in the teacher's definition of permissible behaviour and in pupils' willingness to offer verbal responses or initiations. From the research evidence discussed earlier (2.3.1.) on classroom organization in Nigerian secondary schools, and from the writer's own considerable experience in classrooms in both East and West Africa, it seems likely that the typical classroom situation in this study will be found to be a formal one.

It is possible to criticise the analytic approach of Sinclair et al (1972), which is employed in this study, on the grounds that it is adequate when one is dealing with formal classrooms but not applicable to other, less formal situations in the classroom. For example, Long et al (1976) certainly found this to be the case in small group situations in the classroom; they preferred to use an adaptation of various category systems of the Bellack/Flanders type. Stubbs (1976) comments that the differences in classroom discourse to be found in informal as opposed to formal classrooms must also be identified, as the structure of the discourse may differ according to the type of interaction allowed. This supports the distinction made by Barnes (1976) between 'school knowledge' and 'action knowledge', the development of these two types of knowledge

being closely tied to the kind of opportunities pupils are given to contribute to classroom talk. In an informal structure pupils use their own experience and their own kind of language to make new knowledge their own, whereas in a more formal structure they have to conform to the teacher's ordering of the discourse and may well have far fewer opportunities to speak. If these two types of learning are recognized, claims Barnes (1976), and provision is made for appropriate proportions of each type in the classroom situation, then the learning process will be enhanced. For both writers, classroom talk is regarded as a crucial area for study because "the role of language in education is...revealed in the underlying discourse structure of the classroom talk itself" (Stubbs, 1976, p. 103). Cazden (in Pride & Holmes, 1972) also recognizes the effect of classroom organization on classroom talk, stating that pupil "initiation of conversation probably takes place more often in a classroom where children carry major responsibility for planning their activities... But this may only be productive for language usage if involvement, and thereby conversation on a topic, is sustained over some period of time" (p. 307). Lansdown's (1971) approach to the teaching of science through investigation & colloquium also recognizes this (2.3.1.).

In Nigerian secondary school classrooms, constraints are imposed on teaching methodology by practical problems

such as large classes, high noise levels in school buildings designed for coolness, and lack of varied teaching materials. These and other factors combine to produce the typically formal classroom organization which the analytic approach of Sinclair et al (1972) was originally designed to describe. By studying the English used in the same type of formal classroom setting as Sinclair et al originally studied, thereby using an analytic framework which is logically related to the nature of the data, comparative evaluation of an admittedly limited type of classroom discourse becomes possible.

### 3.2.5 Methodological Problems: Participant Status in Classroom Discourse

An important aspect of classroom discourse is the relative status of participants in it. Assumptions about role, about feasible behaviour, about shared knowledge and about aims can be reflected in the structure of discourse. In ordinary conversation, equal participants can nominate the next speaker, or select the next action through questioning, or leave the next speaker to nominate himself (Sacks et al, 1974). In the classroom, however, one participant, the teacher, has an acknowledged right to direct the discourse (Coulthard, 1975); the question of participant status is largely predetermined by the structure of the school (Delamont, 1976). Pupils and teachers

fit into accepted role relationships which can largely determine the nature of discourse, particularly in the formal classroom (Bellack, 1966; Stubbs, 1976; Barnes, 1976). Argyle's (1972) analysis of the relations of dominance and dependence in interaction shows how dominance must be established, role relationships must be defined, the sequence of behaviour must be appropriate and the task, topic and procedure must be pre-determined, if interaction is to take place smoothly. In any group activity, according to Argyle (1972), norms must be established and they involve hierarchical arrangements and specific roles. As Laver & Hutcheson (1972) point out, in some encounters, the form these norms take is highly structured and the participants all know their 'parts' in advance. Such encounters are found in formal classrooms, as both teachers and pupils accept that the primary goal is to increase the knowledge, skills and understanding of pupils, to maintain discipline and to increase motivation and interest in the various subjects (Argyle, 1972) and that the teacher is expected to direct the interaction. Bridges (1976) describes how the teacher typically chooses what is to be discussed, facilitates such discussion, controls its flow and direction, develops its quality and often guides discussion towards a pre-determined conclusion.

An important aspect of classroom interaction, and

one in which it differs from other, less structured types of interaction, is the question of 'shared knowledge' (Labov, 1972B). Utterances which are apparently unconnected can occur in and form part of coherent discourse because of the shared knowledge of the participants. This phenomenon has also been noted by Delamont (1976), who points out that one of the problems of the researcher is that she may not share the knowledge which participants in the discourse have in common and may therefore misinterpret utterances. Labov (1972B) suggests that using the concept of "shared knowledge" all reported events can be classified; that is, "in any conversation, there will be events about which only one of the participants knows, and events about which knowledge is shared" (Coulthard, 1975, p. 77). With regard to this question of shared knowledge, discourse in the classroom differs markedly from ordinary conversation. The teacher already possesses much of the knowledge which is being dealt with in classroom discourse and pupils know this, a fact which makes the structure of the discourse assume certain characteristic features. The most obvious feature related to this fact is pupils' expectation for an evaluation of their contributions by the teacher (Sinclair et al, 1972). These characteristics of the participants in classroom discourse result in a limited range of discourse moves being available to most participants, particularly in the formal classroom as opposed to group work (Barnes, 1976).

Bridges (1976) describes how difficult it is for true discussion, involving two 'seekers', to take place in a classroom situation, as role relationships there make it perfectly clear that there is in fact, one 'knower' (the teacher) and a group of 'seekers' (the pupils) and what generally takes place in classroom interaction cannot therefore be termed discussion. If the teacher uses discussion only to teach, as Bridges (1976) points out, then it is not discussion in the strict sense of the term. Only by radically altering the traditionally accepted teacher-pupil roles can this be changed. It may well be the case that in informal group-work among pupils, in which the teacher plays only a neutral, procedural role and in which pupils are free to interpret new knowledge in their own terms, the structure of classroom discourse would be quite different to that of the formal classroom. Barnes' (1976) extracts from pupil discussion support this view. Both types of classroom discourse may be desirable in the teaching-learning process, and the structure of both types must be subjected to analysis, particularly in the classroom where a further tongue is being used as medium of instruction.

### 3.2.6 Methodological Problems: Non-Verbal Aspects of Classroom discourse

The importance of non-verbal aspects of communica-

tion, such as gesture, posture, eye-contact, direction of gaze, proximity, and so on, in the total discourse structure has been well-described (Argyle, 1972; Laver & Hutcheson, 1972). These non-verbal aspects are found in every type of discourse, including classroom discourse. As Widdowson (1974) points out, classroom discourse is made up of typical non-verbal as well as verbal elements. Drawing his evidence mainly from scientific English discourse, Widdowson stresses the importance of formulae, diagrams, symbols, tables, line-drawings, etc. as an essential part of the communication as a whole and one which must be included in analysis. The way verbal and non-verbal elements are related and their significance in the discourse structure must be allowed for if discourse analysis is to be comprehensive. In the classroom situation, the teacher's use of blackboard diagrams and of reference to the textbook material are integral parts of classroom discourse which must be included in analysis. Such features will occur not only in science lessons, but also in lessons in mathematics, geography, history - indeed, they will be part of almost any lesson no matter what the subject.

Other non-verbal features of classroom discourse such as eye-contact, gesture and posture (Delamont, 1976) can also be important. The value of an observer's presence in a classroom where recordings are being made is that

such non-linguistic features of the discourse can be noted in some detail, though not of course exhaustively. This advantage may out-weigh the effect of an observer's presence (3.2.1.) Videotape recordings will capture such features even more thoroughly, though even then, not all details for all participants could be caught. However, videotape can prove more intrusive and disruptive, particularly with pupils who are inexperienced with regard to such modern technological aids (3.2.2.). Certainly, an attempt must be made to record as thoroughly as possible all aspects of classroom discourse, but this must not detract from the main focus of the research which is, in this study, classroom language. Bearing in mind Neujahr's (1972) warning about the need for a clearly defined basis for classroom observational research, together with Stubbs' (1976) caution that linguistic data must first be analysed linguistically, the present study will attempt to take only limited aspects of the non-verbal features of classroom discourse into account. These will include any blackboard work during the course of a lesson. As the emphasis in this research is on spoken English, textbook material will not be included in the analysis unless it is read aloud or forms part of the spoken discourse. Textbooks in use in the different lessons will, however, be noted.



### 3.3 Classroom Discourse Analysis - Some Reservations

Two reservations about the analysis of classroom discourse using the approach of Sinclair et al (1972) arise in the context of the present study. The first is related to any inadequacies in the system which have been identified by others who have sought to apply it, especially in the category 'act' which will be the focus here. The second is related to the concern of the present study to offer an analysis which will be closely related to the role of English in the teaching and learning process in the Nigerian secondary school situation.

With regard to the first reservation, note must be taken of the fact that it has been found difficult to identify where a follow-up move ends and a new opening move begins (Coulthard, 1977, p. 113). The criteria for drawing such boundaries used in the present study will be made explicit. Also, it has been found that Sinclair et al's analysis can deal only marginally with monologue (Coulthard, 1977), yet, particularly in formal classrooms, teacher-monologues do occur. To ignore them would be to fall into the error which Stubbs (1976) warns against when he draws attention to the tendency of researchers to select only those aspects of the data which appear interesting or open to analysis. However, in the present study, the analysis of Clause types within such acts will provide

an additional degree of delicacy on a different level, as described below.

The second reservation arises from the setting and interests of the present study. Sinclair et al (1972) show that discourse in a formal educational setting offers a limited range of discourse acts, especially to pupils. It is of interest to discover whether the same is true in an English as further-tongue setting. In addition, it will be useful to analyse whether, within the discourse acts, pupils and teachers are making use of the full range of clause types in English. As has been mentioned (3.1.3.), Sinclair et al (1972) suggest possible links between the discourse unit 'act' and the grammatical unit 'clause'. The analysis undertaken here investigates any possible links of this type. An analysis at the rank of clause should offer useful information in view of the English as further tongue concerns of the present study. Such information may also further our understanding of the classroom discourse itself. It will be of interest, for example, to know in which discourse act a particular clause type is produced; to identify the relationship, if any, between discourse acts and the functions of the clause; to analyse the content of discourse acts in terms of options in the clause. There may be variations in any such relationship from lessons in one school subject area to those in another. Such questions must also be considered if a full

and useful analysis is to be produced. To do this, it will be necessary to approach the grammatical level of analysis and the means proposed to achieve this is the application of systemic linguistics.

### 3.3.1 Language as a System of Options

Allen and Widdowson (1975) state that, "what Halliday provides is a systematic account of the options which are available to the users of a language for the creation of texts." Just such an account is needed for the present study. While Halliday's analysis "does not provide the conditions whereby the selection of one option is appropriate while the selection of another is not, and, in this respect, although his grammar is based on functional notions it cannot be said to be a complete account of communicative competence" (Allen & Widdowson, 1975, p. 89), it may well be the case that use of such analysis within the structure of classroom discourse could go some way towards the production of such a 'complete account' within a limited context. As Halliday himself argues (1973), by representing language as a network of options, "we provide a link in the chain of realizations that relates language to social structure" (p. 65). Features of situation play a large part in determining choice from the system of options represented by language. Berry (1977) subdivides situation into thesis, immediate

situation and wider situation, describing these different aspects thus:

"The thesis situation is the situation that the language is about. The immediate situation is the set of circumstances which actually apply when the language is being used. The wider situation is the set of circumstances which make up the background of the participants in the immediate situation" (p. 2).

Such considerations of situation play a large part in the speaker's choice from the system of options in the language, it is suggested. In the classroom context, 'thesis' can be seen in part as the subject content of the lesson; immediate situation is that of the classroom, with its participants, organization and roles; wider situation is the background of pupils and teachers. These will largely determine the speaker's choice from the linguistic options available in the language system.

### 3.3.2 The 'Macro-Functions' of Language

Halliday (1970) defines three major functions which language serves: the ideational, the interpersonal and the textual. All three functions are reflected in the structure of the clause in English. Halliday (1970, p. 165) states that "the investigation of these functions enables us to relate the internal patterns of language -

its underlying options, and their realization in structure - to the demands that are made on language in the actual situations in which it is used." In the present study, a crucial area of interest is the link between the demands made on pupils and teachers using English as further-tongue and medium of instruction in the classroom situation. If a link can be established, as Halliday's theory suggests, between these demands and the internal patterns of the language, then insight should be gained into the functions of English in the English medium classroom.

The functions which adult language performs are termed 'macro-functions' by Halliday (1973) to distinguish them from the comparatively discrete functions of child language. Halliday sees the adult's language as having three major functions which "are the highly abstract linguistic reflexes of the multiplicity of social uses of language" (Halliday, 1973, p.36). The grammatical system "has as it were a functional input and a structural output; it provides the mechanism for different functions to be combined in one utterance in the way the adult requires" (Halliday, 1973, p. 36). The ideational macro-function, the linguistic expression of ideational content, finds its 'structural output' in the system of transitivity in English; the interpersonal function appears as mood and modality; and the textual function in the patterns

of cohesion in texts as shown by theme. Thus, in Halliday's theory, there are three major system options in the language, transitivity, mood and theme, by means of which the ideational, interpersonal and textual functions of an utterance can be given structural expression. Equal weighting is given by Halliday (Allen & Widdowson, 1975) to all aspects of this linguistic structure and all its distinctions of meaning, the speaker choosing from among each of the three system options according to the functions he requires an utterance to serve. A helpful analogy provided by Halliday (1973) is between linguistic structure and harmony in music. He states:

"A clause in English is the simultaneous realization of ideational, interpersonal and textual meanings. But these components are not put together in discrete fashion such that we can point to one segment of the clause as expressing one type of meaning and another segment as expressing another. The choice of a word may express one type of meaning, its morphology another and its position in sequence another; and any element is likely to have more than one structural role, like a chord in a polyphonic structure which participates simultaneously in a number of melodic lines" (p. 42).

### 3.3.3 The Ideational Function

In the present study, an attempt is to be made to

investigate the links between the content of secondary school lessons and the structure of classroom discourse. While all three macro-functions of Halliday are relevant in the study of classroom discourse, the ideational function has particular importance here because of the need to recognize patterns and developments in classroom language which reflect the teaching-learning process. A study in depth of interpersonal and textual functions would give added insight into the socio-linguistic patterns outlined by discourse analysis. For example, the work of Halliday & Hasan (1976) has demonstrated the means by which cohesion is achieved in English text: reference, substitution, ellipsis, conjunction and lexical cohesion. It would be possible to analyse classroom discourse in terms of its cohesion and this would undoubtedly tell us much about the details within the overall discourse structure. Similarly, to analyse the interpersonal component which "is concerned with the social, expressive and conative functions of language, with expressing the speaker's 'angle': his attitudes and judgements, his encoding of the role relationships in the situation, and his motive in saying anything at all" (Halliday & Hasan, 1976, p. 26) would be extremely useful in its yield of information about how teacher-pupil role relationships are reflected in the details of the language used in a classroom situation. Such relevance and usefulness are not denied here.

However, for the aims and focus of the present study, the ideational component will be the focus of attention. With the emphasis placed, in the present study, on patterns of spoken language interaction in secondary school classrooms where English is being used as further-tongue medium and on any differences which can be identified between one subject area and another (See 4.1.) the ideational function of language is central. Rather than a detailed sociolinguistic study such as the combination of discourse analysis and the identification of the interpersonal function as expressed by mood and modality could provide and rather than studying the aspects of cohesion found in the textual component of the classroom discourse, the ideational function which spoken language is performing within the lowest unit of discourse, the act, is chosen for study. Teachers and pupils are using spoken language in the classroom to teach and learn the content of the various subjects on the curriculum. In an English as further-tongue setting, it is of interest to discover how subject content is conveyed, what use both teachers and pupils are making of the options within the transitivity system of English and what insight can be gained into possible aspects of this use which might benefit from detailed attention in English language teaching in schools and in teacher training. It would, of course, be ideal to analyse all three macro-functions in relation



to discourse structure. Such an undertaking is, however, outside the scope of the present study. The choice of ideational function as focus within the discourse analysis is determined by the background and interests of the researcher, which lean more towards the role of English as further tongue and medium of instruction and how English language teaching and teacher training can best be directed towards meeting the demands of this role rather than towards sociology or the detailed analysis of cohesion of text. Studies of textual cohesion and of interpersonal functions of language would undoubtedly be of value in enhancing our understanding of the way classroom discourse is built up but within the limits and aims of the present study the ideational function of language is chosen as being the most appropriate focus of attention.

Halliday and Hasan (1976) show the ideational component as follows:

Ideational	
Experiential	Logical
By rank:	All ranks:
Clause:	
Transitivity	Paratactic and hypotactic relations (condition, addition, report)
Verbal group:	
Tense	
Nominal group:	
epithesis	(Halliday & Hasan, 1976)
Adverbial group:	
circumstance	

The relevance of the logical categories to the language of science discussed earlier (2.3.) is obvious. Of particular interest here is the rank of clause and the transitivity system as used to express experiential meaning.

As Halliday (1973) states, "The clause is a structural unit, and it is the one by which we express a particular range of ideational meanings, our experience of processes - the processes of the external world, both concrete and abstract, and the processes of our own consciousness, seeing, liking, thinking, talking, and so on. Transitivity is simply the grammar of the clause in its ideational aspect" (p. 39). Halliday, then, sees the clause and its transitivity system as a means of expressing processes. In the classroom situation, we are concerned with helping pupils to give expression to such processes through language (Barnes, 1976). It could be possible, by analysing the clause, as process, and its expression through the transitivity system, that just how this is achieved in classroom discourse could be identified.

#### 3.3.4 The Transitivity System

The transitivity system in English is seen by Halliday (1973) as a system of options by means of which processes are expressed in the clause. Meanings are coded through language, which is seen as "meaning potential" -

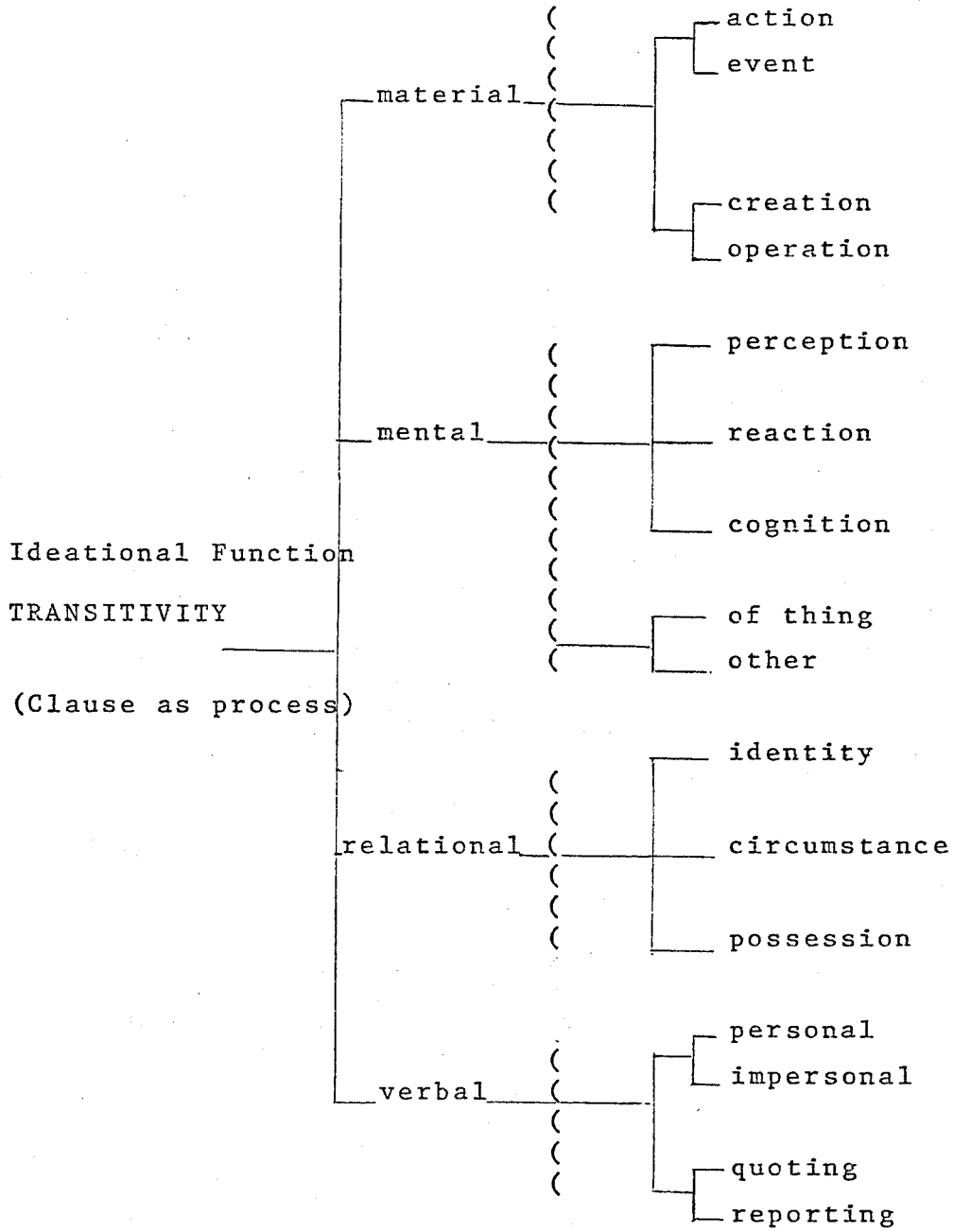
what the speaker can do. Choices from the system show what the speaker does in the context of can do, of the options open to her. As Berry (1975) explains, "for systemic linguists 'langue', which they call linguistic behaviour potential, is the range of options from which a person's language and the culture to which he belongs allow him to select, the range of possible things that he 'can do' linguistically. The systemic behaviour potential v. actual behaviour distinction, their version of the langue v. parole distinction, is really a 'can do' v. 'does' distinction" (p. 24). This is different to the transformational grammar approach, which contrasts 'knows' with 'does', emphasising psycholinguistic rather than sociolinguistic aspects.

The options of the transitivity system are realized in the form of structures, the main unit of analysis being the clause (Halliday, 1973). The structure-forming elements, Halliday suggests, are present in the grammar as elements deriving from the ideational function. The labels given to these elements (such as 'agent', 'affected', 'actor', 'goal') describe the role of each element in the encoding of meaning, an approach similar to that of Fillmore (1968). The elements are identified syntactically but labelled semantically. Fillmore, for example, uses labels such as 'agentive', 'dative' and 'objective', which indicate semantic structure. Indeed, there is much similarity

between Fillmore's 'cases' and Halliday's 'roles' (Allen & Widdowson, 1975):

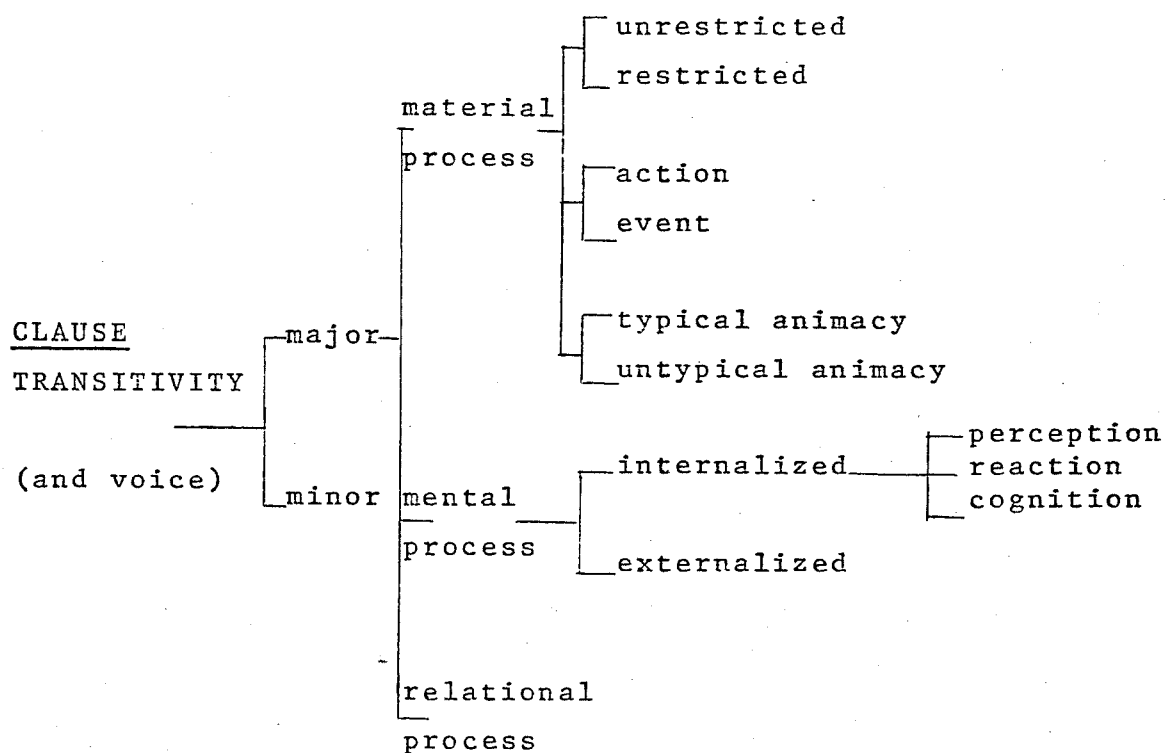
<u>Fillmore 'Cases'</u>	<u>Halliday 'Roles'</u>
agentive	actor
objective	goal
instrumental	instrument
dative	recipient
factitive	resultant
benefactive	beneficiary
source	force
locative	place

Fillmore's (1968) concept of modality plus proposition as sentence is developed in Halliday's (1973) interpersonal and ideational functions, a debt which Halliday acknowledges. Both Fillmore and Halliday agree that modality reflects the social functioning of language (Allen & Widdowson, 1975). For the purposes of the present study, Halliday's (1973) analysis is preferred because of its wider development within systemic linguistics. Transitivity is, therefore, to be regarded as a system of options, at increasing degrees of delicacy, for expressing the clause as process. The options in the transitivity system, to the second degree of delicacy, are represented by Halliday (1973, p. 40) as:



In this system, one alternative from each sub-system must be chosen and where two simultaneous sub-systems occur, one alternative must be chosen from each. Thus, for example, a material process could be action/creation, or action/operation, or event/creation, and so on.

Berry (1975) presents a slightly different system of options:



(Adapted from Berry, 1975, p. 189).

Both systems represent attempts to identify all possible types of process which can be expressed in the clause, and the options related to them. Berry's category "externalized mental process" is used for clauses containing verbs like 'say' and 'discuss', which in Halliday's analysis would be labelled as verbal processes of personal or impersonal quoting or reporting. This may represent an improvement, as Halliday's category of verbal process seems designed more for the classification of direct and indirect speech, and its use to identify a clause such as "we are going to discuss..." leaves something to be desired.

On the other hand, Berry's omission of the subsystems of relational process is not explained; she simply gives examples of relations of identity, possession and circumstance and classifies all three as simply 'relational process' (Berry, 1975, p. 151). This represents a loss of the useful distinction made in Halliday's analysis of the system. Berry's 'intention' v. 'supervention' distinction is designed to distinguish action processes which are intentional, the actor performing voluntarily, from those which are unintentional. However, 'supervention' relies heavily on context for correct interpretation. Berry's example "Aunt Jemima dropped the teapot" (Berry, 1975, p. 152) is hardly unambiguously a supervention. For the purposes of the present study, it will be necessary to adapt these system networks through combination and elaboration. The analysis to be used here will be outlined in the next chapter, together with the degree of delicacy to be used. Such analytic frameworks, although not perhaps sufficiently comprehensive, do provide a valuable tool in the kind of analysis which the present study undertakes. As Berry (1975, p. 195) states:

"We should expect to find a difference in the frequency with which the registers (or idiolects) select a particular option from among the potential meanings of the language".

In the context of different school subjects and of the teaching-learning process, we might expect such differences in frequency to occur and the present study will seek to discover whether this is, in fact, the case.

#### 3.4 Some Important Considerations for the Present Study

From all the above, it becomes clear that the role of language in further-tongue medium classrooms such as those of Nigerian secondary schools may be determined by a variety of factors. There is for example, the problem of subject-specific uses of language, with the constraints this may place on both teachers and pupils if their command of this type of language is inadequate. There is also the question of teacher-pupil roles; how these may be affected by cultural expectations, and practical difficulties; and how classroom context can affect the kind of language interaction which takes place. These problems, embracing as they do both linguistic and sociological aspects, complicate the study of classroom language. They cannot be approached without first analysing in detail what actually goes on in language use in the classroom. The first level



of analysis is a purely linguistic one, the evidence of which will provide a spring-board for linking classroom language to the features of context. As Halliday (1973) states most clearly:

"In front of our eyes, as it were, are the 'uses of language': we are interested in how people use language and in how language varies according to its use. Behind this lies a concern with the nature of language itself: once we interpret the notion 'uses of language' in sufficiently abstract terms we find that it gives us an insight into the way language is learnt and, through that, into the internal organization of language, why language is as it is. Behind this again is a still deeper focus, on society and the transmission of culture; for when we interpret language in these terms we may cast some light on the baffling problem of how it is that the most ordinary uses of language, in the most everyday situations, so effectively transmit the social structure, the values, the systems of knowledge, all the deepest and most pervasive patterns of the culture. With a functional perspective on language, we can begin to appreciate how this is done" (p. 45).

It is hoped that in the present study, such a functional perspective, concentrating on the use of language in a particular context, will provide insight which may

prove a stepping stone to other related research. At the present time, there is a real need for the application of this approach in efforts to understand the fundamental role of English as further-tongue in classrooms where it is used as medium.

#### 3.4.1 Some Questions to be Explored

In the present study an attempt will be made to offer answers to questions such as:

- (a) What is the occurrence of the various categories of discourse act in the language sample to be analysed?
- (b) Are there any characteristic patterns in these occurrences?
- (c) Are these patterns, if any, linked to the subject content of the lesson?
- (d) How does the use of different clause types in the acts contained within the classroom discourse relate to the teaching and learning process and to the discourse structure itself?
- (e) What is the relation, if any, between the classroom discourse of English lessons and that of lessons in other subjects on the curriculum?

Any insight gained into the use of English as further-tongue and medium of instruction could prove of value to teachers,

teacher-trainers, English course designers and student teachers. Not least, any information which improves our knowledge about the teaching and learning process in the classroom and the role of English in that process will ultimately benefit pupils.

## CHAPTER FOUR

### DESIGN OF THE INVESTIGATION

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- 4.5. Sampling Procedure: Schools.
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- 4.6.3. Analysis of Questionnaire Data.

## CHAPTER FOUR

### DESIGN OF THE INVESTIGATION

#### 4.1 Aims of the Investigation

The investigation undertaken in this research has the following aims:

- (i) to identify and analyse occurrences of the discourse unit ACT in the spoken English used by pupils and teachers during selected lessons in some secondary school classrooms in urban areas of Nigeria.
- (ii) to identify and analyse the choices made from the process options in the unit CLAUSE in the same language sample.
- (iii) to investigate the CLAUSE-ACT link in the language sample.
- (iv) to compare the choices made from the process options in the unit clause, the occurrences of the unit discourse act and the clause-act link found in English lessons with those found in lessons in the three secondary school curriculum subject areas, mathematics, science and social studies.
- (v) to present any possible educational implications of the above.

#### 4.1.1 The Language Data

The language data used in this investigation is the spoken English used by teachers and pupils during 40 lessons in some secondary school classrooms in urban areas of Nigeria. A total of 56 lessons were recorded in all, 13 during an initial trial period. Included in these 13 were lessons such as music, technical drawing and home-economics, as well as lessons in the four secondary school curriculum subject areas, English, mathematics, science and social studies. It was decided to limit the present investigation to language data from lessons in these four subject areas for three reasons. First, initial recordings showed that the greatest use of spoken English was made during lessons in those four subject areas. In addition, secondary school pupils in Nigeria have the majority of their lessons in these four subject areas in years one and two of the secondary school; the bulk of their exposure to and use of spoken English will occur during lessons in these four subject areas. Thirdly, not all secondary schools offer subjects such as music and technical drawing and, where they are offered, lesson periods on the school timetable are few. The 40 lessons which provide the language data for the investigation are, therefore, 10 each from English, mathematics, science and social studies (see 4.5 for sampling procedure).

The average number of discourse acts per lesson, in the English, mathematics, science and social studies lessons recorded during the initial period, was 205 for teachers and 96 for pupils. The average number of clauses per lesson in the same sample was 405 for teachers and 125 for pupils. In 40 lessons, therefore, it was anticipated that approximately 12,000 discourse acts containing approximately 20,000 process options would be available for analysis. These constitute the language data used in the investigation.

#### 4.2 Preparation of the Language Data for Analysis

The first step in the preparation of the language data for analysis was the written transcription of the 40 tape-recorded lessons by the researcher. In making the written transcriptions, notes made by the researcher in the classroom during recording were used in conjunction with the tapes (see 4.4.).

One of the units of analysis used in this investigation is the act, which realizes the lowest rank of discourse structure (3.1.3.). As a next step in the preparation of the language data, therefore, a mapping of the entire discourse structure of 5 of the lessons was carried out. Discourse acts are identified both by their discourse function and by their position in the discourse structure



(Sinclair et al, 1972). Therefore, an initial mapping of complete discourse structure was regarded as helpful in enabling the researcher to acquire facility in identifying discourse acts. Complete discourse structure analysis is not, however, required for the present investigation, with its emphasis on the units clause and act.

The next step in the preparation of the language data was the identification and mapping of discourse acts and choices from the process options at the rank of clause. This was done in the following sequence: identify and label discourse acts in the language sample; identify and indicate clause boundaries; identify and label choices made from the process options in the clause. Discourse acts, clause boundaries and choices from process options were mapped together onto the transcript of each lesson. Finally, in the preparation of the language data, a clause-act matrix was completed for each lesson. Each of these steps in the preparation of the language data is described fully in the following sections, 4.2.1. to 4.2.7.

#### 4.2.1 Written Transcription of the Language Data

In the presentation of the written transcription of each lesson, the teacher's contributions to the discourse are indicated by T. and the pupils' by P. Individual.

pupils contributing to the discourse are not identified, as the investigation is concerned with overall patterns rather than with differences in individual pupils' contributions to the discourse.

Where hesitation occurs in the spoken English, this is indicated by a series of dots, thus:

T. On Tuesday, we had a lesson on West African, Relief.....er... West Africa, Climate, and we went on.... we were...er... we tried to discuss the meaning of the word 'climate'.

Where part of an utterance or a whole utterance is inaudible on the tape, this is indicated by the word 'missed' in brackets. For example:

T. A typical Ibo man carries his palm wine from one place to the other ..... on what? On what?  
 P. (Missed)  
 T. No  
 P. On bicycle.

Whenever a word or expression cannot be accurately identified, this is shown by a question mark in brackets. For example:

T. In fact, they are being encouraged to settle down by giving them a piece of land whereby they can promilate (?) their vegetables.

Pupils sometimes speak together when responding to a teacher's question or when acknowledging something the teacher has said or requested. In such cases, the pupils' response is followed by the word 'chorus' in brackets. An example of such a chorus response is the following:

T. I think you hear that?

P. (Chorus) Yes, ma.

Such chorus speech also occurs when pupils anticipate the completion of the teacher's sentence and say the last few words simultaneously with the teacher. This is indicated in the transcripts thus:

T. I told you we use either the Fahrenheit or the...  
centigrade.

P. (Chorus echo). Centigrade.

Any non-verbal acts in the discourse are indicated by the letters NV at the appropriate point:

T. Clap for him.

P. NV.

At the end of each transcription, a list of black-board work, textbook references and other visual aids used during the lesson is provided. These items are listed in the order in which they were used during the lesson.

#### 4.2.2 Mapping of Discourse Structure

The mapping of discourse structure followed the conventions used by Sinclair et al (1972). In brief, four columns are used, the first showing the exchange type, the second containing all opening moves, the third any answering moves and the fourth giving the follow-up moves. Exchange boundaries are shown by lines across the page. Discourse acts are indicated within the three columns of opening, answering and follow-up moves, as they occur.

The discourse structure was mapped on to the layout, using both the tape-recording and the transcript of each lesson analysed in this way, together with the notes made by the researcher during the recording. The pausing and intonation registered on the tapes helped to identify the discourse structure. In order to follow the discourse as it develops, the reader must read down the second column until the exchange boundary is reached, then similarly down the third and fourth columns in turn. An example of part of a lesson analysed for complete discourse structure in this way can be found in appendix one. The main purpose of this mapping was to develop facility in identifying discourse acts, which are the focus of this investigation.

#### 4.2.3 Categories Used in the Identification of Discourse Acts

In identifying discourse acts, the categories used

are those of Sinclair et al (1972). Modifications have been kept to the minimum in the light of methodological problems associated with judging (see 3.2.3.). None of the labels for the categories of act have been changed, the only modifications being in the definition of three of the acts. In the case of the discourse act check, the definition has been extended to include both the "real" questions identified by Sinclair et al (1972, p.92) and questions which can be asked by the teacher not because she doesn't know the answer but because she wishes to force compliance on the part of the pupils (Rowe, 1973, p. 267). Examples may illustrate this distinction. When the teacher genuinely does not know the answer to a question - a comparatively rare occurrence in the formal classroom (3.2.5.) - she may be inquiring about whether a pupil has finished a particular task, has got the required equipment, understands the instructions given, and so on. Thus, when a teacher asks "Do you remember that?" or "Have you brought your slide-rule?" she is genuinely seeking information (though the validity of the first of these questions is highly questionable, as pupils almost invariably answer "yes"! ). However, in an exchange such as the following, the teacher could be seeking to force compliance from the class rather than genuinely seeking information:

T. What other things do they do in the eastern part besides growing of palm trees? mm?

P. Cassava.

T. Cassava. What do you mean by that word 'cassava'? Do you understand him at all? (check)

P. NV (varied reactions from pupils)

T. We don't understand it.

Similarly, question tags can be used to force compliance, as can questions such as "Right?" (Rowe, 1973). In the present analysis, both types are included within the discourse act "check".

In the present sample, teachers were also found to use questions such as "right?" or "mm?" at the end of an inform act, usually followed by a chorus "yes" from pupils. Here, the function of the question seems to be to demand an acknowledgement from the pupils that they are following the teacher's inform. In their definition, Sinclair et al (1972, p.93) state that the function of a prompt is "to reinforce a directive or elicitation by suggesting that the teacher is no longer requesting a response but expecting or even demanding one". This definition of the discourse act prompt is extended in the present analysis to include the demand for a pupil acknowledgement at the end of a teacher inform. For example:

T. marker: //now,  
 inform: it's greater than 90//(and)  
 //it's less than 180// it's between  
 a right angle and a straight angle// (BB)  
 prompt //mm?//  
 P. acknowledge (chorus): //yes//.

This contrasts to the discourse act 'check' as seen in:

T. elicit: //give me the...the biggest obtuse angle  
 ((you can have))//  
 P. reply: //179 degrees//  
 T. accept: //179 degrees//  
 T. check: //do you understand that?//  
 P. reply (chorus): //yes//.

The third discourse act of which the definition has been extended is acknowledge. Sinclair et al (1972), p. 93) see this act as functioning "simply to show that the initiation has been understood" but they do not state specifically whether 'echo' effects of the type described above (4.2.1.) were thus identified. Coulthard (1977, p. 55) points out that the ability to predict the end of a sentence and say the same thing at the same time as the speaker can be used as a device for self-selecting for turn-taking in conversation, as well as proving that the previous speaker has been understood. In the present analysis, such echo effects are identified as being in the category

'acknowledge'. With the unequal participant status of the classroom, an acknowledgement of comprehension is likely to be their prime function. They tend to occur at the end of informing acts by the teacher and are most frequent when the content of the 'inform' is revision material, as in the introductory stages of a lesson.

With regard to the discourse act comment, Sinclair et al (1972) state that this merges into inform acts but can be identified by a pause signalling paralinguistically that the comment is ended. In the present sample, this is not always the case and it is sometimes difficult to separate the two acts, as others have noted (3.3.). However, other clues in the discourse structure can help here. For example, if an act which at first appears to be a comment is in fact followed by a check, the structural clue which this presents makes classification as an inform more satisfactory. Thus, in the example below, the act is identified as an inform rather than a comment because of the check which follows it:

P. reply (chorus): The Son of God.

T. accept: The Christians...the Christians believe that Jesus is the Son of God.

T. inform: He is the Saviour. He was sent unto us to save the world. The Moslems believe Mohammed is a prophet. They are still waiting for their Saviour.



T. check: Do you notice the difference?

P. reply (chorus): Yes.

In the identification of discourse acts, 22 categories are used. The definitions of some of the acts are "very general" (Coulthard, 1977) but the interest in the present study is in the choice of process options in the clauses contained in each type of act. It is not considered necessary, therefore, to introduce a secondary level of delicacy in the act categories, as the identification of choices from the process options in the clauses which are contained in each act will provide a level of more detailed analysis. For example, the act 'inform' could, it has been suggested (3.3.), be broken down into several smaller 'informs'. In the present analysis, however, the number and type of clauses found in an inform will provide a breakdown of a different type. The 22 categories of act used are: marker, starter, elicitation, check, directive, informative, prompt, clue, cue, bid, nomination, acknowledge, reply, react, comment, accept, evaluate, silent stress, metastatement, conclusion, loop and aside. A list of the acts, together with their definitions, as adapted from Sinclair et al (1972), can be found in appendix 2. The act 'silent stress' has as its only function the highlighting of a marker when the marker is serving as the head of a boundary exchange. This act is used, therefore,

only in the initial discourse structure analysis (4.2.2.) and is not included in the subsequent and major analyses of clause and act.

#### 4.2.4 The Identification of Clause Boundaries

In identifying clause boundaries in the language sample, the working definition of clause used is that of systemic linguistics (Muir, 1972; Berry, 1977). The elements of clause structure are subject, predicator, complement, adjunct and Z-element, <sup>with subject, complement and z-element</sup> realized by one or more than one nominal group, predicator realized by one or more than one verbal group and adjunct realized by one or more than one adverbial group. The Z-element is of three different types, Z-positive element, Z-negative element and Z-vocative element. The clause, in this analysis, is realized by one or more than one group (nominal, verbal or adverbial) functioning at subject (S), predicator (P), complement (C), adjunct (A) or Z-element (Z). None of these elements is obligatory in the clause. However, a distinction is made between major clauses, which have P as a required element in their structure, and minor clauses, which have no P element. This distinction is important for the present study because the choices from process options in the clause are linked to the P element of clause structure (Berry, 1975, p.154). The elements of structure of a major clause are, therefore, (S), P, (C), (A), (Z); the brackets indicate that an element

is not obligatory. Minor clauses have no P element. They are realized by one or more than one nominal group functioning at S, C or Z or by one or more than one adverbial group functioning at A, or by any of the possible relations of these elements. For example:

## P

(major clause) Teacher: //Can you tell me some of them?//

(minor clause //First one?//

(minor clause) Pupil //Dugbe market//

Throughout the analysis, 2 parallel lines are used to indicate clause boundaries, as in the above example.

However, where a clause is contained within the structure of another clause, either through rankshifting or inclusion and discontinuity, such a clause is indicated by double brackets. A rankshifted clause is operating at qualifier within nominal group structure or as whole nominal group. An included clause, on the other hand, has not been rankshifted. For example:

Rankshifted clause operating at qualifier in the nominal group:

//the people ((we call the Igbiras)) are good farmers//

Rankshifted clause operating as whole nominal group:

//Internal trade is ((where we exchange our crops))//

Discontinuous clause including another clause which is not rankshifted in its structure:

//Your parents, ((when you inform them)), will be very proud of you//

Discontinuous clauses are also distinguished by an intonation break in speech, indicated by commas in the transcript.

Clauses which have more than one verbal group are regarded as having a 'phased predicator' (Muir, 1972, p. 60). For the purposes of this present study each of these predicator elements is used in identifying choices from process options in the clause. For example, in the clauses:

//The Fulanis started to rear cattle a very long time ago//

and: //I want you to tell me your reasons//

the predicators started, to rear, want and to tell are all used in identifying the process options chosen. Each predicator represents a choice from the system and pupils must deal with them all in decoding. There are many examples of phased predicators in the language data and in each case all predicators are identified as choices from the process options.

Other conventions followed in the identification of clause boundaries in the language sample are as follows. First, when the linking words 'and', 'but' and 'or' are linking clauses, they are not accorded constituent status in either clause but are shown in single brackets between clause boundaries, thus:

//We measure temperature with a thermometer//(and)

//we measure humidity with a hydrometer//.

Sentence linkers, however, are included as a linking adjunct element in the structure of the clause, as in:

//Nevertheless, you must continue//

Often in the language sample, a clause is started and then broken off incomplete and rephrased or continued after a brief pause with repetition of preceding words. In the analysis, such instances are dealt with in the following ways. First, if the clause is broken off incomplete and a new clause follows which does not incorporate the initial clause or part of a clause within it, the first incomplete clause is separated from the subsequent one and identified as a major or minor clause whichever is appropriate. Thus, for example, in

T: //we want to go...//we want to see some of the statements//...

two clauses are identified, both of them major as they contain predicators. Similarly, in:

T: //we....//the purpose of the market is ((to exchange our goods))// two clauses are again identified but the first, incomplete clause is labelled 'minor' as it contains no predicator. Secondly, when hesitation occurs within a clause which is then continued following the original

structure with perhaps some repetition of one or two words, this is identified as a single clause, as in:

T: //we have...we have so many crops in Nigeria//

As Sinclair (1972) points out, a speaker often pauses or hesitates in the middle of a clause rather than between clauses or sentences. To identify the part of the clause which occurs before the hesitation as a separate structure in the above case would inflate the number of clauses, particularly minor clauses, unjustifiably. Whenever, therefore, the clause following the pause continues the same clause structure this is identified as one clause only. Often, the gap is filled with 'er' or 'erm', as in:

T: //so petroleum is another important...erm...  
another important export//.

Finally, completive sentences such as 'yes' (Muir, 1972, p. 76) and items such as 'mm?', are identified as minor clauses in the analysis. They realize discourse acts such as 'reply', 'nominate', 'acknowledge' and 'prompt'.

#### 4.2.5 Categories Used in Identifying Choices made from Process Options in the Clause

In identifying choices made from the process options in the clause, 12 categories are used. Of the

twelve, 11 are process options which can be chosen in a major clause, with obligatory P. The twelfth is the category 'minor clause: process implicit.' The twelve categories used are adapted from Halliday (1973) and Berry (1975; 1977) (see 3.3.5.). All process options are options of meaning. There are three basic distinctions, between material, mental and relational processes. Within each of these types of process, further distinctions are made. Material processes may involve an animate or inanimate actor; that is, they may be 'action' or 'event' processes. Secondly, they may involve an 'affecting' (operation) or an 'effecting' (creation) process. These distinctions produce the first four categories:

- I material process, action, operation  
 as in: //The Fulanis rear cattle//  
 or: //Olu lives nearby //.
- II material process, action, creation  
 as in://The Binis produce beautiful works of art//
- III material process, event, operation.  
 as in://The north west trade winds carry dust  
 from the Sahara//
- IV material process, event, creation  
 as in://The combination of a metal with oxygen  
 produces an oxide//

Mental processes may be externalized or internalized

processes. Externalized processes are the verbal processes: telling, saying, discussing, explaining, and so on. Internalized processes may involve cognition (as in knowing, remembering, realizing) or perception (as in seeing, hearing, smelling) or reaction (as in liking, hating, wanting). These distinctions between the various types of mental process produce the next four categories:

V            mental, externalized, verbal

as in: //He has just told us// (that they grow  
yams)

VI           mental, internalized, cognition

as in: //do you remember your equations?//

VII          mental, internalized, perception

as in: //Look at this sketch map on the black-  
board//

VIII        mental, internalized, reaction

as in: //The Hausas like Kolanuts//

Relational processes involve the expression of a relation of identity or possession or circumstance. These three distinctions give us the remaining major clause categories:

IX           relational, identity

as in: //He is an Ibo//

or:        //They are tall and slim//



X relational, possession  
 as in: //The Oba has a magnificent beaded  
 robe//

XI relational, circumstance  
 as in: //The rubber plantations are in the  
 midwest//

The twelfth category is that of process implicit,  
 occurring whenever there is a minor clause.

XII minor clause, process implicit  
 as in: //Yes, the climates.//

In appendix three can be found a diagrammatic  
 representation of these process options, with more  
 examples of each type.

When the predicators 'get' and 'have' are  
 used, it is often necessary to refer to lexical, structural  
 or contextual clues outside the predicator itself in order  
 to identify the process option involved. Thus, for example,  
 //he got some vegetables from the market//would be identified  
 as a material/action/operation process, whereas//do  
 you get the idea//would be classed as a mental/internalized/  
 cognition process. Similarly, //she has a new textbook//  
 would be labelled relational/possession, whereas //what's  
 the first acute angle ((you have))//would be identified  
 as a mental/internalized/cognition process, 'have' in this

instance being taken as the equivalent of 'hold in the mind', 'know' or 'recognize'. 'Get' and 'have' can be interpreted in many different ways depending on context. Dictionary definitions of these words show the many different meanings associated with them. However, which meaning is appropriate in a particular context is shown by lexical, structural or contextual clues outside the predicator itself. Such clues were used in labelling the process options in the analysis. When, however, no such clues were present for a clause containing either of these predicators, the clause was identified as a minor clause (process implicit), as in:

//you remember the stories ((we had last week))//.

Here, 'had' could possibly mean 'studied' or 'read' or 'were told' but there is no additional lexical clue within the clause or its immediate context to show which meaning is the one intended. The clause is, therefore, classed as a minor clause (process implicit).

Sometimes, an adjunct can be shifted to theme position (Halliday, 1973), as in:

//on the next page you've got the exercises//

or:

//In Nigeria we have so many tribes//.

In such cases, the structural clue of adjunct

as theme is used in identifying the process option, which in these two examples would be relational/circumstance, both 'got' and 'have' being taken as the equivalent of 'there are' rather than any element of possession being involved.

Similarly, where the process is indicated by a predicator usually associated with, for example, a mental/internalized/perception process, such as 'see' and yet in the discourse there are contextual clues which indicate that such a predicator is realizing a different type of process option, these clues are used in identifying the choice made from the process options. For example, in the following act, the teacher was asking about a pupil's comprehension rather than his ability to actually 'see' his mistake, since there was no written material before him:

T. //do you see the mistake you have made?//

In such a case, contextual clues are used in the identification of the choice of process, which in this case would be labelled mental/internalized/cognition, 'see' in this case being the equivalent of 'realize'.

When the verbal substitutes 'do' and 'happen' (Halliday & Hasan, 1976) occur, 'do' is identified throughout as a material/action/operation process provided that the actor is animate, as in //what do we do next//, while

'happen' is identified as a material/event/operation process provided that the actor is inanimate, as in //how did that happen//.

The use of lexical, structural and contextual clues in interpreting the process expressed in clauses containing such predicators is an area not yet covered by systemic linguists such as Muir (1972) and Berry (1977), perhaps indicating a fruitful area of further research for systemic linguistics to encompass. While the use of such clues does introduce an element of more subjective judgement into the present analysis, which might well be regarded as undesirable, judging was consistently based throughout on the lexical, structural and contextual clues available in such cases and where such clues were lacking clauses were identified as minor (process implicit).

A special case for consideration within the clause process option categories are the mathematical operations of adding, subtracting and dividing. It was at first considered that a separate category should perhaps be established for such mathematical processes, perhaps to be labelled mental/externalized/calculation. However, such a category would have been needed for mathematics only and the fact that such calculations are almost always accompanied, in the lessons, by blackboard work showing the calculation and that there is a tangible process being carried out

which results in numbers being changed, cancelled or written out by teacher and/or pupils makes it possible to list these processes under the material/action/operation category while bearing in mind that they are qualitatively different in some respects to other material/action/operation processes identified. Discussion with mathematics educators and the fact that processes such as addition are understood as operations to be performed led to the conclusion that the material/action/operation category could be extended to include these mathematical operations. In the discussion of results, however, it is necessary to bear this qualitative difference in mind and to avoid, for example, any conclusion that mathematics, as a subject, involves the expression of fewer mental/internalized/cognition processes than other subjects, since these mathematical operations contain a significant cognitive element. While the use of the category system without adaptation for this special aspect of mathematical operations perhaps represents a weakness in the design, it is felt that in the interests of consistency (3.2.3.) the basic categories of clause process options outlined above should be adhered to with the proviso that the special features of mathematical operations identified as material/action/operation processes should be considered in discussing the results of the analysis.

#### 4.2.6 Mapping of Clause and Act

The occurrences of act and clause were identified and mapped out on the transcript of each lesson. Each discourse act is labelled in a column to the left of the language items realizing that act. Each section of the language sample realizing a particular act begins on the same line as the discourse act label identifying it. Where one act is contained within another, the included act is shown in brackets in the left-hand column.

Choices from the process options are similarly shown in a column to the right of the transcript, each category label occurring on the same line as the clause in which that choice is made. The analysed transcript is therefore laid out as below:

<u>Discourse Act</u>		<u>Clause as Process</u>
Starter	T. //Majority of us come from different parts of the country// If you are from the former Eastern Nigeria//	mat.act.op.  rel.circ.
directive elicit	//Stand up// (and)//tell us // what tribe you are //	mat.act.op. ment.ext.verbal rel.id.
React	P. N.V.	
Reply accept	P. //I am an Ibo// T. //an Ibo//	rel. id. minor clause.

Examples of complete mapped transcripts for four lessons, one each from social studies, English, mathematics and Science, can be found in Appendix 4.

#### 4.2.7 Clause-Act Matrices

For each lesson analysed as described above, a clause-act matrix was prepared, on which each occurrence of a choice from the process options in the clauses was tallied against the discourse act in which it occurs. The matrix has two axes, the vertical axis having 21 divisions for the discourse acts identified (silent stress excluded) and the horizontal axis having 12 divisions for the process options in the clause. Totals are indicated in final columns at the right of the matrix and at the bottom. Each entry can be indicated as a pupil or teacher clause in the divided columns provided for this purpose. The totals at the bottom of the matrix indicate the actual number of

each type of process option selected, while those on the right of the matrix indicate not the total number of occurrences of each discourse act identified but the total number of options contained in each category of act. The total occurrences of each category of act are obtained from the transcription and mapping, and are shown on the left of the matrix. A clause-act matrix was completed for each of the 40 lessons analysed. Sample matrices can be found in Appendix 5.

#### 4.3 Analysis of the Matrices

Two complementary types of analysis of the matrices are presented, chosen as being appropriate to the language data under consideration (3.2.3.). A purely quantitative analysis would be inadequate, as the data consists not of discrete and independent items which would lend themselves to a purely statistical approach, but of interdependent items contained within and realized by each other. The inadvisability of applying statistical techniques such as multi-dimensional contingency tables to the language data was brought out during long consultations with a staff member of the Department of Statistics and Computing in the Institute of Education. The two levels of analysis presented are, therefore, first a quantitative level, using frequency counts and percentages, and second a descriptive and inferential analysis of the qualitative aspects of the data.



Quantitative analysis shows, for example, that in a particular lesson or in a particular subject area, a certain percentage of the discourse acts used by the teacher are, say, 'inform' acts, and that within these acts, the dominant process option is, say, 'material, action, operation'. The descriptive and inferential analysis makes it possible to link such occurrences to the type and quantity of discourse acts by pupils in the same lesson and to the choices made by pupils from the process options in the clause.

The quantitative analysis yields the percentage occurrence of the different discourse acts in each of the 40 lessons analysed, together with the percentage occurrence of choices from the process options in the clauses contained within each category of act. Also, medians are obtained for each of the four subject areas on all measures. On the advice of the statistician consulted, medians are used throughout as a more accurate measure of central tendency than the mean. The descriptive and inferential analysis seeks to characterize any typical patterns of clause and act which emerge both in individual lessons and within subject areas. In particular, a comparison is made between the clause-act patterns of lessons in the English subject area with those of lessons in the mathematics, science and social studies subject areas.

#### 4.4 Method of Recording the Language Data: Validity

Steps were taken to determine the validity of the language data obtained. First, in view of the additional non-verbal features which may be captured by using videotape recordings (3.2.2.), three lessons were recorded on videotape during the initial recording period and were used as a check on the effectiveness of videotape as opposed to only audio-tape recording. The lessons recorded on videotape were analysed and compared with three tape-recorded lessons for number of pupil and teacher discourse acts, number and type of choices made from process options in the clause and number of clauses produced. In addition, the impact of the two types of recording procedure on the pupils and teachers was assessed.

With regard to the actual amount and type of spoken English used in the videotaped lessons as opposed to those recorded on audio-tape only, the proportion of teachers' discourse acts to pupils' was the same, in a ratio of 2 to 1. The number of clauses and the choices from the process options in the clause were similar for the teachers in both types of recording, approximately 400 clauses being produced, with the largest number expressing material/action/operation processes, followed by relational/identity processes and minor clauses in order of greatest

number. However, pupil responses differed, in that more minor clauses were produced in the videotaped lessons (69% of all pupil clauses) than in the audiotaped lessons (57%). While this difference may have resulted from the particular lesson content and teacher-style of the videotaped lessons and could have proved less noticeable had a greater number of lessons been sampled in this way, the fact that pupils appeared to be very much aware of the videotaping procedure throughout the lessons could have contributed to their rather staccato responses. Pupils tended to watch the camera and to attract each other's attention to the fact that it was focussing on a particular pupil or section of the class, whereas initial attention to the tape-recorder soon waned. The level of disruption of the class was apparently greater when videotape was used. Such an effect was predictable (3.2.2.) and in view of its occurrence and of the practical difficulties associated with videotape recordings (3.2.2.), it was decided to rely on audio-tapes for the main investigation.

A second factor in assessing the validity of the recordings is the fact that the researcher is a European working in Nigerian classrooms (3.2.1.). To assess the possible effects of this on the recordings, a Nigerian colleague was involved at the initial stage. Before this was done, the recording procedure was explained and

practised, using the videotapes. 5 lessons recorded by her were compared with 5 lessons recorded by the researcher. In the two sets of lessons, it was found that the proportion of teachers' discourse acts to pupils' was very similar indeed (96% agreement) and that pupil responses were similar in both number of discourse acts (91% agreement) and variety of choices from the process options in the clause (89% agreement). In the two sets of lessons, the minor clauses used by pupils represented 59% and 61% of the total clauses produced by them.

The fact that the researcher is a European may have had less impact on the pupils than might have been expected because of the presence of at least one European teacher on the staff of many schools in urban areas in Nigeria. Pupils do not find it too unusual to have a European teacher around. Also, in both cases, the researcher or her colleague sat at the back of the class, out of view of most pupils. In the light of this initial comparison of the effect of different presences in the classroom, it was judged that the researcher's presence was not more disruptive to the class than a Nigerian's would be and that it did not noticeably affect pupils' willingness to respond. The recording procedure was therefore considered valid in this respect and all remaining lessons were recorded by the researcher herself, whose presence did not, on the evidence, unduly disturb

either teachers or pupils. During the initial tape-recordings, two small tape-recorders (BASF model cc 9202 Cr 02) were used, one at the front and one at the back of the class, in an attempt to obtain both teachers' and pupils' contributions to the discourse. However, these early recordings showed that pupil responses were sometimes partly inaudible on both tapes and that the tape from the front of the class was clearer and picked up more of the discourse than that at the back. In view of this, it was decided to use only one tape-recorder, placed at the front of the class, and to supplement the recording with verbatim written records of the pupils' contributions to the discourse wherever they seemed likely not to appear on the tape, either because the pupil making the contribution was at the very back of the class or because he or she spoke quietly. These written records were made by the researcher and were used in conjunction with the tapes during transcription, when they could help in identifying some of the semi-audible pupil responses on the tape.

In addition to these written records of pupil responses, the researcher also made notes on some non-verbal aspects of the discourse, such as blackboard work and any other visual aids used during the lesson, including textbook references. With the evidence available from all the above checks on validity, it can be asserted with reasonable

confidence that the language sample used in this investigation represents as closely as possible the usual classroom discourse of these pupils and teachers.

#### 4.4.1 Method of Recording the Language Data: Reliability

In order to check on the reliability of the recorded material, the proportions of teachers' to pupils' discourse acts and the number of clauses produced in a lesson were compared in two lessons recorded at the start of the initial recording period and two recorded after an interval of one month but in the same school and taught by the same teachers. Both sets of lessons were in the social studies subject area. In all four lessons, the dominant categories of teacher discourse acts were elicit, accept, inform, starter and evaluate, while pupils most frequent act was reply, followed by bid. A consistent 2 to 1 proportion between teacher and pupil acts and an agreement of 94% in the average number of clauses used by teachers and pupils indicated a high level of reliability in the language data. The recordings obtained are likely to represent teachers and pupils normal level of interaction.

#### 4.5 Sampling Procedure: Schools

It was decided to include only urban schools in the investigation, for the following reasons. First, urban

schools tend to have the most adequate staffing and facilities and these are comparable from one large urban area to another in Nigeria. Secondly, an urban environment provides a rich linguistic environment in many respects, because of the variety of languages spoken and the presence of influences such as a varied press, advertisements, cinema, libraries, and so on. Such environmental influences would not be found to the same extent in rural areas. In addition, urban schools are more accessible for research.

However, Nigeria is a vast country with considerable differences of language and culture from one region to another (1.2.1.). It was therefore decided to carry out the recording of the language data in 5 different urban areas in the country. To this end, the names of the 19 States in Nigeria were written down separately and from them 5 States were chosen at random. In each of these five States, it was decided to choose a school in the State capital. The Ministry of Education in each of the five States was approached and requested to provide the names of the schools in the state capital which were most successful in their record at West African School Certificate (W.A.S.C.), which had the most adequate staffing and facilities, which were representative of the best schools available in the state capital and which included both boys' only, girls' only and mixed schools. From the lists provided, schools were grouped as boys', girls' and mixed,

and one school was chosen from each state to give 2 boys' schools, 2 girls' schools and one mixed school, in order to maintain a sex balance. Table I below shows the schools selected in this manner from those indicated by the Ministries of Education (which included 6 schools in Ibadan, 5 in Enugu, 3 in Kano, 8 in Lagos and 3 in Port Harcourt).

TABLE I

Schools Used in the Investigation

<u>School No.</u>	<u>State</u>	<u>State Capital</u>	<u>Type of School</u>
1	Oyo	Ibadan	Girls' Secondary Grammar
2	Anambra	Enugu	Girls' Secondary Grammar
3	Kano	Kano	Boys' Secondary Grammar
4	Lagos	Lagos	Boys' Secondary Grammar
5	Rivers	Port Harcourt	Mixed Secondary Grammar

4.5.1 Sampling Procedure: Classes

It was decided to obtain a sample of spoken English discourse from secondary classes one and two only. The first reason for this decision was to obtain an adequate number of recorded lessons from a particular level in order to be able to interpret any findings with some degree of confidence. It would have been of interest to draw a sample from the whole range of secondary years one to five, the period during which all pupils have English as a compulsory



subject on the curriculum. The links between primary, secondary and higher education levels have been traced (1.2.2., 1.3.2.) and an investigation carried out over these first five years would have much of interest to offer. However, the amount of language data obtained from just one lesson (4.1.1.) is large and to have an adequate sample of lessons from each level would produce an unmanageable amount of language data.

In addition to the above, however, there are aspects of secondary years one and two which make an investigation of spoken English in the classroom at this level of particular interest. In years one and two, pupils are introduced to new subjects and to familiar subjects at new levels of difficulty (2.1.). In addition, available evidence suggests that pupils are very keen on English and feel most confident about their English skills at this stage of their secondary school career (1.5.), yet their achievement does not match their expectations. Perhaps some evidence as to how this happens may be offered by an investigation in adequate depth at this level of their secondary school career. Also, in class three, pupils in many schools in Nigeria choose to specialize in either science or arts subjects to some degree and there may at that stage be a decrease in interest in English as a subject for some pupils. In classes four and five, the looming W.A.S.C. examinations may introduce new pressures

which may affect both teaching methods (more use of 'lecture' methods, prepared notes and the memorization of facts, for example) and the degree of pupil participation in lessons (1.6.). There are also changes in some schools from general or integrated science in years one and two to separate science subjects in year three. In order to trace the effects of any such changes and developments, thorough investigation of a large language sample would be required. Such a scale of inquiry is beyond the scope of the present investigation. With all the above in mind, years one and two were chosen for study.

#### 4.5.2 Sampling Procedure: Lessons

As explained (4.1.1.), the lessons used in this investigation are 10 each from English, science, mathematics and social studies. English includes both English language and literature in English. Literature lessons in years one and two are basically reading lessons, using simplified reading materials and supplementary readers. In the sample, the majority of English lessons used are lessons in English language, however, as these are the lessons in which pupils are taught specific language skills.

In years one and two, some secondary schools in Nigeria teach 'social studies' as an integrated subject, rather than the separate subjects, history and geography.

The subject area 'social studies' in the present investigation includes both social studies and the separate subjects, but most schools were found to teach the latter. This was not the case with science, however, as all five schools offered 'general' or 'integrated' science in years one and two. Mathematics includes both traditional and modern mathematics. Ten lessons in each of the four subject areas were recorded, one from each subject area in year one and one from each subject area in year two in each of the five schools. Table II below gives details of the lessons used in the analysis.

TABLE 2

LESSONS USED IN THE INVESTIGATION

School	Subject	Year	Lesson	School	Subject	Year	Lesson	School	Subject	Year	Lesson	School	Subject	Year	Lesson
1	History	1	1	1	Eng.Lang.	1	11	1	Maths.	1	21	1	Gen.Sc.	1	31
2	Geog.	1	2	2	Eng.Lit.	1	12	2	Maths.	1	22	2	Int.Sc.	1	32
3	Soc.St.	1	3	3	Eng.Lang.	1	13	3	Maths.	1	23	3	Gen.Sc.	1	33
4	History	1	4	4	Eng.Lang.	1	14	4	Maths.	1	24	4	Gen.Sc.	1	34
5	History	1	5	5	Eng.Lang.	1	15	5	Maths.	1	25	5	Gen.Sc.	1	35
1	Geog.	2	6	1	Eng.Lit.	2	16	1	Maths.	2	26	1	Gen.Sc.	2	36
2	History	2	7	2	Eng.Lang.	2	17	2	Maths.	2	27	2	Int.Sc.	2	37
3	Soc.St.	2	8	3	Eng.Lit.	2	18	3	Maths.	2	28	3	Gen.Sc.	2	38
4	Geog.	2	9	4	Eng.Lang.	2	19	4	Maths.	2	29	4	Gen.Sc.	2	39
5	Geog.	2	10	5	Eng.Lang.	2	20	5	Maths.	2	30	5	Gen.Sc.	2	40

Three extra lessons were recorded during the main recording period because in two of the schools, the principal, who had been notified ahead of time of the researcher's planned visit and the classes and lessons needed for recording, included extra lessons in the programme drawn up for the researcher. Total lessons recorded throughout the entire investigation are therefore 56;13 during the initial period and 43 during the main recording period.

#### 4.5.3 The Teachers

The teachers who taught the lessons recorded were selected by the Principal of the school concerned on the basis of which teachers were already teaching the subjects required, on the regular timetable during the period of the researcher's visit (3 days each in Kano, Port Harcourt, Ibadan and Enugu; Lagos is the researcher's base). No specially arranged lessons were taught except in one school (Enugu) where pupils had just returned from their mid-term break and the full-timetable had not been resumed. In that particular case, teachers were requested to arrange to teach as normal a day earlier than they had expected. No selection on the basis of 'best' or 'most effective' teachers was made.

The researcher explained to teachers that her

interest was in the use of English as medium of instruction; that her own field of specialization is English; and that all recordings would remain anonymous and would not be used for assessment purposes in any way. The teachers were asked to teach whatever lesson they had planned for the normal slot on the timetable.

By fitting the recording into the normal timetable of the school and by asking that teachers should go ahead with whatever lesson they had planned, it was hoped to minimise disruption and to capture what would be, in effect, typical lessons on a typical school day (3.2.). Teachers enjoyed the recordings being made and often asked to hear the tapes played back at the end of the recording session. To counter any tendency for teachers to talk more than usual because of the recording, they were told that the researcher was particularly interested in pupils' normal use of spoken English during lessons. It was hoped that this would lessen the impact on the teachers of an outside observer listening to them and that it would also encourage them to involve pupils in the spoken English discourse in the classroom (3.2.1.). This may, of course, have had the effect of producing more than usual pupil participation in lessons. However, the interest of the investigation in pupils' and teachers' use of English as medium makes this a not undesirable side-effect even if it did occur.

Whenever possible, the teachers taking part in the recordings were Nigerian. All schools, in fact, had some expatriate staff, both mother-tongue and further-tongue speakers of English. Where an expatriate teacher was involved, this is indicated in the transcripts. Four such lessons are included in the forty used for analysis. Their inclusion is inevitable if the subject balance is to be maintained. Of the four, two of the teachers are themselves further-tongue speakers of English. It can be argued, therefore, that this might make any interference in the overall pattern of the investigation a minimal one. A total of 38 teachers are involved, as in two cases the same teacher taught two lessons.

#### 4.5.4 The Pupils

Pupils were not told ahead of time that a recording would be made. They came to their normal classes, where the observer sat at the back and was thus not in view for most members of the class. Some teachers would introduce the researcher to the class, though not many did so. During the course of the researcher's visit to the school, pupils of course came to know what its purpose was and would show some excitement when they saw that it was their own class which was to be recorded next, but any such excitement soon quietened down as the lesson

progressed (3.2.1.; 3.2.2; 4.4).

The vast majority of the pupils in all five schools were Nigerian, with only one or two non-Nigerians participating in only a few of the recorded lessons. These lessons were recorded in Kano, where the school had a number of Asian children among its pupils. In most of the lessons, however, all pupils were Nigerian. The average number of pupils per class is 38, with a range from 30 to 43.

#### 4.6 The Survey of Teachers' and Pupils' Background

In Chapter One, the implications of teachers' preparation for the use of English as medium (1.3.1; 1.3.2), of the out-of-school environment and the roles of English and the Nigerian languages in it (1.4; 1.4.1), of secondary school pupils' background and attitudes towards English (1.5; 1.5.1), were all presented as relevant background for the present study. It is necessary, in the light of such related factors, to obtain some background information about the teachers and pupils involved in this investigation. In order to do this, questionnaires were constructed, one for teachers and another for pupils. Items included in the questionnaire are relevant to the various background factors discussed.

In the questionnaire for teachers, information



is sought on teaching qualifications, experience, and in-service and pre-service training (1.3; 1.3.1). Teachers are asked to indicate their mother-tongue, other languages spoken, and the language used most in various domestic and community situations and relationships (1.3.1; 1.4). An attempt is made to elicit information about socio-economic status and facilities for both study and recreation in the immediate neighbourhood (1.3; 1.4). An indication of the teachers' assessment of pupils' spoken and written English is requested, with details of any particular problems identified (1.1; 1.5). Finally, opinions are sought on the choice of medium of instruction for secondary schools (1.1.1; 1.2.1.).

In the questionnaire for pupils, items request information on family size and socio-economic background (1.5); mother-tongue, other languages spoken and language used most at home and in a variety of different situations and relationships (1.4; 1.4.1; 1.5); facilities for study and recreation at home and in the immediate environment (1.1.1; 1.4; 1.5; 1.1.1); and finally, job aspirations and opinions on the use of English as medium of instruction (1.2.1; 1.5.1). Copies of the teacher and pupil questionnaire can be found in appendix 6.

The questionnaires were distributed to all teachers in each school at the beginning of the recording period and were collected at the end. Confidentiality

was maintained; therefore, it is not possible to identify individual teachers responding. Not all distributed questionnaires were collected or fully completed, in spite of the presence of the researcher. The response was in the region of 67%. This could be attributed to the personal data sought, even though the questionnaire responses were anonymous.

The questionnaire for pupils was administered by the researcher to a year one and a year two class in each of the five schools, during the visit to the school but not during or immediately before or after a recorded lesson. A year one and a year two class were regarded as an adequate sample for this purpose, representing the pupil population involved in the investigation. In many cases, but not in all, the class responding was a class with whom a lesson was recorded.

#### 4.6.1 Teacher and Pupil Questionnaires: Reliability

In order to assess the reliability of the pupil questionnaire, it was administered to the same class twice during the initial period, with a month's interval between the two occasions. Pupil responses showed a very high degree of agreement (93%) on the two occasions, the few differences being in some of the out-of-school activities listed.

A similar readministration of the teacher questionnaire, involving 9 teachers, also revealed a high degree of agreement (97%). It can be stated that both questionnaires are likely to have a satisfactory degree of reliability.

#### 4.6.2 Analysis of Questionnaire Data

The questionnaire data was first analysed according to the centre in which it was obtained. Then, overall response patterns were obtained (See 5.1). The analysis is done using percentages. Information from the questionnaires is related to the analysis of the language sample and used, with caution, in suggesting possible interpretations and links. The questionnaire data also serves to provide general information on the background of teachers and pupils which is of interest in the light of references to the relevant literature presented in Chapter One. However, the questionnaire data and analysis is regarded as peripheral to the investigation. It may be of some value in interpreting the findings of the linguistic analysis but can only be used to suggest, tentatively, possible links and influences. The main focus of this investigation is the language data and its analysis.

## CHAPTER FIVE

### DISCOURSE ACTS AND CLAUSE PROCESS OPTIONS: OCCURRENCES AND INTERACTIONS

- 5.1 Method of presentation of the results of the investigation.
- 5.2 The discourse act: overall patterns.
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  - 5.2.2. Dominant discourse act categories: teachers.
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- 5.4. Clause process options within discourse acts: Overall frequencies of occurrence.
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    - 5.4.1.1. The discourse act 'marker' and clause process options.
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- 5.4.1.5. The discourse act 'directive' and material/ action/operation processes.
- 5.4.1.6. The discourse act 'check' and cognition and identity processes.
- 5.4.1.7. The discourse acts 'cue' and 'prompt' and material and verbal processes.
- 5.4.1.8. The discourse act 'loop' and clause process options.
- 5.4.1.9. The discourse acts 'accept' and 'evaluate' and clause process option patterns.
- 5.4.1.10. Interactions between other discourse acts and the clause process options.

## CHAPTER FIVE

### DISCOURSE ACTS AND CLAUSE PROCESS OPTIONS: OCCURRENCES AND INTERACTIONS

#### 5.1 Method of Presentation of the Results of the Investigation

Both the detailed results of the investigation and the points for discussion arising from them are presented in immediate relation to one another, with the aid of illustrations and examples from the language data. In this chapter, the focus is on the occurrences and interactions of discourse acts and clause process options. In Chapter 6, factors within individual lessons and subject areas which appear to influence these occurrences and interactions are discussed. Throughout both chapters, the limitations of the study are defined in relation to aspects discussed. Tables are presented for ease of reference. The results of this investigation are also related throughout to the previous work and background material presented in chapters.1, 2 and 3.

Data from questionnaire responses is also included in this chapter and the next when relevant to the discussion. As described in 4.6.3., the questionnaire responses were analysed first according to the five urban

areas from which they were collected. This was to discover whether there were any marked differences from one area to the other. In fact, while pupils from one area spoke, in the majority of cases, different Nigerian languages from those in other areas, there was a considerable amount of overlap, as pupils speaking Yoruba as their mother-tongue were identified in the Kano sample, pupils with Igbo as mother-tongue in the Lagos sample, and so on. This is probably attributable to the mobility within Nigeria of the type of family most likely to send children to good urban secondary schools in state capitals such as those used in the present sample (4.5). Pupils responses indicate that 50% of fathers are in the professional or skilled or commercial sector, as are 12.5% of the mothers. In Nigeria, civil servants, teachers and those involved in commerce are likely to be mobile and to gravitate towards state capitals; hence, it is usual to find a variety of mother tongues among pupils in any one class. Also, the boarding facilities in some schools enable parents to send a child to a good school outside their own area. This is often done in Lagos, for example, where pressure for places in the capital city's schools is enormous and families may send children to another state for boarding school places.

Just as there was overlap between areas among pupils in terms of mother-tongue, so too was there among

teachers, with Yoruba mother-tongue speaking teachers working in Kano, Igbo mother-tongue speakers in Kano and Lagos, and so on. In view of this lack of pronounced distinctions from one area to another in the questionnaire responses, it was decided to analyse the responses together rather than to distinguish one urban area from another on such insubstantial evidence. Children in one area might speak different Nigerian languages from children in another area but the important fact for the present study is that they do use the mother tongue most out of school, for example. Where questionnaire data is referred to in this discussion, therefore, it is drawn from all the responses received, differences between areas on measures such as number of languages spoken by pupils and teachers, number of pupils in a class, and so on, being slight from one area to another. An aspect of this mixture of mother tongues within a school is that pupils, particularly boarders, will use English more often with friends at school. Of the five schools in the study, those in Ibadan, Enugu and Lagos had boarding as well as day pupils, while those in Kano and Port-Harcourt had day pupils only. Questionnaire responses indicate that 75% of pupils would use English with friends at school while 70% would use their mother tongue with friends outside school. This reflects the mixture of mother



tongues within a school described above.

As stated earlier, however, questionnaire data is regarded as peripheral to the investigation and will be used with caution in this discussion (4.6.3.). Data from the questionnaire responses is presented in full in appendix 7.

Finally, when the findings of this investigation have been presented as outlined above, a chapter of summary and conclusions presents the overall picture obtained from the study and its possible implications for teacher training, teaching methods, course design and future research. In this way it is hoped that a coherent and meaningful pattern of findings is presented to the reader in these three chapters.

## 5.2. The discourse act: overall patterns

The language data contained in the forty lessons of the investigation contains a total of 15,417 discourse acts, the median number of discourse acts per lesson being 336.5 for Social Studies, 440.5 for English, 342.5 for Mathematics and 339.5 for Science. The fact that more discourse acts tend to be used in the English lessons as opposed to those in other subject areas, which have remarkably similar medians, would seem to indicate

that English lessons in this sample contain a greater amount of spoken English discourse than do other lessons. This must be linked to the distribution of acts, the nature of pupil responses, and so on, before a complete picture can be obtained, however. Only then will it be possible to say whether this difference is sustained in all the different aspects of the analysis. The large number of discourse acts in any one lesson is an indication of the volume of spoken English discourse with which pupils are faced in the classroom. In the course of a school day, pupils may be exposed to as many as 2,400 discourse acts in the eight lessons which make up their day. A table showing the number of discourse acts in each of the forty lessons can be found in appendix 8.

#### 5.2.1. Teacher/Pupil Proportions of Discourse Acts

A finding of immediate interest, when the occurrence of discourse acts in the language sample as a whole is analysed, is that the proportion of the total discourse acts in a lesson used by teachers as opposed to pupils is found to be quite steady. This proportion, too, remains steady in spite of the considerable range in the totals from one lesson to another, depending on the nature of the lesson activities.

TABLE 3

PERCENTAGE PROPORTION OF TOTAL DISCOURSE ACTS USED BY TEACHERS  
AND PUPILS RESPECTIVELY IN THE 40 LESSONS.

Lesson	Social St.		English			Maths.			Science		
	T	P	Lesson	T	P	Lesson	T	P	Lesson	T	P
1	63.4	36.6	11	71.9	28.1	21	70.5	29.5	31	67.5	32.5
2	69.8	30.2	12	67.0	33.0	22	51.0	49.0	32	63.1	36.9
3	62.7	37.3	13	70.7	29.3	23	74.7	25.3	33	62.5	37.5
4	71.2	28.8	14	73.9	26.1	24	68.3	31.7	34	67.0	33.0
5	66.4	33.6	15	65.8	34.2	25	67.4	32.6	35	73.5	26.5
6	66.3	33.7	16	68.8	31.2	26	62.2	37.8	36	60.9	39.1
7	70.9	29.1	17	64.1	35.9	27	67.8	32.2	37	69.1	30.9
8	60.0	40.0	18	68.8	31.2	28	72.2	27.8	38	68.3	31.7
9	65.5	34.5	19	71.9	28.1	29	68.4	31.6	39	61.2	38.8
10	61.1	38.9	20	65.6	34.4	30	67.3	32.7	40	72.7	27.3
Median	65.9	34.1	Median	68.8	31.2	Median	68.05	31.95	Median	67.25	32.75
Ratio	1.9	1	Ratio	2.2	1	Ratio	2.1	1	Ratio	2.0	1

While there are some slight variations and one lesson (number 22) differs quite markedly from the rest, a fact which is discussed in detail in the next chapter, the overall picture is one of teachers using 2 discourse acts to every one act used by pupils. This finding agrees with previous studies using different category systems in English mother tongue situations such as those of Bellack et al (1966), Barnes (1969) and Flanders (1970). The role relationships in the formal classroom, pupils' expectation of the teacher's evaluation of their contributions and the teacher's role in directing the discourse produce the typical predominance of teacher-talk (3.1.1.). Studies such as those of Thollairathil (1973) and Treadaway (1976), discussed in sections 2.3.1 and 2.4., also identified this predominance of teacher-talk in the classroom where English is used as further tongue and medium of instruction. The system of analysis used here, with its division into opening, answering and follow-up moves, the teacher controlling the first and last moves, while pupils are largely confined to the answering move, also mirrors this typical three part, two to one discourse structure in the formal classroom.

#### 5.2.2 Dominant discourse act categories: teachers

The next step in the analysis of the occurrence

of the various discourse acts was to calculate the frequency for each act in each lesson as a percentage of the total number of acts occurring in that lesson. This was done separately for teachers and pupils. Median percentage frequencies of occurrence were then obtained for each of the four subject areas. The results of this aspect of the analysis are shown in table 4.

The most frequently used discourse act for teachers is the elicit, when the overall occurrence of acts is being considered in this way. There were, in fact, three of the ten social studies lessons, one of the English lessons, two of the mathematics lessons and four of the science lessons in which elicit is not the most frequently occurring discourse act for teachers. In those lessons, other acts such as inform, accept or starter occurred more frequently than elicitations. Such lessons are discussed in the next chapter. Taking the overall picture for the present, however, it can be said that the discourse act to which pupils are most exposed in this sample is the elicit, with informing acts occurring much less frequently than elicits as a whole. This might be taken as a positive sign, in that it shows that teachers in the sample are concerned with eliciting a verbal response from their pupils during lessons; that is, they can be regarded as generally

TABLE 4

MEDIAN PERCENTAGE OCCURRENCE OF TEACHER/  
PUPIL DISCOURSE ACTS PER SUBJECT AREA

Discourse Act	Soc.		St.		English		Maths.		Science	
	T	P	T	P	T	P	T	P	T	P
Marker	8.1	0	9.2	0	9.75	0	7.0	0		
Starter	8.85	0	12.45	0	12.35	0	9.9	0		
Elicit	19.95	3.05	20.8	0	20.1	2.35	20.65	0		
Check	2.0	0	2.35	0	3.05	0	1.45	0		
Directive	1.8	0	3.7	0	3.05	0	1.95	0		
Inform	5.9	4.0	4.0	1.35	5.9	3.05	7.2	1.55		
Prompt	0.45	0	0.75	0	0.6	0	1.25	0		
Clue	0.9	0	1.3	0	1.0	0	1.1	0		
Cue	0	0	0.45	0	0.4	0	0	0		
Bid	0	8.2	0	16.5	0	13.0	0	12.3		
Nomination	5.95	0	11.5	0	7.4	0	8.55	0		
Acknowledge	0	4.6	0	1.85	0	4.3	0	5.35		
Reply	0.8	59.45	0	70.6	0.55	66.3	0	72.25		
React	0	2.95	0	4.85	0	5.5	0	3.5		
Comment	9.75	0	4.25	0	3.8	0	3.8	0		
Accept	16.25	0	13.35	0	14.5	0	18.4	0		
Evaluate	4.65	0	6.15	0.35	8.1	2.0	8.6	0.9		
Metastatement	0.5	0	0.75	0	0.5	0	0.2	0		
Conclusion	1.15	0	0	0	0.1	0	0	0		
Loop	5.5	0	4.05	0	4.15	0	5.2	0.55		
Aside	0	0	0.25	0	0.45	0	0.55	0		

directing their efforts towards achieving pupils' verbal participation. However, it is necessary to study the nature of pupils' replies before this emphasis on pupil participation can be linked to the actual quality and length of the responses evoked. An attempt is made to do so in both this and the next chapter.

Again with the overall picture in mind, teachers seem also to be more inclined to accept pupils' responses, rather than evaluating them or adding additional comments. In all four subject areas, teachers seem at least twice as likely to accept a response as to offer what might be regarded as the more positive act of evaluating pupils' responses. A question which arises here is whether pupils are being given adequate praise (or blame!) during these lessons. Again, it is necessary to look at specific examples in some detail but the overall impression is that these teachers favour a straightforward indication that a response is appropriate. When the percentage proportions of individual lessons were considered in relation to this question, it emerged that in one social studies lesson and one English lesson, the percentage of teacher accept and teacher evaluate acts were actually equal, while in one mathematics lesson and two science lessons the percentage of evaluating acts is actually higher than that of accepting acts. It will be of

interest later in this discussion to see whether teachers who use more evaluate acts also elicit a different type of response from pupils. However, looking at the general pattern over the forty lessons, it would seem that the teachers most often regard an accept as sufficient feedback to their pupils. Perhaps an accept is regarded by them as sufficient indication to the pupils that their replies are appropriate; however, when one thinks in terms of motivating pupils and the possibly positive effect of praise on pupils' attitude and willing effort, the importance of evaluation of responses is brought to the fore. An additional factor which may be operating here is the teachers' own use of English as further tongue. They may not be making sufficient use of the changes in intonation and emphasis which distinguish an accept 'yes' from an evaluate 'yes' in Sinclair et al's (1972) sample of mother-tongue English teachers. Certainly, in my own long experience of training further tongue teachers of English, many of them coming to university as students after quite a few years of classroom teaching experience, it has very often been the case that students needed urging to praise their pupils more for their contributions to the classroom discourse. The implications of a change in intonation to indicate positive reaction are often not recognized in the further tongue classroom and alternatives such as "that's right" are possibly more effective



indicators of positive evaluation.

Another point of interest arising from this general picture of the discourse acts used by these teachers is the fact that the discourse act cue is rarely used. This is perhaps an indication that the accepted routines for pupils answering questions have been well established. The forty lessons were recorded in the third term of the school year, by which time pupils have come to know what is expected of them with regard to raising their hands, not calling out, answering when nominated by the teacher and so on. Had the lessons been recorded in the first term of the school year, there may well have been a greater frequency of cues, particularly in the year one classes.

Teachers also do not use the acts bid and react, naturally, because of teacher-pupil role relationships; these acts are, by definition, pupil rather than teacher acts. Acknowledge is also used very rarely by teachers, actually occurring only in three social studies lessons. Two of the social studies lessons were, in fact, project lessons with a very different discourse pattern to the other eight social studies lessons and these are discussed in detail in the next chapter.

### 5.2.3 Dominant Discourse Act Categories: Pupils

In contrast to the median percentage of teachers'

discourse acts, the dominant pupil-acts are reply, bid, react and acknowledge, the proportion of other acts, such as pupil-elicite and pupil-inform being small in comparison. In fact, in a few lessons, this pattern is changed quite considerably, an aspect which is discussed in detail in the next chapter. For the present, however, considering the general features of the forty lessons, similar patterns of pupil discourse acts across the subject areas do emerge. One of the limitations of this sample and the method of analysis used is undoubtedly that the data is not uniform and measurements of central tendency such as the median must not be allowed to remove attention from the considerable variations from lesson to lesson and subject to subject. However, a measurement of central tendency is useful in identifying overall patterns and it is hoped that the more detailed discussion of individual lessons and their most notable differences offsets this identification of general patterns within the sample. As explained in 4.5.2. and 4.5.3., every effort was made to obtain a sample of routine lessons as they occurred on the timetable. Individual lessons vary considerably but it is of interest to note that there would seem to be identifiable general features which are common to all the subject areas involved. The results of this general analysis must, however, be taken as indicators only, to be investigated in greater detail

subsequently in this presentation. Suffice it at this point to say that an overwhelming 60-70% of pupils' discourse acts are in the reply category. As noted in 3.2.5., the role relationships in the formal classroom effectively restrict the discourse of the great majority of the participants, the pupils, an effect that is seen most clearly in these findings.

#### 5.2.4 Limitations in Pupils' use of Discourse Acts

Following on from the last point discussed in 5.2. above, it is of interest to identify the range of discourse acts used by pupils and teachers in this sample of lessons. 21 discourse act categories are identified in this analysis. Of these, it can be seen that teachers use a far wider range of discourse acts than pupils. This is, of course, to be expected, given the effect of formal classroom organization on role relationships and the development of classroom discourse (3.2.4.; 3.2.5.). Table 5 shows the number of discourse act types used by teachers and pupils respectively in each of the forty lessons analysed.

It is of interest to note that the teachers in this sample typically use twice as many different types of discourse act as do pupils. While, in lessons such as numbers 8, 26 and 40 (to be discussed), pupils use a

TABLE 5  
NUMBER OF DISCOURSE ACT TYPES USED BY TEACHERS  
AND PUPILS

Social Studies			English			Maths			Science		
Lesson No.	Teacher	Pupils	Lesson No.	Teacher	Pupils	Lesson No.	Teacher	Pupils	Lesson No.	Teacher	Pupils
1	16	9	11	18	7	21	15	5	31	13	5
2	15	7	12	13	5	22	14	9	32	15	6
3	18	9	13	15	6	23	17	6	33	10	4
4	14	5	14	15	3	24	13	5	34	14	7
5	14	4	15	16	6	25	18	8	35	17	7
6	15	5	16	15	5	26	17	10	36	15	8
7	12	6	17	16	3	27	16	7	37	14	4
8	17	13	18	12	4	28	18	8	38	15	8
9	16	4	19	16	6	29	13	6	39	14	5
10	17	9	20	15	6	30	14	7	40	13	9
Median	15.5	6.5	Median	15.0	5.5	Median	15.5	7.0	Median	14.0	6.5
Ratio	2.4	:1	Ratio	2.7	:1	Ratio	2.2	:1	Ratio	2.2	:1

greater variety of discourse acts, the overall picture is one of comparatively limited use of the range of discourse acts by pupils. Most striking is the fact that it is in the English lessons of this sample that pupils' use of the various discourse acts is most limited. Taken in conjunction with the results shown in Table 4, where English can be seen to show a pattern of occurrence of pupil discourse acts which is more restricted than that found in social studies or mathematics, this is a disturbing finding. English lessons are intended to equip pupils with the discourse skills which they need in order to participate effectively in lessons across the curriculum (1.7; 2.6.). It is in the English lesson more than any other that one would expect pupils to be given most opportunity to practise discourse skills. One would expect teachers of English to be aware of the need to assist pupils in the development of discourse skills and to be most capable of ensuring that practice takes place, because of their assumed sensitivity to language matters and the capabilities they should have developed in the course of their training. It will be of interest to look in some detail at the teaching methods used by the teachers of English in this sample, as it may be the case that the teaching methods advocated for teaching the various aspects of English are in fact inadequate when viewed

from the discourse skill perspective. Any additional limitations imposed on pupils' use of the various discourse act types during English lessons may represent yet another aspect of the criticisms levelled at English teaching by those concerned with teaching science through this medium (2.5.1.).

In relation to the above, teachers' questionnaire responses indicate that 72.4% of the teachers responding assess pupils' spoken English as 'poor' and 79.3% similarly assess pupils' written English. Comments such as the following, from a science teacher, are relevant here:

"Many of them feel very shy to speak for the fear of making mistakes and the subsequent shame."

Similarly, a social studies teacher comments:

"The main problem faced by most of my students is that of expression. Most of them could not express themselves clearly either verbally or in writing."

Yet 100% of the teachers responding state that, in their opinion, English should continue to be used as medium of secondary education (1.1.1.). There may well be a kind of vicious circle operating here. Teachers are concerned about pupils' lack of facility in using spoken

and written English and yet, as seen in many of the lessons of this sample, their teaching methods restrict pupils' use of the various discourse skills in the course of a lesson. From the pupils' point of view, the lack of opportunity to practise the various discourse skills, particularly during English lessons in this sample, can only increase their inability to speak up confidently and effectively. The teaching methods used may in large part be contributing to the poor spoken English skills of which teachers themselves complain. In addition, as discussed in 1.4. and 1.4.1., pupils' out-of-school environment may not support their English language learning. In this study, pupils' questionnaire responses indicate that 86.3% of the pupils responding would use a Nigerian language at home and 81.3% would do so outside the home for activities such as shopping. This finding offers further evidence to support the argument presented in Sections 1.4 and 1.4.1. When this finding is taken in conjunction with pupils' apparently limited opportunities to practise a wide range of discourse skills in English in the classroom, it is hardly surprising that teachers complain of pupils' reluctance and inability to contribute to spoken English discourse in the classroom.

### 5.3. Clause Process Options: Overall patterns

The language data contained in the forty lessons

of the investigation contains a total of 25,647 choices from the clause process options, the median number per lesson being 613.5 for social studies, 762.5 for English, 500.5 for mathematics and 608.0 for science. Again, the English lessons as a whole show a considerably higher occurrence than do the other subject areas, echoing the finding with regard to discourse acts, discussed in 5.2. Also of interest here is the comparatively low figure for maths, which may be an initial indication of the link between the nature of this subject and the classroom discourse which characterizes it. A table showing the number of choices from the clause process options in each lesson can be found in appendix 9.

#### 5.3.1 Teacher/Pupil Proportion of Choices from the Clause Process Options

Table 6 shows the percentage proportions of the total choices from the clause process options made by teachers and pupils respectively in the 40 lessons. It is of interest to compare this table with table 3 (5.2.), which similarly presents the proportions of teacher/pupil discourse acts. While there is considerably more variation here between individual lessons than is the case in table 3, some teachers using as many as 6 clause process options to pupils' one (lesson 2) or as few as



TABLE 6

PERCENTAGE PROPORTIONS OF TOTAL CHOICES FROM CLAUSE PROCESS OPTIONS  
MADE BY TEACHERS AND PUPILS RESPECTIVELY IN THE 40 LESSONS

Social Science			English			Maths			Science		
Lesson	T	P	Lesson	T	P	Lesson	T	P	Lesson	T	P
1	74.3	25.7	11	79.7	20.3	21	80.3	19.7	31	80.0	20.0
2	86.9	13.1	12	65.5	34.5	22	62.6	37.4	32	79.9	20.1
3	70.5	29.5	13	81.6	18.4	23	85.4	14.6	33	76.9	23.1
4	70.9	29.1	14	75.2	24.8	24	73.9	26.1	34	86.1	13.9
5	83.2	16.8	15	71.6	28.4	25	78.3	21.7	35	85.4	14.6
6	84.0	16.0	16	75.1	24.9	26	75.5	24.5	36	68.7	31.3
7	80.3	19.7	17	75.0	25.0	27	73.7	26.3	37	85.3	14.7
8	73.3	26.7	18	83.3	16.7	28	86.0	14.0	38	79.3	20.7
9	75.6	24.4	19	73.5	26.5	29	83.6	16.4	39	64.1	35.9
10	61.1	38.9	20	82.3	17.7	30	73.0	27.0	40	85.6	14.4
Median	74.95	25.05	Median	75.15	24.85	Median	76.9	23.1	Median	79.95	20.05
Ratio	3	1	Ratio	3	1	Ratio	3.3	1	Ratio	4	1

1.6 to 1 (lesson 10), the overall ratios, obtained from the medians, are identical for social studies and English, with maths. very similar to both, while the overall ratio for science is higher. These teachers on the whole make 3 choices or more from the clause process options to pupils' one. This result would, in fact, be expected, as it reflects yet another aspect of the dominance of teacher talk in classroom discourse. Discourse acts will predictably contain one or more choices from the clause process options and the fact that teachers produce twice as many discourse acts as pupils would lead one to expect a similar balance in choices from clause process options. The fact that this finding emerges can be regarded as an indication that both the analysis of discourse acts and of choices from the clause process options are effectively identifying the characteristics of classroom discourse which are the focus of the present study. When this finding is supported and further clarified by subsequent more detailed analysis of the content within individual lessons in terms of clause process options, a more complete analysis of this aspect of the findings becomes available. It is of particular interest to present, in the next chapter, factors which appear to be operating in lessons where the incidence of pupil choice from the clause process options is higher than the norm for this sample, for example.

5.3.2. The Comparative Frequencies of Major/  
Minor Clause Process Options:  
Teachers and Pupils

One aspect of the overall patterning of clause process options of particular interest in this general analysis is the proportion of minor clause (process implicit) as opposed to major clause (process explicit) used by teachers and pupils (4.2.4.). Table 7 shows these proportions, which were obtained by calculating the total number of minor clauses used in a lesson by teacher and pupils respectively as a percentage of their respective total number of choices from the clause process options. A striking difference emerges here between teachers' and pupils' use of spoken English in these lessons. While there is considerable variation from lesson to lesson within each subject area, the overall trend is undoubtedly towards a much higher frequency of minor clauses in pupils' spoken English than in teachers'. In all four subject areas, teachers typically use 3 or more major clauses to each minor clause, indicating that processes are made explicit in their speech much more often than they are left implicit. On the other hand, pupils use only one or slightly more than one major clause to each minor clause in the social studies and English lessons taken as a whole, while in mathematics and science lessons, minor clauses predominate.

TABLE 7  
PROPORTION OF MINOR CLAUSES (PROCESS IMPLICIT) USED BY  
TEACHERS AND PUPILS RESPECTIVELY IN THE 40 LESSONS

Social Studies			English			Maths			Science		
Lesson	T	P	Lesson	T	P	Lesson	T	P	Lesson	T	P
1	23.0	37.0	11	25.0	42.6	21	26.8	90.6	31	26.2	78.2
2	18.7	72.9	12	25.8	12.1	22	24.4	68.8	32	22.8	53.3
3	24.1	33.2	13	25.1	41.6	23	25.7	77.2	33	14.8	46.4
4	12.1	28.9	14	27.2	19.6	24	35.2	39.8	34	19.9	59.2
5	14.1	54.2	15	22.7	32.0	25	44.9	84.0	35	22.1	80.0
6	17.9	79.6	16	15.9	21.0	26	18.6	67.8	36	29.2	59.0
7	26.1	25.4	17	29.9	42.2	27	20.9	86.2	37	25.5	100.0
8	22.8	34.2	18	13.7	37.4	28	22.8	83.1	38	20.8	51.3
9	23.8	45.1	19	18.8	33.8	29	23.5	90.8	39	34.0	40.4
10	24.5	50.3	20	18.5	88.0	30	27.4	30.9	40	17.6	64.6
Median	22.9	42.15	Median	23.85	35.6	Median	25.05	80.15	Median	22.45	59.1
Ratio Major: Minor	3.4:1	1.4:1	Ratio Major: Minor	3.2:1	1.8:1	Ratio Major: Minor	3.0:1	0.2:1	Ratio Major: Minor	3.4:1	0.7:1

English lessons show the highest overall proportion of major clauses; that encouraging finding is offset, however, by their still small overall proportion. In both English and social studies, which contrast quite markedly with mathematics and science on this measure, there are individual lessons such as 7, 12 & 16 which in fact contain a proportion of pupils' minor clauses which is similar to the overall proportion of the teachers. Such lessons are looked at in detail later. Their presence highlights the danger of relying too much on generalizations from such disparate, naturalistic data. However, taken in conjunction with detailed individual analysis, generalizations of this type do have something of value to add to the discussion as a whole, as they can identify trends and patterns. The overall predominance of minor clause use by pupils is certainly a disturbing trend in the present sample.

If, as Halliday (1973; 3.3.4) suggests, the clause is the unit through which a range of ideational meanings are expressed, it should be a matter of considerable concern to see that, as far as this sample of classroom discourse is concerned, the pupils on the whole cannot be regarded as practising fully the explicit expression of the various processes involved in their experience and understanding of the world around them, as represented

in the content of their lessons. When this high proportion of minor clauses is viewed in conjunction with the limited use of various types of discourse act outlined in 5.2.1., the picture which emerges of pupils' spoken English in the classroom during these lessons being limited largely to a particular type of discourse act, the reply, and in addition, to the use of minor as opposed to major clauses, a real cause for concern must be recognized. While this is, as yet, a general picture only, and factors may emerge from the analysis of individual lessons which may provide some pointers as to how this situation can be improved, one can only be dismayed at the restricted use of language by pupils in this sample of lessons as a whole.

An additional aspect of this part of the findings is the way in which the trend in these mathematics and science lessons, as far as it is revealed by this analysis of spoken English, apparently runs counter to what might be expected of modern teaching methods in those subject areas. As discussed in 2.2.2. and 2.3., modern approaches to the teaching of these subjects are designed to involve pupils in using language to relate scientific and mathematical ideas to their own experience and understanding of the world around them. While it is not unlikely that these pupils are being exposed to these special uses of spoken English through

listening to and (hopefully!) understanding their teachers' use of scientific and mathematical English in the classroom, it seems undoubtedly the case that in general they are being given far too little practice at expressing these processes themselves and thereby working towards making new knowledge their own (2.2.1; 2.3.1; 3.2.4). As yet, of course, only the general features of this sample are being considered and the variations from lesson to lesson mean that any attempt at generalization may present a perhaps rather superficial understanding of the language use involved here. However, this aspect of the results is followed by closer scrutiny of individual lessons and, in particular, of the relationship between the content of teacher discourse acts and major or minor clause responses from pupils which follow them.

### 5.3.3 Overall Patterns of Choice from the Clause Process Options: Teachers and Pupils

In addition to identifying the proportion of major to minor clauses in the sample, it is of interest to look also at the overall pattern of choices made by pupils and teachers in the 4 subject areas once the major clause option has been chosen. In order to do this, the frequency of each option in a lesson was calculated as a percentage of the total clause process

options chosen in that lesson, separately for teachers and pupils. The percentage frequencies for each option across the 10 lessons in each subject area were then grouped together and the median percentage frequency found. Table 8 shows these median percentage frequencies. From this table it can be seen that, for both teachers and pupils in these lessons, creation processes receive little emphasis. In social studies, for example, there is a material/event/creation process expressed in:

- T. Starter: //this is the sea//where the wind (rel. id)  
 started its journey//(and)//then (mat.event.  
 op. (3))  
 rising//it gets into the atmos- (mat. event.  
 phere//(and).. creat)
- T. Elicit. ... //forms what?//
- P. reply(chorus): //cloud// (lesson 2) (minor clause)

Instances of material/action/or event/creation processes are, however, infrequent.

With regard to the range of clause process options used, it can be seen from Table 8 that, while teachers choose from almost the full range of clause process options, the range of options used by pupils is smaller and this is particularly the case in mathematics and science. In the English and social studies lessons,



TABLE 8  
MEDIAN PERCENTAGE FREQUENCY OF CLAUSE PROCESS OPTION  
TYPES PER SUBJECT AREA

Clause Process Options	Soc. St.		English		Maths.		Science	
	T	P	T	P	T	P	T	P
Mat.act.op.	28.3	25.95	25.85	30.95	27.25	8.5	22.9	9.3
Mat.act.creat.	1.2	0	0.3	0	0	0	0.05	0
Mat.event op.	6.85	3.55	3.4	4.0	5.0	2.3	9.25	10.9
Mat. event creat.	0.2	0	0	0	0	0	0	0
Ext. verbal	7.4	1.4	10.65	5.45	5.1	0	8.85	1.8
Int. cognit.	8.75	1.95	10.65	2.85	4.2	0.55	7.3	0.3
Int. percept.	2.25	0	3.4	1.4	1.75	0	2.0	0
Int. react.	1.9	0.85	5.0	3.95	0.95	0	1.45	0
Rel. id.	15.5	10.3	13.9	10.1	20.65	5.4	19.25	9.5
Rel. poss.	1.5	1.0	0.85	0	0.2	0	0.85	0
Rel. circ.	2.0	1.15	2.2	0.6	2.2	0.65	1.4	0.3
Minor cl.	22.9	42.15	23.85	35.6	25.05	80.15	22.45	59.1

pupils make use of a wider range of clause process options, it would seem. Also, in the English lessons the medians for pupils' use of the various clause process options are higher than those in social studies, an encouraging finding which offsets to some extent the restrictions found in the English lessons on other measures (5.2.4.). In all four subject areas, material/action/operation and relational/identity processes predominate in the choices from major clause options. That is, teachers and pupils seem to be most concerned with expressing these two types of process in their spoken English. In the science subject area, material/event/operation processes are expressed by teachers and pupils more than in the other subject areas, a finding which can be linked directly to the nature of the subject.

Examples are:

T.inform: //a soluble substance is a substance (rel.id.(3))  
 ((that can dissolve in a solvent))//  
 water is not the only solvent//a  
 substance ((that can dissolve in a (mat.event  
 solvent)) is a soluble substance//. op. (3))

(Lesson 32)

- T.elicit: //who can give another example of a (ment.ext.verb.)  
 metal//which can combine with oxygen//(mat.event.  
 op.(2))  
 yet it does not burn with it//
- P.reply: //iron// (minor clause  
 (4))
- T.loop: //eh?//
- P.reply: //iron//
- T.accept: //iron//iron combines with oxygen// (mat.event op.)

## (Lesson 33)

In science lessons, it would seem, the focus is quite often on material/event/ operation processes, when the actor is inanimate, although, like the other subject areas, material/action/operation and relational/identity processes predominate. In social studies too, particularly in the geography lessons, a higher frequency of such clause types is found because of a similar concern with material/event processes.

Another finding which may be subject-linked is the frequency of mental/externalized/verbal processes in the English lessons. Again the nature of the subject would lead one to expect such an emphasis and this is borne out by these results. For example, the teacher in lesson 12 asks:

- T.starter: //who can give me another word (ment.ext.verbal)  
 similar in meaning to 'borne'//

In lesson 13 there is the example:

T.elicit: //why can't you say 'a shocking (ment.ext.verb.)  
news'??//

Such examples are frequent and are to be expected, given the fact that English lessons, particularly the language lessons, are concerned with learning about and talking about language.

It would seem, then, that the nature of the subject will be reflected in a shift of emphasis within the choices from the clause process options to reflect the types of process with which that subject is most concerned, a finding which Berry (1975;3.3.5.) predicted and which the present study sought to explore. However, the fact remains that the predominant clause process options in all four subject areas are material/action/operation and relational/identity. These 2 types of process may be seen, perhaps, as central to teaching/learning activity. Whether the relations of identity are mathematical:

T.inform: //So that's 180 degrees//(or)//it's (rel.id.(2))  
2 right angles//

(Lesson 21)

or literary:

P.reply: //in an instant Big Cigar was once (rel.id.)  
more his cool, smiling self//

(Lesson 12)

or scientific:

P.reply: //it's a living thing// (rel.id.)

(Lesson 35)

or historical:

T.inform: //Mohammed is the founder of (rel.id.)  
Islam//

(Lesson 1)

a major part of the use of spoken language in the teaching/  
learning process in these lessons is apparently the  
expression of relations of identity.

Similarly, material/action/operation processes  
predominate in all four subject areas, whether social  
studies:

T.elicit: //where were these slaves taken (mat.act.op.(2))  
to//

P.reply: //they were taken to America//

(Lesson 5)

or English:

T.inform: //we can divide the sentence into (mat.act.op.)  
two like this//

(Lesson 15)

or Mathematics:

T.elicit: //why should we subtract this (mat.act.op.)  
plus this from 180//

(Lesson 22)

or Science:

T.accept: //olive oil, yes// (minor clause)

T.comment: //we don't use that very often// (mat.act.op.(2))  
(but)//we do use it sometimes in  
our cooking//

(Lesson 35)

The fact that in the mathematics lessons, as shown in table 8, there is a great predominance of these two types of clause process option and considerably fewer mental processes are expressed than is the case in other subject areas, reflects the special features of the mathematical operations 'add', 'subtract', 'divide' and 'multiply' which were discussed in 4.2.5. While, for the reasons stated there, such processes were categorized as material/action/operation processes, they do embody a cognitive element which this categorization does not reflect. It would be unjustifiable, therefore, to conclude from the findings presented in table 8 that mathematics teachers in these lessons are less concerned with expressing mental processes than are the teachers of other subjects.

5.4 Clause Process Options within Discourse Acts:  
Overall Frequencies of Occurrence

In order to obtain an overall picture of the frequencies of occurrence of clause process options within discourse acts, the total number of choices from clause process options occurring within each discourse act in a lesson was divided by the number of occurrences of that act. Then, medians were obtained over the ten lessons in each subject area. These medians are shown in Table 9. Marker is omitted from the list, as a marker is contained within the clause of the following act, as in:

T.marker: //now,

starter: there are three different reasons...

(Lesson 6)

React is also omitted, as by definition a react is a non-verbal response.

Also, while pupil-informs or elicits, for example, do occur within some lessons, this does not generally appear in this picture of overall patterns, since the median over 10 lessons will be zero if such pupil acts occur in fewer than 5 of the 10. The median number of clause process options in pupil informs is shown in brackets for science however, where 5 lessons were involved. Similarly, teacher-reply does occur but is also not sufficiently frequent across 10 lessons to show up in the

median frequencies. Table 9, therefore, presents information involving both pupils and teachers, with the acts bid, acknowledge and reply being pupil acts while the rest are teacher acts. Again, this shows the weakness inherent in combining naturalistic and varied data in this way. This is, however, offset by further detailed discussion of individual lessons. Meanwhile, there is value in looking at overall patterns, as they can reveal central tendencies in the sample. Where zero occurs in the table, then, this results from the frequencies of occurrence of clause process options within those acts being insufficient to show up in a median. Thus, bid is often verbal, with pupils calling out "I, ma!" or "excuse!" but the great majority of bids are non-verbal hand-raising.

From Table 9 it can be seen that the longest discourse act, in terms of the number of clause process options occurring within it, is the teacher-inform act. Inform acts in mathematics typically contain fewer clause process options than those in the three other subject areas in this sample. In terms of pupils participation, this pattern of inform acts shows that pupils must be able to listen to and understand a teacher-inform containing seven or more clause process options. An example of a teacher-inform will give some idea of what is involved:



TABLE 9  
MEDIAN NUMBER OF CLAUSE PROCESS OPTIONS PER DISCOURSE ACT

Discourse Act	Soc. St.	English	Maths.	Science
Starter	2.65	3.0	2.7	3.0
Elicit	1.4	1.4	1.2	1.3
Check	1.1	1.35	1.25	1.1
Directive	1.35	1.1	1.6	1.4
Inform	7.1	7.65	4.25	8.4(p.0.5)
Prompt	0.75	1.5	1.0	1.15
Clue	1.75	2.45	2.25	1.75
Cue	0	1.1	0.75	0
Bid	0.5	0	0	0
Nomination	1.0	1.0	1.0	1.0
Acknowledge	1.0	1.0	1.0	1.0
Reply	1.35	1.9	1.15	1.25
Comment	3.25	3.75	2.0	2.15
Accept	1.2	1.4	1.1	1.25
Evaluate	1.15	1.3	1.35	1.95
Metast.	2.75	4.0	2.0	1.0
Conc.	2.75	0	0.5	0
Loop	1.25	1.25	1.25	1.5
Aside	0	1.25	1.15	1.0

T.marker: //So,

inform: this is the sea//(and)//this (rel.id.(2))  
 is-er-warm wind//(BB)// this side  
 of the mountain ((where the (mat.ev.op.)  
 wind collected-er-moisture))  
 is referred to as the windward (ment.ext.verb.)  
 slope//(BB-writes)//the windward (minor clause)  
 slope//(and)//after collecting (mat.ev.op.)  
 the moisture//you know//so (ment.int.cognit.)  
 many changes took place in (mat.ev.op.(3))  
 the atmosphere//(and)//then it  
 rained// (and)//the wind continued  
 its journey((as a dry wind))//(BB).(Minor clause)

(Lesson 2).

Here, the teacher was using a blackboard diagram to clarify her explanation, so pupils did not have to rely solely on the spoken word to grasp the meaning of this inform. However, in other cases such aids are not used and pupils must simply follow the teacher's speech, as in:

T.inform: //this is very common in our (rel.id.)  
 market//you can get cane sugar (mat.act.op.(2))  
 anywhere//most especially if you  
 go to Lagos around this 7-up  
 area or around Maryland//the (minor clause)

same thing in our market in  
 Ibadan here at Dugbe//here (ment.int.percept.)  
 we see all these-er-Hausa people  
 carrying it about//this is (mat.act.op.)  
 what you call cane sugar, O.K//. (ment.ext.verbal)  
 (Lesson 31).

As shown in 5.2.2., however, teachers use elicits far more often than informs in these lessons. Pupils are not too often expected, therefore, to deal with inform acts and when they must their comprehension is often assisted by blackboard work which illustrates the meaning of the inform.

Other discourse acts in this sample which typically contain two or more choices from the clause process options are starter, comment, metastatement (except in science) and conclusion (in social studies). This would seem to suggest that these acts, together with the inform, carry the bulk of the subject content which the teacher wishes to communicate. Other acts such as bid, nominate, acknowledge and directive typically contain one clause process option. These acts are discussed further below, as the patterns of choice within them emerge as being regular.

5.4.1 Clause Process Options within Discourse  
Acts: Frequencies by Type Within Act

As stated in 3.1.3., 3.4.1 and 4.1., one aim of this investigation is to analyse the links between the level of discourse and that of grammar. Sinclair et al (1972) suggest a rough correspondence between the discourse rank 'act' and the grammatical rank 'clause' (3.1.3.). By looking at the patterns emerging in the present analysis, it may be that this link can be identified within the present sample. In order to do this, the ten lessons in each subject area were grouped together and the frequencies of each of the twelve types of clause process option within each different act were summed, giving the total occurrence of each type within each discourse act over the ten lessons. Each of these totals was then calculated as a percentage of the total number of clause process option choices within that particular act. For ease of reference, these percentage occurrences are shown in tables 10, 11, 12, & 13 below, as they occurred in the four groups of ten lessons.

From these tables, it can be seen that the acts starter, elicit, directive, check, inform, prompt, clue, cue, reply, comment, accept, evaluate, metastatement, conclusion, loop and aside contain choices from a wide

TABLE 10  
PERCENTAGE FREQUENCY OF CLAUSE PROCESS OPTION TYPES  
WITHIN DISCOURSE ACTS: SOCIAL STUDIES

Discourse Acts	CLAUSE PROCESS OPTIONS											
	m.act. op.	m.act. creat.	m.event op.	m.event creat.	ext. verbal.	int. cog.	int. perc.	int. react.	rel. id.	rel. poss.	rel. cir.	minor cl.
Starter	27.0	1.1	8.9	0.4	11.2	10.7	4.6	3.4	16.1	1.2	3.3	12.1
Elicit	26.0	2.0	6.2	0.7	9.6	10.5	1.6	3.6	17.1	1.4	2.4	19.0
Check	3.6	0	0	0	6.0	37.3	7.2	0	20.5	0	0	25.3
Directive	78.4	0	0.6	0	2.5	0	4.9	1.2	1.9	0.6	2.5	7.4
Inform	33.6	1.8	9.3	1.7	5.6	11.3	2.0	3.8	16.6	2.8	3.9	7.8
Prompt	27.8	0	0	0	27.8	5.6	0	16.7	5.6	0	0	16.7
Clue	40.3	0	4.2	0	12.5	8.3	4.2	4.2	15.3	2.8	2.8	5.6
Cue	38.9	0	0	0	16.7	16.7	0	5.6	0	0	0	22.2
Bid	0	0	0	0	1.9	0	0	0	0	0	0	98.1
Nominate	0	0	0	0	0	0	0	0	0	0	0	100.0
Acknow.	8.2	0	0	0	0	3.2	0	1.3	1.3	0	0	86.1
Reply	20.2	0.8	5.7	0.4	1.9	6.3	0.2	1.5	11.7	1.4	2.2	47.7
Comment	33.8	1.3	5.8	0.9	6.6	14.1	2.6	3.1	17.2	2.3	4.4	7.8
Accept	13.2	0.4	2.0	0.2	1.1	4.0	0.2	0.9	10.1	0.4	0.9	66.4
Evaluation	6.4	0	1.3	0	5.1	10.2	0.6	3.2	27.4	0	2.5	43.3
Metast.	53.5	2.3	2.3	0	18.6	2.3	2.3	2.3	7.0	0	4.7	4.7
Conc.	30.3	6.6	6.6	1.3	5.3	15.8	2.6	0	25.0	0	1.3	5.3
Loop	10.3	0.6	0.6	1.2	19.4	7.3	7.9	3.6	6.1	0	1.2	41.8
Aside	50.0	0	25.0	0	0	0	0	0	18.8	0	0	6.2

TABLE 11  
PERCENTAGE FREQUENCY OF CLAUSE PROCESS OPTION TYPES  
WITHIN DISCOURSE ACTS: ENGLISH

Discourse Acts	CLAUSE PROCESS OPTIONS											
	m.act. op.	m.act. creat.	m.event op.	m.event creat.	ext. verbal.	int. cog.	int. perc.	int. react.	rel. id.	rel. poss.	rel. cir.	minor cl.
Starter	26.0	0.5	4.5	0.2	13.3	12.1	6.5	5.2	14.0	0.6	3.3	13.9
Elicit	25.8	0.6	6.0	0	17.5	11.1	3.3	4.9	14.2	0.2	1.9	14.4
Check	12.3	0	0	0	5.5	25.3	9.6	3.4	29.5	2.7	0.7	11.0
Directive	61.0	0	0	0	2.1	5.5	13.7	1.4	2.1	0.7	1.4	12.3
Inform	30.6	0.4	5.1	0	13.6	11.2	3.9	7.2	16.7	1.4	3.1	6.9
Prompt	44.8	0	1.5	0	17.9	9.0	1.5	3.0	6.0	0	0	16.4
Clue	18.3	0	4.6	0	8.4	19.1	3.8	8.4	17.6	3.1	3.1	13.7
Cue	31.7	0	0	0	24.4	19.5	2.4	4.9	4.9	0	0	12.2
Bid	0	0	0	0	0	0	0	0	0	0	0	100.0
Nominate	2.4	0	0	0	1.4	0.3	0	0	0	0	0	95.8
Acknow.	4.2	0	1.4	0	5.6	1.4	0	0	0	0	0	87.3
Reply	29.6	0.6	4.9	0.1	8.0	6.1	2.7	4.1	10.4	0.4	2.3	30.7
Comment	27.9	0	5.0	0	10.3	12.8	2.7	6.9	19.9	1.0	3.1	10.3
Accept	22.7	0	2.7	0	4.8	6.3	1.3	5.0	8.2	0.2	1.3	67.5
Evaluate	12.2	0	1.0	0	13.2	6.1	2.0	1.4	20.3	0	0.7	43.1
Metast.	31.2	0	3.7	0	13.8	21.1	4.6	6.4	9.2	0	2.8	7.3
Conc.	29.6	0	0	0	3.7	37.0	0	7.4	11.1	3.7	3.7	3.7
Loop	15.9	0	0	0	14.0	1.2	3.7	0.6	5.5	0.6	0	58.5
Aside	62.1	0	0	0	10.3	0	17.2	0	3.4	0	0	6.9

TABLE 12  
PERCENTAGE FREQUENCY OF CLAUSE PROCESS OPTION TYPES WITHIN  
DISCOURSE ACTS: MATHEMATICS

Discourse Acts	CLAUSE PROCESS OPTIONS											
	m.act. op.	m.act. creat.	m.event op.	m.event creat.	ext. verbal.	int. cog.	int. perc.	int. react.	rel. id.	rel. poss.	rel. cir.	minor cl.
Starter	34.7	0.8	5.4	0	7.6	4.1	3.8	2.4	21.3	0.2	3.1	16.6
Elicit	26.1	1.0	5.6	0	9.1	2.6	0.4	0.7	25.0	0.3	2.6	26.5
Check	26.0	0	0	0	2.7	28.8	9.6	0.7	13.0	0	2.7	16.4
Directive	82.7	0.5	0	0	0.5	0.5	3.4	0.5	0.5	0	0	11.2
Inform	35.9	0	6.8	0.1	4.1	5.2	2.4	1.4	27.3	0	3.6	13.2
Prompt	25.0	0	1.9	0	11.5	9.6	3.8	0	5.8	0	1.9	40.4
Clue	21.4	0	7.1	0	5.9	4.8	1.2	1.2	31.0	0	0	27.4
Cue	20.0	0	0	0	50.0	0	10.0	5.0	0	0	0	15.0
Bid	0	0	0	0	0	0	0	0	0	0	0	100.0
Nominate	1.4	0	0	0	0	0	0	0	0	0	0	98.6
Acknow.	0	0	0	0	0	0	0	0	1.8	0	0	98.2
Reply	12.0	0.1	5.5	0	0.3	0.2	0	0.5	10.5	0.6	1.5	68.9
Comment	24.7	0	10.0	0.4	5.6	6.0	1.2	0	28.7	2.4	4.0	17.1
Accept	7.6	0	3.3	0	0	0.2	0.2	0	12.4	0	0.9	75.4
Evaluate	15.2	0.3	2.6	0	3.8	3.8	0.6	0.3	22.5	0	1.8	49.1
Metast.	65.1	0	0	0	4.7	2.3	0	0	9.3	0	0	18.6
Conc.	69.0	0	0	0	0	6.9	3.4	0	17.2	3.4	0	0
Loop	19.3	0	0.7	0	15.0	2.9	3.6	3.6	0	0	2.1	52.9
Aside	39.6	0	0	0	7.5	1.9	5.7	5.7	9.4	1.9	7.5	20.8

TABLE 13

PERCENTAGE FREQUENCY OF CLAUSE PROCESS OPTION TYPES  
WITHIN DISCOURSE ACTS: SCIENCE

Discourse Acts	CLAUSE PROCESS OPTIONS											
	m.act. op.	m.act. creat.	m.event op.	m.event creat.	ext. verbal.	int. cog.	int. perc.	int. react.	rel. id.	rel. poss.	rel. cir.	minor cl.
Starter	17.1	0.4	11.2	0.3	12.7	12.5	3.8	3.5	20.0	2.4	2.5	14.0
Elicit	17.2	0.1	12.6	0.1	12.1	7.0	0.6	1.9	27.7	0.6	2.7	17.5
Check	18.0	0	0	0	0	28.0	8.0	0	28.0	2.0	4.0	12.0
Directive	76.9	0	2.2	0	4.5	1.5	8.2	0.7	0	0.7	0.7	4.5
Inform	23.9	0.5	20.3	0.6	6.9	8.4	2.9	1.5	23.6	1.2	1.8	8.2
Prompt	33.3	0	2.2	0	0	11.1	0	4.4	6.7	0	0	42.2
Clue	28.6	0	3.9	0	16.9	13.0	3.9	2.6	11.7	1.3	6.5	11.7
Cue	22.2	0	0	0	55.6	3.7	0	11.1	3.7	0	0	3.7
Bid	32.1	0	0	0	3.6	0	0	0	0	0	0	64.3
Nominate	0.6	0	0	0	0.6	0	0.6	0.6	0	0	0	97.8
Acknow.	0	0	0	0	0	0	0	0	0	0	0	100.0
Reply	12.9	0	10.5	0.3	2.0	1.5	0.2	0.1	13.5	1.3	0.9	56.9
Comment	30.9	0	13.5	0.3	7.2	11.2	0.7	3.0	21.7	2.3	1.6	7.6
Accept	7.5	0	9.2	0.4	1.3	1.1	0.2	0.2	10.7	1.9	1.3	66.2
Evaluate	15.2	0	6.0	0.2	9.6	7.2	1.3	1.6	27.1	0.7	1.8	29.3
Metast.	47.5	0	2.5	0	15.0	7.5	2.5	0	20.0	2.5	2.5	0
Conc.	23.8	0	23.8	0	23.8	9.5	0	0	4.8	0	0	14.3
Loop	10.8	0	5.8	1.2	12.0	5.4	3.7	2.1	12.4	0	0.8	45.6
Aside	48.4	0	0	0	0	3.2	3.2	6.4	12.9	3.2	0	22.6



range of clause process options, while the acts bid, nominate and acknowledge display choices from a much more limited range of clause process options. The major distinction emerging here is between what might be regarded as 'content' acts (starter, elicit, inform, and so on) and the 'organizational' acts such as marker, directive, bid, nominate and acknowledge. While the latter display regular patterns of choice from the clause process options, the former do so to a much less obvious extent. These distinctions are now described in detail, as the identification of possibly regular patterns will go some way towards clarifying the discourse act/clause process option interactions in the sample. The acts which display the most regular patterns are discussed first.

#### 5.4.1.1. The Discourse Act 'marker' and Clause Process Options

As mentioned above (5.4.) marker in the present sample is completely predictable in that it does not contain any choices from the clause process options, always consisting of one word such as 'now', 'so', or 'alright' which is a constituent of the first sentence of the following act. Examples are:

Social Studies

T.marker: //so,

Conclusion:when the Europeans or  
the plantation owners in  
America.....etc.

(Lesson 5)

English

T.marker: //now,

starter: I don't know ((if you realize this))...etc.

(Lesson 19)

Mathematics

T.marker: //right,

directive: turn to the next page//

(Lesson 21)

Science

T.marker: //O.K.,

elicit: good morning//...

(Lesson 36)

As can be seen from table 4 (5.2.2.), the teachers make frequent use of this discourse act in this sample of lessons. Its function is to mark the boundaries in the discourse structure. It plays, however, a limited part in the discourse act/clause process option interaction,

appearing only as a constituent in the clauses of other discourse acts.

#### 5.4.1.2 The Discourse Act 'bid' and Clause Process Options

The majority of bids in the sample show a regular patterning of choices from the clause process options. While bids are most frequently non-verbal, involving the raising of hands, when a verbal bid is made it is almost always expressed in a minor clause (process implicit). Pupils call out "I, ma!" or "excuse!" to indicate that they wish to respond to a teacher elicit. The use of 'excuse' in this context was classed throughout as a minor clause because, although to say 'excuse' in a different context can mean to ask for or to grant pardon for an offence-possibly, in the present context, an interruption - this lexical meaning does not seem particularly significant here, as pupils have been invited by the teacher to contribute to the discourse. The function of 'excuse' in the context of bid is seen as being simply to draw attention to the pupil's willingness to reply, just as a raised hand or "I, ma!" does, and for this reason it is classed as a minor clause, in which the process is implicit. 'Excuse' in this context can also be regarded as a speech act (Searle, 1969), the utterance of the word itself effecting the performance of the act; this is taken as additional justification for categorising

this as 'process implicit' in the present context.

As can be seen from table 4 (5.2.2.), bid is a discourse act frequently used by these pupils, while table 9 shows that a bid is most typically non-verbal in this sample. When it is verbalized, however, it seems most likely here to consist of a minor clause. There are remarkably few exceptions to this, notably in lesson 36, where a number of bids of the type:

p bid: //ma, let me draw it//

are made by a pupil. This pupil was seeking permission to take over the construction of a blackboard diagram from another pupil who had made mistakes. The teacher had not yet invited other attempts. For the great majority of pupils' verbal bids in this sample, however, the link between the discourse act and the clause process options is a very regular one, minor clauses being used almost without exception. The function of a bid is to indicate a desire to contribute to the discourse and to achieve this almost all that is required, when the bid is verbalized, is a minor clause (process implicit) except in special cases, like the example given above, where a bid has not yet been invited by the teacher. Sinclair et al (1972) identify only minor clause bids in addition to the non-verbal manifestations of this act. In a larger mother-tongue English sample than they present,

no doubt major clause (process explicit) bids like the above would probably also be found though not, perhaps, the use of 'excuse' as it is found in the present further-tongue English sample.

#### 5.4.1.3 The Discourse Act 'acknowledge' and the Minor Clause Option

Like bid, the discourse act acknowledge is almost always expressed in a minor clause in the present sample of discourse. A typical example of an acknowledge is:

T.marker: //now  
 inform: that's 90 degrees// (BB) (reI.id).  
 P.acknowledge(chorus): //yes// (minor cl.)  
 (Lesson 21)

A characteristic of the present sample of lessons, however, is the chorus echo acknowledge (4.2.1.; 4.2.3.), in which pupils echo or almost simultaneously say with the teacher the end of a teacher-inform. Often, they echo only the last one or two words, as in:

T.inform: ...// this type of...this  
 machinery are usually (ment.ext.verb.  
 called capital goods// (2))  
 they are called capital goods//

P.acknowledge(chorus echo): //capital goods// (minor cl.)

(Lesson 6)

and in:

T.inform:....//he was one of the members of the (rel.id)

parliament//

P.acknowledge(chorus echo): //parliament// (minor cl.)

(Lesson 5)

Sometimes, by pausing briefly before the last one or two words of an inform, a teacher seems to invite such a chorus echo acknowledgement. Not all teachers allow this type of echo acknowledgement, but in lessons where it does occur it does so frequently.

In eight out of the 40 lessons, there are isolated examples of a chorus echo of this type involving the predicate of the teacher's last clause. Such examples were counted in the appropriate major clause process option category for pupils, since a process is being explicitly expressed, even though in a rather inadvertent way. Examples of this type are few and do not, therefore, unduly affect the overall results as far as pupils' use of major clauses is concerned. An example from social studies is:

T.inform: ...// that is, you are asked (ment.ext.verbal)

to perform the operation (mat.act.op.)

((feed the nation))// (mat.act.op.)

P.acknowledge(chorus echo): //feed the nation// (mat.act.op.)  
(Lesson 6)

Such an example is also found in mathematics:

T.marker: //now  
inform: we write down the (mat.act.op.)  
answer//x is equal to (rel.id.(2))  
one//y is equal to 2//

P.acknowledge(chorus echo): //x is equal to one// (rel.id.)  
(Lesson 26)

in English:

T.inform: .....//if I saw him// (ment.int.perc.)  
I would beat him// (mat.act.op.)  
P.acknowledge(chorus echo): //beat him// (mat.act.op.)  
(Lesson 15)

Echo effects of this type are not identified in Sinclair et al's (1972) mother-tongue sample but they are very common indeed in these Nigerian secondary school classrooms. Both the chorus echo acknowledge acts and those not involving this echo effect are, in the present sample, most likely to be expressed in a minor clause (process implicit), demonstrating a link between discourse act and clause process options similar to that in the discourse act 'bid'.

5.4.1.4 The Discourse Act 'nomination'  
and Clause Process Options

Like the preceding acts bid and acknowledge, a teacher's nomination of pupils is most likely, in this sample, to be expressed in a minor clause, with the teacher saying //yes, (name)? //or //(name)?// or just //yes?// when she selects from the pupils, who may be bidding or not. Examples are:

T.elicit:	//any other question?//	(minor cl.)
P.bid:	N.V.	
T.nominate:	//yes?//	(minor cl.)
P.elicit:	//what of the forest?//	(minor cl.)

(Lesson 10)

and:

T.elicit:	//what is the common taste of acids?//	(rel.id.)
P.bid:	N.V.	
T.nominate:	//(name)?//	(minor cl.)
P.reply:	//they are sour//	(rel.id.)

(Lesson 33)

Often, too, a nomination is included in another act, as in:

T.directive:	//(name), stand up please//	(mat.act.op.)
(nominate)	(Lesson 4)	



Occasionally, a major clause is used in a nomination, as in:

T.elicit: //who will multiply out?// (mat.act.op.)

P.Bid: N.V.

T.nominate: //try// (mat.act.op.)

(Lesson 27)

and:

T.nominate: //can(name) help you// (mat.act.op.)

(Lesson 35)

and:

T.elicit: ....//any funny incident((you (minor cl.)  
can remember))// (ment.int.cog.)

P.bid: N.V.

T.nominate: //yes, (name),tell us about it// (ment.ext.verbal)

(Lesson 14)

However, in the vast majority of cases, a nomination in this sample consists of a minor clause only. Sinclair et al (1972) do list "one or two idiosyncratic items such as "who hasn't said anything yet?" (p.93) under their nomination category. In the present sample, a few similar instances which occur are regarded as loops rather than bids, as the teacher seems to be returning the discourse to an earlier stage, before the pupil's bid, rather than simply nominating another pupil. In the sample below, for instance, the same pupil had been volunteering to

answer questions, while others were not responding:

T.elicit: //so what do you suggest// (ment.ext.verb.)  
 P.bid: N.V.  
 T.loop: //someone else// (minor cl.)  
 P.bid: N.V.  
 T.nominate: //yes, (name)?// (minor cl.)

(Lesson 23)

To identify the "someone else" in this example as a nomination would seem wrong, as its function in the discourse structure seems to be to invite other bids rather than to select a particular pupil to speak. As such, it is identified as a loop rather than a nomination. Similarly, another teacher uses an act in this way which is also identified as a loop (plus a nomination) in this analysis:

T.starter: //look at the third paragraph// (ment.int.perc.)  
 elicit: //what is it all about// (rel.id.)  
 P.bid: N.V.  
 T.loop: //you've answered about (ment.ext.verb.)  
 twelve questions today//  
 nominate: will you say something, (name)?// (ment.ext.verb.)  
 P.reply: //about the two ranks// (minor cl.)

(Lesson 17)

Here, rather than simply inviting other bids the teacher uses a loop and a nomination to return the discourse structure

to before the first pupil's bid. Such examples are few in the sample and where they occur they were identified as loops in this analysis.

On the whole, then, a nomination, like bid and acknowledge, is expressed in a minor clause. A nomination serves "to call on or to give permission to a pupil to contribute to the discourse" (Sinclair et al, 1972; p.93) and to perform this discourse function teachers in the great majority of cases in this sample use a minor clause (process implicit), as that is an adequate realization of the discourse act. This pattern of choice from the clause process options is regular across the forty lessons from four different subject areas and demonstrates another interaction between discourse function and realization in the grammar.

#### 5.4.1.5 The Discourse Act 'directive' and Material/Action/Operation Processes

In the sample of lessons in this investigation, the discourse act directive shows a quite regular pattern in that the free clause (Sinclair, 1972) has, with comparatively few exceptions, a material/action/operation process expressed in the predicator. The directive also typically consists of one free clause together with at most one bound clause; the bound clause can, however,

embody process options other than material/action/operation. As a discourse act, the directive is designed to elicit a non-verbal response from pupils; it is used to direct their activities in some way. Hence the emphasis on material/action/operation process demonstrates a logical relation between the function of the act and its realization. Pupils' response to a directive is a non-verbal react, which can be accompanied by an acknowledge, as in:

T.directive: //sit down// (mat.act.op.)

P.react: N.V.

P.acknowledge(chorus): //thank you, Mrs.(name)//(minor cl.)

(Lesson 1)

Directives are used by teachers in their organization of the progress of the lesson. Pupils can be told, as a class, to:

T.directive: //turn to page 32// (mat.act.op.)

(Lesson 2)

or to:

T.directive: //close your exercise books, everybody// (mat.act.op.)

(nominate) (Lesson 14)

or to:

T.directive: //change with a partner// (mat.act.op.)

(Lesson 11)

and to:

T.marker: //now

directive: quickly exchange exercise books// (mat.act.op.)

(Lesson 14)

or to:

T.directive: //all stand//

(mat.act.op.)

(nominate)

In each case, the free clause contains a material/action/operation process expressed in the predicator.

Directives can be used to direct the activity of one pupil, rather than the whole class, as in:

T.directive: //sit down, (name)//

(mat.act.op.)

(nominate)

(Lesson 2)

When a pupil is required to stop reading aloud, a directive can be used:

T.marker: //now,

directive: just hold on there//

(mat.act.op.)

(Lesson 12)

Individual pupils are told to clean the blackboard:

T.directive: //come//(and)//rub it//

(mat.act.op.(2))

(Lesson 22)

or to:

T.directive: //write one other fraction

(mat.act.op.)

(nominate) on the blackboard-erm-(name)//

(Lesson 25)

A pupil who is misbehaving can be sent out:

T.directive: //go//(and)//stay outside// (mat.act.op.  
(2))  
(Lesson 40)

Pupils as a class can be directed to:

T.directive: //write down these equations// (mat.act.op.)  
(Lesson 26)

or to:

T.directive: //use your graph books// (mat.act.op.)  
(Lesson 28)

or to take down notes from the blackboard, as in:

T.directive: //you copy// (mat.act.op.)  
(Lesson 13)

An individual can be told to:

T.directive: //come//(and)//stand at (mat.act.op.)  
the front of the class// (2))  
(Lesson 4)

In the overwhelming number of cases in the sample of lessons in this investigation, directives contain a material/action/operation process expressed in the predicator of the free clause. There are, however, exceptions to this. A directive may also contain only minor clause options, as in

T.directive: //just a second, please// (minor clause)  
(Lesson 35)

and in:

T.directive: //social studies books away// (minor cl.(2))

English books out//

(Lesson 13)

Also, directives were found in the sample which have a mental/internalized/perception process expressed in the predicator of the free clause, as in:

T.directive: //everybody look up//(and) (ment.int.perc.  
(2))

(nominate) //see ((what she is writing))// (mat.act.op.)

(Lesson 2)

and:

T.directive: //look at the board// (ment.int.perc.)

(Lesson 21)

and:

T.directive: //look at it again// (ment.int.perc.)

(Lesson 11)

and:

T.directive: //listen very carefully// (ment.int.perc.)

(Lesson 13)

An interesting but unique example in a science lesson involving group activities is:

T.directive: //no, you don't observe with (ment.int.perc.)

your mouth!//

(Lesson 32)

While the teacher here chooses a mental/internalized/perception process in the predicator, the adjunct 'with your mouth' shows that she means something rather different and the pupils who were chattering correctly reacted to this as a directive to stop talking.

As can be seen from tables 10 to 13, material/action/operation processes are predominant in directives in all four subject areas. Also in all four subject areas, some directives with mental/internalized/perception processes expressed in the predicator of the free clause were found. Other choices from the clause process options also occurred, but far less frequently. Thus, for example, a teacher may express a mental/externalized/verbal process in a directive, as in:

T.directive: //please stop whispering to him// (mat.act.op.)  
 (ment.ext.verb.)  
 (Lesson 39)

or a mental/internalized/cognition process may be expressed in a directive, as in:

T.directive: //look at these sentences (ment.int.perc.)  
 for about 15 seconds at least//  
 read them in your mind//before (ment.int.cogn.)  
 I come to say something (mat.act.op.)  
 about them// (ment.ext.verbal)  
 (Lesson 15)



and in:

T.directive: //remember to write (ment.int.cogn.)  
 today's date// (mat.act.op.)  
 (Lesson 14)

Often, as in the last example above, such clause process options as mental/internalized/cognition occur in a phased predicator which also expresses a material/action/operation process or in a longer directive with bound clause, as in:

T.directive: //somebody find 'axiom' in (mat.act.op.)  
 his dictionary//(and)//read  
 it out for the whole (ment.ext.verbal)  
 class//so that you will  
 understand more// (ment.int.cognit.)  
 (Lesson 20)

Where bound clauses do occur in a directive, a variety of choices from the clause process options is found, as can also be seen in:

T.directive: //as soon as the solution (mat.event.op.)  
 has all...has gone through  
 the filter paper//then you  
 take out the filter (mat.act.op.)  
 paper carefully//(and)//dry (4))

it at the corridor there//  
 take out the filter paper  
 carefully//dry it at the  
 corridor//while you look (ment.int.perc.)  
 into-erm-the salt solution//

(Lesson 32)

This predominance, in directives, of the expression of material/action/operation processes seems to demonstrate a very real link between the discourse function of the act and the choices made from clause process options in its realization in speech. There seems to be demonstrated here a very definite interaction between the social or discourse function of language and realizations at the grammatical level, as postulated by Halliday (1973) and discussed in 3.3.2. and 3.3.3. The function of a directive is "to request a non-linguistic response" (Sinclair et al, 1972, p.92); it is used to direct the actions of the pupils. Hence the predominance of material/action/operation processes expressed in the free clause of a directive in this sample. As Halliday states (1970, p.165; see 3.3.3.) the investigation of the major functions which language serves "enables us to relate the internal patterns of language - its underlying options, and their realization in structure - to the demands that are made on language in the actual situations in which it is used".

5.4.1.6 The Discourse Act 'check' and  
Cognition and Identity Processes

The discourse act check is used by the teacher to "ascertain whether there are any problems preventing the successful progress of the lesson" (Sinclair et al, 1972; p.92) and to force compliance from the pupils (4.2.3). As might be predicted, the clause process options expressed within this act reflect the function it is performing. In all forty lessons teachers seem most likely to choose, from the major clause options, either a mental/internalized/cognition process or a relational/identity process. Thus, teacher checks often take the form:

- T.check: //do you understand?// (ment.int.cog.)  
(Lesson 21)
- T.check: //you know the key, everybody?// (ment.int.cog.  
(nominate) (Lesson 2) (2))
- T.check: //you know ((what I mean (ment.int.cog.  
by articles of trade?))// (2))  
(Lesson 6)

Checks in which mental/internalized/cognition processes are expressed, like those above, are very frequent, as also are checks in which relations of identity occur.

Examples are:

T.check: //are you ready to start// (rel.id.)  
(mat.act.op.)  
(Lesson 11)

and

T.check: //is that clear?// (rel.id.)  
(Lesson 21)

When a check is used to force compliance from pupils, relational/identity processes are most frequently expressed, as in:

T.check: //isn't that correct?// (rel.id.)  
(Lesson 6)

and

T.check: //isn't that so?// (rel.id.)  
(Lesson 11)

These two types of process option are most frequent in the sample when a major clause is used in a check. However, other major clause options also occur, notably material/action/operation processes, as in:

T.check: //I think ((most people (ment.int.cog.)  
have finished, yes?))// (mat.act.op.)  
(Lesson 13)

and in:

T.check: //what are you writing?// (mat.act.op.)  
(Lesson 26)

and:

T.check: //have you found the place?// (mat.act.op.)  
(Lesson 11)

mental/internalized/perception processes are also expressed in checks, when the teacher is seeking to discover whether pupils can hear or see something, as in:

T.check: //can you hear((what I'm saying))// (ment.int.perc.)  
(Lesson 4) (ment.ext.verb.)

and:

T.check: //you have seen them?// (ment.int.perc.)  
(Lesson 6)

Processes such as relational/circumstance and relational/possession also occur from time to time, as in:

T.check: //have you all got the (rel.poss.)  
same dictionary?//  
(Lesson 11)

and:

T.check: //where's the tripod stand// (rel.circ.)  
(Lesson 32)

Finally, minor clauses also occur in checks such as:

T.check: //alright?// (minor cl.)  
(Lesson 13)

and:

T.check: //everybody ready?// (minor cl.)  
(Lesson 13)

Process options which are not found to occur within checks in the present sample are material/action/creation, material/event/operation and material/event/creation. In this discourse act, as in those discussed above, it can be seen that there is real interaction between the function of the act and the types of clause process option expressed within it, although the selection here, as in directives, is from a wider range of options and, unlike directives, cognition and identity processes most frequently occur in the choices from major clause options in this act.

#### 5.4.1.7 The Discourse Acts 'cue' and 'prompt' and Material and Verbal Processes

Within the discourse act cue, the two types of major clause process option which occur most frequently are material/action/operation and mental/externalized/verbal, as in:

T.cue:	//put up your hands//	(mat.act.op.)
	//don't talk together//	(ment.ext.verbal)

(Lesson 17)

in which both types occur. In the English and social studies lessons in this sample, mental/internalized/cognition processes also occur within cues, as can be seen from tables 10 to 13. Such processes, like the instances of

other types than material/action/operation and mental/externalized/verbal are often found in the bound clause of a cue, as in:

T.cue: //if you don't know it// (ment.int.cog.)  
 don't raise up your hand// (mat.act.op.)  
 (Lesson 9)

and:

T.cue: //no, I don't want to (ment.int.react.)  
 hear 'sir', 'sir'// I (ment.int.perc.)  
 have been discouraging (ment.ext.verbal)  
 this//once you know (ment.int.cog.)  
 my answer//raise your hand// (mat.act.op.)  
 (Lesson 15)

The occurrence of cue in the sample as a whole is small, as discussed in 5.2.2. One use of cues in English lessons which is restricted to that subject in the present sample is the use of a cue to signal the beginning of a chorus drill response as in:

T.elicit: //the last row, read the (ment.ext.verbal)  
 last sentence//  
 cue: //yes// (minor cl.)  
 P.reply(chorus): //if I knew//I would tell him// (ment.int.cog.)  
 (ment.ext.verbal)

(Lesson 15)

This type of cue is most often expressed in a minor clause, as in this example. Minor clause cues are also used in the other subject areas, teachers saying simply "hands up!". Where a cue is expressed in a major clause, however, it is most likely in the present sample, to contain a material/action/operation process or a mental/externalized/verbal one. Sinclair et al (1972) found only two exponents of cue in their sample of mother-tongue English teachers, one of them a minor clause - "Hands up" - and the other a major clause expressing a mental/externalized/verbal process - "Don't call out". In the present further-tongue English sample, the use of minor clause cues to conduct drill practice in English lessons is a characteristic of this sample which presumably would not be found to the same extent in a mother-tongue situation.

In the discourse act cue there appears to be an evident link between the function of the act and the predominant choices from the clause process options which are contained within it in this sample.

Like cue, the discourse act prompt in this sample frequently contains a material/action/operation process or a mental/externalized/verbal one. Teachers prompt their pupils by saying //come on! // or // hurry up!// or //speak out!//. Prompts may also be minor



clauses such as //quickly!//. Longer prompts in the sample can contain a variety of clause process options, though, as in the following example:

T.prompt: //if you look at them//(and) (ment.int.perc.)  
 //think//some of you are (ment.int.cog.)  
 so lazy today//don't (rel.id.)  
 look at my face// (ment.int.perc.)

(Lesson 21)

A particular characteristic of the present sample is that teachers use prompts to get an acknowledgement from the class (4.2.3.). Such prompts are usually expressed in a minor clause only, most often //mm?// or //alright?//. An example is:

T.inform: ....//the first reflex angle (mat.act.op.)  
 they drew like this//(BB)  
 prompt: //mm?// (minor cl.)  
 P.acknowledge(chorus): //yes// (minor cl.)

(Lesson 21)

Greater variety of realizations of the act prompt is found in the present sample than in Sinclair et al's (1972) sample. Within the realizations found, the choices from the clause process options appear to be directly influenced by the discourse function of the act, just as in cue. A prompt functions as a reinforcement of a

directive or elicitation and shows that the teacher is expecting or even demanding a response, rather than merely inviting one. Given the predominance of material/action/operation processes in directives (5.4.1.5.) and the fact that elicitations invite a verbal response, the predominance of material and verbal processes within prompts, which reinforce those two acts, demonstrates a logical connection between the act's discourse function and its realization in speech.

#### 5.4.1.8 The Discourse Act 'loop' and Clause Process Options

A loop is used by the teacher to return the discourse to the stage it had reached before a pupil spoke or, occasionally, before a pupil bid (5.4.1.4.). As can be seen from tables 10 to 13, the most common clause process option expressed within this act in the present sample is a minor clause (process implicit), with teachers merely saying //pardon?// or //mm?// or //again?//. Of the major clause options, material/action/operation and mental/externalized/verbal processes are chosen most frequently in the realization of this act. Thus, a teacher might say:

T.loop:           //what did you say first//           (ment.ext.verbal)

(Lesson 23)

or:

T.loop: //I'm going to ask you (ment.ext.verb.)  
 to say it again //(and) (3)  
 //speak better//  
 (Lesson 11)

with the emphasis on verbal processes, or she might repeat material/action/operation processes of the pupil's preceding reply, as in:

T.loop: //the nearer//the nearer (minor cl.)  
 we get...// (mat.act.op.)  
 (Lesson 2)

and:

P.reply: //we use degrees// (mat.act.op.)  
 T.loop: //what do we use// (mat.act.op.)  
 P.reply: //we use thermometers// (mat.act.op.)  
 (Lesson 34)

While minor clauses, material/action/operation and mental/externalized/verbal are the most frequently occurring options within loops, however, other processes are expressed, particularly mental/internalized processes such as:

T.loop: //I haven't got your point// (ment.int.cog.)  
 (Lesson 4)

and:

T.loop: //I didn't hear you// (ment.int.perc.)  
 (Lesson 11)

Pupils also occasionally use loops:

T.elicit: //tell me ((what you are (ment.ext.verb.)  
asked to do in this))// (2)  
(mat.act.op.)

P.loop: //please repeat the question// (ment.ext.verbal)

(Lesson 7)

and:

T.elicit: //are you talking about (ment.ext.verbal)  
climate at all//

P.loop: //clim...?// (minor cl.)

T.elicit: //climate ((you know)) the (ment.int.cog.)  
weather// (minor cl.)

(Lesson 3).

Sinclair et al (1972 , p.91) state that "it is significant that no child in any of our tapes ever admits to not having heard something the teacher has said. Thus we only have examples of teacher loops". In the examples of pupil loops found in the present sample, pupils seem to be indicating that they have either not heard or not understood the teacher's elicit. Pupil loops certainly occur, however, and are not restricted to the lessons which are less formal in structure.

Perhaps the most obvious link here between the function of a loop and its realization in speech is the use of verbal, perception and cognition process options to indicate that the utterance was either not heard or not understood, or that it should simply be

repeated because it was correct and the teacher wishes to reinforce it for some reason (a use also identified by Sinclair et al, 1972, p.91). While there are some regular patterns of choice from the clause process options within this act, however, the patterns are less regular than those observed in acts such as bid, nominate and directive.

One use of the loop in this sample is to get pupils to repeat a new or important word. It is used in this way by teachers in all four subject areas and is perhaps a special feature of the further-tongue English medium classroom, though no comparative mother-tongue English data is available to support this supposition. An example, from mathematics, is:

T.starter:	//It's the first one there//	(rel.id.)
	(and)//underneath is the word	(rel.circ.)
	a-c-u-t-e, acute//	
elicit:	//say it//	(ment.ext.verbal)
P.reply(chorus):	//acute//	(minor cl.)
T.loop:	//again//	(minor cl.)
P.reply(chorus):	//acute//	(minor cl.)
T.loop:	//acute angle//	(minor cl.)
P.reply(chorus):	//acute angle//	(minor cl.)
T.accept:	//alright//	(minor cl.)

(Lesson 21)

Such examples, using minor clause loops, are common in the language sample.

5.4.1.9 The Discourse Acts 'accept' and 'evaluate' and Clause Process Option Patterns

As noted by Sinclair et al (1972) in their mother-tongue sample, an accept is realized by minor clauses such as //yes//, //no//, //good// or //fine// with neutral low fall intonation, or by a repetition of the pupil's reply, while an evaluate is indicated by a high fall or rising intonation on the same items. In the present further-tongue sample, as noted in 5.2.2., these intonation distinctions are not used as often, and accept rather than evaluate predominates. The accept in this sample, is most often a minor clause, as in:

P.reply: //human beings// (minor cl.)

T.accept: //human beings// (minor cl.)

(Lesson 31)

and:

P.reply(chorus): //present tense// (minor cl.)

T.accept: //the present tense// (minor cl.)

(Lesson 11)

or simply //yes//, which occurs frequently as an accept in this sample. Where major clauses are used in an accept,

they include a variety of process options and are most commonly a repetition of the pupil's reply, or a part of it, as in:

P.reply: //when my father was young// (rel.id.)  
           he often won wrestling matches// (mat.act.op.)  
 T.accept: //he often won wrestling matches//(mat.act.op.)

(Lesson 11)

Most commonly, they consist of a minor clause only, in all four subject areas.

An aspect of the discourse act accept in the present study, and one which was not identified by Sinclair et al (1972), is that this act need not be verbal at all but can consist simply of the teacher's writing the pupil's reply on the blackboard. Indeed, blackboard work is an important part of the discourse in the context of quite a few acts, as pointed out by Widdowson (1974, 2.2 and 2.3), and must be taken into account in a description of discourse structure. Teachers in the present sample most often use a blackboard written accept when they are involved in listing a number of features or components. This type of accept occurs frequently in mathematics, when the teacher or a pupil is working out a sum on the blackboard and elicits the answer to the next step, which is then written up when given. The

accept may be simply written, or more commonly it may be both spoken and written. Examples are:

T.elicit: //with what do we divide// (mat.act.op.)  
 P.reply(chorus): //seventeen// (minor cl.)  
 T.accept: //seventeen// (minor cl.)  
 T.elicit: //seventeen goes here?//(BB) (mat.event.op.)  
 P.reply(chorus): //one// (minor cl.)  
 T.accept: //once// (BB - writes 1) (minor cl.)  
 T.elicit: //in thirty four?// (minor cl.)  
 P.reply(chorus): //two// (minor cl.)  
 T.accept: BB (cancels on BB)  
 T.marker: //now  
 elicit: any more?// (minor cl.)  
 P.reply(chorus): //no// (minor cl.)  
 T.accept: //no more// (minor cl.)

## (Lesson 25)

and, in a science lesson:

T.starter: //these carbohydrates can be (mat.act.op.)  
 broken down into two parts//  
 elicit: //which are they// (rel.id.)  
 P.bid: N.V.  
 T.nominate: //yes?// (minor cl.)  
 P.reply: //fat// (minor cl.)  
 P.reply(chorus): (and) //sugar// (minor cl.)  
 T.loop: //fat and...?// (minor cl.)



P.reply(chorus): //sugar// (minor cl.)

T.accept: BB (writes 'sugar')

(Lesson 31)

Examples of this type occur in all four subject areas:

T.elicit: //spell it for me// (ment.ext.verbal)

P.reply: //b-o- // (minor cl.)

T.prompt: //come on //be quick now// (mat.act.op/rel.  
id.)

P.reply: //b-o-u-g-h-t// (minor cl.)

T.accept: (writes 'bought' on BB.)

(Lesson 11)

and:

T.elicit: //where do the christians go// (mat.act.op.)

P.reply(chorus): //Jerusalem// (minor cl.)

T.accept: //Jerusalem// (writes on BB) (minor cl.)

(Lesson 1)

and:

P.reply: //crocodile// (minor cl.)

T.accept: //crocodile, yes// (BB) (minor cl.)

P.reply: //hippopotamus// (minor cl.)

T.accept: (BB - writes 'hippopotamus')

(Lesson 10)

When such blackboard accepts occurred they were counted as discourse acts but not included in the count of major or minor process options unless they were both spoken

and written, as the present investigation is concerned with frequencies in spoken language. This is reflected in the results as a very slight degree of discrepancy between the number of accept acts in a lesson and the number of clause process options expressed within them but this does not affect the overall results to any great extent as the accept acts were most often spoken as well as written in such cases.

The predominance of minor clauses within accept acts in these lessons is perhaps an indication that all that is considered necessary on most occasions is a minor clause to indicate that a response is appropriate, demonstrating again the link between discourse function and realization in speech. When a major clause is used in an accept, however, there is a variety of options expressed, with material/action/operation and relational/identity process most frequent and material/event/operation processes featuring in science accepts. Unlike the occurrence of such processes in the other acts described above, however, there seems no particular reason within the act to account for these choices. They are, rather, determined by the process expressed in the pupil's reply, repeated by the teacher in the accept.

Such is not the case, however, with evaluating acts, in which there is a predominance of relational/identity processes among the major clause options, a

feature which can be directly linked with the function of the act, as can be seen from the following examples.

T.evaluate: //melt is not the right word// (rel.id.)

and: (Lesson 32)

T.evaluate: //A is wrong// (rel.id.)

and: (Lesson 28)

T.evaluate: //That's very good// (rel.id.)

and: (Lesson 16)

T.evaluate: //it's not cotton// (rel.id.)

(Lesson 9)

This predominance of relational/identity processes in evaluating acts demonstrates an obvious link between the function of the act and its realization in speech, though, of course, there are examples of major clause evaluate acts which contain other options. Thus, a teacher can also evaluate by saying:

T.evaluate: //you've not written them down// (mat.act.op.)

(Lesson 28)

or:

T.evaluate: //you have the idea //(but) (ment.int.cog.)

//you have not expressed (ment.ext.verbal)

yourself well enough//

(Lesson 16)

However, it would seem that the fact that an evaluate is

commenting on the quality of a pupil's reply would make a predominance of relations of identity in the major clause options a very appropriate and frequently used realization of this act.

#### 5.4.1.10 Interactions between other Discourse Acts and the Clause Process Options

With a discourse act like aside, one would not expect to find any regular patterns of choice from the clause process options, as asides are outside the mainstream of the discourse and are not addressed to the class most of the time. Such acts occur infrequently in the present sample and this accounts for the few clause process options identified within this act. Where they do occur, a variety of clause process options is expressed from //come in// (lesson 11), said to a latecomer, to (teacher to self) //I wonder ((why they have drawn two right angles))// (Lesson 21). On one occasion a pupil, at the beginning of a project lesson, says to another pupil, in an aside: //it's recording// (Lesson 8), providing the only concrete example of pupil awareness of the tape-recorder being used (3.2.2.). Within the few asides identified, however, no discernible patterns of choice from the clause process options can be identified.

In all the other major acts such as starter,

elicit, inform and reply, as can be seen from tables 10 to 13 (5.4.1.), there is a wide range of clause process options used. As noted in 5.3.3., material/action/operation and relational/identity processes occur most frequently apart from the predominance of minor clauses in pupils' replies, and these two types of process may well be central to the teaching/learning process. Apart from this, the only notable feature of choices from the clause process options within these other acts seems to be subject-area linked, with the frequency of mental/externalized/verbal processes being higher in English lessons and material/event operation processes occurring more frequently in science lessons (5.3.3.).

In these subject areas, the greater frequency of a particular type of process option within teacher eliciting acts produces a similar greater frequency in pupils' replies, as, for example, in:

T.elicit:	//what does protein do for us//	(mat.event.op.)
P.bid:	N.V.	
T.nominate:	//(name)?//	(minor cl.)
P.reply:	//it helps to repair the body tissues//	(mat.event.op. (2))

(Lesson 31)

and:

- T.starter: (but)//before we answer (ment.ext.verb.  
that question//before we (2))  
answer that question//....
- elicit: //what were we told about (ment.ext.verb.)  
that house in the previous  
sections of this chapter//
- P.bid: N.V.
- T.nominate: //yes?// (minor cl.)
- P.reply: //we were told//the... the... (ment.ext.verb.)  
the mother...grandmother (ment.int.perc.)  
can't see well//because  
it is dark inside the....// (rel.id.)

## (Lesson 19)

This interaction between elicit and reply is dealt with, however, in greater detail in the next chapter. For the moment, the focus is the predominance of clause process options within discourse acts and it must be said that the obvious links between discourse function and realization in speech which have been traced in 5.4.1.1. to 5.4.1.9 above, are not apparent in the remaining acts apart from the apparently subject-linked effects. Thus, it is possible to say that, within the present sample, pupils are more likely to have to deal with mental/externalized/verbal processes in the starters, elicits and informs of English lessons and with material/event/operation processes in similar acts in science lessons.

Also, that in all four subject areas they will be exposed to more material/action/operation and relational/identity processes than any others. Otherwise, a wide range of clause process options is used within these acts and regular patterns cannot be identified. As an example, the starter and elicit given below show how a wide range of process options can be involved:

T.starter: //at the top of the  
 first page of this lesson (rel.circ.)  
 we have several objects  
 such as stone and wood,  
 sponge, wine and water//  
 (and)//we studied ((how we could (ment.int.cog.)  
 group these objects into various (mat.act.op.)  
 groups))//  
 (and)//we said//that one of the ways (ment.ext.verb.)  
 ((to divide them)) is according to (mat.act.op.)  
 their weight//that is, heavy objects (rel.id.)  
 could be put into one group//  
 light objects into another group// (minor cl.)

elicit: //who can tell me another way// (ment.ext.verb.)  
 in which we group these objects// (mat.act.op.)

P.bid: N.V.

T.nominate: //(name)?// (minor cl.)

P.reply: //according to its source// (minor cl.)

Apart from the evidence to be found within these acts in different subject areas such as English and science, however, which suggests that, as Berry (1975, p.195) states:

"We should expect to find a difference in the frequency with which the registers (or idiolects) select a particular option from among the potential meanings of the language",

no other regularity of patterning of as definite a nature as that found in acts such as directive can be identified in the remaining discourse acts. There are definite patterns between acts, in that a major clause elicit is often followed by a minor clause reply, as in:

T.marker: //so

T.elicit: the answer is what// (rel.id.)

P.reply(chorus): //2 over 7 // (minor cl.)

(Lesson 25)

This feature is an aspect of the cohesion of the text (Halliday & Hasan, 1976; 3.3.4). The question of different clause process options within teacher elicits and the pupil replies which follow them is dealt with to some extent in the case studies of the next chapter (6.3.3). Within acts such as elicit and inform, however, no regular patterns can be identified in terms of the clause process options within such acts apart from the general features described above.



## CHAPTER 6

### A CASE STUDY APPROACH TO THE LESSONS IN THIS INVESTIGATION

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- 6.2. Factors within individual lessons which appear to influence the teacher/pupil proportions of discourse acts.
  - 6.2.1. Lessons in which the discourse act 'inform' is predominant for teachers.
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- 6.3. Lessons during which fewer minor clauses (process implicit) are used by pupils.
  - 6.3.1. The apparent effect on major/minor clause proportions in pupils' discourse acts of the use of textbook material as an integral part of the discourse.
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## CHAPTER 6

### A CASE STUDY APPROACH TO THE LESSONS IN THIS INVESTIGATION

#### 6.1. Introduction

While, in Chapter 5, the emphasis has been on general features and trends within the language data, in this chapter it is intended to approach the analysis from a different perspective. As indicated in Chapter 5, there are considerable variations on the measures used from lesson to lesson. An attempt will now be made to relate these variations to features within individual lessons. This is an important aspect of the investigation, as the forty lessons were recorded in five different urban areas of Nigeria (4.5.) and are taught by 38 different teachers (4.5.3.). While every precaution was taken to ensure the validity and reliability of the recording (4.4. and 4.4.1.), there is bound to be variation from lesson to lesson because features such as teaching style, subject matter, the organization of a particular lesson, and so on, will be reflected in different ways in the spoken English discourse of that lesson. Aspects such as the amount of use made in the course of a lesson of textbook material, blackboard work,

group activities, individual work and revision material, for example, must be related to the discourse in individual lessons.

The two main units of analysis in this investigation are the discourse act and the clause process option. In this chapter, aspects of each of these which have been treated in a general way in Chapter 5 are looked at in detail in relation to the individual lessons. Thus, for example, the teacher/pupil proportions of discourse acts within particular lessons in which these proportions differ markedly from the typical distribution found in the sample as a whole will be related to features within those lessons which appear to be relevant to this occurrence. Similarly, other aspects of the pattern of discourse acts and points of interest in relation to the occurrence and distribution of choices from the clause process options will be related to features within individual lessons. In this way it is hoped that points of interest will emerge which will add to the more general analysis presented in Chapter 5. As in the previous chapter, data from the questionnaire responses is included in the discussion where relevant and the findings are related to the background material and review of the literature presented in earlier chapters.

## 6.2 Factors within individual lessons which appear to influence the teacher/pupil proportions of discourse acts

As stated in 5.2.1., lesson 22 shows a 51% to 49% distribution of discourse acts between teacher and pupils which differs considerably from the typical pattern of 2 teacher discourse acts to one pupil discourse act. It is of interest to look at the characteristics of this lesson in order to identify why this may be so. Pupils in lesson 22, as well as using the most frequent pupil acts of bid, acknowledge, reply and react, also use starter, elicitation, inform, accept and evaluate acts. While reply is still the most frequently occurring pupil discourse act, 43.5% of pupil acts being replies in this lesson, the occurrence of the other acts is more frequent here than is the case for any other lesson in this investigation.

Lesson 22 is a mathematics lesson during which the teacher was taking pupils through a test paper which they had done earlier. The subject matter of the lesson is, therefore, familiar to the pupils, they also had their marked test papers in front of them for reference. The teacher's technique during this lesson involved a mixture of explanation by the teacher of how the questions should have been answered together with a lot of pupil participation, involving pupils' use of the blackboard

when pupils who had got the correct answer to a question re-worked it on the blackboard and led other pupils through its various steps; in effect, pupils assumed the teacher's role on several occasions. This produced a number of lengthy exchanges during which a pupil at the blackboard used elicits to take other pupils through the sum as in:

P.elicit: //six plus two?// (minor cl.)  
 P.reply(chorus): //eight// (minor cl.)  
 P.elicit: //eight plus two?// (minor cl.)  
 P.reply(chorus): //ten// (minor cl.)  
 P.elicit: //ten plus two?// (minor cl.)  
 P.reply(chorus): //twelve// (minor cl.)  
 P.elicit: //plus two?// (minor cl.)  
 P.reply(chorus): //fourteen// (minor cl.)  
 P.elicit: //fourteen plus eight?// (minor cl.)  
 P.reply(chorus): //twenty two// (minor cl.)  
 P.elicit: //plus eight?// (minor cl.)  
 P.reply(chorus): //thirty// (minor cl.)  
 P.accept: (BB. - writes down 'zero',)  
 carries 3.

(Lesson 22)

During the above procedure, the sum which the pupil had written on the blackboard involved a column of figures to be added and the blackboard showed:

90  
 86  
 72  
 62  
 62  
 62  
 58  
58  
0  
 3

This type of activity accounts for the frequency of pupil-elicits and accepts during this lesson.

Also, because the material is familiar to pupils and they have their test papers before them, they are able to evaluate the replies which other pupils give to the teacher's elicits, as in:

T.elicit: //what is the value of this one?// (rel.id.)  
 P.bid: N.V.  
 T.nominate: //(name)?// (minor cl.)  
 P.reply: //forty plus ninety eight// (minor cl.)  
 P.evaluate(chorus): //No! // (minor cl.)

(Lesson 22).

As described in 5.4.1.9, where the use of a blackboard item as an accept was illustrated, blackboard work can also constitute a discourse act in this lesson. For example, a pupil might write the sum on the blackboard before beginning to elicit replies from other pupils. Such instances were identified as starters in the discourse structure as in:

P.starter: BE. - writes 9300  
.5

P.elicit: //five times zero?// (minor cl.)

P.reply(chorus): //zero// (minor cl.)

(Lesson 22)

In this lesson, also, the teacher can nominate a child to take over her inform acts, as in:

T.nominate: //(name)// (gives chalk). (minor cl.)

P.inform: //we subtract 550 from 700// (mat.act.op.)

(continues work at BB.,  
 explaining as she carries  
 it out)...

(Lesson 22)

It can be seen from the above examples that the way the teacher organizes this lesson produces a variety of discourse acts from pupils. The fact that this lesson is concerned with going over material familiar to the pupils means that pupils are able to use the information which they already have in a variety of discourse acts. In spite of this, however, many of these acts involve minor clauses (process implicit) because of the nature of the material. During this lesson, 68.8% of the process options chosen by pupils are process implicit (minor clause). The chief function of the spoken English during many of the exchanges is to "verbalize

mathematical notation" (Clark, 1974; 2.2.). Thus it can be seen that a change in the teacher/pupil proportions of the discourse acts in a lesson need not necessarily also involve a corresponding change in the typical predominance of minor clauses in pupils' discourse found during the mathematics lessons of this sample (5.3.2.).

In this lesson, the varied techniques used by the teacher, which involve bringing pupils to the front of the class to take over the teacher's role to some extent, produce a change in the proportion of discourse acts typically used in the sample by teachers and pupils. That the teacher is able to do this may depend in large part on the fact that the lesson involves going over familiar material and that the pupils have adequate information in front of them. The working out of examples by pupils on the blackboard accounts for almost all instances of pupil-elicited acts in the sample of mathematics lessons and is used by several of the teachers of mathematics in this sample. In no other lesson, however, is such a pronounced change in the proportions of teacher/pupil discourse acts found. It may, of course, be the case that this particular teacher is very highly qualified and experienced, or that she has particular personal attributes which have enabled her to establish a productive and confidence-building relationship with her pupils.



Within the present analysis, the apparent causes for the discourse pattern can only be traced within the recorded features which are available for analysis. On that evidence, however, the above conclusions do seem justifiable but other factors may also be involved which are not identified within the description offered here.

In contrast with the above, lesson 14 contains one of the smallest proportions of pupil discourse acts. This is an English lesson in which listening comprehension and reading comprehension are being taught. Unlike lesson 22, there is a very restricted use of discourse acts by pupils, only bid, reply and react being produced by them. Although this lesson involves considerable use of textbook material, the teacher is very much in command of the ordering of the discourse (3.2.4., 3.2.5), and there is no switching of roles. The typical exchange of this lesson is an eliciting one. However, the fact that pupils can refer to the textbook means that they have plenty of information to use and this seems to result in far fewer minor clauses occurring in their replies, a characteristic discussed in greater detail later in this chapter. Pupils in this lesson produce only 19.6% minor clauses in their responses, so that, while the proportion of pupil discourse acts is low the frequency of major clause process options within those acts is high. A typical exchange from lesson 14 is

shown below:

T.starter:	//number two//	(minor cl.)
T.elicit:	//what did he do//after he walked to the house//	(mat.act.op.) (mat.act.op.)
P.bid:	N.V.	
T.nominate:	//(name)?//	(minor cl.)
P.reply:	//he broke the window//	(mat.act.op.)
T.accept:	//yes, he broke open the window//	(mat.act.op.)
T.elicit:	(and)//what happened//after he broke open the window//	(mat.event.op.) (mat.act.op.)
P.bid:	N.V.	
T.nominate:	//yes, (name)?//	(minor cl.)
P.reply:	//he opened the safe//	(mat.act.op.)
T.evaluate:	//no, wrong//.	(minor cl.)

(Lesson 14)

The fact that this type of pattern persists throughout the lesson results in a low comparative proportion of pupil discourse acts, in contrast to the varied techniques of lesson 22. Also, while pupils have before them, in the textbook, all the information they need - just as the pupils in the mathematics lesson have all the information necessary to them - the fact that the English teacher does not offer pupils the opportunity to switch roles, to ask other pupils questions or to present the information

in the textbook material to the class except in response to her questions means that the proportion and range of pupil discourse acts are small.

6.2.1 Lessons in which the discourse act 'inform' is predominant for teachers

As described in 5.2.2., the most frequently used discourse acts for teachers over the whole sample are the elicit and the accept. There are, however, lessons in which this is not the case. In some lessons, the discourse act 'inform' is used by teachers more frequently than the elicit. These will now be looked at in some detail in an attempt to discover other discourse characteristics which these lessons show. Of the forty lessons, there are six in which the inform is the most frequently occurring discourse act for the teacher (social studies lessons 4, 6, 10, mathematics lessons 21 & 26 & science lesson: 40). In only one of these six lessons was a textbook used as supporting material in the inform acts, in lesson 21. In four of the lessons, considerable use is made of the blackboard to illustrate the informs through diagrams and illustrations, while in one lesson (lesson 4, a history lesson) slight use is made of the blackboard and the teacher presents what is virtually a short lecture on the American war of independence which is followed at the end of the lesson with the nomination of one of the pupils to come to the front of the class

and go over the main points of the teacher's presentation.

In these lessons in which the inform act predominates there is evident a much greater use of check and acknowledge acts than can be found in lessons in which the elicit is the dominant act. It would seem that when a teacher uses mainly elicits, the progress of the pupils is revealed in their replies and the teacher does not, therefore, use many checks to ascertain whether pupils are following. Where the inform act predominates, however, checks and acknowledgements become more frequent in the discourse. Typical examples of this can be seen in:-

T.inform:	//when he came to rule//	(mat.act.op.(2))
	he insisted//that all the	(ment.ext.verbal)
	dominion acts were obeyed	(mat.act.op.)
	by the colonists//(but)	
	//the colonists were not	(ment.int.react.)
	very pleased//so-er-there	(rel.circ.)
	were disputes between	
	((you know)) the colonists	(ment.int.cog.)
	and the government//	
T.check:	//you get it now?//	(ment.int.cog.)
P.reply(chorus):	//yes//	(minor cl.)

(Lesson 4)

Inform acts can be related to the textbook material which is before the pupils, as in:

T.starter: //are you looking at (ment.int.perc.)  
your reflex?//

T.inform: //they're both greater (rel.id.(2))  
than 180//(and)//they're  
both less than 360//

T.check: //do you understand?// (ment.int.cog.)

P.reply(chorus): //yes// (minor cl.)

(Lesson 21)

Rather than a check, an acknowledge may occur after a teacher inform, as in:

T.inform: //you actually see the (ment.int.perc.)  
monkeys over....// if you (mat.act.op.)  
go to..er..government  
centre // as you are going (mat.act.op.)  
there during ebb tide//you  
see the elephants..er..the (ment.int.perc.(2))  
monkeys coming out//to (mat.act.op.)  
look for food//

P.acknowledge(chorus,echo): //food// (minor cl.)

(Lesson 10)

One of these lessons, number 40, is in fact a lesson concerned with a previous test paper (as in 6.2, above). Unlike lesson 22, however, the inform predominates here,

as the teacher chooses to rework the examples herself, simply checking that the pupils are following or eliciting replies from the pupils. From this it can be seen that two lessons which are basically similar in purpose can be organized by the teacher in very different ways and this can result in very different discourse patterns. In lesson 40, only 27.3% of the discourse acts are pupils', while in lesson 22 (6.2.) their proportion is 49%. Also, checks occur in lesson 40, while there are none in lesson 22:

T.marker:	//now,	
starter:	I gave you a formula	(mat.act.op.)
	for this//that's...//	(minor cl.)
check:	//you still remember that?//	(ment.int.cog.)
P.reply(chorus):	//yes//	(minor cl.)

(Lesson 40)

It would seem that the predominance of inform acts in a lesson might lead one to expect a corresponding occurrence of check and acknowledge acts, whereas in lessons in which elicits predominate checks and acknowledges may be few in comparison.

#### 6.2.2 Lessons in which 'evaluate' acts are more frequently used

As indicated in 5.2.2., the use of more accept

acts as opposed to evaluating ones is typical of this sample of lessons as a whole. There are, however, five lessons during which as many or more evaluating acts are used. It is of interest to see whether those lessons also differ in the type of replies which pupils give, as it was felt that the increased feedback from the teacher in her evaluation of pupil replies might be a factor in encouraging pupils to greater efforts. The lessons in which evaluate acts are favoured are one in social studies (no. 4), one in English (no.17), one in mathematics (no.28) and two in science (nos. 32 and 39). While teachers in the other lessons do use evaluate acts, this act occurs more frequently in the above five lessons.

The impression gained from looking at these five lessons in detail is that pupils are being given a much more definite feedback on their responses than is the case when more accept than evaluate acts are used. This feedback may be positive or negative but it can be linked very specifically to the quality of a particular aspect of the pupil's response and pinpoints what is considered right or wrong about it. In the mathematics lesson, evaluates are less precise, however, and occur mainly during a section of the lesson when the teacher was going round among pupils evaluating their individual work on a task she had set them. The teacher in this

lesson (no.28) uses mainly //very good// or, on occasion, pinpoints exactly where the work has gone wrong, as in: //the next one was not very good//. In the case of the mathematics lesson, the change to individual work gives rise to more evaluating acts as the teacher goes round individual pupils to check their efforts.

In one of the science lessons (no. 39), the negative evaluates are far more than the positive ones, with the teacher saying:

T.evaluate: //do you know anything (ment.int.cog.)  
at all?//

(Lesson 39)

or:

T.evaluate: //you don't even know it// (ment.int.cog.)  
(Lesson 39)

or:

T.evaluate: //you have not said (ment.ext.verb.)  
that point well//

(Lesson 39)

and there is only an occasional positive evaluation as in:

T.evaluate: //that's one good point (rel.id.)  
((you have given us))// (ment.ext.verb.)

(Lesson 39)

In contrast to the above, the other three teachers use evaluate acts much more to encourage the pupils even when



a reply is not acceptable, as

in:

T.evaluate: //well you didn't really get (ment.int.cog.)  
 that point //(but)//you tried// (mat.act.op.)  
 (Lesson 17)

Other examples of evaluate acts in these lessons which give a positive feedback are:

T.evaluate: //oh, that's interesting// (rel.id.)  
 it's coming on fine// (mat.event.op.)  
 yes,interesting//. (minor cl.)  
 (Lesson 32)

and:

T.evaluate: //that's very good// (rel.id.)  
 (Lesson 4)

and:

T.evaluate: //that's a good effort// (rel.id.)  
 (Lesson 32)

The above examples illustrate how an evaluating act can provide a better defined feedback to pupils. However, in these lessons there is no evidence in, for example, the proportion of minor clauses used by pupils that such evaluate acts have any very obvious effect on the length of pupils' replies. The social studies lesson has a 28.9% proportion of minor clauses from pupils, which is one of the

lowest for this subject area (Table 7), but it is felt that this is due much more to the form the lesson took than to any possible effect of the teacher's evaluating acts. This lesson consisted of a period of lengthy teacher inform acts, with pupils acknowledging and replying to the occasional question, followed by a period of quite lengthy pupil inform acts when one pupil was nominated by the teacher to come to the front of the class and recapitulate what had been said. The evaluate acts occurred during this section of the lesson and the low percentage of minor clauses in pupils' contributions to the discourse seems to result much more from the way the teacher organized the lesson than to any possible effect of the evaluating acts, though of course they undoubtedly encouraged the pupil chosen to speak to continue doing so.

In the English lesson, the proportion of minor clauses in pupils' discourse acts is 42.2%, which is one of the higher proportions for the English lessons. In the mathematics lesson, the proportion is 83.1% minor clauses and while, in the two science lessons, the proportion of minor clauses is amongst the lowest from science on this measure (table 7), there are other science lessons with similar lower occurrences of minor clauses where evaluate acts are not so frequently used. It is doubtful, therefore, whether any immediate evidence of an effect possibly caused by teachers' evaluate acts can be traced within the

present categories of analysis and one can conclude no more than that when evaluate acts are used by the teacher a better defined indication of her attitude to a pupil's response is given, whether it be positive or negative.

### 6.2.3 Lessons during which pupils use a wide range of discourse acts

As indicated in table 5 (5.2.4.), there are lessons in the sample during which pupils use a wider range of discourse acts than is the case in many of the lessons. It is of interest to look at such lessons in detail in an attempt to identify factors within the lesson which may be contributing to this wider use of discourse acts by pupils. One such lesson, number 22, has already been discussed (6.2.) and it was shown that the teacher's organization of the lesson, together with the familiarity of the material being covered and the availability of information to pupils, may have contributed in large part to the wider use of discourse acts by pupils. Other lessons in which the same pattern is noted are numbers 1, 3, 8 and 10 (social studies), number 26 (mathematics) and number 40 (science). Conversely, one social studies lesson (number 9), three English lessons (numbers 14, 17, 18) and two science lessons (numbers 33 and 37) show a very small range of discourse

acts used by pupils. Concern at the small range of discourse acts used by pupils during English lessons has already been expressed (5.2.4.) and an attempt will be made here to identify how the teachers of lessons in which pupils use a wider range of discourse acts bring this about.

In two of the social studies lessons, there is a very obvious difference in lesson organization, as they are concerned with pupils' project work (lessons 3 and 8). During these two lessons, pupils were involved in individual work or work with a partner on a topic of their own choice. The choice of topic, from a list provided by the teacher, had been decided in an earlier lesson and by the time these two lessons were recorded pupils were busily engaged in hunting out material from textbooks and reference books, in preparing diagrams and outlines, and in seeking the teacher's assistance on points of difficulty. During the lessons, the teacher (who taught both lessons) sat at her table at the front of the class (where the tape-recorder was placed to one side of her) and pupils were free to seek her advice or assistance as necessary. The change in classroom organization during these lessons meant, of course, that only the discourse which took place between the teacher and various pupils at her desk

could be recorded. This is one of the limitations of the recording method used in this study (3.2.2.) and any future study of the spoken discourse during project or group lessons would necessitate the use of several tape-recorders placed among the groups as well as a central one for the teacher. Also, the fact that recording was carried out could have restricted the teacher's movement in the class, although she assured me that it was her normal practice to remain at her desk where pupils could come to consult her. Problems of an observer's presence (3.2.1.) cannot be ruled out in these lessons, however, and in lesson 8 (see 5.4.1.10) the only recorded example of a pupil's comment about the tape-recorder was found. However, in spite of the weaknesses evident in the method of recording these rather different lessons, they are included in the sample for two reasons. The first of these is that, while pupils working around the class could not be recorded as they worked on their projects, a complete record of the discourse which took place between teacher and pupils at the teacher's desk is available. Secondly, an aim of the investigation was to record the lessons pupils would normally be having on their timetable (4.5.2.). It was not considered justifiable, therefore, to leave these two lessons out of the sample and their different pattern of organization is, in any case, of considerable interest in terms of the effect it may have on classroom discourse.

While no firm conclusions can be drawn on the strength of only two project lessons, there may be some pointers to be found which will be of interest to other researchers interested in classroom discourse in the less formal classroom. The fact that only two such lessons are included in the sample and that the discourse acts and clause process options were analysed in the same way as for all other lessons makes it likely that their inclusion neither prejudices nor invalidates the overall results.

One of the criticisms made of the model of discourse analysis used in this study is that it cannot adequately describe the discourse found in less formal classrooms (Long et al, 1976; 3.2.4.). In the present study, the focus is on the unit act and it was found that the categories of act could account for the individual items in the discourse, although of course the overall structure of the discourse changed, being in the form of a series of episodes during which the teacher dealt with elicit and inform acts from the particular pupil or pupils consulting her or herself elicited replies from them, gave them information, and so on. While, therefore, the overall discourse structure changed, the discourse acts within it are of the same type as those found in other lessons. The main difference, in

these two lessons, is that pupils use a wider range of discourse acts and this is the focus of the present section.

Pupils in these two project lessons use the acts starter, elicit, inform, comment and evaluate, as well as the typically pupil-dominated acts bid, reply and acknowledge. They also give directives to other pupils in lesson 8, although never, of course, to the teacher; the acts loop and aside are also used by pupils during these two lessons. It is felt that the wide range of discourse acts used by pupils during these two lessons results directly from the type of classroom organization involved. Evidence is to be found here of the way in which a change in classroom organization can directly affect the opportunities given to pupils to play a varied role in classroom discourse, as Lansdown (1971), Cazden (1972), Stubbs (1976), Barnes (1976), point out and as was discussed in section 3.2.5. During these two lessons, pupils offer information to the teacher about the progress or nature of their work, as in:

P.inform:           //I wish to change to Kano           (ment.int.react.)  
                           State agriculture//                           (mat.act.op.)

(Lesson 3)

and:

P.inform: //I want to write about the (ment.int.react)  
United Nations// (mat.act.op.)

(Lesson 8)

They also elicit information from the teacher as in:

P.starter //I want to ask about an... (ment.int.react.)

P.elicit: .....//can I draw a map (ment.ext.verb.)  
of Nigeria...an agricultural (mat.act.op.)  
map of Nigeria//

(Lesson 3)

P.elicit: //can I use this type of (mat.act.op.)  
line for the road//

(Lesson 8)

A pupil in this type of lesson seems free to give directives to other pupils, as in:

P.directive: //(name), don't make noise!// (ment.ext.verbal)  
(nominate)

(Lesson 8)

although the teacher may remark upon this and re-assert her own presence, as in:

P.directive: //everybody, go to your seat// (mat.act.op.)  
(nominate)

T.evaluate: //everybody's very busy// (rel.id.)  
telling everybody else (ment.ext.verbal)  
what to do!// (mat.act.op.)

T.directive: //settle down!// (mat.act.op.)

(Lesson 8)



The teacher's act here is labelled as an evaluate because she is, in effect, commenting on the quality and appropriateness of a pupil act, in this case a pupil-directive rather than a reply.

One example is found of a pupil evaluating a teacher-act:

T.marker:	//well,	
inform:	I would say//my	(ment.ext.verbal)
	hometown is (missed)//it is..//	(rel.id.)
P.evaluate:	//no, no, no //	(minor cl.)
P.comment:	//that's the name of the	(rel.id.(2))
	river//it's Orimpo//	
T.accept:	//Orimpo?//oh, I see//	(minor cl.) (ment.int.cog.)
T.marker:	//well,	
inform:	my...my home town is	(rel.id.(2))
	Orimpo//which is one	
	of the well-known towns	
	in Nigeria //	
T.check:	//right?//	(Minor cl.)
P.reply:	//yes//	(minor cl.)
P.elicit:	//I write it on this paper?//	(mat.act.op.)
T.reply:	//yes, yes//	(minor cl.)

(Lesson 8)

As can be seen from the above example, there is a real change in role-relationships here and as a result of the

change the pupil is free to use discourse acts in a way which would not normally be acceptable in a formal classroom. In addition to such changes, however, a large proportion of the discourse in these two lessons follows a more regular pattern:

T.starter:	//you know what the	(ment.int.cog.)
	trouble is here// this is	(rel.id.(2))
	an old book//..erm...	
elicit:	do you see people wearing	(ment.int.perc.)
	hats like that today//	((mat.act.op.)
P.reply:	//no//	(minor cl.)
T.accept:	//no//	(minor cl.)
T.comment:	//..erm - 1965, mm//	(minor cl.)
	the new edition was	(rel.circ.)
	1973//I don't think	(ment.int.cog.)
	that figure's right	(rel.id.)
	today//I'll ask Mr. (name)//	(ment.ext.verb.)

(Lesson 3).

Just as the range of discourse acts used by pupils changes during these two lessons as a result, most probably, of the classroom organization used, so too does the range of acts used by the teacher. Acts such as reply are used quite frequently by the teacher in these two lessons, in response to pupils' eliciting acts. In these two lessons, then, an evident link between

the teaching technique and classroom organization used and the range of discourse acts used by pupils and teacher can be seen.

Other lessons in the sample during which pupils use a wider range of discourse acts are not characterized by such a radical change in classroom organization as the two described above. In lesson one (social studies) a few pupil-elicited and inform acts occur and there is only one example each of pupil starter, accept and evaluate acts. The teacher of this lesson allowed a few minutes for pupils' questions at the end of the lesson and it is during this time that the range of pupils' discourse acts is extended. Pupils ask questions such as:

P.starter:	//erm... in the book...in	(ment.int.cog.)
	the book we read//that	(rel.id.)
	there is a famous black	
	stone//which was in a	(rel.circ.)
	temple before//(and)//it	
	was an idol before//	(rel.id.)
P.elicit:	//if it was an idol	(rel.id.)
	before//why do the	(mat.act.op.
	Moslems still go to visit it//	(2))

(Lesson 1)

Thus, by offering pupils this opportunity to ask questions,

the teacher makes it possible for pupils to use a wider range of discourse acts. Similarly, in lesson 10, the teacher invites pupils' questions and they ask for clarification of points in the lesson, as in:

P.bid: //madam,

P.elicit: what of climate?// (minor cl.)

(Lesson 10)

and:

P.elicit: //under vegetation I don't (ment.int.cog.)

know//if that word is cocoa// (rel.id.)

(Lesson 10)

In the mathematics lesson during which a wider range of discourse acts is used by pupils there are periods of pupils working out examples on the blackboard and of pupils doing work on their own, with the teacher going round to check their progress. These changes in the activities of the lesson seem to result in pupils using a wider range of discourse acts. Also, during the course of the lesson, pupils ask questions arising from the teacher's explanation, as in:

P.elicit: //if we use the other (mat.act.op.)

method ((that of ... the (minor cl.)

one of drawing))//will

we still get the same answer// (mat.act.op.)

T.reply: //same answer, yes//we'll (minor cl.)

get the same answer// (mat.act.op.)

(Lesson 26)

In lesson 40, also, a few pupil elicit and inform acts occur, as well as one pupil loop and one aside. In this lesson, however, there is again no radical change in classroom organization and although a wider range of discourse acts is used by pupils the frequency of some of the acts is low and reply and acknowledge are the dominant acts for pupils in this lesson.

To conclude this section, it would seem that, while the range of discourse acts used by pupils in a lesson can be extended by the teacher allowing time for pupils' questions or by giving individual work during which they are free to ask for help or to inform the teacher that they have finished, it might be only by radically changing the organization of the lesson, as was done in the project lessons described, that pupils can be given opportunities to use a wide range of acts and to use them more often. A judicious mixture of the two types of lesson may, as Barnes (1976; 3.2.4.) suggests, be the best way of helping pupils to make new knowledge their own. Certainly, the two project lessons described here show none of the predominance of teacher-talk which Treadaway (1976; 2.4.) identified in Geography lessons in Ugandan secondary Schools. However, the fact that only two of the forty lessons in this investigation were project lessons and only one science lesson involved

laboratory activities for pupils lends support to the findings of Thollairathil (1973) and Cole (1975), discussed in 2.3.1., that the lesson dominated by teacher-talk and lacking pupil-centred activities is the norm in many further-tongue medium situations. When the effects of this on the range of discourse acts used by pupils can be shown to be limiting, then an added argument against the continuation of such practice can be put forward. If pupils are to acquire discourse skills in the further-tongue, skills which they will need in higher education (1.3.1.), in some job situations (1.4.) and certainly which pupils themselves feel that they need across the secondary school curriculum (1.5.), then the opportunity to practise these skills must be given in the classroom. While the present study covers only forty lessons and generalizations from its findings must be approached with caution, the fact that the teaching methods used during the majority of these lessons can be demonstrated to limit the range of discourse acts used by pupils is an added argument against the exclusive use of formal organization in the classroom. The majority of teachers (72.4%) who responded to the questionnaires in this study have between 2 and 5 years teaching experience, while 24% of them have more than 5 years teaching experience. 75.9% of the teachers responding are very well qualified, holding a university

degree in their teaching subject, 36.4% of the university qualified teachers also having a post-graduate diploma in education while 45.5% did a B.Ed. degree. In view of this, it would seem that not only must the language courses given to such teachers (1.3.1.) emphasise more the advantages, to pupils' practice of discourse skills, of varied teaching methods but also an in-service element dealing with language in the classroom might be of considerable value.

### 6.3. Lessons during which fewer minor clauses (process implicit) are used by pupils

One of the most important findings of this study is that pupils' discourse acts contain a very high proportion of minor clauses in comparison to the teachers' acts. As discussed in 5.3.2., this is a finding which gives cause for concern. However, there are lessons within the sample in which a lower proportion of minor clauses is found in pupils' discourse acts and it will be worthwhile to study these lessons in detail in order to identify possible factors in the lessons which may be contributing to this greater use of major clauses (process explicit) by pupils. By identifying techniques used by these teachers which may be instrumental in eliciting major clauses from pupils, it may be

that ways of working towards more practice for pupils of the explicit expression in speech of the various processes involved in their activities can be described. The factors in lessons which appear to influence the use of major clauses by pupils appear to be three; they are, first, use of textbook material; second, the familiarity to pupils of the subject matter being dealt with in a lesson; and third, the ways in which the teacher expresses the eliciting act. Each of these will now be studied in turn, with examples being drawn from the lessons in the sample during which pupils use a higher proportion of major clauses.

6.3.1 The apparent effect on major/minor clause proportions in pupils' discourse acts of the use of textbook material as an integral part of the discourse

As noted earlier (5.3.2; table 7) the English lessons in this sample contain the lowest proportions of minor clauses for pupils. Only one of the ten English lessons (number 20) contains a high proportion of minor clauses for pupils (88.0%), while the remaining nine range from 12.1% to 42.6% minor clauses. One feature of these English lessons in which they differ quite markedly from lessons in the other three subject areas is that textbook material is used extensively during English lessons. While the textbook may be instrumental



in limiting the range of discourse acts used by pupils (6.2.), it does seem that as far as the clause process options are concerned, textbook material may provide pupils with a framework of reference which may help them in formulating and expressing their ideas fully. While there may, of course, be other factors at work, it is striking that the lessons in the sample during which textbook material is used extensively are also those during which the smallest proportion of minor clauses is produced by pupils. Apart from the English lessons, one social studies lesson (number 1) and one mathematics lesson (number 30) involve considerable use of textbook material and it is during those lessons also that comparatively low proportions of minor clauses for pupils are found, particularly in mathematics (table 7). By extensive use of textbook material here is meant not just reference to diagrams in the text, or to isolated examples, definitions or statements in the textbook material, but the incorporation into pupils' discourse of larger amounts of material from the text. This can take the form of reading aloud material from the text, or working through examples given in the text into which an item must be inserted by pupils, or expressing the material in the textbook in pupils' own words. When this type of activity is included in a lesson, and written material forms part of the

classroom discourse (Widdowson, 1974; 2.2.) and is incorporated by pupils into their spoken contributions to the lesson, it seems that a result is to reduce the number of minor clauses used by pupils. Some examples will illustrate this:-

T.marker: //now,  
 starter: the six pictures below (rel.id.)  
 are a cue to the things  
 ((your father used to do// (mat.act.op.)  
 when he was young))// (rel.id.)  
 elicit: //what about picture A// (minor cl.)  
 P.bid: N.V.  
 T.nominate: //yes, (name)// (minor cl.)  
 P.reply: (missed)  
 T.loop: //I can't hear you, (name)// (ment.int.perc.)  
 (nominate) speak louder// (ment.ext.verbal)  
 P.reply: //when my father was (rel.id.)  
 a young man//he rode  
 a bicycle to work// (mat.act.op.)

(Lesson 11)

During lesson 11, there are many examples of this type, as the pupils go on to give answers to a textbook exercise involving the transformation of examples with 'habitual past' to 'used to' forms. While the teacher is very much in control of the development of the lesson,

nominating which pupil should speak and accepting and/or evaluating their responses, thus producing a high proportion of discourse acts from the teacher, the fact remains that pupils' replies are often major clauses as a result of the use of material directly from the text.

As well as using textbook material in this way, pupils often read aloud from the text in response to a teacher's elicit during reading lessons in English, as in:

T.elicit:	//(name), continue reading//	(mat.act.op.)
	(nominate)	(ment.ext.verb.)
P.reply:	//which nodded across	(mat.event.op.)
	(reading aloud) the road, across the	
	top of the car//a	
	stranger would not have	(ment.int.perc.)
	seen the house//it	
	was cleverly walled	(mat.event.op.)
	round by creepers//etc.	

(Lesson 12)

While this is a rather different type of reply to the usual response to a question, the fact that the discourse act categories "are very general" (Coulthard, 1977; p.104) means that within the definitions being used in the present study the teacher's request that the pupil should read aloud is an elicit (a request for a linguistic response) and the pupil's response, being verbal, is a reply. As can be seen from this example, the major clauses which the pupil

uses in this case are taken directly from the text, without adaptation. While it could be argued that these clauses can in no way be regarded as the pupils' own, at least, in my opinion, there is value in the fact that pupils are being given an opportunity to speak in more than monosyllables and they will probably be able to use these clauses themselves more readily having had practice in speaking them in this way. The teacher in this lesson follows the reading aloud with questions designed to lead pupils in their understanding of the events of the story and to get them to put events into their own words. When this stage is reached, pupils still use major clauses, although their facility in producing them is reduced, as in:

T.starter: //why is it not Nurudeen// (rel.id.)  
 elicit: //why is it Bayo and Ike// (rel.id.)  
 P.bid: N.V.  
 T.nominate: //yes?// (minor cl.)  
 P.reply: //because they have (ment.int.perc.)  
 saw them...//  
 T.loop: //because they had seen them// (ment.int.perc.)  
 P.reply: //they saw them in (ment.int.perc.)  
 (missed)'s house//

(Lesson 12)

and:

T.elicit: //what was to be Bayo's (rel.id.)  
 punishment//

prompt: //what?//come on!// (minor cl.)  
(mat.act.op.)  
P.reply: //Bayo's punishment....// (minor cl.)  
Bayo should be punished...// (mat.act.op.)  
he started to beat him// (mat.act.op.(2)).

## (Lesson 12)

Further on in this lesson, the teacher then asks pupils what they would have done if they were the main character in the story, and elicits replies like:

T.elicit: //who would act like Ike// (mat.act.op.)  
(or) //who would not// (minor cl.)  
P.reply: //I won't tell him anything// (ment.ext.verb.)  
I.... I'd receive the punish-  
ment// (mat.act.op.)  
T.evaluate: //oh, you are the brave type// (rel.id.)  
T.accept: //OK, so you would keep quiet// (ment.ext.verb.  
(2))  
(and) //refuse to...//  
T.elicit: //even if he tortures you// (mat.act.op.  
(2))  
(and)//he doesn't give you  
food?//  
P.reply: //ah, I would tell him every-  
thing!// (ment.ext.verb.)  
(laughter).

## (Lesson 12)

There is a progression in this lesson from the reading aloud of the text, to answering questions on it, to discussion of what pupils themselves would do in similar

circumstances. This lesson has the lowest proportion of minor clauses to be found in the entire sample (Table 7) and it would seem that the different types of interaction with the text might account for this in large part, together with the teaching technique and its careful progression and development of the topic. Again, there may be teacher-attributes of personality, qualifications and length of experience which are important here but which are not available for analysis.

Other English lessons in this sample in which considerable use of the textbook material is incorporated into the classroom discourse as it is in lesson 12 are lessons 16 and 18, which both involve reading aloud and the discussion of the text. Lessons 13, 14, 17 and 19 involve reading comprehension passages and have questions based on the passage which pupils answer using the material they have met in the text. In these lessons, too, pupils' responses frequently contain major clauses, as in:

T.starter: //what would the children (mat.act.op.)  
do....//

elicit: //after their mother had (mat.act.op.(3))  
started making the bean  
cakes//what would the  
children do?//

P.bid: N.V.

T.nominate: //(name)?// (minor cl.)

P.reply: //they would get up//(and) (mat.act.op.)

T.loop: //speak loudly, please// (ment.ext.verb.)

P.reply: //they would get up// (mat.act.op.(3))  
wash their faces//(and)  
//put on their clothes//

T.accept: //yes, they would get up// (mat.act.op.(3))  
wash their faces// (and)  
//put on their clothes//

(Lesson 14)

Occasionally, the teacher insists that a pupil should reply in his own words, rather than simply reading from the text, as in:

P.reply: //the grandmother has a ...//

T.evaluate: //no, don't read the book// (ment.ext.verb.)

comment: //I mean//we've read it// (ment.int.cog.)  
(and)//you should be able (ment.ext.verb.)  
(2)  
to tell me the answer// (rel.id.)

(Lesson 19)

and:

T.elicit: //why do you say the Hindus// (ment.ext.verb.)

clue //don't go back now to (mat.act.op.)  
the passage//

(Lesson 17)

Lesson 15 is concerned with changing present conditional to past conditional sentences and in this lesson too, the constant use of textbook material, here in the form of examples to be transformed, leads to a high proportion of major clauses in pupils' replies, as in:

P.reply: //if I danced well//they (mat.act.op.(2))  
will clap hand for me//

T.loop: //eh?// (minor cl.)

P.reply: //if I danced well//they (mat.act.op.(2))  
will clap hand...//

P.evaluate: //no, sir//they would clap// (minor cl.)  
(bid) (mat.act.op.)

(Lesson 15)

The one mathematics lesson in which a low proportion of minor clauses is found (Table 7) is also a lesson in which pupils are working from the text and incorporating its material in their replies.

P.reply: //((EF equals H..HK)) implies (rel.id.(2))  
((that EF and HK are equal (ment.int.cog.)  
and parallel))//

(Lesson 30)

The one English lesson in this sample in which the textbook is used but a high proportion of minor clauses is found in pupils' speech is lesson 20. In



this lesson, the teacher herself read out a comprehension passage, while pupils followed it in their own copies of the text. The class were then given a few minutes to re-read the passage silently. However, subsequently the teacher dealt with difficult vocabulary in the passage, rather than going on to comprehension questions, and it is the technique used in this teaching of vocabulary which produces many minor clause responses from pupils. The teacher first asks pupils to give her the words they found difficult, and a series of exchanges follows during which the items are listed on the black-board.

For example:

P.bid:	N.V.	(minor cl.)
T.nominate:	//yes?//	(minor cl.)
P.reply:	//recommendation//	
T.accept:	//recommendation//(BB).	(minor cl.)
P.bid:	N.V.	
T.nominate:	//yes?//	(minor cl.)
P.reply:	//Kinsmen//	(minor cl.)
T.accept:	//Kinsmen//(BB)	(minor cl.)

(Lesson 20)

Subsequently, using dictionaries but relying most often on the teacher's own explanation of what these words mean, the lesson continues with a series of informs or elicits from the teacher, many of the pupils' replies

being one word only. Also, because of the teacher's inform acts, check is used to a considerable extent (6.3.). The teacher on a few occasions asked a pupil to read out the definition of a word from the Advanced Learner's Dictionary, of which most pupils had a copy, and might then follow this with a repetition of the answer (an accept) and, often, might check that other pupils have understood, as in:

T.elicit:	//stand up//(and)//read it	(mat.act.op.)
(directive):	loud for the class//	(ment.ext.verb.)
P.reply:	//male relative//	(minor cl.)
T.loop:	//read louder//	(ment.ext.verb.)
P.reply:	//male...male relatives//	(minor cl.)
T.accept:	//male relatives//male relatives//	(minor cl.(2))
T.check:	//is that clear?//	(rel.id.)
P.reply(chorus):	//yes//	(minor cl.)

## (Lesson 20)

In exchanges of this type, pupil responses were often minor clauses. Alternatively, the teacher herself might explain the meaning of a word, in an inform, giving rise to acknowledge acts on the part of pupils or a check by the teacher, as can be seen in:

T.inform:	//this god can be seen everywhere//idol worshippers	(ment.int.perc.)
-----------	--------------------------------------------------------	------------------

they have many gods// (rel.poss (2))  
 they have many gods //  
 P.acknowledge(chorus echo): //gods// (minor cl.)  
 And:  
 T.inform: //this is mainly used (mat.act.op.(2))  
 by Christians//(and)  
 //this is mainly used by pagans//  
 T.check: //is that clear?// (rel.id.)  
 P.reply(chorus): //yes// (minor cl.)

## (Lesson 20)

Again, pupils' responses are mainly in the form of minor clauses. Thus, although a textbook is being used during this lesson, the techniques which the teacher uses to teach vocabulary are such that pupils use mainly minor clauses in their responses. This is the only English lesson in which this is the case and it perhaps demonstrates that the teacher's technique can override the advantages to the pupils of having discourse material available in the form of written text. On the other hand, it may be the case that this type of discourse is most suited to the aim of the lesson, the teaching of vocabulary. While it is not the task of the present study to discuss the technique of vocabulary teaching in general terms, the arguments in favour of contextualized use of vocabulary by pupils after their having been taught word-meanings, perhaps using the

approach taken by this teacher, can be strengthened by the evident effect which the method used here has on pupil participation in the discourse and the few major clauses they are given the opportunity to use. To follow the vocabulary teaching with the use of the words in major clauses by pupils could, it is suggested, be of value to the pupils.

While the present study incorporates only a limited sample of lessons, it is striking that of those lessons the ones in which the lowest proportion of minor clauses is found in pupils' speech are those in which extensive use is made of textbook material as part of the discourse, through reading aloud, working on examples, discussing events and character, and so on. The written material may be functioning to give pupils a fund of language on which they can draw in their own speech. If this is indeed the case, then the arguments for incorporating textbook material into the spoken discourse of a lesson are strong, particularly in a further-tongue medium situation. If we accept that pupils need to practise the expression of varied processes in their speech and know that the classroom is the place where opportunities for such practice in English may be most available, then any device which can lead to explicit rather than implicit expression is to be valued. On the evidence available here, it is suggested

that one such device is the textbook and that lessons in which textbook material is not incorporated into the discourse, the teacher relying more on 'chalk-and-talk', may be characterized by a high proportion of minor clause responses from pupils. The textbook material apparently gives them part of the frame of reference they need for the explicit expression of varied processes, though other factors undoubtedly contribute to this also.

6.3.2 The use of revision material and the occurrence of major clauses in pupils' speech

Just as the availability and use of textbook material during a lesson seems to produce a greater proportion of major clause responses from pupils, so too does the use of familiar material in the course of revision or going over familiar material during a lesson. Revision may form only part of a lesson, perhaps in its opening stages when the previous work is reviewed, or a whole lesson may be built around it, as with the lessons during which test papers were gone through (lessons 22 & 40). The use of material familiar to pupils does not seem to be linked to major clause responses from pupils, however, unless it is supported by teaching techniques which also work towards this end. Thus, in lessons 22 (6.2.) and 40 (6.3.), the proportion of minor

clauses in pupils' speech is not particularly low. However, in other lessons, during the revision of familiar material, major clauses do occur more frequently. Certainly, the combination of familiar material and the way in which the teacher expresses an elicit (discussed in the next section) can be productive in terms of major clauses expressed by pupils. Thus, in lesson 1 for example, pupils had been asked to read a chapter of their textbook for homework and the lesson started with questions on the textbook material; pupils did not, however, have their textbooks open at this point, as the teacher was checking their comprehension. Replies from pupils such as:

P.reply: //Mohammed was born in 570 A.D.//(mat.act.op.)  
(Lesson 1)

and:

P.reply: //when Mohammed started (mat.act.op.(2))  
preaching//he went to Mecca// (ment.ext.verb.)  
(and)//some people believed (ment.int.react.)  
him//  
(Lesson 1)

seem to demonstrate that when the material is familiar to them, even though the textbook is not immediately available, they are better equipped to express themselves in major clauses. Similarly, in the early stages of

lesson 5, during which the teacher is linking the lesson with work done earlier, pupils' replies to her elicitation contain major clauses, as in:

T.starter: //what is their work// (rel.id.)  
 elicit: //why were they taken to  
 America// (mat.act.op.)  
 P.reply: //they took them to America (mat.act.op.(2))  
 to the plantations//to work  
 in their plantations//

(Lesson 5)

In lesson 27, the teacher took pupils through a problem they had solved for homework and again major clauses occur in pupils' responses:

T.elicit: //who can tell us((what to (ment.ext.verbal)  
 do//to get the value of X))// (mat.act.op.(2))  
 P.reply: //3 is common in the (rel.id.)  
 first part and the  
 second part//

(Lesson 27)

However, in lesson 23, where a problem was also re-worked after a homework assignment, the same occurrence of major clauses is not found in pupils' replies:

T.elicit: //the first boy's age was?// (rel.id.)  
 P.reply: //10 years// (minor cl.)

T.accept: //10 years// (minor cl.)

(Lesson 23)

showing how the familiarity of the material alone need not be linked with major clause responses, as the nature of the teacher's elicit intervenes. Indeed, from the present sample of lessons it seems that pupils are likely to use major clauses during the revision stage of a lesson provided that the teacher frames her elicit in certain ways, discussed next. While this aspect of familiarity with the material is obviously related to the use of the textbook during lessons described above, there is here an extension of the argument, as this familiarity with the material may come about through use of the textbook outside the lesson or through practice during a homework assignment or as a result of revising information given by the teacher in an earlier lesson, and so on. It seems logical to suppose that pupils will be better equipped to talk about material with which they are already familiar as indeed would anyone be; however, not too much weight is given to this finding in the present study, for reasons explained below. It could represent, however, an added reason for the inclusion of weekly 'review' lessons, during which pupils would have a chance to talk about familiar material.



6.3.3 The links between teachers' elicits and major/minor clauses in pupils' replies

The point made in 6.5.2. about the apparent link between the familiarity of material and the use of major clauses by pupils is not given too much weight in these findings because, unlike the use of textbook material as an integral part of spoken discourse, the question of pupils' familiarity with the material is also very dependent on the kind of elicits a teacher presents. When the textbook is being used, the teacher's elicits cannot really interfere with the content of the pupils' discourse act, as it is taken directly or indirectly from the textbook. This is particularly true for the type of textbook-linked discourse found in the English lessons described in 6.5.1., where pupils transform examples of a grammatical structure or read a passage aloud or recount events. However, when pupils are familiar with the material to be covered but are not working directly from the textbook, their use of major clauses seems, in the present sample, to hinge upon the nature of the teacher's elicit. Thus, for example, during the initial revision stage of lesson 35, an elicit from the teacher may be followed by a major clause reply, as in:

T.starter:	//can you describe that	(ment.ext.verb.)
	a bit more// if liquids	(rel.id.)

don't have a definite  
 shape//what do they do// (met.event.op.)  
 elicit: //what do liquids do?// (mat.event.op.)  
 P.reply: //they take the shape (mat.event.op.)  
 of the container//

(Lesson 35)

or by a minor clause reply, as in the elicit/reply  
 sequence which immediately followed:

T.elicit: //what is another characteristic (rel.id.)  
 of liquids//  
 P.reply: //a definite volume// (minor cl.)  
 T.accept: //they have a definite volume// (rel.id.)

(Lesson 35)

Other examples demonstrate this further;

T.elicit: //what are these three names// (rel.id.)  
 P.reply: //solids, liquids and gases// (minor cl.)

(Lesson 35)

T.starter: //how many years do you...// (minor cl.)  
 elicit //how many years should that be// (rel.id.)  
 P.bid: N.V.  
 T.nominate: //yes, (name)?// (minor cl.)  
 P.reply: //thirty five years// (minor cl.)  
 T.accept: //about..er.. for a period (minor cl.)  
 of about thirty five years//

(Lesson 2)

One explanation which could be offered here is that, in the first example above the focus is on the material/event/operation process in the teacher's elicit, she uses the general word 'do' and in the reply the pupil supplies the specific material/event/operation process required. In the other examples above, the focus is on identifying attributes or equating items. Here, the important thing seems to be the identification of the attribute rather than the process of relation expressed in the predicator and minor clause replies follow. Similarly:

T.starter:	//this was debated	(ment.ext.verb.)
	in the parliament//(and)	
	//votes were cast//	(mat.act.op.)
elicit:	//how many votes were cast//	(mat.act.op.)
P.reply:	//eight//	(minor cl.)

(Lesson 5)

Here, too, the elicit focuses on the number of votes rather than the process of casting votes and the pupil's reply is a minor clause, expressing just the number. Elicits and replies in these classrooms often follow this pattern:

T.elicit:	//the buying and selling	
	of slaves was abolished	(mat.act.op.)
	in what year//	
P.reply:	//1807//	(minor cl.)

and: (Lesson 5)

T.elicit: //what do we get// (mat.act.op.)  
 P.reply: //36// (minor cl.)

(Lesson 23)

and:

T.elicit: //where do the Christians go// (mat.act.op.)  
 P.reply: //Jerusalem// (minor cl.)  
 T.accept: //Jerusalem// (minor cl.)  
 comment: //Christians do go (mat.act.op.(2))  
 on pilgrimage to Jerusalem//  
 while Moslems go to Mecca//

(Lesson 1)

and:

T.elicit: //how do we spell 'pray'// (ment.ext.verbal)  
 as it becomes a past tense// (mat.event.op.)  
 P.bid: N.V.  
 T.nominate: //yes, (name)?// (minor cl.)  
 P.reply: //p-r-a-y-e-d// (minor cl.)  
 T.evaluate: //yeah, very good// (minor cl.)  
 accept: //p-r-a-y-e-d//(BB). (minor cl.)

(Lesson 15)

Such minor clause (frequently one-word) replies can be regarded as examples of an aspect of cohesion (Halliday & Hasan, 1976; 3.3.4) in that the processes which are left implicit in the pupil's reply are explicit in the teacher's elicit. The pupils' replies

in the above examples undoubtedly indicate that they have understood the teachers' elicits. Furthermore, pupils are demonstrating that they are able to develop the text of the classroom discourse appropriately, using the common devices of spoken English which are found in conversational interaction (3.2.5.). It is not suggested here that such skills have no value. What is of concern is that the classroom discourse in this sample of lessons shows pupils being given far more opportunities to use minor clauses in their discourse acts than major clauses, especially in the Mathematics, and Science lessons. While the use of minor clause replies represents an aspect of discourse skill and is to be valued, it is felt that the classroom discourse analysed in these lessons shows a pattern of restrictions placed on pupils' use of spoken English. When looked at in terms of practising the expression of processes through spoken language, it is evident that the person who is getting most such practice is the teacher. It is felt that this balance could be shifted to give pupils fuller practice.

In fact, in many instances teachers follow a pupil's minor clause reply with an accept act in which the processes are again made explicit. This can be seen in the following which are just a few of the numerous examples of this type found throughout the lessons.

Social Studies

T.elicit: //what's the name of that (rel.id.)  
instrument//

P.bid: N.V.

T.nominate: //yes, (name)?// (minor cl.)

P.reply: //thermometer// (minor cl.)

T.accept: //we use the thermometer// (mat.act.op.)

(Lesson 2)

and:

T.elicit: //give me one other reason// (ment.ext.verb.)

P.reply: //railway lines// (minor cl.)

T.accept: //yes, our railway lines (mat.event.op.)  
run from south to north//

(Lesson 6)

English

T.elicit: //how much were they to pay in (mat.act.op.)  
their contribution originally//

P.bid: N.V.

T.nominate: //yes?// (minor cl.)

P.reply: //a shilling// (minor cl.)

T.accept: //a shilling//they were (minor cl.)  
to pay a shilling// (mat.act.op.)

(Lesson 12)

and:

T.elicit: //what was he reading// (ment.int.cog.)

P.reply(chorus): //'Drum'// (minor cl.)

T.accept: //he was reading 'Drum'// (ment.int.cog.)  
(Lesson 13)

### Mathematics

T.elicit: //what can go in 39// (mat.event.op.(2))  
(and)//can go in 9//

P.reply(chorus): /3// (minor cl.)

T.accept: //3, yes// 3 can go (minor cl.)  
here, 3 //(BB). (mat.event.op.)  
(Lesson 25)

and:

T.elicit: //what is the value of X// (rel.id.)

P.bid: N.V.

T.nominate: //yes, (name)?// (minor cl.)

P.reply: //40 degrees// (minor cl.)

T.accept: //yes, X will be 40 (rel.id.)  
degrees//

(Lesson 22)

### Science

T.elicit: //is it possible for us (rel.id.)  
((to do without vitamins))// (mat.act.op.)

P.reply(chorus): //no// (minor cl.)

T.accept: //we can't do without it// (mat.act.op.)

(Lesson 31)

and:

T.elicit: //that is, gases take the (mat.event.op.)  
 shape of their?//

P.reply(chorus): //containers// (minor cl.)

T.accept: //yes, they take the shape of (mat.event.op.)  
 their containers//

(Lesson 35)

Here, as can be seen, the teacher expresses processes explicitly twice in each example, while pupils leave the process implicit each time. Yet it is the pupils who most need to practise the language of their subjects and the explicit expression of the processes involved. Perhaps an aspect of possible in-service courses for teachers on language across the curriculum could be to show the nature, in language terms, of this type of exchange and then to suggest alternatives which might be more productive in terms of pupils' language use. For example, a loop after the reply could lead to explicit expression of the processes by pupils, perhaps producing:

\*P.reply: //3// (minor cl.)

\*T.accept: //yes, 3// (minor cl.)

\*T.loop: //3 can do what// (mat.event.op.)

\*P.reply: //it can go into 39// (mat.event.op.)  
 (and)//it can go into 9// (mat.event.op.)



In the present sample of lessons, the predominance of minor clauses within pupils' replies is greatest during the mathematics lessons. Yet a simple device such as that suggested above could possibly lead to much more practice in speaking the language of mathematics on the part of pupils. Teachers of mathematics may, of course, argue that their concern is with the content of their subject only but the justification for such an argument is slight in the English further-tongue medium classroom. Even in situations where English is the mother-tongue of pupils, educationists argue that language must be the concern of teachers of all subjects (for example, Doughty & Doughty (1974) and others; 2.4.). In the further-tongue classroom such language policies can be even more crucial and teachers' own expressed dissatisfaction with the standard of pupils' spoken and written English lends support to this (1.2.2.; 2.2.2; appendix 7). In subjects such as mathematics, particularly modern mathematics (2.2.), language plays a central role in the teaching/learning process. In Nigeria, the Ministry of Education took the (not universally popular) step in 1976 of recommending that the teaching of modern mathematics should be phased out, to be replaced with 'traditional' mathematics, on the grounds that standards were falling and teachers sometimes found it difficult to work with the modern maths. approach. How far the problem of language, too,

played its part in this decision cannot be determined by the writer. It might possibly have been a major consideration. However, even within a traditional mathematics syllabus pupils are faced with the problem of subject-related language and its acquisition.

In-service and pre-service courses for teachers could, it is suggested here, incorporate material based on the findings of this study and others (2.2.1.) and work towards increased linguistic awareness on the part of teachers and the development of skills which would enable them to help their pupils practise the language of their subject in the classroom, whether that subject is mathematics, social studies or any other.

Of course, there are many examples within the lessons of this study of pupil replies which are not restricted to minor clauses. This is found much more in the Social Studies and English subject areas but the same is true to a lesser extent for the Mathematics and Science lessons also. It is of interest to study the teacher-elicited acts which are followed by major clause replies from pupils in order to identify features within them which may be contributing to the pupils subsequent explicit expression of processes. One of the most obvious features of such elicits is that 'open' questions (Barnes, 1969) do tend to be followed by major clause replies. When the teacher's elicited takes

the form "what do you think?" or "tell us about it" or "any other ideas?" pupils' replies are often full, as can be seen in the following examples:

T.elicit: //what do you think (ment.int.cog.)  
 is causing it// (mat.event.op.)  
 P.reply: //the fats that....//  
 T.nominate: //(name)?// (minor cl.)  
 P.reply: //the fats ((that the (minor cl.)  
 person has eaten))// (mat.act.op.)  
 (Lesson 31)

and:

T.nominate: //yes, (name), tell us about it// (ment.ext.verb.)  
 P.reply: //when I was about 5 years old// (rel.id.)  
 one night I woke up...I woke (mat.act.op.(3))  
 up//so I went by the fire//(etc.)  
 (Lesson 14)

Also, when the teacher's elicit contains a non-specific process such as 'do' or 'happen', the pupil's reply tends to have a specific process expressed within it, as in:

T.elicit: //what is the next (rel.id.)  
 thing((you do))// (mat.act.op.)  
 P.reply: //you measure out line C// (mat.act.op.)  
 (Lesson 22)

and:

T.elicit: //what did the children (mat.act.op.)

do with the bean cakes//

P.reply: //the children go round

the village//(and)//sell them// (mat.act.op.(2))

(Lesson 14)

and:

T.elicit: //when it moves//what (mat.event.op.(2))

happens to the electricity//

P.reply: //it switches off// (mat.event.op.)

(Lesson 34)

Another device in the present sample which leads to major clause replies from pupils is for teachers to ask "what is meant by ...." or "what do you mean by.....?", as in:

T.elicit: //who knows ((what is (ment.int.cog.)

actually meant by rusting))// (ment.int.cog.)

when we say metal rusts// (ment.ext.verb.)

P.bid: N.V. (mat.event.op.)

T.nominate: //yes, (name)?// (minor cl.)

P.reply: //for example, if you

drop an iron lamp ((where (mat.act.op.)

water is )) //(and)//you (rel.circ.)

leave it there//it (mat.act.op.)

will rust // (and)//it (mat.event.op.)

is just a brown colour// (rel.id.)

(Lesson 33)

and:

T.elicit: //what is external trade// (rel.id.)

//what is the meaning// (rel.id.)

P.reply: //external trade is (rel.id.)

((when we carry goods' (mat.act.op.)

to other countries))//

(Lesson 6)

and:

T.elicit: //(name), what do you (ment.int.cog.)

(nominate) mean by that//

P.reply: //for example, if we

put the water in a (mat.act.op.(2))

kettle //(and)//we put it

on a fire//once it...

...when it boils//the water would (mat.event.op.  
(3))

start to evaporate//

(Lesson 35)

From these examples it can be seen that when a teacher expresses a non-specific process in her elicit act the explicit expression of specific processes by pupils tends to follow; when pupils are invited to comment freely or to explain what something means, their replies also tend to involve the explicit expression of various processes.

Thus, by forming an elicit in these ways a teacher may be able to ensure that pupils get more opportunities to practise using the language of the subject more fully in their replies. Occasionally, teachers in the sample reject a one-word answer and such examples do perhaps show a realization of the need for pupils to speak explicitly. For example:

T.elicit:	//what do they grow//	(mat.act.op.)
P.reply:	//cocoa//	(minor cl.)
T.loop:	//that is not a complete sentence//	(rel.id.)
P.reply:	//the Yoruba farmers grow cocoa//	(mat.act.op.)

(Lesson 9)

Examples like this could, of course, have been brought about by the presence of an observer (3.2.1.), especially when, as in the present case, the teacher is aware of the observer's interest in pupils' use of English in the classroom (4.5.3.). However, asking pupils to repeat a reply using a complete sentence is a device often used by teachers and there is no way of determining whether this was an effect of the observer's presence or not in this instance. Such a device does lead to the use of major clauses by pupils, however, and for that reason would support other means taken to this end.

In the next chapter, the implications of the findings reported in this and the previous chapter will be drawn together in relation to language across the curriculum.

## CHAPTER 7

### SUMMARY OF THE FINDINGS AND IMPLICATIONS OF THE INVESTIGATION FOR LANGUAGE ACROSS THE CURRICULUM

- 7.1. Introduction.
- 7.2.1. Interactions between the discourse rank 'act' and the grammatical rank 'clause'.
- 7.2.2. Pupils' and teachers' use of spoken English in the lessons of this study.
- 7.2.3. Subject-linked features of the language used by pupils and teachers.
- 7.2.4. The apparent effect of classroom organization and teaching methods on pupils' use of spoken English.
- 7.3. Implications for teacher training in language use across the curriculum.
  - 7.3.1. Some possible content of teacher training courses suggested by this investigation.
- 7.4. Limitations of the investigation.
- 7.5. Implications of the study for future research.



## CHAPTER 7

### SUMMARY OF THE FINDINGS AND IMPLICATIONS OF THE INVESTIGATION FOR LANGUAGE ACROSS THE CURRICULUM

#### 7.1 Introduction

The investigation reported here was designed with a view to contributing to our knowledge about how spoken English is used by teachers and pupils as a further tongue medium in the secondary school classroom. Little research evidence has so far been available on this topic in the Nigerian setting in which the present study was carried out. Yet educationists emphasise the value of classroom research which can produce valuable insights into the teaching/learning process and the role of spoken language in that process (2.6;3.1.2). In approaching this topic, a method of analysis was chosen which it was hoped would offer insight into the ways in which teachers and pupils are using spoken English in this classroom setting and, at the same time, perhaps extend our knowledge of the links between the discourse and grammatical levels of language (3.1.3; 3.3;3.4). It is hoped that the findings and discussion presented in

chapters 5 and 6 will be of value and interest both to those working in English as further tongue settings and to those concerned more generally with the functions and nature of spoken English in use in the classroom context.

A summary of the findings is now presented and their implications for teacher training, teaching methods, course design and future research are suggested. As stated in 5.1., the method of presentation chosen has involved discussion of the results at the same time as they are presented in chapters 5 and 6. In this chapter, major findings are first drawn together and then their implications are suggested. In order to avoid repetition, references are given to the relevant sections of chapters 5 and 6 rather than again presenting full details of the findings and discussion presented in those chapters. While it is intended that enough detail will be found in this chapter to make the presentation clear, the reader may wish to refer back for detailed examples from the language data or to the tables which support the points made. The references given are meant to facilitate this.

#### 7.2.1 Interactions between the discourse rank 'act' and the grammatical rank 'clause'

As stated in 4.1., one of the aims of this study has been to investigate the link between the discourse rank 'act' and the grammatical rank 'clause'. It was

anticipated that the discourse function of the various acts might be reflected in the patterns of choice from the clause process options found within them (3.3.2; 3.3.5). The findings reported in section 5.4 and its subsections offer evidence that this is indeed the case. The patterns of choice from the clause process options within acts such as check, directive, prompt, cue, bid, nomination, acknowledge, accept, evaluate and loop appear to reflect the discourse function of the acts. However, in other acts, the clause process options expressed represent choices from a wide range of options. Table 14 presents a summary of these findings for ease of reference.

It is, however, necessary to bear in mind that this is a summary over the four subject areas, based on the more detailed findings presented in Tables 10 to 13 (5.4.1.) and discussed in detail in sections 5.4.1.1. to 5.4.1.10, with examples. Thus, while an overall dominance of cognition and identity processes can be traced within the act check, for instance, the details in Table 12 show that in the mathematics lessons checks also often have material/action/operation processes expressed within them. This occurs when the teacher is checking pupils progress on individual work, as exemplified in 5.4.1.6. Also, while dominant choices from the clause

TABLE 14 - Summary of the Discourse Act/Clause Process  
Option Interactions Identified in the  
Analysis

Discourse Act	Dominant Clause Process Options
Marker	Constituent Status Only.
Starter	Range of Options Expressed.
Elicit	Range of Options Expressed.
Check	Cognition and Identity Processes.
Directive	Material/action/operation processes.
Inform	Range of Options Expressed.
Prompt	Material/action/operation and mental/ext./verbal.
Clue	Range of Options Expressed.
Cue	Material/action/operation and mental/ext./verbal.
Bid	Minor Clause (process implicit).
Nomination	Minor Clause (process implicit).
Acknowledge	Minor Clause (process implicit).
Reply	Range of Options and Minor Clause Dominance.
React	Non-verbal Realization.
Comment	Range of Options Expressed.
Accept	Range of Options and Minor Clause Dominance.
Evaluate	Relational/identity and Minor Clause.
Metastatement	Range of Options Expressed.
Conclusion	Range of Options Expressed.
Loop	Range of Options and Minor Clause Dominance.
Aside	Range of Options Expressed.

process options are shown in this summary table, minor clauses can also occur frequently within acts in which certain major clause process options predominate over others. With such reservations in mind, Table 14 is useful as a summary table showing how the patterns of choice from the 'meaning potential' of the language (3.3.5.) reflect the way in which the discourse function of these acts finds expression in their grammatical realization in speech. This link seems, however, to be a complex one, revealed in predominances rather than any simple one-to-one correspondence, particularly in the case of acts such as starter, inform and elicit where the nature of the subject matter being dealt with seems to determine the clause process options which will predominate. In the English lessons, a greater frequency of mental/externalized/verbal process options is found, for example, while in science lessons a similar predominance of material/event/operation process options emerges in the analysis. (5.3.3.).

A distinction is made between what might be termed the 'organizational' acts of the first group, which display a regular patterning of choices from the clause process options, and the 'content' acts of the second group, in which choices from the whole range of clause process options are typical, with only a predominance of certain options which is apparently linked to the

nature of the subject being taught and of the teaching/learning process, the 'thesis' situation (3.3.2).

Berry's (1975;3.3.5) suggestion that "we should expect to find a difference in the frequency with which the registers (or idiolects) select a particular option from among the potential meanings of the language" is supported by the evidence presented in this study and is extended to encompass the discourse act itself. In classroom language, it is argued on the basis of the evidence provided here, the organizational discourse acts appear to display a regular patterning of choices from the clause process options which seems directly related to their discourse function, while the content acts show patterns of frequency of selection which seem to be related to the subject matter being taught.

The evidence presented by this study suggests that, as Sinclair et al (1972;3.1.3) argue, the levels of grammar and discourse may indeed be separate levels of linguistic organization. While some regular patterning can be identified between the two ranks act and clause, their interaction is found to be manifested in patterns of predominance rather than in the more restricted structural relationship between ranks within the same level. Within a level, a discourse unit such as move is made up of one or more than one act or a grammatical unit such as sentence is made up of one or more than one clause,

and so on. The relationship between the different levels appears to be more complex than such a straightforward structural relationship can account for. It seems to involve interaction between discourse function and realization at the grammatical level as well as between subject content and predominant choices from the clause process options. Also, the fact that a discourse act can be realized non-verbally by blackboard work (5.4.1.9; 6.2) reveals yet another dimension of the realization of discourse acts which goes beyond any simple one-to-one correspondence between the discourse and grammatical levels.

Part of the contribution of the research reported here is therefore seen as being an extension of our understanding of how we can "relate the internal patterns of language - its underlying options, and their realization in structure - to the demands that are made on language in the actual situations in which it is used" (Halliday, 1970; 3.3.3). It can be seen from the results of this study that this classroom language displays characteristics within discourse acts which seem to be directly related to the organizational and instructional uses to which spoken language is being put.

#### 7.2.2 Pupils' and Teachers' Use of Spoken English in the Lessons of this Study.

The evidence provided by the analysis of the

40 lessons of this study shows the considerable volume of spoken English which may be involved in any one lesson on the curriculum. Both in terms of discourse acts and the clause process options within them, pupils are exposed to and must deal with large amounts of spoken English, perhaps as many as 350 discourse acts containing approximately 600 choices from the clause process options in any one lesson (5.2;5.3). The main tool in the teaching/learning process is this use of spoken English. A range of discourse acts and clause process options is available in the classroom context and in the present study it is the teachers, for the most part, who get most opportunity to practise using the full range in each case (5.2.1;5.2.2;5. 3.1;5.3.2;5.3.3). On the other hand, pupils are generally offered far fewer opportunities to practise using the full range of acts and process options (5.2.3;5.2.4;5.3.2;5.3.3).

Others have commented on the restrictions placed on pupils' use of language in the formal classroom (3.2.4;3.2.5) but in this study the type of analysis chosen makes it possible to describe these limitations both at the discourse rank act and the grammatical rank clause. While previous findings, outlined in chapter 3, on the tendency for teachers to dominate classroom discourse, for role relationships in the formal classroom to restrict the range of options available for pupils' use,



and for a typical lesson to display a two-to-one preponderance of teacher-talk on most measures, are confirmed by the present study, additional more detailed findings are also available.

In addition to the typical ratio of two teacher discourse acts to one pupil act, it has been shown that, while teachers in the sample typically use 3 major clauses to each minor clause, pupils in the social studies and English lessons use only one major clause for each minor clause, while in mathematics and science lessons minor clauses predominate (5.3.2). The use of minor clauses by pupils in their discourse acts can in some ways be regarded as welcome evidence that they have mastered one of the devices of cohesion used in spoken English (Halliday & Hasan, 1976; 3.3.4, 6.3.3). The fact that pupils leave implicit in their replies the processes which are explicitly expressed in teachers' eliciting acts is an example of the way in which dialogue develops as text. It is not suggested here that the ability to develop spoken text in this way should not be valued. The pupils in the present sample certainly demonstrate skill in this regard. What is considered to be a cause for concern in the further-tongue setting of the study is that pupils' practice in expressing the full range of options is so limited in this sample of lessons particularly in the

mathematics and science lessons.

In Chapter one, evidence has been presented that in post-secondary education, in both universities and teacher training institutions in Nigeria, students are found to have difficulty in using the range of speech skills which are required for successful participation in their courses (1.3;1.3.1). It was suggested that secondary school courses should prepare pupils in such skills so that they are able to learn through English (1.3.2). It was also shown that, outside the school, opportunities and indeed the desire to use spoken English in everyday activities may be limited (1.4;1.4.1). The evidence from the questionnaire responses in the present study (appendix 7) supports this, as pupils say that they use Nigerian languages for a variety of activities outside the school. The evidence on pupils' expressed attitudes towards English presented in sections 1.5 and 2.3.1 gives a picture of high motivation to learn English in order to use it successfully for study. Pupil responses to the questionnaire also express a preference for the continued use of English as medium in secondary education.

When all the above are taken into consideration, it can be argued that it is in the secondary school classroom that pupils can be given their most extensive and

helpful exposure to the kind of spoken English which they need to develop. It is also in the classroom situation that pupils have greatest opportunity to practise their spoken English skills in the context of curriculum subjects and to develop skill in using the features of spoken language which characterize the different subjects. It is on this basis that the predominance of minor clauses in pupils' spoken English in the present sample is seen as disturbing.

On the evidence of this study, it seems that these pupils are developing one aspect of spoken language skill to the detriment of others. They are apparently given ample opportunity to contribute to the classroom discourse as text but are restricted in their practice in expressing the full range of clause process options in the language. When considered from the point of view of practising the use of language to express the processes of the external world and of one's own consciousness (Halliday, 1973;3.3.4) and of making new knowledge one's own through language (Barnes, 1976;3.2.4) the predominance of minor clauses in which processes are left implicit is disturbing. This is particularly so in the further-tongue setting of the present study, in which pupils are both learning English and using it as medium to learn other subjects (1.1.).

In connection with this predominant use of

minor clauses by pupils, a typical exchange pattern in the classroom discourse of the present study has been identified as one which is constantly used by these teachers and which reinforces the major/minor clause distinction between teachers' and pupils' speech. In 6.3.3., many examples are given of exchanges during which teachers twice use major clauses for each minor clause used by pupils. A typical example of this type is:

T.elicit: //what was he reading// (ment.int.cog.)  
 P.reply(chorus): //'Drum'// (minor cl.)  
 T.accept: //he was reading 'Drum'// (ment.int.cog.)

(Lesson 13)

While the pupils' replies in such examples undoubtedly indicate that they have understood the teacher's elicit, and while the text of the classroom discourse is developed in such exchanges, the fact remains that it is the teacher who is getting most practice in using spoken language.

It has also been suggested (6.3.3.) that there may be other definite links between the ways in which teachers formulate their eliciting acts and the major or minor clause replies which are given by pupils. This finding has much in common with the results of studies carried out in a mother-tongue English setting such as those by Barnes (1969;1976) and Richards (1978). The value of 'open' questions in terms of the major clause

replies which pupils are given the opportunity to use has been illustrated in the present study. Richards (1978) has shown that teachers in the sample of fifty lessons which she analysed using Barnes' (1969) categories tend not to use open questions. Greater use of factual and closed reasoning questions was found (Richards, 1978, p.78). Yet in the present study, factual questions are often followed by minor clause replies from pupils. In contrast, teacher-elicits which contain non-specific processes such as 'do' or 'happen' may well be expected to be followed by major clause replies from pupils in which specific processes of importance within a subject area may be explicitly expressed (6.3.3.).

The findings summarized in this section show a pattern of restriction on pupils' spoken language and far greater opportunities being taken by teachers to use a wide range of discourse acts and clause process options. While this evidence has been obtained from a limited sample of lessons and must therefore be substantiated by further research, it does appear that insight into the ways in which these teachers and pupils are using spoken English has been gained. There is also evidence to be found within the present investigation as to what devices may be useful in the classroom in altering the typical pattern of dominant teacher-talk and the restriction of pupils to discourse acts in which the least opportunity

to express the full range of clause process options is either found or given. Such devices could be explained to teachers in training, who could be helped to develop skill in using them. How this might be approached is suggested in section 7.3.1 of this chapter.

### 7.2.3 Subject-linked Features of the Language Used by pupils and teachers

In the course of the analysis, features emerged which appear to be subject-linked (5.3.3;5.4.1.10). One of the aims of the study is to compare the language used by pupils and teachers during English lessons with that used during lessons in other subjects (4.1), as it is the teacher of English who largely has the responsibility for preparing pupils in the English-medium skills which they require for successful participation in work across the curriculum (1.1). While many of the characteristics identified by the analysis are shared in common by language use in all four subject areas, certain apparently subject-linked features do emerge. With regard to the English lessons in this investigation, it is in these lessons that the greatest volume of discourse acts (5.2) and choices from the clause process options (5.3) is found. Also, while pupils use fewer minor clause options during English lessons than is the case in the other subject areas (5.3.2), their proportion is nevertheless regarded as too high in compari-

son with the proportion found in teachers' speech. Mental/externalized/verbal processes are found more often in the English lessons than in any other subject area (5.3.3) and this may represent one way in which the nature of the subject is reflected in the classroom discourse during English lessons. It is, however, in the range of discourse acts used by pupils that the English lessons show a more limited use than is found in the other subject areas, a disturbing finding in view of the role of English lessons in preparing pupils in the discourse skills needed in other subjects (5.2.4).

In the sample of English lessons in the present analysis, this limited use of the range of discourse acts seems to be linked with the prevailing use of textbook material in a rather rigid manner by teachers, a tendency which was noted in 1.6. English textbooks do encourage a rather teacher-dominated approach, it is suggested; the procedures recommended in the teacher's guides accompanying courses tend to spring from a concern with the presentation of good models to pupils, the schematic practice of transformation exercises, the reading out of comprehension questions by the teacher in oral comprehension work and teacher-led discussion in preparation for essay writing. While each of these has value in terms of presenting good models to the pupils, more emphasis on discourse skills and how pupils can practise a greater range of such skills could be a valuable addition in the use of English texts. While the textbook is apparently

instrumental in helping pupils to use a greater proportion of major clauses in their speech (6.3.1), rigid use of textbook material can, it is suggested, place limitations on pupils' use of a wide range of discourse acts (5.2.4;6.2). Teachers of English, it is indicated by this study, may need training in ways of ensuring adequate discourse skill practice for their pupils no less than do teachers of other subjects.

Other subject-related features which emerge in the analysis include the more frequent occurrence of material/event/operation processes in the science lessons (5.3.3) which, like the similar occurrence of mental/externalized/verbal processes in the English lessons, seems to reflect the nature of this curriculum subject. There is also an apparent contrast between social studies and English lessons on the one hand and mathematics and science lessons on the other with regard to the predominance of minor clauses in pupils' discourse acts (5.3.2) and the related limited choice they make from the range of major clause options (5.3.3). The science and mathematics lessons show more limitations in pupils' practice of the range of options available in the language, while in the English and social studies lessons pupils have the opportunity to use a wider range. As has been discussed (5.3.2), this finding suggests that these teachers may still have to master modern approaches to mathematics



and science teaching which place increasing emphasis on considerable verbal participation by pupils (2.2.2;2.3) and echoes the finding of Thollairathil (1973;2.3.1) in that these science lessons tend to be dominated by teachertalk.

From the results summarized above and presented in detail in chapters 5 and 6, it can be claimed that the teachers of English in this sample, as well as the teachers of the other subjects, would benefit from training courses which could heighten their awareness of pupils' language needs and how to meet them.

#### 7.2.4 The Apparent Effect of Classroom Organization and Teaching Methods on Pupils' Use of Spoken English

As has been discussed in Chapter 6, the rather gloomy overall picture of teacher-dominated classroom discourse, with pupils restricted both in the range of discourse acts and clause process options which they use is mitigated to some extent by the identification of some techniques of classroom organization and teaching which appear to show a positive effect on pupils' language use. Individual lessons and teachers within the investigation do achieve greater and more varied pupil participation in classroom discourse and several devices have been pinpointed in connection with this.

Earlier studies (3.2.4) have suggested that this can happen and the present investigation shows in some detail just what devices can be used by teachers to bring about greater and more varied pupil participation in discourse. While there are limitations imposed by the fact that only two lessons of the project type (6.2.3) are included in this study, so that any conclusions to be drawn on the evidence presented in them can only be tentative, in many of the lessons features emerge which consistently support the claims to be made.

In the lessons of this investigation, some devices used by the teacher to change the role relationships typical of the formal classroom (as described in 3.2.4 and 3.2.5) seem to demonstrate a definite effect in terms of pupils' participation in the discourse and their use of a wider range of choice from the clause process options. In lesson 22(6.2) pupils were invited by the teacher to assume her role to a certain extent and this has been linked to the use of a wider range of discourse acts by pupils during that lesson. Similarly, in the two project lessons in social studies (6.2.3), the different classroom organization has been linked to pupils' use of a wider range of discourse acts. Pupil-elicited acts occur in other lessons during which pupils are offered the opportunity to carry out blackboard work or when time is allowed for pupils to ask questions on the

content of the lesson (6.2.3). While the number of such opportunities given to pupils varies from lesson to lesson, it appears that such role-changing offers pupils the opportunity to use discourse acts within which choices can be made from the full range of clause process options (Table 14, 7.2.1.), thus extending their practice of the explicit expression of varied processes.

On the evidence of the present study, it would seem that the use of varied teaching techniques within a lesson could be beneficial in terms of pupils' language use. That this may indeed be the case is shown by the fact that during lessons in which the same discourse pattern is used throughout (such as lesson 14, 6.2) the range of discourse acts used by pupils is limited.

Another element in lesson organization and teaching methods which seems to show a definite influence on pupils' use of the full range of clause process options is the degree to which textbook material, revision material or other material familiar to pupils is incorporated into the discourse. When textbook material is incorporated into the spoken language interaction in a lesson, as it is during the English lessons in the present sample (6.3.1.), this seems to result in far greater use of major clauses (process explicit) by pupils. The same appears to be true during the one mathematics lesson

(number 30) and the one social studies lesson (number 1) in which textbook material is used extensively. It has been suggested (6.3.1.) that the textbook material may be giving pupils a fund of accessible language on which they can draw in their own speech. Similarly, when a revision stage, which links subject matter to content already covered in earlier lessons, is included in the lessons of this sample, a greater use of major clause options by pupils seems to be a result (6.3.2).

With regard to the use of familiar or accessible material described above, it can not, of course, be established in the present analysis how far other factors such as personal attributes of the teacher are affecting the findings. This represents a weakness in the study. However, on the basis of the evidence which is available, the actual use by pupils of major clauses based on textbook or revision material does suggest that this may be an important element in enabling pupils to use a wide range of clause process options. More controlled investigation of this apparent link could offer valuable evidence on its nature. As discussed in 7.2.2, the predominant use of minor clauses (process implicit) by pupils in this sample is of concern in this English further-tongue setting. If it can be established that, as the present evidence suggests, textbook and revision material help to redress

the balance between major and minor clauses in pupils' speech, then strong arguments for their incorporation into lessons in the further-tongue setting could be presented.

In summary, then, role-switching, the use of material familiar to pupils, the incorporation of textbook material into the discourse, a variety of teaching techniques within a lesson, methods of formulating elicit acts used by the teacher and the radical reorganization of classroom activity all emerge as valuable devices which, when used, may directly affect the nature and scope of pupils' use of spoken English during lessons. Such devices seem to affect the range of discourse acts used by pupils (6.2.3) and to reduce the predominance of teacher acts (6.2.). They may reduce the preponderance of minor clauses in pupils' speech (6.3.) and extend the range of process options expressed by pupils (6.3.1;6.3.2). Part of the contribution of the present study lies in the identification of these devices as used by the teachers in the sample and the systematic analysis of their effect on pupils' language use at a considerable level of delicacy. While other writers have also discussed some of these devices for use in the classroom and their possible beneficial effects on pupil participation in classroom discourse (as described in chapter 3) many such studies have been carried out in an English mother-tongue setting. The detailed study of the present sample at the ranks of act

and clause offers supporting evidence for such claims and presents material which, because of its detail and the fact that it is based on actual classroom interaction in a further-tongue setting which has not previously been subjected to such close linguistic scrutiny, represents an extension of our knowledge of the further-tongue English medium setting. Section 7.4 below attempts to show how material such as that presented by this study could be incorporated into teacher training courses in English medium situations.

### 7.3 Implications for Teacher Training in Language use across the Curriculum

UNESCO(1974;2.2.1) recommend that greater attention should be paid, in teacher education, to raising the level of linguistic awareness of teachers and suggest that classroom research in the English further-tongue setting could provide material on which such courses could be based. Rowe(1973;2.3.1) demonstrated that even in a mother-tongue English setting teachers must be trained in specific techniques which they can use to affect the quantity and quality of classroom talk if classroom practice is to approach the ideals of modern science teaching methods. On the basis of the evidence provided by the present study and by previous studies elsewhere, it is suggested that the introduction into teacher training of course material on language across the curriculum may be essential if pupils are to be helped to develop the discourse skills they need. The fact that teachers in the

present sample are highly qualified and experienced (6.2.3; appendix 7) and yet the overall picture which emerges is of limitations placed on pupils' use of spoken English in the classroom, suggests that such training as outlined below should be provided both in initial teacher training courses and as an in-service element for qualified teachers. Evidence from other studies of science teaching (2.3.1) and of the teaching of geography and history (2.4) in the further-tongue setting also suggests that practising teachers need such guidance. It is suggested that it is essential that such courses are offered not only to teachers of English but to teachers of all subjects on the curriculum. Pupils' expectations with regard to English skills (1.5) and the views of educationists both in the mother-tongue and further-tongue setting on the need for all teachers to be concerned in language matters support this contention.

As described in 1.3.1., teacher training courses in Nigeria contain an element of language study and, particularly for trainee teachers of English, emphasis is placed on the problems of using English as further-tongue medium. For trainee teachers of subjects other than English, however, such language study is designed more to improve their own standard of spoken and written English than to heighten their awareness of the role of language in the teaching/learning process. Yet this role

seems, from the evidence available here, to be common to subjects across the curriculum and an understanding of it could result in teachers making better use of the devices of discourse. The main value to teacher training of the kind of detailed linguistic analysis carried out in the present study, it seems to me, is as a tool which can help teachers to understand what is happening, in terms of language, in the classroom. Some possible content for teacher training courses is suggested by the present research and this is presented in the section which follows.

#### 7.3.1 Some Possible Content of Teacher Training Courses Suggested by the Investigation

Spoken language is the most important medium used by teachers in classroom communication. A first step, in developing teachers' understanding of the medium they are using, could be an introduction to the nature of classroom discourse and to the types of discourse act which offer most opportunity to practise the language of a particular subject. Discourse structure has so far been studied mainly in mother-tongue English situations and in formal classrooms. The analysis of discourse structure presented by Sinclair et al (1972) makes possible a detailed description of the way discourse is organized in the formal classroom, and this is the type of classroom with



which teachers in the further-tongue setting of the present study will be most familiar (3.2.4). Rather than presenting such an analysis of formal classroom discourse as a model for imitation, its main value would seem to lie in its use in helping teachers to understand the effects of formal classroom organization on pupil participation in discourse. Evidence such as that offered by the present study on the limitations placed not only on the range of discourse acts used by pupils but also on the choices made from the process options within discourse acts could be used in discussion of the formal classroom.

In contexts where the initial teaching of English as a foreign language is taking place, the use of Sinclair et al's (1972) model of discourse structure as a model for imitation "for non-native teachers, and trainee teachers required to teach English by Direct method, or another subject through the medium of English", as Johns (in Coulthard, 1977, p.143) suggests, may have its value. In the English further-tongue medium setting, however, and at secondary school level, such imitation would not be useful. Indeed, the examples given of practice exercises to be used by teachers in training duplicate some of the features of classroom language which are criticized in the present study (6.3.3.).

In the examples of drill exercises which are presented (in Coulthard, 1977;p.144 & 145), pupils give minor clause replies while the teacher expresses major clause process options in both the elicit and the accept. For example:

//1 what's / this// (a hacksaw) // 1 + yes it's  
a //1 hacksaw//

(Johns, in Coulthard, 1977, p.144).

Teachers in the present sample have shown themselves to be more than capable in their use of such exchanges and, indeed, use them too often in the view of the present writer (6.3.3;7.2.2). Of more value in the secondary school English medium classroom, it would appear from the present findings, would be an emphasis on the discourse act, an analysis of which acts offer greatest opportunity to practise extensive use of the options within the language and then a study of teaching devices which could offer pupils opportunities to use those discourse acts themselves. Certainly, when one considers the aims and developments in modern curricula in subjects such as mathematics, science and social studies as outlined in chapter 2, this would seem to be the case. By demonstrating to teachers that within certain discourse acts there are opportunities for extensive practice of the full range of meaning options in the language, the

desirability of offering pupils the opportunity to use those acts could be conveyed. Using examples from discourse recorded in the formal classroom where English is being used as further-tongue medium, it could be shown how restrictions are placed on pupils' language use by some teaching methods used in the formal classroom. Such material would show pupils using predominantly minor clauses within a restricted range of discourse acts. Devices which can alter this situation could then be introduced and exemplified, with teachers going on to practise their use, perhaps in micro-teaching situations. Johns (in Coulthard, 1977) does suggest that recordings of lessons with as wide a range as possible of teachers, teaching styles, subjects and age groups should be used as an initial stage before the practice of analysed features of classroom discourse by trainee teachers. The present writer agrees with this approach, which would be helpful in the training of teachers for the English medium secondary school classroom.

As foundation material in courses for teachers in language across the curriculum, therefore, it is suggested on the basis of the findings of this study that an analysis of classroom discourse with the emphasis on the discourse act and on the opportunities within various acts for the use of a wide range of clause process options would be useful to teachers.

Practical training designed to heighten teachers' awareness of the ways in which they themselves use discourse acts in the formal classroom could follow this foundation material. The ways in which a teacher formulates an elicit and the tendency of teachers to arrange for themselves a two-fold opportunity to express major clauses for each minor clause utterance of pupils in the typical elicit-reply-accept exchange (6.3.3) could be shown and discussed in terms of pupils' language use. The value of open questions, non-specific process options and of inviting explanations of meaning in teacher-elicits can all be shown in terms of their effect on pupils' reply acts. The forming of elicits in these ways could be practised in a simulated or language laboratory setting such as Johns (in Coulthard, 1977) suggests, as could the use of a loop after an accept which would result in pupils expressing major clauses in the subject-related language of the lesson (6.3.3). Exercises to practise the use of this device could be followed by its application in classroom situations or microteaching groups.

While it is beyond the scope of the present study to suggest in detail how such exercises might be designed, some examples are presented below which are based on the language use found in this sample of lessons. An actual exchange such as the following:

T.elicit: //that is, gases take the (mat.event op.)  
shape of their? //

P.reply(chorus): //containers// (minor cl.)

T.accept: //yes, they take the shape of (mat.event op.)  
their containers//

(Lesson 35)

could be discussed in terms of its major/minor clause occurrences. The insertion of a loop in such examples could be practised, producing, for example:

\*T.elicit: //that is, gases take the (mat.event op.)  
shape of their? //

\*P.reply: //containers// (minor cl.)

\*T.accept: //yes// (minor cl.)

\*T.loop: //what do they do?// (mat.event op.)

\*P. reply: //they take the shape (mat. event op.)  
of their containers//

Better still, in view of the fact that teachers may tend to use accept acts rather than evaluating ones (5.2.2.), would be to practise:

\*T.evaluate: //that's right//

rather than the accept in the above exercise.

The use of non-specific process options in an elicit could also be practised. The same example above

could then be changed to:

- \*T.elicit: //gases do what?// (mat. event op.)  
 \*P.reply: //they take the shape (mat.event op.)  
           of their containers//  
 \*T.evaluate: //very good// (minor cl.).

Similarly, the use of an invitation for explanations of meaning from pupils could be practised, as in:

- \*T.elicit: //when we say//gases (ment.ext.verb.)  
           have no definite shape// (rel.id.)  
           what does that mean// (ment.int.cog.)  
 \*P.reply: //it means//that they (ment.int.cog.)  
           take the shape of their (mat.event.op.)  
           containers//

Also, open questions could be practised, as could other question types identified by Barnes (1969) which are likely to produce major clause responses from pupils; this would perhaps be most effectively done in a micro-teaching situation.

Such practice exercises are suggested as part of a training course in language across the curriculum for teachers of all subjects. Within the English subject area, others have suggested useful devices which could also be used in the classroom to promote pupils' language

practice. For example, Morrow (1979) suggests a technique which can be used to get pupils to ask a variety of question-types. His technique involves the provision of information and guidance to pupils in the form of worksheets for use in paired question/answer practice. Similarly, Rees (1976) had earlier suggested that the fact that teachers normally ask questions, thus denying the learner sufficient scope to practise this skill, could be altered in English lessons by providing pupils with cues to questions which they themselves can then formulate on a comprehension passage. Richards (1977) has also stressed that English teachers should emphasise the range of question and answer types which is typical of spoken English. Such techniques could also be used by teachers of all subjects if they were given practical guidance on their use. In English lessons, the use of language material from other subjects could increase the value of such exercises.

Teachers of subjects other than English might argue that the use of such devices in class would make the classroom discourse exchanges too much like a language drill. However, such devices could, it is argued here, usefully form part of any teacher's repertoire of discourse-related skills. With the support of educationists such as Doughty and Doughty (1974;2.4), who argue that "it is unfair to teachers of English, to other subject teachers and most of all to pupils, to think that 'language' is 'English' and therefore need only come up for consideration

in the context of 'English class'" (p.103), one could present strong arguments for the practice of such devices by teachers and their use at early secondary level. Such specific practice of discourse devices could serve to heighten teachers' awareness of their use of language in the classroom.

Other teaching methods which the present study seems to show as having a beneficial effect on pupils' language use are general teaching techniques which will no doubt be recommended by the methodology lecturers concerned with the different curriculum subjects. These include the incorporation of textbook material into lessons as an integral part of the discourse; the use of revision material and review lessons; varying the methods used in any one lesson, to include blackboard work by pupils, time for pupils' questions, and individual work; role-switching; and asking pupils to read ahead in the text in preparation for lessons.

In the subject methods lectures and practicals, the emphasis on the value of such teaching methods is likely to be concerned with maintaining pupils' interest in the subject, holding their attention and increasing their motivation to study. The discussion of such teaching methods during language across the curriculum courses for teachers of all subjects would focus on their effects in



terms of pupils' language use. This emphasis could serve both to complement the subject methods lectures and to increase teachers' linguistic awareness. One way of using such material to good effect might be to discuss pupils' actual language use in brief videotaped or audiotaped selections from lessons in which these methods are being used. Pupils' use of discourse acts such as elicit and inform, and their use of major clauses in discourse acts related to textbook or revision material could be demonstrated using actual examples recorded in the classroom. Such examples could also be contrasted with others involving none of these techniques and in which both discourse acts and process options are severely limited for pupils. Teachers could subsequently plan lessons in which a variety of such techniques is to be used and such lessons could be tried out in actual classrooms during teaching practice, when they could be videotaped and used for discussion during follow-up sessions. Again, the discussion would focus on the actual details of pupils' spoken language, their range of discourse acts and the occurrence of major/minor clauses within them. In this way, teachers might be helped to develop skill in exploiting classroom discourse to the full advantage of the pupils.

All the above techniques which teachers can use to the benefit of pupils in their practice of the language

of any school subject can be incorporated into the formal classroom situation and should show definite results in terms of the range of acts and clauses used by pupils. The typical classroom of this study and of others in the further-tongue setting (2.3.1) is organized formally and in many ways this is almost inevitable in view of the practical difficulties and large pupil numbers (3.2.4). With this in mind, such techniques for use within the typically formal classroom organization should, it is suggested, first be discussed, exemplified and practised with the focus on pupils' language use throughout, in order to show teachers the value of these techniques and the possibilities for extending pupil-talk even within the restrictions of the formal classroom with which the teachers will be most familiar and in which they will possibly feel most confident. Subsequently, the radical changes in classroom discourse which can result from informal classroom organization (6.2.3) could be exemplified and the value of using both types of classroom organization could be discussed in terms of the complementary discourse opportunities they provide for pupils (3.2.4).

With this approach, it is suggested, teachers' attention could be focused on the implications, in language terms, of the various teaching methods and techniques which are available to them in the classroom. By showing their value in terms of pupils' language use and

by demonstrating the limitations imposed on pupils' language when these techniques are ignored, it is hoped that a heightened linguistic awareness on the part of teachers would result. The use of practice exercises for specific devices such as loops and elicits would, it is suggested, result in increased skill on the part of teachers in organizing classroom discourse to the benefit of pupils. The study of actual lessons exemplifying these techniques in action and their results, supported by micro-teaching and actual classroom practice of their use, would be an important element of such courses in language across the curriculum.

#### 7.4 Limitations of the Investigation

In designing the present study, a method of analysis at the ranks act and clause was chosen as being best suited to provide information on the role of spoken language in the teaching/learning process. It was felt that such analysis would reveal both the discourse function of the spoken English and the relation between the use of language and the teaching and learning of different school subjects. There are, however, weaknesses in the method of analysis used. While the links between the function of a discourse act and the clause process options expressed within the act have been traced extensively, the clause

process option categories used did not bring out any subject-related predominances in the mathematics and social studies lessons, apart from minor clauses.

In the case of mathematics, the use of an additional category such as mental/externalized/calculation (4.2.5) would have been more effective in identifying any subject-linked predominances. With regard to the social studies lessons, it is felt that patterns of predominance would have emerged if the two subjects history and geography had been treated separately. Richards (1978) found that the geography lessons in her sample were characterized by large proportions of factual-naming questions, though both geography and history lessons were similar in their proportion of reasoning-recalled and reasoning-not recalled categories of question. Such differences in types of question could be reflected in the major/minor clauses of pupils' replies. In the present study, a greater frequency of material/event/operation processes was noted in geography lessons during which natural phenomena were being discussed (5.3.3.). The fact that the categories and subject grouping used did not bring out such subject-related differences except in the English and science lessons is a weakness in this study.

A finding of this study which extends the

descriptive framework presented by Sinclair et al (1972;3.1.3) is that blackboard work can function as a discourse act (5.4.1.9;6.2). Instances were identified of blackboard work alone functioning as accept and starter acts. In addition, blackboard work is often an integral part of other discourse acts such as the inform. The findings of this study support Widdowson's (1974;2.4,3.2.6) contention that both verbal and non-verbal aspects of classroom discourse must be taken into account in studying language in the classroom. While many other non-verbal aspects of classroom discourse could be identified were a different method of recording the interaction employed (3.2.6), the focus of the present study on verbal interaction and the limitations involved in the method of recording, which was chosen as being most suitable in the context of the present study (3.2.2;3.2.6;4.4), meant that non-verbal aspects could only be studied to a limited extent. When one considers the very definite effects which use of a textbook seems to have on pupils' contributions to classroom discourse (6.3.1) it becomes evident that such aspects of discourse must indeed be taken into account if a complete picture is to be obtained. The inclusion of some non-verbal aspects of the classroom discourse in the analysis presented here goes some way towards meeting this demand, but greater attention to non-verbal aspects would no doubt reveal other important features missed in the present analysis.

As indicated in 6.2.3, the recording procedure chosen in this study could not capture all the discourse in the two project lessons of the investigation. While these were included in the study for the reasons stated in that section of the presentation, this indicates a limitation of the recording procedure used. In formal lessons, written notes made by the researcher helped to counteract any weakness in the recordings (4.4) but such notes could not be made adequately in informal sections of lessons where pupils are working in several groups or individually. However, even in the informal lessons a complete record of teacher/pupil language interaction was obtained and the fact that there were only two such lessons in the study means that the recording procedure was, for the most part, quite adequate.

Also, the occurrence of only two project lessons and one science lesson involving pupil laboratory activities within this sample of 40 lessons cannot, of course, be taken as being representative of the actual proportion of such lessons in the secondary school classroom in Nigeria. The limited sample of lessons in this investigation does not justify such a conclusion. Thollairathil's finding (1973;2.3.1) was based on a survey of 294 secondary schools in Nigeria. It suggests that the proportion of such lessons in the present sample may be unrepresentative of the general situation, as he found that laboratory

activities in science were undertaken by pupils in 57% of the schools, while field work and discussion formed a part of science activity in 40%.

The level of detail undertaken in the analysis itself made the restriction to 40 lessons in the present study essential. Whereas many more lessons could have been included were a category system based on that of Bellack et al (1966) or Flanders (1970) used, such systems do not offer such a degree of delicacy as that presented by the present analysis, when the actual content of discourse acts in terms of clauses and the process options within them is dealt with in detail. While the very large numbers of discourse acts (15,417) and clause process options (25,647) dealt with in this analysis (5.2;5.3) do offer support to the findings and conclusions, the fact remains that 10 lessons from each subject area might be regarded as a small sample in other respects. A larger sample of lessons would possibly have included more project-type lessons, more laboratory involvement of pupils, more use of discussion and debate during English lessons, and so on. A change in the balance of such activities would alter the overall findings of the study both with regard to range of discourse acts used by pupils and major/minor clause predominances. However, the results of other studies in the further-tongue

English setting do suggest that a predominance of teacher-talk may be generally found (Thollairathil, 1973; Treadaway, 1976).

Finally, no assessment of pupils' ability range was included in the design of this study. However, the fact that pupils in secondary schools in Nigeria are selected by a competitive entrance examination similar to the old 11-plus examination in Britain offsets this, as only the top 10-15% actually gain secondary school places. Also, the study does not distinguish pupils as individuals in the analysis and all schools used were comparable (4.5).

#### 7.5 Implications of the Study for Future Research

Two major implications for future research are identified in the present study. The first of these is that analyses of language use in the formal classroom must be complemented by similarly detailed study of language use in an informal classroom setting in which English is used as further tongue medium. Some indications of the value of such research have been given in the present analysis, though the occurrence of informal lessons was far too small to draw any very definite conclusions on the basis of them. Certainly, in view of the value which should be placed on using the findings of classroom



research to provide material for teacher training courses in language across the curriculum, it is urgently necessary that researchers should provide detailed information as to how informal classroom organization affects spoken language, especially in the classroom where English is being used as further-tongue medium. Such research evidence is almost totally lacking at present. It is hoped that the experience reported in the present study, particularly with regard to recording procedures, would prove of value to those designing similar research projects in the informal classroom setting.

Secondly, future research could perhaps be helpfully directed towards designing teacher training courses in language across the curriculum on the lines suggested by this study and testing how effective such material might prove to be. For example, in-service courses incorporating such experimental material could be assessed by analysing the spoken English used by teachers and pupils in lessons recorded both before and after the teachers have attended the course and taken part in all its practice activities. If it could be shown that such course material has a beneficial effect in terms of the range of discourse acts and clause process options which pupils are given the opportunity to use, then the findings of the present study would be extended and enhanced. It is hoped that future researchers will approach these two areas of related research and will find the present study helpful to them in their task.

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APPENDIX 1

Part of a Lesson Analysed for Complete Discourse Structure (4.2.2.).

Exchange Type	Opening	Acts	Answering	Acts	Follow-up	Acts
Inform	Internal trade is where we exchange our crops, our foodstuffs. If I grow plenty of yams and you produce plenty of gari, I cannot continue to eat my yams from morning till night. You cannot continue to eat your gari. You must change it with mine.	inf.				
Check	Isn't that so?	ch.	Yes	rep.		
Boundary	That is what we call trade	conc.				
Inform	But I cannot bring my yam to your house and say, "Take yam, give me gari", so I must take it to a place we call a market.	inf.				
Check	Is that correct?	ch.	Yes	rep.	Yes	Acc.
Elicit	In our town here, in Ibadan where we have our school, you have so many markets.	st.				
	Can you tell me some of them?	el.				
	N.V.	bid				
	First one?	nom.	Dugbe	rep.	You have Dugbe market	acc.

Appendix 1 (continued)

Exchange Type	Opening	Acts	Answering	Acts Follow-up	Acts
Check	Everybody knows that place?	ch.	Yes	rep.	
Re-initiate (listing)	N.V. N.V.	bid nom		Orita Merin.rep.	You have acc. Orita Merin
	N.V. N.V.	bid nom		Mokola rep.	Mokola acc.
	N.V. N.V.	bid nom		Aiyele rep.	Aiyele acc.
Boundary	All those markets, you have them all around. We... the purpose of the market is to exchange our goods. You know where to get your things when you go there and buy. That is internal trade.	conc.	Yes	ack.	
Elicit	Then, there are some things we have in the south here that people in the north don't have. So we have to sell some of these things to the north. They will buy and then they sell theirs to us.  Can you give me examples of those things we have in the south here and they don't have in the north and they have to buy?	m. st.  el.			

Appendix 1 (continued)

Exchange Type	Opening	Acts	Answering	Acts Follow-up	Acts
N.V. One?		bid nom.	Cocoa	rep. but they don't buy cocoa in the north and cocoa is not part of our internal trade	ev.
N.V. N.V.		bid nom.	Kolanut	rep. Yes that's one useful example, Kolanut	acc. ev.

inf. = inform      St. = starter      el. = elicit      ev. = evaluate  
 ch. = check      rep. = reply      nom. = nominate  
 conc. = conclusion      acc. = accept      m. = marker



## APPENDIX 2

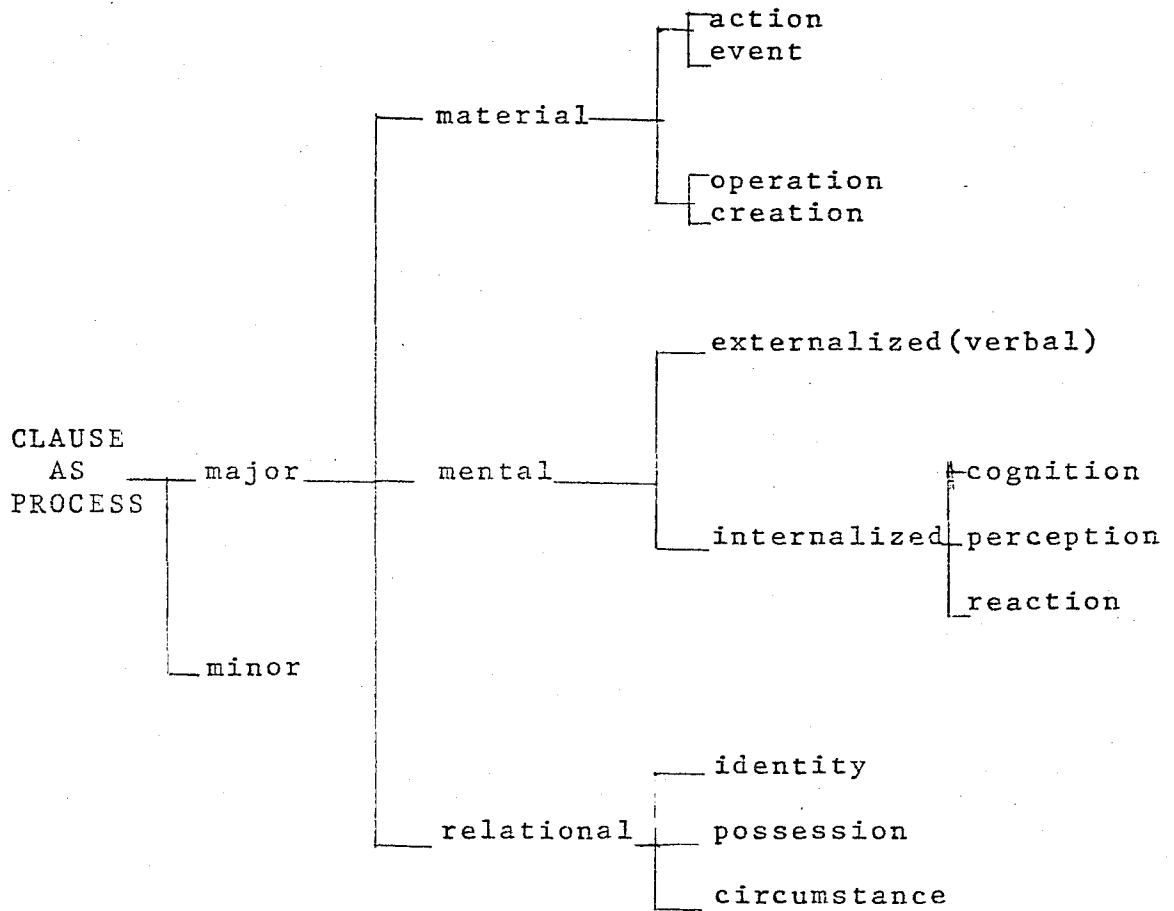
### Categories used in the Identification of Discourse Acts: based on Sinclair et al (1972, pp.92-95).

1. Marker: functions to mark boundaries in the discourse; realized by words such as 'now', 'right', 'O.K.'.
2. Starter: provides information about or directs attention or thought towards an area in order to assist pupils to make a correct response.
3. Elicit requests a linguistic response.
4. Check (a) realized by 'real' questions, functions to enable the teacher to ascertain whether there are any problems preventing the successful progress of the lesson.  
  
(b) realized by questions such as "isn't that so?", functions to force compliance from the class (Rowe, 1973).
5. Directive requests a non-linguistic response.
6. Inform sole function is to provide information to pupils; the only response is an acknowledgement of attention and/or understanding.
7. Prompt reinforces a directive, elicitation or informative by suggesting that the teacher is no longer requesting a response but expecting or even demanding one.
8. Clue subordinate to the main act (head) of the initiation; provides additional information which helps pupils to answer an elicitation or comply with a directive.
9. Cue functions to evoke an (appropriate) bid.
10. Bid signals a desire to contribute to the discourse.
11. Nomination functions to call on or give permission to pupil(s) to contribute to the discourse.

12. Acknowledge shows that an initiation has been understood and, if the head of the opening move is a directive, that pupil(s) intend to react; includes 'echo' effects, usually 'chorus echo', in which pupils predict the end of teacher's sentence and say the same thing at the same time as the teacher, showing comprehension of or familiarity with the material.
13. Reply provides a linguistic response to an elicit; can include non-verbal surrogates such as nods.
14. React a non-verbal action in response to a directive.
15. Comment exemplifies, expands, justifies or provides additional information within a follow-up move.
16. Accept indicates that the teacher has heard or seen and that the p.inform, reply or react was appropriate; neutral low fall intonation.
17. Evaluate comments on the quality of a pupil reply, react or initiation; high fall or rising intonation distinguish positive/negative evaluates from an accept realized by the same words with low fall intonation.
18. Metastatement refers to future stage of lesson when what is described will occur; helps pupils to see the structure of the lesson, to understand the purpose of the subsequent exchange.
19. Conclusion converse of metastatement; helps pupils to understand the structure of the lesson by summarising what has been covered in previous exchanges.
20. Loop returns the discourse to the stage it had reached before pupil(s) spoke or bid.
21. Aside utterance outside the discourse as text; not usually addressed to the class.
22. Silent stress a pause, after a marker, which highlights the marker when it is serving as the head of a boundary exchange indicating a transaction boundary.

APPENDIX 3

Categories Used in Identifying Clause Process Options:  
based on Halliday, 1973 and Berry 1975.



Examples of each category1. Material/Action/Operation

//in the 17th century some of the  
British settlers went to America//  
//he used to ride a bicycle to work//

2. Material/Action/Creation

//in my village the craftsmen  
make talking drums//

3. Material/Event/Operation

//iron rusts in water//  
//the wind capsized the canoe//

4. Material/Event/Creation

//the reaction gave off oxygen//  
//these conditions produce rain clouds//

5. Mental/Externalized/verbal

//let's discuss that point further//  
//my grandmother used to tell  
us traditional stories//  
//the boys were arguing about the match//

6. Mental/Internalized/Cognition

//I think so//  
//do you understand the formula?//  
//it means 3x plus 4//

7. Mental/Internalized/Perception

//have you seen example one?//  
//Olu heard the drums//  
//the okra stew smells delicious//

8. Mental/Internalized/Reaction

//they wanted more//  
//children like sugar cane//  
//I prefer maths. to English//

9. Relational/Identity

//he is an Hausa man//  
//this is my sister, Lola//  
//it has four sides//

10. Relational/Possession

//that book belongs to me//  
//the boys had 10 Kobo each//

11. Relational/Circumstance

//cattle rearing is in Plateau State//  
//the tripod is on the bench//  
//it is in Rivers State//

12. Minor Clause (process implicit)

//A thermometer//  
//yes//  
//different kinds of animals//

APPENDIX 4

SAMPLE MAPPED TRANSCRIPTS

OF FOUR LESSONS

SCHOOL:4  
YEAR:2  
SUBJECT: GEOGRAPHY  
LESSON No.:9

Discoursè Act		Clause As Process
Starter	T.//Last Lesson, we discussed about the location, drainage and climate of Nigeria// We left out something//	ment.ext.verbal mat.act.op.
Elicit	//What is that?//	rel.id.
Bid	P.//I, ma.//(chorus)	minor clause
Cue	T.//I want you to answer one by one// //You just put up your hand//	ment.int.react. ment.ext.verb mat.act.op.
Starter	//We left something out//	mat.act.op.
Elicit	//What is that?//	rel.id.
Reply	P.//People of Nigeria//	minor clause
Loop	T.//I don't hear you//	ment.int.perception
Reply	P.//People of Nigeria//	minor clause
Accept	T.//People of Nigeria//	minor clause
Metastatement	//Today we are going to start on this//	mat.act.op.
Starter	//majority of us come from different parts of the country//If you are from the former Eastern Nigeria//	mat.act.op. rel.circ.

Discourse Act		Clause As Process
Directive	//Stand up//	mat.act.op.
Elicit	(and) //tell us// what tribe you are//	ment.ext.verbal rel.id.
React	P.N.V.	
Reply	P.//I am an Ibo//	rel.id.
Accept	T.//An Ibo//	minor clause
Elicit	//What are you?//	rel.id.
Reply	P.//I am from Ijebu-Ode//	rel.circ.
Loop	T.//What tribe is that?//	rel.id.
Reply	P.//That's..er.. Ogun State//	rel.id.
Accept	T.//You are from Ogun State//	rel.circ.
Elicit	(but) //What tribe?//	minor clause
Reply	P.//Western...western...//	minor clause
Reply	P.//It's Yoruba//(chorus)	rel.id.
Accept	T.//It's Yoruba//	rel.id.
Evaluate	//You see the mistake now, //you have made?// I agree //he's from Ijebu//(but)//it's so difficult for him //to tell us//that he's a Yoruba boy//	ment.int.cog (2) mat.act.op. rel.circ. ment.ext.verbal rel.id.(2)
Elicit	//Who is from the Northern Nigeria?//	rel.circ.
Reply	P.//He's not here//	rel.circ.
Elicit	T.//We have what tribe in the northern part of the coun- try?//	rel.circ.
Bid	P.//I, ma//	minor clause
Nomination	T.//Yes?//	minor clause

Discourse Act		Clause As Process
Reply	P.//Tivs.//	minor clause
Evaluate	T.//The Tivs are not in the northern part// They are in the middle belt//	rel.circ. rel.circ.
(bid)	P.//I, ma//I, ma//(chorus). T.//Tivs, they are in the middle belt, the middle part of Nigeria//	minor clause rel.circ.
Nomination	//Mm?//	minor clause
Reply	P.//Hausa//	minor clause
Accept	T.//Hausa//(BB)	minor clause
Bid	P.N.V.	minor clause
Nomination	T.//Mm?//	minor clause
Reply	P.(missed)	
Evaluate	T.//those are not in the northern part//	rel.circ.
Bid	P.//I, ma// (chorus).	minor clause
Nomination	T.N.V.	
Reply	P.//Fulanis//	minor clause
Accept	T.//Fulanis//(BB)	minor clause
Bid	P.N.V.	
Nomination	T.//Mm?//	minor clause
Reply	P.//The Kanuris//	minor clause
Accept	T.//The Kanuris//(BB)	minor clause
Marker	//O.K.	
Conclusion	Enough// (and) //We can include one more in the southern part, the Ibiobios //as mentioned earlier on//	minor cl. mat.act.op. ment.ext.verbal



Discourse Act		Clause As Process
Starter	//In Nigeria we have so many tribes//	rel.circ.
Metastatement	(But) //now we are just going to discuss about a few main ones, like the Kanuris, the Fulanis and the Hausa//	ment.ext.verbal
Inform	//These three main tribes dominate the northern part of Nigeria// The Ibo in the eastern part of Nigeria// The Ibiobio in south eastern part//The Yorubas in the western part//(and)//The Tivs in the middle belt, around the Benue River//	mat.act.op. minor clause minor clause minor clause minor clause
Starter	//The Kanuris, the Fulanis the Hausa, what actually ((do you think)) makes them different from the Ibos or the Yorubas?//	mat.event, op. ment.int.cognition
Elicit	//The Kanuri... a Kanuri man, a Fulani man and an Hausa man, what actually makes them to be different from a Yoruba man?//	mat.event,op. rel.id.
Bid	P.N.V.	
Nomination	T.//(name)?//	minor clause
Reply	P.//The... the Hausas, they are tall and.. and slim//(and)// they speak different language//	rel.id. ment.ext.verbal
Evaluate (nomination)	T.//Good// //mm,(name),	minor clause
Elicit	What can you tell us about a Kanuri man or a Fulani man or an Hausa man?//	ment.ext.verbal
Prompt	//Yes?//	minor cl.
Reply	P.//They are cattle rearers//	rel.id.

Discourse Act		Clause As Process
Loop	T.//Who are the cattle rearers?//	rel.id.
Reply	P.//The Fulanis//	minor clause
Accept	T.//The Fulanis are cattle rearers//	rel.id.
Starter	//What is the meaning of this word, cattle rearing?//	ment.int.cog.
Elicit	//What is the meaning?//	ment.int.cog.
Reply	P.//Cattle rearing...//those people//who rear cows and sheep like shepherds//	minor clause minor clause mat.act.op.
Evaluate	T.//Shepherds?//	minor clause
Elicit	//What is the meaning?//	ment.int.cog.
Clue	//Explain further//I don't understand it//You've just told us//that the Kanuri man and the Fulani man is a cattle rearer// //Then, I want you to explain to me//actually what you mean by cattle rearing//	ment.int.cog. ment.ext.verbal(2) rel.id. ment.int.react ment.ext.verbal ment.int.cog.
Reply	P.//It's those//who look over cattle//	rel.id. mat.act.op.
Evaluate	T.//mm//	minor clause
Elicit	//Look after them, how?//	mat.act.op.
Clue	//Just keeping them in the house// (and)//feeding them with millet?//	mat.act.op. mat.act.op.
Reply	P.//those//who pasture them//	minor clause mat.act.op.
Evaluate	T.//They pasture...// //What do you mean by the word 'pasture'//they pasture cattle// //Are your cattle grasses?//	mat.act.op.(2) ment.int.cog. rel.id.

Discourse Act		Clause As Process
Elicit	//Who can explain to us?//	ment.ext.verbal
Reply	P.//The cattle rearers are those //who take cattle (missed)//	rel.id. mat.act.op.
Reply	P.//Those//who trade in cattles//	minor clause mat.act.op.
Evaluate	T.//No//	minor clause
Reply	P.//Those//who look after the cattles//(and)//take them to the fields//	minor clause mat.act.op. mat.act.op.
Accept	T.//They take them to the fields// to feed them//	mat.act.op. mat.act.op.
Starter	//The fields they prepare on their own?//	mat.act.op.
Elicit	(Or)//they wander from one place to the other//looking for pasture as well as water?//	mat.act.op. ment.int.perception
Reply	P.//Wander from one place to another//	mat.act.op.
Accept	T.//Wandering about//	mat.act.op.
Aside	//Sit down//(to a latecomer)	mat.act.op.
Inform	T.//Today, a typical Fulani man is no more a wanderer//They are now trying to settle down in the northern part//In fact, they are being encouraged to settle down//by giving them a piece of land//whereby they can promilate(?) vegetables and other things ((they need))// //whereby during the dry season they can feed them on these things//(and)//in return you find their cattle fertilizing the farm land with their dungs//	rel.id. mat.act.op. mat.act.op. mat.act.op. mat.act.op. mat.act.op. ment.int.react. mat.act.op. mat.act.op.

Discourse Act		Clause As Process
Starter	(But)//an Hausa man is quite different from a Fulani man// An Hausa man is mainly a cultivator// //A cultivator// <del>(BB)</del>	rel.id. rel.id. minor clause
Elicit	//Who can tell me the meaning of this word cultivator?//	ment.ext.verbal
Bid	P.N.V.	
Nomination	T.//Mm?//	minor clause
Reply	P.//They cultivate//	mat.act.op.
Loop	T.//I can't hear you//	ment.int.perception
Reply	P.//They cultivate//	mat.act.op.
Accept	T.//They cultivate//	mat.act.op.
Elicit	//Cultivate what?//	mat.act.op.
Prompt	//What?//	minor clause
Reply	P.//Plants//	minor clause
Loop	T.//mm?//	minor clause
Reply	P.//Plants//	minor clause
Loop	T.//Say it again//	ment.ext.verbal
Reply	P.//They cultivate plants//	mat.act.op.
Accept	T.//they cultivate plants//	mat.act.op.
Elicit	//Is he correct?//	rel.id.
Reply	P.//Not quite//He's a bit correct// Cultivators...// //those//who plant crops on the plantations or the farms //so as to feed the population //Farmers//	minor clause/rel.id. minor clause minor clause mat.act.op. mat.act.op. minor clause
Accept	T.//Farmers//	minor clause
Inform	//They are those people// who actually depend...//their	rel.id. mat.act.op.

## Discourse Act

## Clause As Process

	<p>incomes solely depend on            ((what they do with their            hand on their farms))//            //They cultivate land with            their hoes or cutlass or            ((by using plough))//they            rent it from Ministry of            Agric.// So whatever            they make use of their hand            on their lands//they will be            able to grow millet or            guinea corn or maize or yams            or vegetables// //Whatever            they grow//(and) //they            sell the results//they get            money//to buy other manu-            factured goods//This is the            cultivator, a farmer//            //The Hausa...the typical            Hausa man is a farmer//</p>	<p>mat.event.op.            mat.act.op.            mat.act.op.            mat.act.op.            mat.act.op.            mat.act.op.            mat.act.op.            mat.act.op.            mat.act.op.            mat.act.op.            rel.id.            rel.id.</p>
Check	//I think you hear that?//	ment.int.cog. ment.int.perception
Reply	P.//Yes, ma//(chorus)	minor clause
Starter	T.//The Ibos.. the Kanuris live mainly in the north eastern part of Nigeria//These are people around the Chad Basin//	mat.act.op. rel.circ.
Elicit	//What is another name for the Chad Basin// //I told you last lesson?//	rel.id. ment.ext.verbal
Clue	//In some books you will find the Chad Basin ((written as Chad Basir)) the part of it within Nige- ria// //In some books it is called another name, something Lowland or Basin//	mat.act.op. mat.act.op. ment.ext.verbal
Bid	P.N.V.	
Nomination	T.//mm?//	minor clause

Discourse Act		Clause As Process
Reply	P.//North Eastern Lowlands//	minor clause
Evaluate	T.//No//.	minor clause
Reply	P.//Bornu Lowlands//	minor clause
Accept	T.//Bornu Lowlands//(BB)	minor clause
Inform	//In the Bornu lowlands you have these Kanuris//They herd cattle in large numbers like the Fulani man//(and)// they farm some land as well, on the Bornu Plain//(BB)	rel.circ. mat.act.op. mat.act.op.
Conclusion	//These are the main three tribes of the Northern Nigeria //as I've told you//	rel.id. ment.ext.verbal
Marker	//Then	
Starter	the Ibos, they are in the east//They are farmers//	rel.circ. rel.id.
Elicit	//What are those crops// they grow mainly in the eastern part of Nigeria?//	rel.id. mat.act.op.
Bid	P.N.V.	
Nomination	T.//mm?//	minor clause
Reply	P.//Palm oil//	minor clause
Accept	T.//Palm oil//	minor clause
Elicit	//Do they grow these palm trees as individuals or in plantations?//	mat.act.op.
Bid	P.N.V.	
Nomination	T.//mm?//	minor clause
Reply	P.//They grow them in plantations//	mat.act.op.
Accept	T.//In plantations//	minor clause

Discourse Act		Clause As Process
Elicit	//What other crops do these people do in Eastern Nigeria?//	mat.act.op.
Reply	P.//They have... they have sugar//	minor clause
Evaluate	T.//No//	minor clause
Starter	//You've forgotten//What I taught you last term..on animal rearing in Nigeria//	ment.int.cognition mat.act.op.
Elicit	//You don't have cattle successfully in the southern part of Nigeria// because of.. what?//	minor clause minor clause
Reply	P.//Insect pests//	minor clause
Loop	T.//mm?//	minor clause
Reply	P.//Insect pests//	minor clause
Evaluate	T.//Insect pests?//	minor clause
Loop	//I don't understand you//	ment.int.cog.
(bid)	P.//I, ma//(chorus)	minor clause
	T.//I want to know the reasons// why we cannot have cattle in the Southern part of Nigeria//	ment.int.react. ment.int.cog. minor clause
Reply	P.//Because of the tsetse fly//	minor clause
Loop	T.//Because of the tsetse fly//	minor clause
	//Is that a complete sentence?//	rel.id.
Reply	P.//No// //We cannot rear cattle successfully in the...in South Nigeria//because of the tsetse fly//	minor clause mat.act.op. minor clause

Discourse Act		Clause As Process
Elicit	T.//And what else?// //Another reason?//	minor clause minor clause
Reply	P.//Because of the rain//	minor clause
Loop	T.//Is that the beginning of the sentence?//	rel.id.
Reply	P.//One cannot rear cattle// because the cattles need a very low rainfall//	mat.act.op. ment.int.react.
Elicit	T.//Any other point?//	minor clause
Bid	P.N.V.	
Nominate	T.N.V.	
Reply	P.Because there are no wide plains in the Southern part//	rel.circ.
Accept	T.//No wide plains//	minor clause
Evaluate	//You are correct//	rel.id.
Elicit	//What other things do they do in the eastern part//be- sides growing of palm trees?//	mat.act.op. mat.act.op.
Bid	P.N.V.	
Nomination	T.//mm?//	minor clause
Reply	P.//Cassava//	minor clause
Accept	T.//Cassava//	minor clause
Starter	//What do you mean by that word 'cassava'?//	ment.int.cog.
Check	//Do you understand him at all?//	ment.int.cog.
Reply	P.N.V. (varied reactions)	
Accept	T.//We don't understand it//	ment.int.cog.



Discourse Act		Clause As Process
Reply	P.//They are also businessmen//	rel.id.
Accept	T.//They are also businessmen//	rel.id.
Elicit	(But)//I want you to explain //what you have just told us//	ment.int.react ment.ext.verbal(2)
Reply	P.//They cultivate cassava//	mat.act.op.
Accept	T.//They grow cassava as well in the eastern part//	mat.act.op.
Inform	//You've forgotten//that in the eastern part of Nigeria they are very good palm wine tappers//	ment.int.cog. rel.id.
Check	//Do you remember that?//	ment.int.cog.
Reply	P.//Yes// (chorus).	minor clause
Starter	T.//When we were discussing about the vegetation of West Africa//we gave the example of palm wine//extending in the South.. in the eas- tern part of Nigeria// (And) // We discussed under cash crops as well... // //that the .... //	ment.ext.verbal(2) mat.event op. ment.ext.verbal minor clause
Elicit	//A typical Ibo man carries his palm wine from one place to the other .. on what?//	mat.act.op. minor clause
Prompt	//On what?//	minor clause
Reply	P. (missed)	
Evaluate	T.//No//	minor clause
Reply	P.//On bicycle//	minor clause
Accept	T.//On bicycle//	minor clause
Elicit	//Yoruba...Where do the Yorubas live in Nigeria//	mat.act.op.

Discourse Act		Clause As Process
Reply	P.//They live in the western part of Nigeria//	mat.act.op.
Accept	T.//The western part of Nigeria//	minor clause
Elicit	//What crops do they grow?//	minor clause
Reply	P.//They are farmers//	rel.id.
Accept	T.//The Yorubas are farmers//	rel.id.
Loop	//What do they grow?//	mat.act.op.
Reply	P.//Cocoa//	minor clause
Loop	T.//That is not a complete sentence//	rel.id.
Reply	P.//The Yoruba farmers grow cocoa//	mat.act.op.
Starter	T.//And what else?//You are telling me//that in the whole of Western Nigeria a typical farmer grows only cocoa?//	minor clause ment.ext.verbal mat.act.op.
Elicit	//Is that true?//	rel.id.
Reply	P.//No //	minor clause
Bid	P.N.V.	
Nomination	T.//(name)?//	minor clause
Reply	P.//They grow.. they also grow yams//	mat.act.op.
Accept	T.//They grow yams//	mat.act.op.
Elicit	//And what else?//	minor clause
Reply	P.//They also grow rubber//	mat.act.op.

Discourse Act		Clause As Process
Elicit	T.//In which part of Western part of Nigeria do they grow rubber?//	mat.act.op.
Reply	P.(missed)	
Evaluate	T.//You are not correct//	rel.id.
Starter	//You know....//let me enlighten each other //by drawing the map of Nigeria for you, a rough sketch// (BB - draws sketch map))	ment.int.cog.(2) mat.act.op.
Marker Starter	T.//Now, remember//this is the western part//This is the eastern part//Areas ((lying north of Rivers Niger and Benue)) is ((what we refer to as Northern Nigeria))// //This is the western part// //(name) has just told us// //that they grow rubber in Western Nigeria//Are you telling me//that they grow rubber here in Nigeria, in Western Nigeria?//	ment.int.cog. rel.id.(3) mat.event.op. ment.ext.verbal rel.id. ment.ext.verbal mat.act.op. ment.ext.verbal mat.act.op.
Elicit	//Which part of Western Nigeria do they grow rubber?//	mat.act.op.
Reply	P.N.V.	
Elicit	T.//Which side is that?//	rel.id.
Reply	P.//East//	minor clause
Starter	T.//Which side is East?// //around here?//(or)// rather you go down a bit more//(BB)	rel.id. minor clause mat.act.op.
Elicit	//Which part of Western Nigeria is this?//	rel.id.

Discourse Act		Clause As Process
Bid	P.N.V.	
Loop	T.//I want more hands up, please//	ment.int.reaction
Bid	P.N.V.	
Nomination	//mm?//	minor clause
Reply	P.//Midwest//	minor clause
Accept	T.//Midwest//	minor clause
Comment	//Bendel State of Nigeria//	minor clause
Inform	//The Tivs, these are the tribe ((living in the former Benue Province of Nigeria)) //They now live mainly in the Benue States// //This is the area round here// <del>(SS)</del> //They are farmers// //They are great cultiva- tors// //They farm along this River Benue....Benue River//	rel.id. mat.act.op. mat.act.op. rel.id. rel.id. rel.id. mat.act.op.
Starter	//What main crop do they grow there?// //There is an important crop, an export crop// that is grown in the Benue State of Nigeria//	mat.act.op. rel.id.
Elicit	//What is the name of that crop?//	rel.id.

Discourse Act		Clause As Process
Directive	//Close your textbooks//	mat.act.op.
Clue	//These are ((what you have done in class one))//	rel.id. mat.act.op.
React	P.N.V.	
Bid	P.N.V.	
Nomination	T.//mm?//	minor clause
Reply	P.//Coconuts//	minor clause
Evaluate	T.//Coconuts?//No//	minor clause minor clause
Comment	//You can only grow coconuts in the salt water swamp of Nigeria//	mat.act.op.
Bid	P.N.V.	
Nominate	T.//You know it?//	ment.int.cognition
Reply	P.//Cotton//	minor clause
Evaluate	T.//It's not cotton//	rel.id.
Comment	//You are going to.. you are going to start your exam around the 13th or 14th// (and)//See// //you don't know.. you can't remember//what we've just done//	mat.act.op. ment.int.cog.(3) mat.act.op.
Reply	P.//Tin//	minor clause
Evaluate	T.//Tin is not in Benue State//	rel.circ.
(bid)	P.//I, ma//(chorus)	minor clause
	T.//It is in ...er.. Plateau State//	rel.circ.
Comment	//I said 'crop'//I didn't say mineral'//They are two different things entirely//	ment.ext.verbal ment.ext.verbal rel.id.
Bid	P.//I, ma//(chorus)	minor clause

Discourse Act		Clause As Process
Cue	T.//If you don't know it// don't raise up your hand//	ment.int.cog. mat.act.op.
Nomination	//Yes?//	minor clause
Reply	P.//They grow groundnuts//	mat.act.op.
Evaluation	T.//They do not grow groundnuts in the middle belt of Nige- ria//	mat.act.op.
Comment	//You have only groundnuts in the northern part, around Kano//	rel.circ.
Cue	//If you don't know it// don't raise up your hand//	ment.int.cognition mat.act.op.
Clue	//Let me enlighten you further on this particular crop//This is the only place ((where they grow it)) in the whole part of the country//	ment.int.cog. rel.id. mat.act.op.
Reply	P.//Beniseed//	minor clause
Accept	T.//Beniseed//	minor clause
Directive	//Clap for him//	mat.act.op.
React	P.N.V.	
Directive	T.//That's all right//	rel.id.
React	P.N.V.	
Elicit	T.//The Ibiobios... who are the Ibiobios?//	rel.id.
Reply	P.//The Ibos in the Southern part of Nigeria//	minor clause
Loop	T.//The what?//	minor clause
Reply	P.//The Ibiobios they live at the southern part of Nige- ria	mat.act.op.
Evaluate	T.//You are not correct, my dear//	rel.id.

Discourse Act		Clause As Process
Comment	//The Ibiobios live in the eastern, south-eastern part of Nigeria//They live in the south-eastern part of Nigeria//	mat.act.op. mat.act.op.
Bid	P.N.V.	
Nomination	T.//mm?//	minor clause
Elicit	//What else can you tell us about them?//	ment.ext.verbal
Reply	P.//Also, they are good fishermen//	rel.id.
Accept	T.//The Ibiobios are good fishermen//	rel.id.
Elicit	//Why are the Ibiobios good fishermen?//	rel.id.
Cue	//If you don't know it// please don't raise up your hand//	ment.int.cog: mat.act.op.
Bid	P.N.V.	
Nomination	T.//Yes?//	minor clause
Reply	P.//They are good fishermen// because they are near the waters//	rel.id. rel.circ.
Loop	T.//They are near the...?//	rel.circ.
Reply	P.//They are near the sea//	rel.circ.
Accept	T.//The sea//	minor clause
Elicit	T.//What sea?//	minor clause
Reply	P.//The Atlantic//	minor clause
Accept	T.//The Atlantic Ocean//	minor clause

Discourse Act		Clause As Process
Starter	//What is the local name ((we gave..er..))..what is the local name ((given to this part of the Atlantic Ocean in the south-eastern part of Nigeria))//The local name?// //This is the...where we have the Ibiobios//This is the Atlantic Ocean ((he has just mentioned)) //There is a local name ((given to this part of the Ocean in Nigeria))//	rel.id. ment.ext.verbal rel.id. ment.ext.verbal minor clause rel.circ. rel.id. ment.ext.verbal rel.id. ment.ext.verbal
Elicit	What is it?//	rel.id.
Bid	P.N.V.	
Nomination	T.//You know it?//	ment.int.cog.
Reply	P.//The Ijaw//	minor clause
Evaluate	T.//No//	minor clause
Bid	P.//I, ma//	minor clause
Reply	//Bight of Biafra//	minor clause
Accept	T.//Bight of Biafra//	minor clause
Elicit	//The Ijaws are the people //living in the...?//	rel.id. mat.act.op.
Reply	P.//Delta//	minor clause
Accept	T.//The Delta region of Nige- ria//	minor clause
Metastatement	//We now go further to vegetation// //Before next..before Thursday you must try to write your notes on these subjects-rotation, people of Nigeria, relief, draina- ge and climate//	mat.act.op. mat.act.op.(2)



Discourse Act		Clause As Process
Starter	T.//Before we went home last week//I told you//that you must try as much as possible to draw the map of Nigeria//showing the climate as well as <i>the</i> vegetation//	mat.act.op. ment.ext.verbal  mat.act.op.(3)
Directive	//If you have done the two maps//raise up your hand//	mat.act.op. mat.act.op.
Clue	. //The map of Nigeria showing climate as well as vegetation// //If you have done those//	mat.act.op. mat.act.op.
React	P.N.V.	
Elicit	T.//Is there any similarity between the two maps?//	rel.id.
Reply	P.//There is//(but)//it's not..er..it..it has some differences//	minor clause rel.id.
Elicit	T.//What are these differences?//	rel.id.
Reply	P.//The differ...the differences is ((that the...er... vegetational map against the....the other map, they are.....it's not similar)) //because the vegetation ought to be different//because we have high forest, swamps and all that// (but)// ..er.. the other map..	rel.id. rel.id. rel.id. rel.id. minor clause
Aside	T.//This is your rainfall map// <del>(S)</del>	rel.id.
Prompt	T.//Continue to explain to us, continue//	ment.ext.verbal mat.act.op.

Discourse Act	Clause As Process
Reply	<p>P.//In the rainfall map we have trade winds from different parts of the country//The one..the one ((going to the north from the... from the... from the south)) is known as the south east trade winds //which brings rain from the Atlantic Ocean// (and) //also, before it gets to the north//the...the wind loses much of its.. er.. energy// (and)//so that's why the rainfall is .. in the north is.. are always very small// (But)//in the south we have the north...the north east trade winds//blowing from the Sahara...//(and)... //blowing from the Sahara// when it is coming to the south//it brings... it brings ..er.. Harmattan//which is cold...//it causes broken nose (?)// (and)..er..(and) //it also causes the dry season//</p> <p>rel.circ. mat.event.op. rel.id. mat.event.op. mat.event.op. mat.event.op. rel.id. rel.circ. mat.event.op. mat.event.op. mat.event.op. rel.id. mat.event.op. mat.event.creation</p>
Evaluate	<p>T.//You are not correct//by telling us//that we have winds affecting the vegetation// whereas these particular winds do not affect the climate//You are wrong//</p> <p>rel.id. ment.ext.verbal mat.event.op. mat.event.op. rel.id.</p>
Comment	<p>.:It's these two main winds that affect the climate of Nigeria//which actually dictate the amount of rainfall ((you have)) as well as your temperature// //that actually affects your vegetation//</p> <p>mat.event.op. mat.event.op. minor cl. mat.event.op.</p>
Inform	<p>Looking at these two maps//</p> <p>ment.int.perception</p>

Discourse Act		Clause As Process
	This is your rainfall map// //this is your vegetation map// This is the region over 120 inches//This is 80 inches// 120 inches// This is 40 inches//	rel.id. rel.id. rel.id. rel.id. minor clause rel.id.
Acknowledge	P.//40 inches//(chorus echo)	minor clause
Elicit	T.//And this is?//	rel.id.
Reply	P.//120//	minor clause
Inform	T.//This is your salt-water Swamp//These two together is one// I (a) I(b) // This is the area where we have over 120 inches//If you remember the ones((I gave to you)) very well// The one we refer to as the equatorial forest the southern part of Nigeria//((80 to 120 inches)) this is 2// Your high forest// salt water swamp//Fresh water swamp//This is your guinea savannah//(and) //you have your mountain forests//	rel.id. rel.id. minor clause rel.circ. ment.int.cognition mat.act.op. ment.ext.verbal minor clause rel.id. minor clause minor clause minor clause rel.id. rel.id.
Elicit	//You have your..what,here?//	rel.id.
Reply	P.//Jos Plateau//	minor clause
Loop	T.//What?//	minor clause
Reply	P.//Highlands//	minor clause
Evaluate	T.//No//	minor clause
Comment	//This is your Jos Plateau// //This is your general high- lands// //Here you have your mountain forest in Nigeria// //I told you//that the two maps are similar//	rel.id. rel.id. rel.circ. ment.ext.verbal rel.id.

Discourse Act		Clause As Process
Marker	//Now,	
Inform	<p>look at my rainfall map,  under 40 inches//See  your Sudan savannah//  (And)//you know//your Kano  is somewhere here //Kano  has about 40 inches of  rainfall annually//  See the(missed)//the  rainfall here is even  much less// (and)// remember  that statement//that the  farther away you go from  the coast//the less the  amount of rainfall//  Look at this map//(and)  //You can see the similar-  ities// Your rainfall more  or less dictates the type  of vegetation //you have  in Nigeria//  //Finally,  the Sudan savannah and  high savannah, you have  under 40 inches//Guinea  Savannah, 40 to 80//High  forest, 80 to 120//Then, over  120, your salt-water swamp  and fresh-water swamp //</p>	<p>ment.int.perception  ment.int.perception  ment.int.cognition  rel.circ.  rel.id.  ment.int.perception  rel.id.  ment.int.cog.  mat.act.op.  minor clause  ment.int.perception  (2)  mat.event.op.  rel.circ.  rel.circ.  minor clause  minor clause  minor clause</p>
Elicit	//What are the names of the winds//that affect the rainfall of Nigeria?//	<p>rel.id.  mat.event.op.</p>
Bid	P.N.V.	
Nomination	T.//mm?//	minor clause
Reply	<p>P.//The one.. the one((coming  from the southern part))  is called south west trade  winds//(and)//the one ((co-  ming from the desert))is  called north east trade  winds//</p>	<p>mat.event.op.  ment.ext.verbal  mat.event.op.  ment.ext.verbal</p>
Loop	T.//South west trades, or south west.... What?//	minor clause

Discourse Act		Clause As Process
Reply	P.//South west monsoon//	minor clause
Accept	T.//South west monsoon//	minor clause
Elicit	(And)//the one coming from the north?//	mat.event.op.
Reply	P.//North east trade winds//(chorus)	minor clause
Accept	T.//North east trade winds//	minor clause
Starter	//During the certain parts of the year, the south west monsoon is stretched in the southern part of Nigeria// (and)//towards the middle of the year it affects... even reaches up to the interior around Kaduna here// //What is the main importance of this hot wet monsoon to the people of Nigeria?//	mat.event.op. mat.event.op. mat.event.op. rel.id.
Elicit	//What is the importance of this wind to the people of Nigeria??//	rel.id.
Bid	P.N.V.	
Nomination	T.//Yes?//	minor clause
Reply	P.//It helps in the cultivation of cocoa...cocoa and rubber//	mat.event.op.
Loop	T.//How does it help?//	mat.event.op.
Clue	//Does it bring hoe and cutlass along with it or what?//	mat.event.op.
Reply	P.//No//	minor clause
Loop	T.//How?//	minor clause

Discourse Act		Clause As Process
Reply	P.//The moisture... the moisture((the crops need)) it supplies it, the moisture and the water//	minor clause mat.event.op. mat.event.op.
Loop	T.//How?//  //I can't understand you//	minor clause  ment.int.cognition
Reply	P.//It brings rainfall to the southern part of Nigeria//	mat.event.op.
Accept	T.//South west monsoon brings rainfall to the southern part of Nigeria//	mat.event.op.
Elicit	//During what period of the year?//	minor clause
Reply	P.//From March to September//	minor clause
Accept	T.//From early March to around September//	minor clause
Elicit	//Is it a dry wind or a moisture-laden wind?//	rel.id.
Bid	P.N.V.	
Nomination	//Yes?//	minor clause
Prompt	//You should be able to answer that//	ment.ext.verbal
Clue	//He has told us already// that it brings rain to Nigeria isn't it?// //I want you to tell me// whether south west monsoon is a moisture-laden wind or a dry wind//	ment.ext.verbal mat.event.op.  ment.int.react. ment.ext.verb. rel.id.
Reply	P.//It is a moisture-laden wind//	rel.id.
Loop	T.//Say it in a complete sentence//	ment.ext.verbal

Discourse Act		Clause As Process
Reply	P.//The south west monsoon is a moisture-laden wind//	rel.id.
Loop	T.//It is a moisture-laden wind//	rel.id.
Reply	P.//It is a moisture-laden wind//	rel.id.
Starter	T.//Unlike the south west monsoon, the second wind ((that affects Nigeria)) is the north east trades// It blows across the Sahara Desert//before it reaches Nigeria//  //We already know//that Sahara Desert is very dry//	mat.event.op. rel.id. mat.event.op. mat.event.op.  ment.int.cognition rel.id.
Elicit	//Will this wind ((blowing across the desert//before reaching Nigeria)) be a dry wind or a moisture- laden wind?//	mat.event.op. mat.event.op. rel.id.
Bid	P.N.V.	
Nomination	//(name)?//	minor clause
Prompt	//You should be able to answer that// //Is it a dry wind or a moisture-laden wind?//	rel.id. ment.ext.verbal rel.id.
Reply	P.//It is a dry wind//	rel.id.
Accept	T.//It is a dry wind//	rel.id.
Conclusion	//We'd better stop there today//	mat.act.op.

TEXTBOOK

A few pupils have the textbook open on their desks.

BLACKBOARD WORK

1. BB Heading: People of Nigeria.
2. Listing: Kanuris, Fulanis, Hausa.
3. Sketch Map: Outline of Nigeria, showing Rivers Niger and Benue. Areas of map shaded as discussion progresses. Relevant areas indicated by teacher and pupils during discussion.
4. 2nd Sketch Map: Showing rainfall patterns variously shaded in blue, with wind directions shown by red arrows. Figures showing amount of rainfall in inches inserted as discussion progresses. Area on 1st map labelled (Ia), area on 2nd map labelled (Ib).

TEXTBOOK USED

Adetoro, J.E. : A Geography Course for Junior Secondary Schools. Book 2. Macmillan, Nigeria.



SCHOOL: 4  
 YEAR: 1  
 SUBJECT: English Language  
 LESSON No.: 14

Discourse Act		Clause As Process
Starter	T.//you remember//yesterday I taught you a tune to the poem on page 117//	ment.int.cog. mat.act.op.
Elicit	//now who can tell me the title of that poem//	ment.ext.verb.
Bid	P.N.V.	
Nominate	T.//yes, (name)?//	minor cl.
Reply	P.//the hole in the bucket//	minor cl.
Accept	T.//yes, the hole in the bucket//	minor cl.
Marker	//now,	
Elicit	let's quickly sing the first verse of that poem//	ment.ext.verb.
Prompt	//quickly//	minor cl.
Cue	//one, two//	minor cl.
Reply	P.//there's a hole in my bucket, dear Liza, dear Liza// There's a hole in my bucket, dear Liza, a hole// Then mend it, dear Georgie, dear Georgie, dear Georgie// Then mend it dear Georgie, dear Georgie, mend it//	rel.circ. rel.circ. mat.act.op. mat.act.op.
Directive	T.//that's all//I said the first verse//(and)//that's all// so please close your your English textbooks//	rel.id.(2) ment.ext.verb. mat.act.op.
React	P.N.V.	
Starter	T.(BB: 'Listening Practice')	

Discourse Act		Clause As Process
Metast.	//we'll now have our listening practice//	mat.act.op.
Marker	//now,	
Starter	listen carefully to the passage//	ment.int.perc.
Inform	//the thief knew//that there was a lot of money in Mr.Johnston's house//	ment.int.cog. rel.circ.
	//he waited until it was dark//then he walked slowly and quietly to the house// he broke a window//he climbed in//he put out his hand//to open the money box//ahh!//the thief felt a terrible pain in his hand//Mr.Johnson's dog was on guard//	mat.act.op. mat.act.op. mat.act.op. mat.act.op. mat.act.op./min.cl. ment.int.percept. mat.act.op.
Starter	T.//question one//what did the thief do//before he walked to the house//	minor cl. mat.act.op. mat.act.op.
Elicit	//what did the thief do//before he walked to the house//	mat.act.op. mat.act.op.
Reply	P.(write the answer in exercise books)	
Starter	T.//question 2//what did he do//after he walked to the house//	minor cl. mat.act.op.(2)
Elicit	//what did he do//after he walked to the house//	mat.act.op.(2)
Reply	P.(write answer)	
Starter	T.(and)//question 3//then what did he do?//	minor cl. mat.act.op.
Elicit	//then what did he do// //question 3//	mat.act.op. minor cl.

Discourse Act		Clause As Process
Reply	P.(write answer)	
Starter	T.//question 4//what happened//after the thief put out his hand//	minor cl. mat.event.op. mat.act.op.
Elicit	//what happened//after the thief put out his hand//	mat.event.op. mat.act.op.
Reply	PP.(write answer)	
Marker	T.//now	
Directive	quickly exchange exercise books	mat.act.op.
React	P.N.V.	
Starter	T. //question one//	minor cl.
Elicit	//what did the thief do// before he walked to the house//	mat.act.op. mat.act.op.
Prompt	//answer it//	ment.ext.verbal
Cue	//you should know//what to do// //put up your hands//	ment.int.cog. mat.act.op.(2)
Bid	P.N.V.	
Nominate	T.//yes(name)?//	minor cl.
Reply	P.//the thief climbed through the window//	mat.act.op.
Evaluate	T.//no, he did not//no//	minor cl.(2)
Elicit	T.//what did the thief do//before he walked to the house//	mat.act.op.(2)
Bid	N.V.	
Nominate	//(name)?//	minor cl.
Reply	P.//he waited till(it was night))//	mat.act.op. rel.circ.

Discourse Act		Clause As Process
Accept	T.//yes, he waited until ((it was dark))//(or)//until it was night//	mat.act.op. rel.circ. rel.circ.
Comment	//I'll accept both answers//	ment.int.react.
Starter	//number 2//	minor cl.
Elicit	//what did he do//after he walked to the house//	mat.act.op.(2)
Bid	N.V.	
Nominate	//(name)?//	minor cl.
Reply	P.//he broke the window//	mat.act.op.
Accept	T.//yes, he broke open the window//	mat.act.op.
Elicit	(and)//what happened//after he broke open the window//	mat.event.op. mat.act.op.
Bid	P.N.V.	
Nominate	T.//yes(name)?//	minor cl.
Reply	P.//he opened the safe//	mat.act.op.
Evaluate	T.//no, wrong//	minor cl.
Bid	P.N.V.	
Nominate	T.//(name)?//	minor cl.
Reply	P.//he put his hand into the box of money//	mat.act.op.
Evaluate	T.//no//	minor cl.
Bid	P.N.V.	
Nominate	//(name)?//	minor cl.
Reply	P.//he walked round the house//	mat.act.op.
Evaluate	T.//no//	minor cl.

Discourse Act		Clause As Process
Comment	//he climbed <u>in</u> //he climbed in//he broke the window//(and)//then he climbed in//	mat.act.op.(4)
Marker	T.//OK	
Starter	he broke the window// he climbed in//then what did he do//	mat.act.op.(3)
Elicit	//what did he do//	mat.act.op.
Bid	P.N.V.	
Nominate	//(name)?//	minor cl.
Reply	P.//he put his hand into the safe//where the money was inside//	mat.act.op. rel.circ.
Accept	T.//yes, he put out his hand //to open the box//where the money was inside//	mat.act.op.(2) rel.circ.
Elicit	(but)//what happened//when he put his hand out//	mat.event.op. mat.act.op.
Bid	P.N.V.	
Nominate	T.//(name)?//	minor cl.
Reply	P.//he felt a terrible pain//	ment.int.percept.
Accept	T.//yes//	minor clause
Elicit	//what bit him?//	mat.act.op.
Reply	P.(chorus)//a dog//	minor cl.
Accept	T.//yes, a dog bit him//	mat.act.op.
Marker	T.//alright then,	
Directive	close your books//(and) //give the books back to the owner//	mat.act.op. mat.act.op.
React	P .N.V.	

Discourse Act		Clause As Process
Marker	T.//now	
Directive	open your secondary English project book 1 to page one hundred and 15//	mat.act.op.
React	P .N.V.	
Marker	T.//now	
Starter	can any of you remember any incident//when you were young//anything at all when you were young//can you remember any incident//that happened to you//when you were about say s..five years old or six years old//	ment.int.cog. rel.id. rel.id. ment.int.cog. mat.event.op. rel.id.
Elicit	//any funny incident, can you remember?//	ment.int.cog.
Bid	P.N.V.	
Nominate	T.//yes, (name), tell us about it//	ment.ext.verbal
Reply	P.//when, I was about 5 years old//one night..I woke up..I woke up//so I went by the fire//where the cooking is// so me and my sister were struggling to sit..to sit// I was pushing//(and)//she was pushing me//she just dipped my hand into the pot of beans//	rel.id. mat.act.op. mat.act.op. rel.circ. mat.act.op.(2) mat.act.op.(3)
Elicit	T.(and)//what happened//when she dipped your hand into the pot of beans//	mat.event.op. mat.act.op.
Reply	P.//I felt a terrible pain//	ment.int.percept.
Accept	T.//yes, you felt a terrible pain//alright//	ment.int.perc. minor cl.

Discourse Act		Clause As Process
Marker	//now	
Metastatement	today we are going to read a story about Baba of Karo// //Baba was a Hausa woman// who was born in the 1880's// (and)//in this extract((we are going to read)) she remembers her childhood days//	ment.int.cog.  rel.id. mat.act.op. ment.int.cog. ment.int.cog.
Marker	//now	
Directive	I want you to read it silently for 4 minutes//(and)	ment.int.react. ment.int.cog.
Clue	//remember//while you are reading//if there are any difficult words//underline these difficult words// 4 minutes//	ment.int.cog. ment.int.cog. rel.id. mat.act.op. minor cl.
React	P.(read passage)	
Nomination	T.//(name)	
Elicit	read us the first paragraph//	ment.ext.verbal
Reply	P.//in the morning((when the sun got up))our mothers used to rise//(and)//start making bean cakes//we got...we would get up//(and)//wash our faces//(and)//put on our clothes//they would give us bean cakes//(and)//we would go round the village //selling them//after selling them//we came back//(and) //our mothers gave us millet balls with sour milk((to drink))//Later ((when the afternoon brought a shadow across the compound))we would settle down//to grind the corn//then we'd sing//as we worked//we sang the song of the Madaki, a song of the King	mat.event.op.  mat.act.op.(2) minor cl. mat.act.op.(10)   mat.event.op.  mat.act.op.(2)  ment.ext.verbal mat.act.op. ment.ext.verbal

Discourse Act		Clause As Process
	of Zaria//who ruled the land of the Giwa people// //we learned the song from the Giwa people//who came to our town//	mat.act.op. ment.int.cog. mat.act.op.
(Nominate)	T.//(name),	
Elicit	the second paragraph//	minor cl.
Reply	P.//when we finished grinding... when we finished grinding// we gave our mothers the flour// they cooked a big pot of porridge and a pot of stew// then they would put out the porridge//(and)//pour the stew over it//we picked it up//(and) //took it to the men//(and)  //then we came back//(and) //get ours with the other children//if we weren't full//we got some more//when we were satisfied//we put down our wooden bowls and calabashes//(and)//then we ran off and played// //at nightfall we came back// (and)//spread our mats in mother's house//	mat.act.op.(10)          rel.id. mat.act.op. ment.int.react. mat.act.op.(5)
Accept	T.//yes//	minor cl.
Marker	//now	
Check	are there any difficult words in the passage//	rel.circ.
Reply	P.(chorus)//no//	minor cl.
Check	T.//you know all the words here//	ment.int.cog.
Reply	P.(chorus)//yes//	minor cl.
Marker	T.//O.K,	minor cl.



Discourse Act		Clause As Process
Metast.	I will give you a small test then//	mat.act.op.
Elicit	//what is sour milk....the meaning of sour milk?//	ment.int.cgg.
Bid	P.N.V.	
Nominate	T.//yes, (name)?//	minor cl.
Reply	P.//milk that's not fresh//	rel.id.
Accept	T.//yes, milk that's not fresh//	rel.id.
Comment	//milk that has been standing for some time//(and)//they have been left to sort of go bad//	mat.event.op. mat.act.op. mat.event.op.
Starter	(but)//that sour milk these days people eat it//	mat.act.op.
Elicit	//what do we call it//	ment.ext.verbal
Bid	P.N.V.	
Nominate	T.//yes?//	minor cl.
Reply	P.//yoghurt//	minor cl.
Evaluate	T.//yes, very good// //yoghurt, sort of yoghurt//	minor cl. minor cl.
Marker	//OK,	
Metast.	we'll now answer the questions there//	ment.ext.verbal
Starter	//question one//	minor cl.
Elicit	//when did their mothers use to rise//	mat.act.op.
Bid	P.N.V.	
Nominate	//(name)?//	minor cl.

Discourse Act		Clause As Process
Reply	P.//it was early in the morning// when the sun got up//	rel.circ. mat.event.op.
Accept	T.//yes, in the morning((when the sun got up))their mothers used to rise//	mat.event.op. mat.act.op.
Elicit	//what did they start making//	mat.act.op.(2)
Reply	P.//they started making bean cakes//	mat.act.op.(2)
Accept	T.//yes//	minor cl.
Starter	//what do you call bean cakes in..er..Yoruba//	ment.ext.verbal
Elicit	//do you know the meaning of bean cakes//	ment.int.cog.
Bid	P.N.V.	
Nominate	T.//(name)?//	minor cl.
Reply	P.//akara//	minor cl.
Accept	T.//yes, akara//	minor cl.
Comment	//so don't have any ideas// it's akara//(and)//the meaning of akara in English is bean cakes//	ment.int.cog. rel.id. ment.int.cog.
Starter	//what would the children do..//	mat.act.op.
Elicit	//after their mother had started making the bean cakes// what would the children do?//	mat.act.op.(3)
Bid	P.N.V.	
Nominate	T.//(name)?//	minor cl.
Reply	P.//they would get up//(and)	mat.act.op.
Loop	T.//speak loudly please//	ment.ext.verbal

Discourse Act		Clause As Process
Reply	P.//they would get up// wash their faces//(and)//put on their clothes//	mat.act.op.(3)
Accept	T.//yes, they would get up//wash their faces//(and) //put on their clothes//	mat.act.op.(3)
Elicit	//what would their mothers give them//	mat.act.op.
Bid	P.N.V.	
Nominate	T.//(name)?//	minor cl.
Reply	P.//they would give them bean cakes and sour milk//	mat.act.op.
Evaluate	T.//no, wrong//	minor cl.
Bid	P.N.V.	
Nominate	T.//(name)?//	minor cl.
Reply	P.//they would give them bean cakes//	mat.act.op.
Accept	T.//yes, they would give them bean cakes//	mat.act.op.
Elicit	//what did the children do with the bean cakes//	mat.act.op.
Reply	P.//the children go round the village//(and)//sell them//	mat.act.op.(2)
Evaluate	T.//yes, very good// //the children would go round the village//selling the bean cakes//	minor cl. mat.act.op.(2)
Starter	//what did they eat, the children//	mat.act.op.
Elicit	//what did they eat//	mat.act.op.
Bid	P.N.V.	
Nominate	//(name)?//	minor cl.

Discourse Act		Clause As Process
Reply	P.//they ate millet balls and with sour milk//	mat.act.op.
Evaluate	T.//yes, very good// //they ate millet balls with sour meat...milk//	minor cl. mat.act.op.
Starter	//what would the children do later?//	mat.act.op.
Bid	N.V.	
Nominate	T.//(name)?//	minor cl.
Reply	P.//go round the village//	mat.act.op.
Evaluate	T.//what...?//no//	minor cl.(2)
Starter	//what would they do later//after going round the village//selling the bean cakes//they would come back// they would have their own breakfast//(and)	mat.act.op.(5)
Elicit	//what would they do?//	mat.act.op.
Bid	P.N.V.	
Nominate	T.//(name)?//	minor cl.
Reply	P.(missed)	
Accept	T.//yes, they would settle down//(and)//grind corn//	minor cl. mat.act.op.(2)
Marker	//now	
Starter	question 8 here//I want you to listen to my question// //it's not the question in the book//	minor cl. ment.int.react. ment.int.percept. rel.id.
Check	//do you understand//	ment.int.cog.
Reply	P.(chorus)//yes//	minor cl.
Starter	T.//what would they do//as they worked?//	mat.act.op.(2)

Discourse Act		Clause As Process
Elicit	//what would the children do//as they worked//	mat.act.op.(2)
Nominate	T.//(name)?//	minor cl.
Reply	P.//they will started to sing//	mat.act.op. ment.ext.verbal
Loop	T.//correct yourself//	mat.act.op.
Reply	P.//they will sing//	ment.ext.verbal
Accept	T.//they will sing//	ment.ext.verbal
Evaluate	//that's all//not they will started to//it's wrong// //they will sing//	rel.id. rel.id./mat.act.op. ment.ext.verbal
Starter	//what song did they sing?//	ment.ext.verbal
Elicit	//what song did they sing?//	ment.ext.verbal
Bid	P.N.V.	
Nominate	//(name)?//	minor cl.
Reply	P.//they say the song of the Madaki//	ment.ext.verbal
Accept	T.//yes, they sang the song of the Madaki//	ment.ext.verbal
Marker	T.//now	
Elicit	the song of the Madaki is about a song of the King of Zaria//who ruled where//	rel.id. mat.act.op.
Reply	P.//at Giwa//	minor cl.
Accept	T.//yes, Giwa//	minor cl.
Elicit	//who did they learn the song from?//	ment.int.cog.
Bid	P.N.V.	
Nominate	//(name)?//	minor cl.

Discourse Act		Clause As Process
Reply	P.//they learned the song from the Giwa people//	ment.int.cog.
Starter	(and)//how did they meet the Giwa people//did they go to the town((where the Givas lived))// (or)//what happened?//	mat.act.op. mat.act.op. mat.act.op. mat.event.op.
Elicit	//how did they meet them?//	mat.act.op.
Bid.	P.N.V.	
Nominate	T.//(name)?//	minor cl.
Reply	P.//the Giwa people...they came to their town//	mat.act.op.
Accept	T.//yes, these people came to their town//(and)	mat.act.op.
Comment	//probably told them stories// (and) //taught them different songs of their tribes//	ment.ext.verbal mat.act.op.
Starter	//what did they do//when they had finished grinding//	mat.act.op.(3)
Elicit (nominate)	//when the children had finished grinding//what did they do, (name)?//	mat.act.op.(3)
Reply	P.//they would give their mothers the flour((they have grinded))	mat.act.op. mat.act.op.
Accept	T.//yes, they gave their mothers the flour((they grinded))	mat.act.op.(2)
Marker	//now	
Directive	quickly in your exercise books answer questions 12 to 18//	mat.act.op.
Prompt	//quickly, questions 12 to 18//	minor cl.

Discourse Act		Clause As Process
React	P.N.V.	
Directive	T.(and)//remember to write today's date//	ment.int.cog.
React	P.N.V. (pause; pupils writing)	
Marker	T.//OK	
Starter	you should have finished by now//	mat.act.op.
Directive	//close your exercise books everybody//	mat.act.op.
React	P.N.V.	
Marker	T.//now	
Inform	most of you are used to village life//the fact is your..//if you have your grandparents, your grandfather or your grandmother living with you now// maybe you used to hear them talk to your mother, your father or your senior sister about the good old days//things they did years ago//now most of us have these happy memories.// (name) just gave us an example this...earlier on this morning//he said//when he was young//he went near the fire//where they were cooking beans//(and)//he got burned (missed)	ment.int.react. minor cl. mat.act.op. ment.int.percept. ment.ext.verbal mat.act.op. ment.int.cog. ment.ext.verbal(2) rel.id. mat.act.op.(3)
Marker	//now	
Inform	when you talk about things ((you used to do))(but)((which you no longer do))//you use verbs with 'used' or 'would' (BB)//you use verbs with the word used or would// (writes examples on BB)	ment.ext.verbal mat.act.op.(2) ment.ext.verbal(2)

Marker	//now	
Inform	these two examples, one uses the word 'used'//(and)//one uses the word 'would'// (BB.writing)//my parents used to beat me sometimes//that's one example//the second one 'my mother would sing me to sleep every night//	ment.ext.verb. ment.ext.verb. mat.act.op. rel.id. ment.ext.verbal
	(BB)	
Marker	//now	
Metast.	before we want to go on// //I want to correct something// you used to say//	ment.int.react. mat.act.op.(2) ment.int.react. ment.ext.verbal
Marker	//now	
Inform	if I..if I had asked you to read out this sentence to me//without putting it on the board//most of you would say//my parents use to beat me//you say 'use to'//(BB)//It's wrong// It's <u>used</u> to beat me, not use//	ment.ext.verbal(2) mat.act.op. ment.ext.verbal mat.act.op.(3) ment.ext.verbal mat.act.op. rel.id.(2)
Check	//do you understand?//	ment.int.cog.
Reply	P.(chorus)//yes//	minor cl.
Comment	T.//so remember that as from today//because most of you often say//he use to do this//he use to do that//he <u>used</u> to beat me//	ment.int.cog. ment.ext.verbal mat.act.op.(3)
Marker	//now	
Inform	in speech 'used' is more common than 'would'//when you are talking//you don't often say 'would'//you... it's more easy for you ((to use the word 'used'))//	rel.id. ment.ext.verbal ment.ext.verbal rel.id. ment.ext.verb.
Marker	//now	



Discourse Act		Clause As Process
Starter	I've given you 2 examples// we have in your books on page 115 the practice there// by which you can use these 2 words in different sentences//	ment.ext.verb. rel.circ. ment.ext.verb.
	//there's an example there// if you look at the first one//I love fanta// the uncle replies//I used to love fanta//(but)//I don't now//	rel.circ. ment.int.percept. ment.int.react. ment.ext.verbal ment.int.react. minor cl.
Marker	//now	
Starter	I'll be nephew//	rel.id.
(Nominate)	(name)for the first question be the uncle//	rel.id.
Elicit	P.//I often go hunting//	mat.act.op.
Reply	P.//I often used to go hunting//	mat.act.op.
Evaluate	T.//no//	minor cl.
Marker	//now	
Starter	look at the first question there, the first example// the nephew said//I love fanta//(but)//his uncle answers him//by saying//I used to love fanta//(but)//I don't now// //so I'm asking..//I'm saying it again//I often go hunting//	ment.int.percept. ment.ext.verbal ment.int.react. ment.ext.verbal(2) ment.int.react. minor cl. ment.ext.verbal(2) mat.act.op.
Elicit (nominate)	//you, as the uncle how would you answer me?//	ment.ext.verbal
Reply	P.//I often used to go hunting//	mat.act.op.
Prompt	T.//go on//	mat.act.op.

Discourse Act		Clause As Process
Clue	(but)//I don't now//	minor cl.
Starter	T.//the second one//I'll be the nephew again//I often trap bush rats//	minor clause rel.id. mat.act.op.
Elicit	//who'll be the uncle?//	rel.id.
Bid	P.N.V.	
Nominate	T.//(name)//	minor cl.
Reply	P.//I..I often used to trap bush rats//(but)//I don't now//	mat.act.op. minor cl.
Evaluate	T.//good, very good//	minor cl.
Starter	//I'll be the nephew again//  //I often sing traditional songs//	rel.id.  ment.ext.verbal
Elicit (nominate)	//(name), you be the uncle//	rel.id.
Reply	P.//I often sing...I often used to sing traditional songs// (but)//I don't now//	ment.ext.verbal minor cl.
Evaluate	T.//very good//	minor cl.
Elicit	//I look after the goats//	mat.act.op.
Nominate	//(name)?//	minor cl.
Reply	P.//I used to look after the goats//(but)//I don't now//	mat.act.op. minor cl.
Evaluate	T.//very good//	minor cl.
Elicit	T.//every day we protect the crops from the birds//	mat.act.op.
Nominate	//(name)?//	minor cl.
Reply	P.//we used to protect the crops from the birds//(but) //we often used to protect the birds...the crops from the birds//(but)//I don't now//	mat.act.op. mat.act.op. minor cl.

Discourse Act		Clause As Process
Evaluate	T.//no, that's wrong//	rel.id.
Marker	//now	
Clue	you see//at the beginning they've put it there for you// //we used to...//	ment.int.percept. mat.act.op. minor cl.
Bid	P.N.V.	
Nominate	T.//yes, (name)?//	minor cl.
Prompt (Nominate)	//(name), go on//	mat.act.op.
Reply	P.//we used to protect the crops from the birds// (but)//we don't now//	mat.act.op. minor cl.
Evaluate	T.//very good//	minor cl.
Elicit	(and)//the last one, my sister teaches me to dance//	mat.act.op.(2)
Nominate	//(name)?//	minor cl.
Reply	P.//my sister used to teach me to dance//(but)//now she doesn't//	mat.act.op.(2) minor cl.
Accept	T.//alright//	minor cl.
Marker	//now	
Inform	you know//what I want you to do in your exercise books//I want you to write  down 5 sentences like your uncle's//using the word'used'// //give me 5 sentences//(and) //in that sentence use the word'used'// forget about this one// (pointing to'would'on BB)// we'll do this one later//	ment.int.cog. ment.int.react. mat.act.op. ment.int.react. mat.act.op. ment.ext.verb.(3)  ment.int.cog. mat.act.op.
Check	//do you understand//	ment.int.cog.

Discourse Act		Clause As Process
Reply	P.(chorus)//yes//	minor cl.
Directive	T.//quickly, write down 5 sentences with the word 'used'//	mat.act.op.
React	P.N.V.	
Directive (to pupil)	T.//don't keep your work covered// (name)is not going to copy you//	mat.act.op. mat.act.op.
React	P.N.V.	
Marker	//alright	
Directive (to class)	put your pens down//	mat.act.op.
React	P.N.V.	
Elicit	T.//(name), give me an example ((you wrote down in your book))	ment.ext.verbal mat.act.op.
Reply	P.//my dad used to go swimming//when he was young//	mat.act.op. rel.id.
Accept	T.//yes//	minor cl.
Elicit (nominate)	//(name), give me an example//	ment.ext.verbal
Reply	P.//I often used to play//(but) //not now//	mat.act.op. minor cl.
Evaluate	T.//very good//	minor cl.
Nominate	//(name)?//	minor cl.
Reply	P.//I often used to go to bus stop//(but)//I don't now//	mat.act.op. minor cl.
Loop	T.//you used to go to?//	mat.act.op.
Reply	P.//bus stop//	minor cl.
Loop	T.//correct yourself//you used to go to?//	mat.act.op.

Discourse Act		Clause As Process
Reply	P.//I oft..I often used to go to..the bus stop//	mat.act.op.
Accept	T.//yes, to the bus stop// (but)//I don't now//	minor cl.(2)
Nominate	// (name)?//	minor cl.
Reply	P.//I used to (missed)//	
Loop	T.//your?//	minor cl.
Reply	P.(missed)	
Evaluate	T.//no, that's wrong// you've used that word wrongly, in that sentence//	rel.id. ment.ext.verb.
Nominate	// (name)?//	minor cl.
Reply	P.//I often used to go to the lesson//(but)//I don't now//	mat.act.op. minor cl.
Accept	T.//yes//	minor cl.
Comment	//why don't you go to the lesson any more?//	mat.act.op.
Nominate	// (name)?//	minor cl.
Reply	P.//I often used to drink much//(but)//I don't now//	mat.act.op. minor cl.
Elicit	T.//what sort of drink?//	minor cl.
Reply	P.//coca cola//	minor cl.
Accept	T.//coca cola//	minor cl.
Comment	//I hope it is!//	ment.int.react.
Marker	//alright	
Metast.	for your homework, boys, I want you to read the comprehension passage again, 'a day in my childhood'// I want you to find out for tomorrow's lesson//how many 'used' verbs you can find in the passage//(and)// //where you can find them// (and)//how many 'would'	ment.int.react. ment.int.cog.  ment.int.react. ment.int.cog.  mat.act.op. mat.act.op.

## Discourse Act

## Clause As Process

	verbs you can find in the passage?//	mat.act.op.
	//there are a lot of 'would' verbs in the passage here//	rel.circ.
	(and)//there are very few 'used' verbs//(but)	minor cl.
	//your assignment for tomorrows lesson is ((to read the comprehension passage again))//find out how many 'used' verbs can be found in the passage and where//(and)	rel.id. ment.int.cog. ment.int.cog. mat.act.up.
	//how many 'would' verbs you can find there again//	mat.act.op.
Check	//do you understand//	ment.int.cog.
Reply	P.(chorus)//yes//	minor cl.
Accept	T.//alright then//	minor cl.

BLACKBOARD

Examples: My parents used to beat me sometimes.  
My mother would sing me to sleep every night.

Textbook

Secondary English Project: Book One:  
(Longmans Nigeria)

SCHOOL: 5  
 YEAR: 1  
 SUBJECT: Maths  
 LESSON No.: 25

Discourse Act		Clause As Process
Marker	T.//now,	
Metast.	this morning we are going on to multiplication of fractions//	mat.act.op.
Starter	//what is a fraction?//you have done that before//I think you can define that//	rel.id. mat.act.op. ment.int.cog. ment.ext.verb.
Elicit	//what is a fraction//	rel.id.
Bid	P.N.V.	
Nominate	T.//(name)?//	minor cl.
Reply	P.//one over two is a fraction//	rel.id.
Loop	T.//one over?//	minor cl.
Reply	P.//two//	minor cl.
Accept	T.//one over two, yes//	minor cl.
Directive (nominate)	//write one other fraction on the black board..erm,(name)//	mat.act.op.
React	P.(BB.: 3/4)	
Accept	T.//yes//	minor cl.
Elicit	//what is that?//	rel.id.
Reply	P.//three over...three over four//	minor cl.
Accept	T.//three over four//	minor cl.

Discourse Act		Clause As Process
Evaluate	//correct//	minor cl.
Starter	//what do you call the number at the top//	ment.ext.verb.
Elicit	what do you call that?//	ment.ext.verb.
Bid	P.N.V.	
Nominate	T.//(name)?//	minor cl.
Reply	P.//numarator//	minor cl.
Loop	T.//speak out//	ment.ext.verb.
Reply	P.//numarator//	minor cl.
Loop	T.//numerator, not numarator//	minor cl.
Reply	P.//numerator//	minor cl.
Loop	T.//again//	minor cl.
Reply	P.//numerator//	minor cl.
Accept	T.//numerator//	minor cl.
Elicit	(and)//the bottom one is called what?//	ment.ext.verb.
Reply	P.//denominator//	minor cl.
Accept	T.//denominator, yes//	minor cl.
Starter	//what type of a fraction is this, three quarters//(BB) //what type of a fraction	rel.id. rel.id.
(nominate)	is that, (name)?//	
Elicit	//what do you call such a fraction//where the numerator is smaller than the denominator?//	ment.ext.verb. rel.id.
Bid	P.N.V.	
Nominate	T.//(name)//	



Discourse Act		Clause As Process
Reply	P.//proper fraction//	minor cl.
Accept	T.//a proper fraction//	minor cl.
Evaluate	//correct//	minor cl.
Marker	//now,	
Starter	look at this//half Kobo times four//half Kobo times four//(BB.: $1/2$ K X 4)	ment.int.perc. minor cl.(2)
Elicit	//who can tell me the answer?//half Kobo times four?//	ment.ext.verb. minor cl.
Bid	P.N.V.	
Nominate	T.//(name)?//	minor cl.
Reply	P.//two//	minor cl.
Loop	T.//two what?//	minor cl.
Reply	P.//Kobo//	minor cl.
Accept	T.//two Kobo//	minor cl.
Check	//is that correct?//	rel.id.
Reply	P.(chorus)//yes//	minor cl.
Accept	T.//yes, two Kobo//half Kobo times four is equal to two Kobo//correct//	minor cl. rel.id. minor cl.
Marker	//O.K,	
Starter	half Kobo times seven// (BB.: $1/2$ K X 7)	minor cl.
Elicit	//how much is that, half Kobo times seven?//	rel.id.
Bid	P.N.V.	
Nominate	T.//(name)?//	minor cl.

Discourse Act		Clause As Process
Reply	P.//three and a half Kobo//	minor cl.
Accept	T.//yes, three and a half Kobo//(BB)	minor cl.
Evaluate	//correct//	minor cl.
Marker	//O.K.	
Starter	half Kobo times twelve// (BB.: 1/2 K X 12)	minor cl.
Elicit	//half Kobo times twelve?//	minor cl.
Bid	P.N.V.	
Nominate	T.//(name)?//	minor cl.
Reply	P.//six Kobo//	minor cl.
Accept	T.//six Kobo//(BB.: 6K)	minor cl.
Evaluate	//correct, six Kobo//	minor cl.
Marker	//now,	
Starter	you are...you can tell me the answer//you are able to tell me the answer//because you are familiar with Kobo//you know//that ((if you take half Kobo in four places)) you get two Kobo//now if we want to work this down//if we want to work it mathematically //how do we get two Kobo ((when it's half Kobo times four//how...how can we get two Kobo with that, half Kobo times four//how do you work it//in order to get two Kobo//	ment.ext.verb. rel.id. ment.ext.verb. ment.int.cog.(2)  mat.act.op.(2)  mat.act.op.(3) ment.int.react.(2)  rel.id. mat.act.op.(3)
Elicit	//how are we going to work that//can anybody tell us?//	mat.act.op. ment.ext.verb.

Discourse Act		Clause As Process
Bid	P.N.V.	
Nominate	T.//(name)?//	minor cl.
Reply	P.//one over two times four over one//	minor cl.
Evaluate	T.//very good//	minor cl.
Accept	//one over two times four over one//(BB.: $1/2 \times 4/1$ )	minor cl.
Evaluate	//that is very good//  //times four over one//	rel.id. minor cl.
Inform	//you know//when any number is written without any denominator//you can make it....you can turn it to a fraction//by placing it over one//	ment.int.cog. mat.act.op.(4)
(acknowledge)	P.(chorus echo) //one//  T.//by making the denominator one//	minor cl. mat.act.op.
Marker	//O,K.,	
Starter	when we say//half Kobo times four over one//then how do we get two Kobo//how do you get two from this// how do you get two//	ment.ext.verb. minor cl. mat.act.op.(3)
Elicit	//when you say//half times four over one// how do you get two?//	ment.ext.verb. minor cl. mat.act.op.
Bid	P.//yes//	minor cl.
Nominate	T.//(name)?//	minor cl.
Reply	P.//two in two, one//two in four, two//	minor cl.(2)

Discourse Act		Clause As Process
Evaluate	T.//that is cor...that is correct, yes//	rel.id.
Comment	//you divide by the common factor//	mat.act.op.
Elicit	//what is the common factor of two and four//	rel.id.
Reply	P.(chorus)//two//	minor cl.
Accept	T.//two//(BB.: <del>2</del> 1, <del>4</del> 2)	minor cl.
Evaluate	//correct//	minor cl.
Conc.	//so that you have two... two Kobo//	minor cl.
Starter	//in the same way, half Kobo times seven// (BB.: $1/2 K \times 7$ )	minor cl.
Elicit	//seven over what?//	minor cl.
Reply	P.(chorus) //one//	minor cl.
Accept	T.//over one//seven over one//(BB)	minor cl.(2)
Elicit	//is there any common factor?//	rel.id.
Reply	P.(chorus) //no//	minor cl.
Accept	T.//no common factor//	minor cl.
Starter	//what do we do then?//	mat.act.op.
Inform	//you multiply seven by one//seven times one, seven//(BB)//two times one, two//(BB)	mat.act.op. minor cl.(2)
Acknow.	P.(chorus echo)//two//	minor cl.
Starter	T.(and)//that is how much// what...what type of fraction is that//you agree..seven over two//	rel.id.(2) ment.int.cog.
Elicit	//what do you call such a fraction?//	ment.ext.verb.

Discourse Act		Clause As Process
Reply	P.//improper fraction//	minor cl.
Accept	T.//an improper fraction//	minor cl.
Evaluate	//correct//	minor cl.
Comment	//where the numerator is greater than the denominator //it's an improper fraction//	rel.id.(2)
Marker	//now,	
Elicit	you change this to what?//	mat.act.op.
Reply	P.(chorus)//to Kobo//	minor cl.
Loop	T.//seven over...//do you leave the answer like that?//	minor cl. mat.act.op.
Reply	P.(chorus) //no//	minor cl.
Marker	T.//O.K,	
Elicit	how do you write the answer?//	mat.act.op.
Bid	P.N.V.	
Nominate	T.//erm,(name)?//	minor cl.
Reply	P.//you change it to a mixed fraction//	mat.act.op.
Loop	T.//a mixed?//	minor cl.
Reply	P.//fraction//	minor cl.
Evaluate	T.//number//a mixed number , yes//	minor cl.(2)
Marker	//O.K,	
Starter	change this to a mixed number//	mat.act.op.
Elicit	//that becomes what?//	mat.event.op.

Discourse Act		Clause As Process
Reply	P.(chorus)//three whole and one over two//	minor cl.
Accept	T.//yes, and one over two// which is three and a half Kobo//(BB.: 3 1/2 K)	minor cl. rel.id.
Inform	(and)//the last one you can work out in the same way//(BB.: 1/2 X 12/1) //make twelve to become twelve over one//	mat.act.op.(2) mat.event.op.
Acknowledge	P.(chorus echo) //one//	minor cl.
Elicit	T.//any common factor?//	minor cl.
Reply	P.(chorus)//yes//	minor cl.
Nominate	T.//(name)?//	minor cl.
Reply	P.//two//	minor cl.
Accept	T.//two, yes//	minor cl.
Conc.	(BB.: 1/2 X 12/1) //six//so that is six Kobo//	minor cl. rel.id.
Starter	//you see now//that in these examples what have you been doing//	ment.int.cog. mat.act.op.
Elicit	//in these examples, what have you been doing?//	mat.act.op.
Reply	P.(chorus) //fractions//	minor cl.
Loop	T.//what!//are we doing addition?//	minor cl. mat.act.op.
Reply	P.(chorus)//no, multiplication//	minor cl.
Accept	T.//multiplication//we have been multiplying fractions//	minor cl. mat.act.op.
Marker	//now,	
Starter	who can tell me the method//from what we have	ment.ext.verb. mat.act.op.

Discourse Act		Clause As Process
	just done//if you want to multiply fractions// what do you do//if you want to multiply fractions//	ment.int.react. mat.act.op. mat.act.op.(2) ment.int.react.
Elicit	//from what you have just done//what do we do to multiply fractions//	mat.act.op.(3)
Clue	//look at ((what you have just done))// //1/2 times 4//that is 1/2 times 4 over one equals 2//when you work it // 1/2 times 7 over 1 equals 7 over 2 equals 3 and a 1/2 and so on//	ment.int.perc. mat.act.op. minor cl. rel.id. mat.act.op. rel.id.(2)
Bid	P.N.V.	
Nominate	T.//(name)?//	minor cl.
Reply	P.//we put it (missed)//	mat.act.op.
Evaluate	T.//aha//	minor cl.
Starter	(and)//then what did we do//	mat.act.op.
Elicit	//what do we do to the numbers?//	mat.act.op.
Reply	P.//we divide//	mat.act.op.
P.evaluate	P.(chorus) //no//	minor cl.
Elicit	T.//do...do we do any division//	mat.act.op.
Reply	P.(chorus)//no//	minor cl.
Accept	T.//no division//	minor cl.
Bid	P.N.V.	
Nominate	T.//(name)?//	minor cl.
Reply	P.//we turn... we make... we turn//	mat.act.op.(3)

Discourse Act		Clause As Process
Prompt	T.//speak out//	ment.ext.verbal
Reply	P.//we turn all into fractions//	mat.act.op.
Accept	T.//yes, frac...//	minor cl.
Starter	(and)//then what do you do//what do you do to the numerators//what do you do to the denominators//	mat.act.op.(3)
Inform	// $\frac{1}{2} \times 4$ over one//(BB)//the answer becomes 2//when you cancel//you may not even cancel//you can go on// $\frac{1}{2}$ times 4 over 1// (BB) //multiply the numerators together//four times one, four//	minor cl. mat.event.op. mat.act.op.(4) minor cl. minor cl.
Acknowledge	P.(chorus echo)//four//	minor cl.
Inform	T.//multiply the denominators// //2 times one, two//	mat.act.op. minor cl.
Acknowledge	P.(chorus echo)//2//	minor cl.
Inform	T.//now you have to reduce to lowest terms//	mat.act.op.
Acknowledge	P.(chorus echo)//lowest terms//	minor cl.
Inform	T.//when you reduce to lowest terms//you divide by the common factor//(BB) : //2 Kobo//(but)//it's always easier to reduce to lowest terms//before you multiply out//	mat.act.op.(2) minor cl. rel.id. mat.act.op.(2)
Marker	//so	
Conclusion	to multiply fractions// multiply all the numerators together//multiply all the denominators//(and)//reduce to lowest terms//(or)//first of all reduce to lowest terms//by cancelling...dividing with the common factors//(and)// then you multiply out//	mat.act.op.(8)



Discourse Act		Clause As Process
Marker	//OK	
Starter	let me work some other examples on the blackboard for you// (cleans BB, then writes, refer- ring to text)	mat.act.op.
Marker	//now	
Starter	look at this//	ment.int.percept.
Inform	4 over 5 times 15 over 24 times 1 over 3//these are all fractions //to be multiplied together// //now ((as we have said))multiply all the numerators//multiply all the denominators//(and)// reduce to lowest terms//(but)// it's easier//to reduce to lowest terms first//before you multiply out//	minor cl. rel.id. mat.act.op. ment.ext.verbal mat.act.op.(5) rel.id.
Marker	//now	
Starter	look at all this//	ment.int.percept.
Elicit	//are there any common factors//	rel.id.
Reply	P.(chorus)//yes//	minor cl.
Loop	T.//any common factors//	minor cl.
Reply	P.(chorus)//yes//	minor cl.
Nominate	T.//(name)//	minor cl.
Reply	P.//5//	minor cl.
Loop	T.//5 and ?//	minor cl.
Reply	P.//15//	minor cl.
Accept	T.//yes, 5 and 15//	minor cl.
Elicit	//what...what is the common factor//	rel.id.
Reply	P.//3//	minor cl.

Discourse Act		Clause As Process
Loop	T.//can 3 go in 5//	mat.event.op.
Reply	P.//5//	minor cl.
Accept	T.//5// 5 can go in 5//	minor cl. mat.event.op.
Elicit	//how many times//	minor cl.
Reply	P.(chorus) //one//	minor cl.
Accept	T.//once//(BB)	minor cl.
Elicit	//in 15//	minor cl.
Reply	P.(chorus) //3//	minor cl.
Accept	T.//3//(BB)	minor cl.
Elicit	//any other common factors//	minor cl.
Bid	P.N.V.	
Nominate	T.//(name)//	minor cl.
Reply	P.//3//	minor cl.
Loop	T.//3 and what//	minor cl.
Reply	P.(chorus) //3 and 3//	minor cl.
Accept	T.//3 and 3,yes//	minor cl.
Comment	//this 3 can go here, once// here, once//(BB)	mat.event.op. minor cl.
Elicit	//any other//	minor cl.
Bid	P.N.V.	
Nominate	T.//(name)//	minor cl.
Reply	P.//4//	minor cl.
Loop	T.//4 and what//	minor cl.
Reply	P.//4 and 24//	minor cl.
Accept	T.//4 and 24//	minor cl.

Discourse Act		Clause As Process
Inform	//four here, one//here, 6// (cancelling on BB)	minor cl.(2)
Acknowledge	P.(chorus echo)//one//six//	minor cl.(2)
Elicit	T.//any more//	minor cl.
Reply	P.(chorus)//no//	minor cl.
Accept	T.//no more//	minor cl.
Marker	//now	
Starter	what are the numerators there//what are the numerators//	rel.id.(2)
(nominate)	// (name), give us all the	ment.ext.verbal
Elicit	numerators in that sum//	
Reply	P.//one//	minor cl.
Accept	T.//yes, one//	minor cl.
Starter	//one, one, one// (BB) //multiply the numerator together//what	minor cl. mat.act.op.(2)
(nominate)	do you get, (name)//	
Elicit	//one times one times one?//	minor cl.
Reply	P.//one//	minor cl.
Accept	T.//one// (BB)	minor cl.
Elicit	//which are the denominators,	rel.id.
(nominate)	(name)//	
Reply	P.//one, six and one//	minor cl.
Accept	T.//one, six and one//	minor cl.
Evaluate	//correct//	minor cl.
Marker	//now	

Discourse Act		Clause As Process
Elicit	multiply the denominators together//	mat.act.op.
Reply	P.//6//	minor cl.
Accept	T.//6//one times 6 times one, six//	minor cl.(2)
Conc.	//so the answer is one over 6, one sixth//	rel.id.
acknowledge	P.(chorus echo)//one over six//	minor cl.
Check	T.//is that clear//	rel.id.
Reply	P.(chorus) //yes//	minor cl.
Starter	T.//there's another one//(BB)	rel.id.
Elicit	//how do we start//	mat.act.op.
Bid	P.N.V.	
Nominate	T.//(name)?//	minor cl.
Reply	P.//we find...//	mat.act.op.
Nominate	T.//(name)//	minor cl.
Reply	P.//we find the common factors//	mat.act.op.
Marker	T.//OK,	
Starter	which is the common factor//	rel.id.
Elicit	//any common factors?//	minor cl.
Reply	P.//6//	
Accept	T.//6, yes//	minor cl.
Comment	6 can divide 6 and 42//	mat.event.op.

Discourse Act		Clause As Process
Elicit	//how many 6 in 42//	minor cl.
Reply	P.(chorus)//7//	minor cl.
Accept	T.//7//(BB)	minor cl.
Elicit	//any more//	minor cl.
Reply	P.(chorus)//yes//	minor cl.
Nominate	T.//(name)//	minor cl.
Reply	P.//17 and 34//	minor cl.
Accept	T.//17 and 34//	minor cl.
Evaluate	//correct//	minor cl.
Elicit	//with what do we divide//	mat.act.op.
Reply	P.(chorus) //17//	minor cl.
Accept	T.//17//	minor cl.
Elicit	//17 goes here//(BB)	mat.event.op.
Reply	P.(chorus) //one//	minor cl.
Accept	T.//once//(BB)	minor cl.
Elicit	//in 34//	minor cl.
Reply	P.(chorus)//2//	minor cl.
Accept	T.(cancels on BB)	
Marker	//now	
Elicit	any more//	minor cl.
Reply	P.(chorus) //no//	minor cl.
Accept	T.//no more//	minor cl.
Marker	T.//now	
Elicit	which are the numerators//to be multiplied together//	rel.id. mat.act.op.

Discourse Act		Clause As Process
Bid	P.N.V.	
Nominate	T.//(name)?//	minor cl.
Reply	P.//2 and 1//	minor cl.
Accept	T.//2 and 1, O.K.//	minor cl.
Elicit	//multiply 2 by one//	mat.act.op.
Reply	P.//2//	minor cl.
Accept	T.//2//	minor cl.
Elicit	(and)//the denominators((to be multiplied together))	minor cl. mat.act.op.
Bid	P.N.V.	
Nominate	T.//(name)?//	minor cl.
Reply	P.//7 and one//	minor cl.
Elicit	T.//7 and 1?//(BB)	minor cl.
Reply	P.(chorus)//7//	minor cl.
Accept	T.//7//	minor cl.
Elicit	//so the answer is what//	rel.id.
Reply	P.(chorus)//2 over 7//	minor cl.
Accept	T.//2 seventh//	minor cl.
Evaluate	//correct// //2 seventh//(BB) //that is correct//	minor cl. minor cl. rel.id.
Check	//any questions so far//	minor cl.
Reply	P.(chorus)//no//	minor cl.
Accept	T.//no//	minor cl.
Marker	//now,	

Discourse Act		Clause As Process
Starter	look at this example// I'm going to write on the blackboard// (cleans BB, then writes $3-7/8 \times$ $1-1/2$ ) // $3-7/8$ multiplied by $1-1/2$ // this is a bit different from this//because here you have what//what is different//	ment.int.percept. mat.act.op.  mat.event.op. rel.id. rel.id. rel.id.
Elicit	//do you notice any difference between these fractions and this one//	ment. int.cog.
Reply	P.(chorus)//yes//	minor cl.
Elicit	T.//what is different there//	rel.id.
Bid	P.N.V.	
Nominate	T.//(name)//	minor cl.
Reply	P.//we have...here we have whole numbers//	rel.circ.
Evaluate	T.//very good//they are whole numbers//you have whole numbers and fractions together//	minor cl. rel.id.(2)
Starter	//what do you call such fractions//	ment.ext.verbal
Elicit	//what do you call them//	ment.ext.verbal
Bid	P.N.V.	
Nominate	T.//(name)//	minor cl.
Reply	P.//mixed///	minor cl.
Loop	T.//what do you call three seven..?//	ment.ext.verbal
Reply	P.//mixed fractions//	minor cl.
Evaluate	T.//mixed numbers, yes//these are mixed numbers//	minor/rel.id.

Discourse Act		Clause As Process
Marker	//now	
Starter	when you want to multiply mixed numbers// //when you want to multiply mixed numbers together//what do you think//we..you do first//can you go on multi- plying//	ment.int.react.(2)  ment.int.cog.  mat.act.op.(5)
Elicit	//do you multiply the whole numbers separately//	mat.act.op.
Reply	P.(chorus)//no//	minor cl.
Elicit	T.(and)//multiply the fractions separately//	mat.act.op.
Reply	P.(chorus)//yes//	minor cl.
Starter	T.//how do we do it then//	mat.act.op.
Elicit	//does anybody know//	ment.int.cog.
Bid	P.(chorus)//yes//	minor cl.
Nominate	T.//(name)//	minor cl.
Reply	P.//we find..we find((what can go..))	mat.act.op. mat.event.op.
Evaluate	T.//no//	minor cl.
P.evaluate	P.(chorus)//no//	minor cl.
Bid	P.(chorus)//excuse, ma//	minor cl.
Nominate	T.//(name)//	minor cl.
Reply	P.//we find the LCM//	mat.act.op.
T.evaluate	T.//no you don't...//	minor cl.
P.evaluate	P.(chorus)//no!//	minor cl.
Starter	T.//why do you find the LCM of...er...fractions, of the denominators //what..what..	mat.act.op.



Discourse Act		Clause As Process
	what are you doing//when you find the LCM//	mat.act.op.(2)
Elicit	//what are you doing//	mat.act.op.
Reply	P.//when we are adding//	mat.act.op.
Loop	T.//(name), speak out//	ment.ext.verbal
(nominate)		
Reply	P.//when we are adding// (or)//sub.//	mat.act.op.
Accept	T.//when you are doing addition//when you are doing addition//you find...//	mat.act.op.(3)
Starter	//why do you find the..er..the common factor...er...the lowest er common multiple, LCM//why do you find the LCM// when you are doing addition// why?//why do you find..?// for example, if I have to add 3 over 7 plus 4 over 9// (BB)//why do you find the LCM there's a reason for that// why do you find the LCM//	mat.act.op.  mat.act.op.(2) minor cl. mat.act.op.(2)  mat.act.op.(2) ment.int.cog.
(nominate)	//(name),	
Elicit	to add that//why do you find the LCM//	mat.act.op.(2)
Reply	P.//so that we will know//how many times it goes...//	ment.int.cog. mat.event.op.
Evaluate	T.//no//	minor cl.
Elicit	//why do you find the LCM of such fractions//to add them together//	mat.act.op.(2)
Bid	P.N.V.	
Nominate	T.//(name)?//	minor cl.

Discourse Act		Clause As Process
Reply	P.//because of the...//	
Loop	T.//speak out//speak out//	ment.ext.verbal(2)
Reply	P.//because the denom.. denominator is different//	rel.id.
Evaluate	T.//very good//	minor cl.
	//denom..denominators are different//	rel.id.
Starter	//when denominators are different //we cannot add or subtract//	rel.id. mat.act.op.(2)
Elicit	//to add or subtract fractions// the denominators must be what//	mat.act.op.(2) rel.id.
Reply	P.(chorus)//different//	minor cl.
Evaluate	T.//they must be the same!//	rel.id.
Starter	//what do you call fractions with the same denominators// they have a name//	ment.ext.verbal rel.id.
Elicit	//what do you call fractions with the same denominators// //fractions with the same denominators//	ment.ext.verbal minor cl.
Bid	P.N.V.	
Nominate	T.//(name)?//	minor cl.
Reply	P.//like terms//	minor cl.
Accept	T.//like terms//	minor cl.
Evaluate	//very good// //those are like terms//	minor cl. rel.id.
Inform	//you cannot add this and this together//unless the denominators are the same//for example if	mat.act.op.(3) rel.id.(2)

Discourse Act		Clause As Process
	I write 3 over 7 plus 2 over 7//(BB)//that is very easy to add//	
Acknowledge	P.(chorus)//yes//	minor cl.
Check	T.//not so//	minor cl.
Reply	P.(chorus//yes//	minor cl.
Starter	T.//why?// //why is it easy//to add 3 over 7 plus 2 over 7//	minor cl. rel.id. ment.act.op.
Elicit	//why?//	minor cl.
Bid	P.N.V.	
Nominate	T.//er,(name)?//	minor cl.
Reply	P.//because they are like terms//	rel.id.
Accept	T.//they are like terms//	rel.id.(2)
Comment	the denominators are the same//	
Elicit	(but)//when the denominators are not the same, like this// //then we have to do what?//	rel.id. mat.act.op.
Reply	P.(chorus)//we have to find the LCM//	mat.act.op.
Accept	T.//find the LCM//to..	mat.act.op.
Comment	to make the denominators the same//that's why you find the LCM//(but) //when you are doing multipli- cation// //no LCM please// you don't need it//you don't have to make...er...all the fractions have the same denominators// before you multiply out//	mat.act.op. mat.act.op.(2) minor cl. ment.int.react. mat.act.op.(2) rel.id.
Marker	//now,  when you have such a	minor cl.

Discourse Act		Clause As Process
Inform	a..er..a sum//mixed numbers to multiply together//you change the mixed number to improper fractions for//	mat.act.op.(2)
Acknowledge	P.(chorus echo)//improper fractions//	minor cl.
Marker	T.//now	
Elicit	change this to an improper fraction//	mat.act.op.
Bid	P.N.V.	
Nominate	T.//(name)//	minor cl.
Reply	P.//41//3 times 8//	minor cl.(2)
Accept	T.//yes//(BB)	minor cl.
Reply	P.//24//	minor cl.
Accept	T.//aha//(BB)	minor cl.
Reply	P.//plus 7,41//	minor cl.
Loop	T.//24 plus 7?//	minor cl.
Reply	P.//31//	minor cl.
Accept	T.//31,yes//(BB)	minor cl.
Reply	P.//over 8//	minor cl.
Accept	T.(BB)	minor cl.
Reply	P.//3..//	minor cl.
Loop	T.//one and a half?//	minor cl.
Reply	P.//3 over 2//	minor cl.
Accept	T.//3 over 2//(BB)	minor cl.
Marker	//now	
Starter	These are improper fractions//	rel.id.

Discourse Act		Clause As Process
	now that they are fractions// you can go on with the same process over there// you go on to cancel with the common factor//	rel.id. mat.act.op.(3)
Elicit	//any common factor?//	minor cl.
Reply	P.(chorus)//no//	minor cl.
Accept	T.//no common factor//	minor cl.
Starter	//what do we do then// no common factor//	mat.act.op. minor cl.
Elicit	//what do we do?//	mat.act.op.
Bid	P.N.V.	
Nominate	T.//(name)?//	minor cl.
Reply	P.//we multiply the numerators//	mat.act.op.
Accept	T.//yes, multiply all the numerators//	mat.act.op.
Marker	//OK,	
Elicit	3 times one//	minor cl.
Reply	P.//3//	minor cl.
Accept	T.(BB)	minor cl.
Elicit	T.//3 times 3//	minor cl.
Reply	P.//9//	minor cl.
Accept	T.(BB)	minor cl.
Elicit	T.//2 times 8//	minor cl.
Reply	P.//16//	minor cl.
Accept	T.(BB)	minor cl.
Elicit	T.//do you leave the answers like that//	mat.act.op.

Discourse Act		Clause As Process
Reply	P.//no//	minor cl.
Starter (nominate)	T.//what's that //what do you call that//er,(name)..er(name) what do you call that//	rel.id. ment.ext.verbal (2)
Elicit	//93 over 16 is what type of fraction?//	rel.id.
Reply	P.//it's a mixed fraction//	rel.id.
Loop	T.//is that a mixed numbers//	rel.id.
Reply	P.(chorus)//no//	minor cl.
Loop	T.//what and what are mixed there// //is that a mixed number//	rel.id. rel.id.
Reply	P.(chorus)//no//	minor cl.
Nominate	T.//(name)//	minor cl.
Prompt	//Speak out//	ment.ext.verbal
Reply	P.//improper fraction//	minor cl.
Accept	T.//that's an improper fraction//because the numerator is greater than the denominator//	rel.id. rel.id.
Starter	//so you don't leave it like that//	mat.act.op.
Elicit	//what do you do//	mat.act.op.
Bid	P.N.V.	
Nominate	T.//(name)?//	minor cl.
Reply	P.//change it to a whole number//	mat.act.op.
Accept	T.//yes, whole numbers and fractions, a mixed number//	minor cl.

Discourse Act		Clause As Process
Starter	T.//change this to a mixed number//how many 16's in 93//	mat.act.op. minor cl.
Prompt	//there you have to do your calculation//	mat.act.op.
Elicit	//how many 16's in 93?//	minor cl.
Reply	P.//5//	minor cl.
Accept	T.//5, yes//	minor cl.
P.Accept	P(chorus)//yes//	minor cl.
Starter	T.(BB) 16 X 5	
Elicit	//5 times 6//	minor cl.
Reply	P.(chorus)//30//	minor cl.
Accept	T.(BB 0)	
Elicit	//5 times one//	minor cl.
Reply	P.(chorus)//5//	minor cl.
Comment	T.//plus 30, 80//that is 80//	rel.id.
Marker	//so,	
Starter	55..//80..//(BB)	minor cl.(2)
Elicit	//you take away 80 from 93//	mat.act.op.
Reply	P.(chorus)//13//	minor cl.
Accept	T.//13//13 over 16//(BB)	minor cl.(2)
Check	//is that clear//	rel.id.
Reply	P.(chorus)//yes//	minor cl.
Accept	T.//OK//	minor cl.
Marker	//now, (BB sum)	

Discourse Act		Clause As Process
Directive	I want somebody to come out//(and)//do this//	mat.act.op.(2) ment.int.react
Acknowledge	P.(chorus//oh!//	minor cl.
Bid	P.N.V.	
Nominate	T.//(name)//	minor cl.
React	(p. goes to BB and starts to work sum).	
Elicit	T.//explain what you are doing//speak out//	ment.ext.verbal(2) mat.act.op.
Reply	P.//7 times 3, 21//plus 4, 25 over 7// (BB 3-4/7; 25/7)	minor cl.(2)
P.Elicit	P.//25 times one//	minor cl.
Reply	P.(chorus)//25//	minor cl.
Accept	T.//yes, you can answer her// when she asks a question//	ment.ext.verbal ment.ext.verbal
Nominate	//mm?//	minor cl.
Inform	P.(chorus)//28//	minor cl.
Directive	T.//don't tell her anything// if she asks a question// you answer//otherwise don't tell her anything//	ment.ext.verbal(4)
P.Elicit	P.//is there any common factor//	rel.id.
Reply	P.(chorus)//yes//	minor cl.
Elicit	T.//what is the common factor//	rel.id.
P.Elicit	P.//what is the common factor//	rel.id.
Evaluate	T.//no, I'm asking you// //are you the teacher//I'm asking you//	ment.ext.verbal rel.id. ment.ext.verb.
Reply	P.(BB:7)	minor cl.



Discourse Act		Clause As Process
Accept	T.//yes, 7//yes//	minor cl.(2)
Prompt	//go on//	mat.act.op.
Reply	P. (BB)	
Accept	T.//yes, 25 can cancel 25//one, one//	mat.event.op. minor cl.
Evaluate	T.//no, before you write your answer//you must finish the sum first//you must finish everything//before you write the answer//you have not finished//	mat.act.op.(2) mat.act.op.(2) mat.act.op.
P.Elicit	P.//25 in 25//	minor cl.
Reply	P.(chorus)//one//	minor cl.
T.Evaluate	T.//you have already done that//	mat.act.op.
Starter Elicit	T.//what do you do after that// what do you do?//	mat.act.op. mat.act.op.
Reply	P.//one times//	minor cl.
Evaluate	T.//ah!//	minor cl.
Reply	P.(chorus)//4//	minor cl.
Loop	T.//is equal to...//	rel.id.
Reply	P.//is equal to 4//	rel.id.
P.elicit	P.//one times one?//	minor cl.
Reply	P.(chorus)//one//	minor cl.
P.Marker	P.//so...	
P.conc.	..which is equal to... the answer is equal to 4// (BB 4/1//	rel.id.(2)
T. evaluate	T.//yes, correct//4 whole number//	minor cl.(2)

Discourse Act		Clause As Process
	//you don't write 4 over one// just write 4 whole numbers// the answer is 4 over 1//(and) //that is 4//	mat.act.op.(2) rel.id. (2)
Check	T.//is that clear//	rel.id.
Reply	P.(chorus)//yes//	minor cl.
Marker	T.//OK	
Directive	take out your textbooks//	mat.act.op.
React	P.N.V.	
Metast.	T.//you are coming to do examples on the blackboard for me now//	mat.act.op.(2)
Directive	//no noise//	minor cl.
P.Elicit	P.//which page, ma//	minor cl.
T. Reply	T.//page 53//page 53// (PP.find page, books, etc; T.writes problems on BB))	minor cl.(2)
Starter	T.//page 53, exercise 30A// remember//what do you do //when you are multiplying fractions//cancel with the common factor//(and)//then multiply all the numerators together and the denominators together//	minor cl. ment.int.cog. mat.act.op.(4)
Bid	P.(chorus)//excuse//(to go to BB)	minor cl.
Starter	T.//page 53, 30A, number one//	minor cl.
Bid	P.(chorus)//excuse//	minor cl.
Cue	T.//eh, you don't have to shout// I can see your hands up//	ment.ext.verb. ment.int.perc.
Directive (nominate)	//number 2, (name)//	minor cl.

Discourse Act		Clause As Process
React	P.(goes to BB; starts sum)	
Directive (nominate)	T.//number 4, (name)//	minor cl.
React	P.(goes to BB; starts sum)	minor cl.
Directive (nominate)	T.//number 6, (name)//	minor cl.
React	P.(goes to BB; starts sum)	
Directive (nominate)	T.//number 8, (name)//	minor cl.
React	P.(goes to BB; starts sum)	
Check	T.//any more space?//	minor cl.
Reply	P.(chorus)//yes//	minor cl.
Accept	T.//one more?//O.K.//	minor cl.(2)
Bid	P.N.V.	
Directive	T.//number nine//	minor cl.
Bid	P.(chorus)//excuse//	minor cl.
Nominate	T.//(name)//	minor cl.
React	P.(goes to BB; starts sum)	
Directive	T.(and)//the rest of you in your rough books((while these are working on the blackboard)) number 7 and 10// number 7 and 10 in your rough books//	minor cl. mat.act.op. minor cl.
React	P.(begin work)	
Directive	T.//((those of you working at the blackboard)) as soon as you finish//leave the piece of chalk//(and)//go back to your place//	mat.act.op.(4)

Discourse Act		Clause As Process
Check	T.//number 7 and 10, how many of you have finished?//	mat.act.op.
Reply	P.N.V.(raised hands).	
Evaluate	T.(marking indiv.work)//yes, that's correct//	rel.id.
Check	//anybody else?//	minor cl.
Reply	P.(raised hand)	
Evaluate	//yes, correct//	minor cl.
Check	T.//how did you get 100 there?//	mat.act.op.
Reply	P.//it should...//	minor cl.
Loop	T.//what should it be?//	rel.id.
Reply	P.//it should be 57//	rel.id.
Loop	T.//how?//how will it be 57//	minor cl. rel.id.
Reply	P.//one times(missed)//	
Accept	T.//yes//	minor cl.
Directive	T.//now, correct that//	mat.act.op.
React	P.N.V.	
Marker	T.//O.K,	
Directive	stop writing now//	mat.act.op.
React	PP.N.V.	
Starter	T.//let us check//what is done on the blackboard//	ment.int.cog. mat.act.op.
Evaluate	//you don't know//that 19 can go in 57//you don't know that//that 3 19's.... 3 19's will give you 57?//	ment.int.cog.(2) mat.event.op.(2)

Discourse Act		Clause As Process
Marker	//OK	
Directive	Stop writing//	mat.act.op.
React	P.N.V.	
Directive	T.//look at the blackboard// let's check//what these girls have done on the BB// look up everybody//	ment.int.percep.(2) ment.int.cog. mat.act.op.
React	P.N.V.	
Starter	T.//Let's start from here//	mat.act.op.
Elicit	//5 x 3//	minor cl.
Reply	P.(chorus)//15//	minor cl.
Elicit	T.//plus 2 //	minor cl.
Reply	P.(chorus)//17//	minor cl.
Accept	T.//17 over 5//	minor cl.
Elicit	//17 times one//	minor cl.
Reply	P.(chorus)//17//	minor cl.
Elicit	T.//plus one//	minor cl.
Reply	P.(chorus)//18//	minor cl.
Accept	T.//18 over 17//	minor cl.
Starter	//17 will cancel 17//that's 18 over 5//	mat.event.op. rel.id.
Elicit	//how many 5's in 18?//	minor cl.
Reply	P.(chorus)//3//	minor cl.
Accept	T.//3// //3 fifths//	minor cl. minor cl.
Check	//correct?//	minor cl.
Reply	P.(chorus)//yes//	minor cl.

Discourse Act		Clause As Process
Accept	T.//yes//	minor cl.
Evaluate (checking sum)	T.//32 plus 3//35 over 8//7 goes here, one//in 35, 5//anything else?//5 and 5//then 2 and 8, 4// 3 times 1 times 1,3//4 times 1 times 1,4//correct//	minor cl.(9) mat.event.op.
Evaluate	T.//28 times 3//so that's going to be 3 times 8,24//9// //4 plus 3,117//correct//	rel.id. minor cl.(4)
Elicit	//3 in 27//	minor cl.
Reply	P.(chorus)//9//	minor cl.
Accept	T.//9//	minor cl.
Starter	//here, 3 in 27, 9//39 over.. over 19//no..nothing else..//	minor cl.(3)
Elicit	//2 x 9//	minor cl.
Reply	P.(chorus)//18//	minor cl.
Evaluate	T.//times 3,6//78 over 100//9 times 9,81//9 times 1,9//plus er 8,17//78 over 171//there is still another common factor//which you did not see//	minor cl.(6) rel.id. ment.int.percept.
Starter	//39 and 9//	minor cl.
Elicit	//what can go in 39//(and) //can go in 9//	mat.event.op.(2)
Reply	P.(chorus)//3//	minor cl.
Accept	T.//3, yes// //3 can go here, 3//	minor cl. mat.event.op.
Elicit	//how many 3's in 39//	minor cl.
Reply	P.(chorus)//13//	minor cl.
Accept	T.//13//	minor cl.

Discourse Act		Clause As Process
Comment	//so that will reduce this figure//this is not in the lowest terms then// so its going to be 13 times 2,26//that's going to be 26//over 19 x 3//over 57//	mat.event.op. rel.id. rel.id.(2) minor cl.(2)
Check	T.//you see that?//	ment.int.cog.
Reply	P.N.V.(nods)	
Inform	//so this answer is correct (but)//its not in the lowest terms// //whenever you do fractions// make sure your answers are always in the lowest terms//if we have given marks for this//you wouldn't get all the marks for this// you wouldn't get the..all// some marks would be taken away//for not leaving your answer in the lowest terms//	rel.id. rel.id. mat.act.op.(2) rel.id. mat.act.op.(5)
Marker	//now	
Starter	this is the last one// 7 times 3,21//25//28 over 25//	rel.id. minor cl.(3)
Evaluate	//yes, that's correct//	rel.id.
Marker	//now	
Starter	some have symbols not only figures//you have symbols alphabet symbols and figures//now there is no problem//don't be frightened// when you find symbols//no problem//number 14, look at number 14 for example//	rel.id. rel.id. rel.id. ment.int.react. mat.act.op. minor cl. ment.int.percept.
Elicit	//X over Z times?//	minor cl.
Reply	P.(chorus)//2Z over Y//	minor cl.
Evaluate	T.//correct//	minor cl.

Discourse Act		Clause As Process
Marker	//now,	
Starter	no problem//do ((exactly what you do to figures))to symbols//in the first place,X// rewrite this X over Z times//	minor cl. mat.act.op.(3) minor cl.
Elicit	//what's the meaning of 2Z?// what does...//	ment.int.cog. minor cl.
Reply	P.(chorus)//2 times Z//	minor cl.
Accept	T.//2 times Z//	minor cl.
Evaluate	//correct, 2 times Z//	minor cl.
Comment	//so that is 2 times Z over Y//	rel.id.
Acknowledge	P.(chorus echo)//Y//	minor cl.
Marker	T.//now	
Starter	when you have split that into 2 times Z over y//now look for common factors//	mat.act.op. ment.int.percept.
Elicit	//any common factors?//	minor cl.
Reply	P.//yes//	minor cl.
Aside	T.//this is a Z not a 3,Z//	rel.id.
Elicit	//any common factors//	minor cl.
Reply	P.(chorus)//yes//	minor cl.
Elicit	T.//what is the common factor //	rel.id.
Reply	P.(chorus)//Z//	minor cl.
Accept	T.//Z, yes//	minor cl.
Starter	//Z will cancel there, one, here, one//no more//	mat.event.op. minor cl.
Elicit	//then you say X times 2?//	ment.ext.verbal



Discourse Act		Clause As Process
Reply	P.(chorus)//2 X //	minor cl.
Accept	T.//2 X //	minor cl.
Elicit	//2 X over Y times one//	minor cl.
Reply	P.(chorus)//Y//	minor cl.
Accept	T.//Y//2 X over Y//	minor cl.(2)
Comment	(and)//you leave your answer like that//2 X over Y//	mat.act.op. minor cl.
Marker	T.//OK	
Starter	number 16//(clearBB)//number 16//now this is the last one//I am going to work for you//	minor cl.(2) rel.id. mat.act.op.
Elicit	//X <sup>2</sup> over Y <sup>2</sup> times?//	minor cl.
Reply	P.(chorus)//Y <sup>2</sup> //	minor cl.
Accept	T.BB	minor cl.
Elicit	T.//over ?//	minor cl.
Reply	P.(chorus)//Z <sup>2</sup> //	minor cl.
Loop	T.//ah-ah!//	minor cl.
Reply	P.(chorus)//Z <sup>2</sup> over X <sup>2</sup> //	minor cl.
Accept	T.BB	
Marker	T.//now	
Elicit	before I start to cancel// what's the meaning of X <sup>2</sup> //	mat.act.op.(2) ment.int.cog.
Reply	P.(chorus)// X times X//	minor cl.
Accept	T.//X times X//	minor cl.
Elicit	//we write X times X over.. Y <sup>2</sup> ?//	mat.act.op.

Discourse Act		Clause As Process
Reply	P.(chorus)//Y times Y//	minor cl.
Accept	T.//Y times Y//(BB)	minor cl.
Elicit	//times Y <sup>2</sup> ?//	minor cl.
Reply	P.(chorus)//Y times Y//	minor cl.
Accept	BB	minor cl.
Elicit	T.//over Z squared//	minor cl.
Reply	P.(chorus)//Z times Z//	minor cl.
Accept	BB	minor cl.
Elicit	T.//over?//	minor cl.
Reply	P.(chorus)//over X times X//	minor cl.
Accept	T.//correct//(BB)	minor cl.
Marker	//now	
Starter	when you have done that//you cancel by the common factors X and Y//	mat.act.op.(2)
Check	//do you see that//	ment.int.cog.
Reply	P.(chorus)//Y and Y//	minor cl.
Reply	P.(chorus)//Z//	minor cl.
Accept	T.//Z//	minor cl.
Marker	//now	
Elicit	what's the answer to that//	rel.id.
Reply	P.(chorus)//one whole number//	minor cl.
Accept	T.//one whole number//	minor cl.
Evaluate	//correct//	minor cl.
Comment	//you see//there's no problem// (when you have symbols//no problems	ment.int.cog. rel.id. rel.circ. minor cl.

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Discourse Act	Clause As Process
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	//you do((exactly what you... what you do to figures))to symbols//	mat.act.op.(2)
Marker	//now,	
Metastatement	your assignment is((to practise in your rough notebooks for Thursday the whole of exercise 30B))//30B, page 53,30B//numbers one to 20//	rel.id. mat.act.op. minor cl.(2)
(Acknowledge)	P.(chorus echo)//20//	minor cl.
	T.//numbers one to 20 in your rough notebooks// (and)//be ready for written assignment in class on Thursday//practise//that's your assignment/.	minor cl. rel.id.(2) mat.act.op.

TEXTBOOK: New General Mathematics for West Africa: I  
West Africa Edition.  
(Channon, J.B., McLeish, A. &  
Head, H.C. (eds.))  
Longmans Ltd.

BLACKBOARD WORK: teacher & pupils worked a number of  
sums on the BB, as noted in text of  
transcript.

SCHOOL: 2  
 YEAR: 1  
 SUBJECT: Integrated Science  
 LESSON NO.: 32

Discourse Act		Clause As Process
Marker	T.//now,	
Starter	girls, we have to find out// what they mean by these words soluble and insoluble//	ment.int.cog. ment.int.cog.
Elicit	//So what do we mean by soluble substances//what are soluble substances//	ment.int.cog. rel.id.
Bid	P.N.V.	
Prompt Starter	T.//four of you//four hands up//minor cl.(2) what do we mean by a soluble substance//when we say((a substance is soluble)) //what do we exactly mean// (and)//what do you understand by the word soluble//	ment.int.cog. ment.ext.verb. rel.id. ment.int.cog. ment.int.cog.
Elicit		
Bid	P.N.V.	
Nominate	T.//Yes?//	minor cl.
Reply	P.//Soluble means a substance ((that can melt))//	ment.int.cog. mat.event.op.
Evaluate	T.//melt is not the right word//	rel.id.
Bid	P.N.V.	
Nominate	T.//Yes?//	minor cl.
Reply	P.//that can dissolve in a solvent//	mat.event.op.
Accept	T.//in a solvent//	minor cl.

Discourse Act		Clause As Process
Evaluate	//that's a better..er..way of putting it//	rel.id. ment.ext.verb.
Inform	//a soluble substance is a substance ((that can dis- solve in a solvent))// water is not the only sol- vent//a substance ((that can dissolve in a solvent)) is a soluble substance//	rel.id. mat.event.op. rel.id. mat.event.op. rel.id.
Acknowledge	P.(chorus echo)//substance//	minor cl.
Marker	T.//now,	
Elicit	What do we mean by an insoluble substance//	ment.int.cog.
Bid	P.N.V.	
Nominate	T.//Yes, the girl at the back//	minor cl.
Reply	P.//a substance ((that cannot dissolve in a solvent))//	minor cl. mat.event.op.
Accept	T.//Yes, substance((which cannot dissolve in any sol- vent))// cannot dissolve in any solvent, O.K.//	minor cl. mat.event.op. mat.event.op.
Acknowledge	P.(chorus echo)//solvent//	minor cl.
Marker	T.//now,	
Starter	Suppose we got an insoluble substance//(and)//maybe...// (and)//by mistake or by de- sign we got insoluble and soluble...and..er..a soluble substance mixed up//can you think of any way//by which you can separate these two substances// listen to this// suppose you got an insoluble substance mixed up with a so- luble substance//suppose you got an insoluble substance mixed up with an insoluble substance	ment.int.cog. mat.act.op. minor cl. mat.act.op. ment.int.cog. mat.act.op. ment.int.perc. ment.int.cog. mat.act.op. ment.int.cog. mat.act.op.

Discourse Act		Clause As Process
Elicit	...erm...//can you think of any way//by which you can recover the substances// by which you can recover the substances pure from... erm...any other substance //that's getting the insoluble substance completely on its own//(and)//then the soluble substance completely on its own//	ment.int.cog. mat.act.op. mat.act.op. mat.act.op. minor cl.
Bid	P.N.V.	
Nominate	T.//Yes?//	minor cl.
Reply	P.//by filtering//	mat.act.op.
Evaluate	T.//by filtering? //I'm not sure everybody understands //what you mean by filtering meanwhile//filtering,how do you mean//how do you filter//	mat.act.op. ment.int.cog.(4) mat.act.op.(3)
Starter	//first of all let's get some examples of insoluble substance//	ment.ext.verbal
Elicit	//give me some examples of soluble substances, soluble substances//(BB)	ment.ext.verbal
Bid	P.N.V.	
Nominate	T.//Yes?//	minor cl.
Reply	P.//sugar//	minor cl.
Accept	T.//sugar, yes//(BB)	minor cl.
Reply	P.//powdered soap//	minor cl.
Accept	T.//powdered soap//soap powder//minor cl.(2) (BB)	minor cl.(2)
Elicit	//who else?//	minor cl.
Bid.	P.N.V.	

Discourse Act		Clause As Process
Nominate	T.//Yes, you?//	minor cl.
Reply	P.//chalk//	minor cl.
Accept	T.//chalk//(BB)	minor cl.
Bid	P.N.V.	
Nominate	T.//yes//	minor cl.
Reply	P.//paint//	minor cl.
Accept	T.//yes//(BB)	minor cl.
Reply	P.//sulphur//	minor cl.
Accept	T.//sulphur//(BB)	minor cl.
Bid	P.N.V.	
Nominate	T.//Yes?//	minor cl.
Reply	P.//wax//	minor cl.
Evaluate	T.//wax, erm...//	minor cl.
Elicit	//what does wax dissolve in?//mat.event.op.	
Reply	P.//it dissolves in (missed)// mat.event.op.	
Evaluate	T.//wax, wax (missed)//(No BB)	
Bid	P.N.V.	
Nominate	T.//Yes?//	minor cl.
Elicit	just one more, just one// (and)//then...//	minor cl.(2)
Reply	P.//fat//	minor cl.
Accept	T.//Yes, fat//	minor cl.
Comment	//fat dissolves in kerosine, O.K.//	mat.event.op.
Marker	//now,	

Discourse Act		Clause As Process
Elicit	give me some examples of insoluble substances, insoluble substances//(BB)	ment.ext.verbal
Reply	P.//Stone//	minor cl.
Evaluate	T.//erm..well..yes//	minor cl.
Reply	P.//Sand//	minor cl.
Accept	T.//yes, sand//(BB)	minor cl.
Evaluate	//good//	minor cl.
Reply	P.//iron//	minor cl.
Accept	T.//yes, iron.//erm,iron, Yes//(BB)	minor cl.(2)
Comment	(but)//not iron filings//	minor cl.
Evaluate	//good//	minor cl.
Reply	//beans//	minor cl.
Loop	T.//pardon?//	minor cl.
Reply	P.//beans//	minor cl.
Accept	T.//beans//(BB)	minor cl.
Elicit	//One more//last one now//	minor cl.(2)
Reply	P.//metal//	minor cl.
Loop	T.//what metal?//it's too general to say metal//what metal?//	minor cl.(2) rel.id. ment.ext.verb.
Reply	P.//Spoons//	minor cl.
Loop	T.//pardon//	minor cl.
Reply	P.//spoons//	minor cl.
Bid	P.N.V.	
Nominate	T.//Yes?//	minor cl.



Discourse Act		Clause As Process
Reply	P.//vegetable//	minor cl.
Evaluate	T.//vegetable?//,no,no,that's not a very good example//	minor cl. rel.id.
Elicit	//the last one?//	minor cl.
Bid	N.V.	
Nominate	T.//mm?//	minor cl.
Reply	P.//meat//	minor cl.
Loop	P.//meat?// let's hear you//	minor cl./ment. int.perc.
Reply	P.//steel//	minor cl.
Accept	T.//steel, yes//	minor cl.
Bid	P.N.V.	
Nominate	T.//yes?//	minor cl.
Reply	P.//glass//	minor cl.
Accept	T.//glass//let's take glass, O.K.//(BB)	minor cl./ment. int.cog.
Marker	//now,	
Starter	Suppose...erm...//let's take the first example here// suppose we've got..erm.sugar.. erm sugar//(or)//what do we get?// suppose we've got soap powder mixed with..erm.. beans//soap powder//if you went to the market//(and)// you bought some Omo//you were packing cup on//(and)//it falls into beans((you bought))//	ment.int.cog.(3) mat.act.op. mat.act.op.(2) ment.int.cog. minor cl. mat.act.op.(3) mat.event.op. mat.act.op.
Elicit	//now when you get into the house//how are you going to re-pack your things//how are you going to re-pack your things?//	mat.act.op.(3)

Discourse Act		Clause As Process
Bid	P.N.V.	
Nominate	T.//Yes?//	minor cl.
Reply	P.//I'll separate it by hand.. with hand//	mat.act.op.
Accept	T.//erm,yes, you could pick// ((separating by hand))that's hand picking//	mat.act.op.(2) rel.id.
Elicit	(but)//will the beans be quite ...er.. be quite pure?//	rel.id.
Reply	P.(chorus)//no//	minor cl.
Bid	P.N.V.	
Nominate	T.//yes//	minor cl.
Reply	P.//by washing it out with water//	mat.act.op.
Accept	T.//yes, you dissolve//(or)// you..erm..steep the beans in water//	mat.act.op.(2)
Marker	//now,	
Inform	when you put it in water// you watch out//(and)//you get back your beans pure// then you have the soap left in the water//so that's one way ((of..erm..separating the..erm..the beans from the soap powder))//	mat.act.op. ment.int.perc. mat.act.op.(3) rel.id.
Marker	//now,	
Starter	suppose you got..erm...salt and sand mixed together// suppose you had your sand mixed together//how are you going to get back your sand or your salt from the mixture//	ment.int.cog.(2) mat.act.op.(3)

Discourse Act		Clause As Process
Elicit	//how do you think you can get back your salt from the mixture//	ment.int.cog. mat.act.op.
Bid	P.N.V.	
Prompt	T.//more hands//	minor cl.
	I want more hands up//some of you are not thinking//	ment.int.react. ment.int.cog.
Elicit	//you have salt mixed with sand// how are we going to recover our salt from our sand//	mat.act.op.(2)
Bid	P.N.V.	
Prompt	T.//more hands up//some of you are just blank, blank// think!// the same hands up//	minor cl.(2) rel.id. ment.int.cog.
Bid	P.N.V.	
Nominate	T.//O.K., you tell us//how you think we shall recover our salt from the mixture//	ment.ext.verb. ment.int.cog. mat.act.op.
Reply	P.//you can put it in a basket//that has tiny holes// (and)//start shaking it//the salt would...the salt would ...//	mat.act.op. rel.id. mat.act.op. minor cl.
Prompt	T.//go on//	mat.act.op.
Evaluate	//that's a good attempt//	rel.id.
Nominate	//somebody else should help her//	mat.act.op.
Evaluate	//that's a good effort//	rel.id.
Bid	P.N.V.	
Nominate	T.//yes//	minor cl.
Reply	P.//you can start picking it//	mat.act.op.(2)

Discourse Act		Clause As Process
Evaluate	T.//picking the sand?//	mat.act.op.
Comment	//that would be a terribly difficult task//	rel.id.
Bid	P.N.V.	
Nominate	T.//yes//	minor cl.
Reply	P.//you can dissolve it in water//	mat.act.op.
Loop	T.//dissolve it in water?//	mat.act.op.
Reply	P.//yes//	minor cl.
Loop	T.//dissolve it//where 'it' refers to the sand or the salt or to which//if dissolving the sand in water?//	mat.act.op. ment.int.cog. mat.act.op.
Reply	P.//the salt//	minor cl.
Accept	T.//the salt//	minor cl.
	//better//	minor cl.
Evaluate Starter	//she says//you can dissolve the salt in water//	ment.ext.verb. mat.act.op.
Elicit	//how can you dissolve the salt in water//(and)//get back your sand//(or)//get back your salt//	mat.act.op.(3)
Bid	P.N.V.	
Nominate	T.//yes//	minor cl.
Reply	P.//the salt can be dissolved by the water//(and)//then you pour the water ((which contains the salt)) in another container//by which(missed)//	mat.event.op. mat.act.op. mat.event.op.
Loop	T.//pardon?//say that again//	minor cl./ment. ext.verbal.
Reply	P.//you pour the water((in which the salt has dissolved))	mat.act.op.

Discourse Act		Clause As Process
	in another container//by that time the sand will have sunk to the..to the bottom of the container//	mat.event.op. mat.event.op.
Evaluate	T.//erm,yes,you could say the..er...the salt would have settled//that's a better word to use, 'to settle'//the salt would have settled at the bottom//to settle, settle is a better word//	ment.ext.verb. mat.event.op. rel.id. ment.ext.verb. mat.event.op. rel.id.
Marker	//now,	
Starter	if you pour out the water//containing...//in which...//that will dissolve salt in water//that also means you pour it into another container//(and)//do what with it?//	mat.act.op. mat.event.op. minor cl. mat.event.op. ment.int.cog. mat.act.op.(2)
Elicit	//what do you do with it?//	mat.act.op.
Reply	P.//you can cook with it//	mat.act.op.
Evaluate	T.//aha, so that would be your salt?//(but)//that's not what we want//we want back our salt in the form((in which... //	rel.id. ment.int.react. ment.int.react. minor cl.
Bid	P.N.V.	
Nominate	T.//aha?//	minor cl.
Reply	P.//we will boil the water//	mat.act.op.
Evaluate	T.//boiling is not the word//boiling is not the right word//	rel.id. rel.id.
Reply	P.//we heat it//	mat.act.op.
Evaluate	T.//heating...yes//not just heating//	mat.act.op. mat.act.op.

Discourse Act		Clause As Process
Elicit	//what else?//	minor cl.
Reply	P.//evaporate//	mat.act.op.
Accept	T.//evaporate//	mat.act.op.
Evaluate	//that'sthe word//you evaporate the salt...erm.. solution//to get back your salt//	rel.id. mat.act.op.(2)
Acknowledge	P.(chorus echo)//solution// //salt//	minor cl.(2)
Marker	T.//so,	
Metast.	this morning we're going to try out the experiment// (and)//erm..see//how it works out//	mat.act.op. ment.int.perc. mat.event.op.
Starter	//erm...I divided you into how many groups?//I think 1,2,3,4...1,2,3,4//	mat.act.op. ment.int.cog.
Directive	(and)//I think you could work((as you're sitting))	ment.int.cog. mat.act.op.(2)
React	P.N.V.(class rearranges into groups)	
Check	T.//where's the tripod stand//	rel.circ.
Directive	//give one funnel each// give one funnel to each person//then you watch((what we are going to do))//give one of these to each pupil//	mat.act.op.(2) ment.int.perc. mat.act.op. mat.act.op.
Starter	T.//this is called a filter paper//	ment.ext.verb.
Elicit	//this is called what?//	ment.ext.verb.
Reply	P.(chorus). //a filter paper//	minor cl.
Loop	T.//filter paper//	minor cl.
Reply	P.(chorus) //filter paper//	minor cl.

Discourse Act		Clause As Process
Elicit	P.//shall I give them out?//	mat.act.op.
T.reply	T.//yes, give one to each pupil//	mat.act.op.
React	P.N.V.	
Check	T.//have you got one for yourself?//	rel.poss.
Reply	P.//no//	minor cl.
Marker	T.//now,	
Starter	watch the way((you use the filter paper))//(demonstrates) //	ment.int.perc. mat.act.op.
Directive	//first you fold it into two// then you fold it again//so you have a quarter...formed a quarter of a whole//now you hold three parts together //hold three parts together// (and)//then you put it into your funnel//	mat.act.op.(6)
React	P.N.V.	
Check	T.//have you done that ?//	mat.act.op.
Reply	P.(chorus)//yes// (T. goes round checking)	minor cl.
Evaluate	T.//aha, that's alright//	rel.id.
Metast.	T.//I'm going to give you the mixture of sand and salt//	mat.act.op.
	(acknowledge)P.(chorus) //yes//	
	T.//then you are going to filter// (gives out mixture)	mat.act.op.
Directive	T.//please leave an exercise book//where I can leave the mixture for you//	mat.act.op.(2)

Discourse Act		Clause As Process
React	P.N.V.	
Directive	T.(to one group)//try and remove the stand and the (missed)//	mat.act.op.(2)
React	P.N.V.	
Directive	T.//mix it up properly//	mat.act.op.
React	P.N.V.	
Marker	T.//now,	
Directive (to group)	you can put your mixture here//(and)//dissolve//add a little water//that's water// we can use the evaporating dish//to get water//	mat.act.op.(5) rel.id.
React	P.N.V. (group activity)	
Starter Directive	T.//that's the mixture// (and)//then add water//as soon as you've got..erm.. your mixture//pour it gradually into the filter paper and the funnel//(and) //get..erm..((what comes out from the mixture))//	rel.id. mat.act.op.(4) mat.event.op.
React	P.N.V. (group activity).	
Evaluate	T.(to individual)//have you got ears?//have you got ears?// you should leave some out// there's the mixture//	rel.poss.(2) mat.act.op. rel.circ.
P.Elicit	P.//what do we do now?//	mat.act.op.
T.Reply	T.//you pour the mixture// this container should be empty//(and)//then you fix one clamp on it//	mat.act.op. rel.id. mat.act.op.
Check	T.//have you started the experiment?//	mat.act.op.
Reply	P.(chorus) //yes//	minor cl.



Discourse Act		Clause As Process
Check	T.//let's see//which group has started//	ment.int.perc. mat.act.op.
Reply	P.(chorus) //we// (hands up)	minor cl.
Evaluate	T.(to group)//oh, that's interesting// it's coming on fire//yes, interesting//	rel.id. mat.event.op. minor cl.
Directive	T.//make sure you return all(missed)//(and)//make sure the..the..erm..the solution doesn't get in through the sides of the filter paper// make sure it goes in through the filter paper itself not by the sides//	mat.act.op.(3) mat.event.op.(2)
Acknow.	P.(chorus)//yes//	minor cl.
Evaluate	T.(to group) //you're letting it go by the sides//	mat.act.op.
Directive	T.//the other group can come//	mat.act.op.
React	P.N.V.	
Accept	T.//yes//(checking group activity)	minor cl.
Marker	//now,	
Directive	this one you try this// as soon as..erm..you've got all the..erm..the solvent going through the filter paper// you come and heat//heat ((what you have in your evaporating dish))//	mat.act.op.(5) mat.event.op. rel.circ.
React	P.N.V.	
Starter	T.//yes, you, what is happening?//	mat.event.op.(2)
(nominate)	what is happening//tell me// what you observe//	ment.ext.verb. ment.int.perc.

Discourse Act		Clause As Process
Elicit	//what is coming out?//	mat.event.op.
Reply	P.//the water//	minor cl.
Reply	P.//salt//	minor cl.
Reply	P.//the salt solution//	minor cl.
Accept	T.//the salt solution//	minor cl.
Directive	T.//as soon as the solution has all...has gone through the filter paper//then you take out the filter paper carefully//(and)//dry it at the corridor there//take out the filter paper carefully//dry it at the corridor//while you look into..erm..the salt solution//	mat.event.op. mat.act.op.(4)       ment.int.perc.
Acknow.	P.(chorus)//yes//	minor cl.
Check	T.(to group)//I suppose the first group can heat here?//	ment.int.cog. mat.act.op.
Reply	P.(chorus)//yes//	minor cl.
Directive	T.//providing you've done the separating//then the second group can heat here//	mat.act.op.(2)
React	P.N.V.	
Directive (nominate)	T.//next group, you can heat here//	mat.act.op.
React	P.N.V.	
Check	T.//are you alright?//	rel.id.
Reply	P.(chorus)//yes// (short stretch of tape with whispers, chairs scraping, no language audible).	minor cl.

Discourse Act		Clause As Process
Directive	T.//no, you don't observe with your mouth!//	ment.int.perc.
React	P.N.V.	
Marker	T.//now,	
Elicit	tell us//what you did in this experiment//	ment.ext.verb. mat.act.op.
Reply	P.//we put the solution in the evaporating dish//	mat.act.op.
Reply	P.//we put the sand and the salt in the water//(and) //put them in the filter paper//(and)//pour them in the filter paper//(and)//got back the sand//after we got back the sand//we put it in an evaporating dish//	mat.act.op.(6)
Reply	P.//we got back the salt//	mat.act.op.
Conc.	T.//from the results of this experiment...from the results of this experiment we conclude...we conclude// that...we can get back salt from a mixture of a soluble and an insoluble substances...substance/// //the solution((which passed through the filter paper)) is called the filtrate//(BB: filterate)//the sand ((which remained on the top of the paper)) is called the residue// (BB) (and)//the entire process is called filtration//(BB).	mat.int.cog.  mat.act.op.  mat.event.op. ment.ext.verb.  mat.event.op. ment.ext.verbal (2)

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BLACKBOARD WORK

Heading: Soluble Substances

List:           Sugar  
                  Soap powder  
                  Chalk  
                  Paint  
                  Sulphur

Heading: Insoluble Substances

Sand  
Iron  
Beans  
Glass

Conclusion: Filterate, residue, filtration

Equipment

This was a laboratory lesson. Pupils were seated at benches on which bunsen burners, evaporating dishes, clamps, stands, etc. were available.

Limitations in the recording

Pupil-pupil talk in the groups could not be captured. Not all of the teacher's discourse could be recorded during the period when she was moving from group to group.

APPENDIX 5

FOUR SAMPLE MATRICES

CLAUSE/ACT MATRIX.

SCHOOL: 1 SUBJECT: HISTORY LESSON: 1 YEAR: 1

DISCOURSE ACTS	CLAUSE-AS-PROCESS OPTIONS																				MINOR CLAUSE: PROCESS IMPLICIT		TOTAL				
	MATERIAL								MENTAL						RELATIONAL												
	P	T	ACTION				EVENT				EXT.		INTERNALIZED				ID.		POSS.		CIRC.						
			OP.	CREA.	OP.	CREA.	VERBAL	COGN.	PERC.	REAC.	T	P	T	P	T	P	T	P	T	P	T	P					
ACT	ACT	T	P	T	P	T	P	T	P	T	P	T	P	T	P	T	P	T	P	T	P	T	P				
Marker		9																									
Starter	1	16	9		5			2		5		14	1	1				9	2				1	7	1	52	5
Elicitation	6	45	8	1	4		3			8	2	13	4	3				15	6			1		5		60	13
Check		5										3						2						4		9	
Directive		2	2																							2	
Informative	2	12	23		2	1	2		2	8	1	18	1	3		1		25		1				8		93	3
Prompt																											
Clue		2																1						1		2	
Cue		1	2							1														1		4	
Bid	8			3																					5	8	
Nomination		10																						10		10	
Acknowledge	5			1																					4	5	
Reply	8	1	4	4	32		2		1		1	4	15	14			1	2	5	8		2		6	42	32	107
React	2																										
Comment		9	5		1		1			1		13		1				5				1		1		29	
Accept	1	39	15		1					2		3						5						34	1	60	1
Evaluate	1	13								2		7	1			1								9		20	1
Metastatement	2	2			1					2																5	
Conclusion		5	2		4					1		4						7						3		21	
Loop		11								2		1		5										6		14	
Aside																											
TOTAL	107	185	72	37	18	3	6	1	4	33	7	91	21	13		3	2	75	16	1	2	2	1	95	53	413	143

KEY: OP. - OPERATION, CREA. - CREATION, COGN. - COGNITIVE, EXT. - EXTERNALIZED, PERC. - PERCEPTION, REAC. - REACTION, ID. - IDENTITY, POSS. - POSSESSION, CIRC. - CIRCUMSTANCE.

CLAUSE/ACT MATRIX.

SCHOOL: 1 SUBJECT: ENGLISH LESSON: 11 YEAR: 1

DISCOURSE ACTS		CLAUSE-AS-PROCESS OPTIONS																				MINOR CLAUSE: PROCESS IMPLICIT		TOTAL				
		MATERIAL								MENTAL						RELATIONAL												
		ACTION				EVENT				EXT.		INTERNALIZED				ID.		POSS.		CIRC.								
		OP.		CREA.		OP.		CREA.		VERBAL		COGN.		PERC.		REAC.		T	P	T	P					T	P	
P. ACT	T. ACT	T	P	T	P	T	P	T	P	T	P	T	P	T	P	T	P	T	P	T	P	T	P					
Marker		25																										
Starter		54	28		1		5				8		8		4		4		25		2		7		109			
Elicitation	3	73	24	2	1	1	3				11		8	1			2		9	1	2		4		28	92	5	
Check		9	3		1								4						3		2				1	14		
Directive		27	11		1								2		10				2		1				7	34		
Informative	2	17	41	1			8				11		17		1				20		2		3		5	1	108	2
Prompt		12	12				1						1						3						1	18		
Clue		2	1																						3	4		
Cue		5	4																						1	6		
Bid	11																								3	3		
Nomination		24	3																						23	26		
Acknowledge	15																								13	13		
Reply	106	2	2	51	1			6					1	3			1		24						51	4	136	
React	9																											
Comment		33	19				1				5		11		1		1		13		2		3		16	72		
Accept		39	12				1						1						3			1			25	43		
Evaluate	3	27	6	2			1				4		6		1				8		2				20	1	48	3
Metastatement		7	7								4		1		2		1					1			1	17		
Conclusion		3	8										1						1		1		1		1	13		
Loop		18	4								6				2				1		1				10	24		
Aside		2	1								1			1												3		
TOTAL	147	331	186	56	5	1	20	6			51		61	4	22		8	1	88	25	15		20		159	69	635	162

KEY: OP. - OPERATION, CREA. - CREATION, COGN. - COGNITION, EXT. - EXTERNALIZED, PERC. - PERCEPTION, REAC. - REACTION, ID. - IDENTITY, POSS. - POSSESSION, CIRC. - CIRCUMSTANCE.

CLAUSE/ACT MATRIX.

SCHOOL: 1 SUBJECT: MATHS LESSON: 21 YEAR: 1

DISCOURSE ACTS	CLAUSE-AS-PROCESS OPTIONS																				MINOR CLAUSE: PROCESS IMPLICIT		TOTAL					
	MATERIAL								MENTAL								RELATIONAL											
	P. ACC	T. ACT	ACTION				EVENT				EXT.		INTERNALIZED						ID.		POSS.		CIRC.					
			OP.	CREA.	OP.	CREA.	VERBAL	COGN.	PERC.	REAC.	T	P	T	P	T	P	T	P	T	P	T	P	T	P				
Marker	55																											
Starter	39	33							13	7	5	5			17						2			18		100		
Elicitation	53	8		1	2				16	4					10									14		55		
Check	40	5							2	19	12				4									8		50		
Directive	15	15									3													3		21		
Informative	60	70			5				17	12	2	5			65						15			18		209		
Prompt	24	8							2	3	2				2						1			15		33		
Clue	4	1							1						2									2		7		
Cue	2	1							1															1		3		
Bid	8																								1	1		
Nomination	17																							15		15		
Acknowledge	32																								32		32	
Reply	117		1		2						1					4					5				108		121	
React	13																											
Comment	116	6			2				8	1	2				7	1	3				1			12		42	1	
Accept	40				1					1					2									37		41		
Evaluate	115	1							3	2					4	1								8	1	18	2	
Metastatement																												
Conclusion																												
Loop	18	2							5		2														18		27	
Aside	113	12							2	1	2	2			1						3			5	2	28	2	
TOTAL	1734	162	1	1	10	2			70	50	1	30	13		114	6	3				22	5	174	144	649	159		

KEY: OP. - OPERATION, CREA. - CREATION, COGN. - COGNITION, EXT. - EXTERNALIZED, PERC. - PERCEPTION, REAC. - REACTION, ID. - IDENTITY, POSS. - POSSESSION, CIRC. - CIRCUMSTANCE.

CLAUSE/ACT MATRIX.

SCHOOL: 1 SUBJECT: GEN. SC. LESSON: 31 YEAR: 1

DISCOURSE ACTS	CLAUSE-AS-PROCESS OPTIONS																								MINOR CLAUSE: PROCESS IMPLICIT		TOTAL	
	MATERIAL										MENTAL						RELATIONAL											
	ACTION				EVENT				EXT.		INTERNALIZED				ID.		POSS.		CIRC.									
	P.	T.	OP.	CREA.	OP.	CREA.	VERBAL	COGN.	PERC.	REAC.	ID.	POSS.	CIRC.	T	P	T	P	T	P	T	P	T	P	T	P			
Marker		14																										
Starter		30	12			4			6	4					18	1		2						11		58		
Elicitation		42	8			6			10	5					18										7	54		
Check		1																							1	1		
Directive		1	1																							1		
Informative	6	15	42			8			7	7	3	2		24			1							10	6	104		
Prompt																												
Clue		2	2							1					2											5		
Cue																												
Bid		14																							15	15		
Nomination		15																							5	5		
Acknowledge	5																								50	67		
Reply	62		4			11				1					1													
React	1																											
Comment		7				2			2	1					5										4	14		
Accept		45	3			8			2		1				8										26	48		
Evaluate		1													1											1		
Metastatement		1													2											2		
Conclusion																												
Loop		9				1			4																5	10		
Aside																												
TOTAL	88	153	68	4		29	11		31	1	18	4	2	78	1	1	3	79	61	313	78							

KEY: OP. - OPERATION, CREA. - CREATION, COGN. - COGNITION, EXT. - EXTERNALIZED, PERC. - PERCEPTION, REAC. - REACTION, ID. - IDENTITY, POSS. - POSSESSION, CIRC. - CIRCUMSTANCE.



APPENDIX 6

TEACHER AND PUPIL QUESTIONNAIRES  
QUESTIONNAIRE FOR TEACHERS

Please do not put your name on this sheet. All answers are anonymous and confidential. Please answer all questions.

Put a tick ( ) or write the words in the space provided

---

N.B. Are you a woman or a man? Woman ( ) Man ( )

1. (i) How long have you been teaching?
  - (a) less than 1 year ( )
  - (b) between 1 and 2 years ( )
  - (c) 2 - 5 years ( )
  - (d) 5 - 10 years ( )
  - (e) more than 10 years ( )
- (ii) How long have you been teaching in your present school? \_\_\_\_\_
2. What subjects do you teach? Please name the subjects.  
Subjects taught by you: (a) \_\_\_\_\_  
(b) \_\_\_\_\_  
(c) \_\_\_\_\_
3. What is your mother-tongue (your first Nigerian language)?  
First Nigerian language, or mother-tongue: \_\_\_\_\_
4. What other languages do you speak? Please name the languages.  
Other languages spoken by you: (a) \_\_\_\_\_  
(b) \_\_\_\_\_  
(c) \_\_\_\_\_
5. What language do you use most when: Language used most  
(a) talking to your husband or wife \_\_\_\_\_

- (b) talking to your children? \_\_\_\_\_
- (c) talking to your parents? \_\_\_\_\_
- (d) talking to your friends outside school? \_\_\_\_\_
- (e) talking to your fellow teachers, in the staff room? \_\_\_\_\_
6. What language do you use most: \_\_\_\_\_
- (a) at church or in the mosque? \_\_\_\_\_
- (b) when out shopping, in the market? \_\_\_\_\_
- (c) at parties and celebrations? \_\_\_\_\_
- (d) when visiting friends? \_\_\_\_\_
- (e) when discussing family matters? \_\_\_\_\_
- (f) when discussing politics? \_\_\_\_\_
7. Please indicate with a tick ( ) the qualifications you hold:
- (a) Grade II Teacher's Certificate ( )
- (b) W.A.S.C. or G.C.E. 'O' level ( )
- (c) Grade I Teacher's Certificate ( )
- (d) H.S.C. or G.C.E. 'A' level ( )
- (e) N.C.E. (Nigerian Certificate of Education ( )
- (f) University Arts or Science Degree (B.A. or B.Sc.) ( )
- (g) University Education Degree (B.Ed.) ( )
- (h) Post-graduate Diploma or Certificate in Education ( )
- (i) Higher Degree ( )
- (j) Any other? Please name \_\_\_\_\_
8. Have you had experience in other jobs as well as teaching?
- (a) Administrative ( )

- (b) Nursing ( )
- (c) Trade or Business ( )
- (d) Secretarial ( )
- (e) Other jobs (Please describe) \_\_\_\_\_

9. On average, how many pupils are there in our class?

Average number of pupils per class: \_\_\_\_\_

10. Are you at present teaching the subjects which you were trained to teach?

YES/NO

11. Have you attended any in-service courses for teachers during the past year?

YES/NO

If YES, please describe the course: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

12. Have you ever attended any English language courses to extend your own command of English?

- (a) during initial teacher training? ( )
- (b) during in-service courses? ( )
- (c) individual study by personal choice? ( )

13. If you had the opportunity to undertake further studies, would you prefer:

- (a) full-time residential courses away from home  
(e.g. University or College) ( )
- (b) tuition by correspondence, materials sent  
to you by post for home study ( )

14. What kind of accommodation do you live in?

- (a) storey house ( )
- (b) bungalow ( )
- (c) 2 bedroom flat or apartment ( )
- (d) own sitting room & bedroom ( )
- (e) one room only ( )

15. Is there a library in your neighbourhood which you can use?
- (a) public library ( )
- (b) Higher Education Institution library  
(e.g. university, polytechnic) ( )
- (c) other (please describe) \_\_\_\_\_
- 
- (d) No library nearby ( )
16. Do you have at home: (a) radio ( )
- (b) television ( )
- (c) tape-recorder ( )
17. What newspaper do you read?
- Name of newspaper: \_\_\_\_\_
18. On average, how many books do you read per month?
- Average No. of books read per month: \_\_\_\_\_
19. Are the books you read:
- (a) connected with your present teaching job? ( )
- (b) for further studies? ( )
- (c) for pleasure and relaxation? ( )
- (d) for information and advice? ( )
20. Please give the title of the last book you read:
- Title of last book read: \_\_\_\_\_
21. Do you prefer to listen to radio & television programmes in:
- (a) English? ( )
- (b) Nigerian languages? ( )
- (c) Both English and Nigerian languages ( )

22. How often do you listen to the radio?

- (a) every day ( )  
(b) several times a week ( )  
(c) once a week ( )  
(d) hardly ever ( )

23. How often do you watch television?

- (a) never ( )  
(b) once a week ( )  
(c) several times a week ( )  
(d) every day ( )

24. Please list the activities which you are engaged in outside working hours: (e.g. housework, coaching, sport, etc.)

- (a) \_\_\_\_\_  
(b) \_\_\_\_\_  
(c) \_\_\_\_\_  
(d) \_\_\_\_\_  
(e) \_\_\_\_\_

25. Do you have a part-time job apart from your full-time teaching post?

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

26. How many hours per week do you spend on your part-time job?

No. of hours per week on extra job: \_\_\_\_\_

27. Do you intend to remain a teacher for the rest of your working life, or to change to some other job?

- (a) remain a teacher ( )  
(b) change to another job? ( )

28. Do you think that English or a Nigerian language should be used as medium of instruction for secondary education, for teaching all subjects?

(a) English should continue as medium ( )

(b) A Nigerian language should be used as medium ( )

29. What do you think of the standard of spoken and written English of your pupils?

Pupils' Spoken English

Pupils' Written English

(a) Excellent ( )

(a) Excellent ( )

(b) Good ( )

(b) Good ( )

(d) Average ( )

(c) Average ( )

(d) Poor ( )

(d) Poor ( )

(e) Very poor ( )

(e) Very Poor ( )

30. Please describe below any particular problems your pupils may have in using English to participate in lessons: in their written work: in reading for study, and so on:

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THANK YOU FOR ALL YOUR ANSWERS  
YOUR ASSISTANCE IS GREATLY APPRECIATED

QUESTIONNAIRE FOR PUPILS

Please answer all the questions. Put a tick ( ) or write the words in the space provided (\_\_\_\_\_)

1. How old are you? Age: (\_\_\_\_\_) years (\_\_\_\_\_) months.

Are you a girl or a boy? Girl ( ) Boy ( )

2. How many brothers and sisters do you have?

Number of brothers: (\_\_\_\_\_)

Number of sisters: (\_\_\_\_\_)

3. What job does your father do?

Father's Job: (\_\_\_\_\_)

4. What job does your mother do?

Mother's Job: (\_\_\_\_\_)

5. How many wives does your father have?

Number of wives: (\_\_\_\_\_)

6. In what type of accommodation do you live?

(a) storey house ( )

(b) bungalow ( )

(c) 2 bedroom flat or  
apartment ( )

(d) own sitting room &  
bedroom ( )

(e) single room ( )

7. What is your mother-tongue (your first Nigerian language)?

First Nigerian Language, or mother-tongue: (\_\_\_\_\_)

8. What other Nigerian languages do you speak?

Other Nigerian languages spoken: (\_\_\_\_\_)

(\_\_\_\_\_)

(\_\_\_\_\_)

9. What language do you use most at home?

Language used most at home: (\_\_\_\_\_)

10. What language do you use most at school?

Language used most at school: (\_\_\_\_\_)

11. What language do you use most when:

(a) talking to your mother? (\_\_\_\_\_)

(b) talking to your father? (\_\_\_\_\_)

(c) talking to your sisters and  
brothers? (\_\_\_\_\_)

(d) talking to your grandparents? (\_\_\_\_\_)

(e) talking to other relatives? (\_\_\_\_\_)

(f) talking to friends at  
school? (\_\_\_\_\_)

(g) talking to friends outside  
school? (\_\_\_\_\_)

12. What languages does your mother speak?

Languages spoken by Mother: (\_\_\_\_\_)

(\_\_\_\_\_)

(\_\_\_\_\_)

13. What languages does your father speak?

Languages spoken by Father: (\_\_\_\_\_)

(\_\_\_\_\_)

(\_\_\_\_\_)

14. What language do you use at Church or at the mosque?

Language used at Church: (\_\_\_\_\_)

Language used at the Mosque: (\_\_\_\_\_)

15. What language do you use when shopping in the market?

Language used shopping in the market: (\_\_\_\_\_)



16. Do you listen to radio programmes in:
- (a) English only ( )
  - (b) Nigerian languages only ( )
  - (c) Both English and Nigerian languages ( )
17. Please write the name of the newspaper you read:
- Name of the newspaper you read: ( \_\_\_\_\_ )
18. Do you read the newspaper?:
- (a) once a week ( )
  - (b) every day? ( )
  - (c) 2 or 3 times a week? ( )
19. How often do you watch television?
- (a) never ( )
  - (b) about once a month ( )
  - (c) about once a week ( )
  - (d) every day ( )
20. Is there a library in your neighbourhood which you can use?
- (a) School library ( )
  - (b) public library ( )
  - (c) other library (please describe) ( )  
( \_\_\_\_\_ )
  - (d) no library nearby ( )
21. Which of the following activities do you take part in outside school hours:
- (a) sports ( )
  - (b) household duties ( )
  - (c) dancing ( )
  - (d) trading ( )

- (e) parties ( )
- (f) swimming ( )
- (g) reading for pleasure ( )
- (h) extra lessons ( )
- (i) shopping ( )
- (j) other activities? Please name them below:

(\_\_\_\_\_)

22. Do you have a part-time job outside school?

Part-time job: Yes/No.

23. If you have a part-time job, please state what job you do:

Part-time job: (\_\_\_\_\_)

24. What language do you use most while doing your part-time job?

Language used most at work: (\_\_\_\_\_)

25. What full-time job do you hope to have when your education finishes?

Full-time job you hope to have: (\_\_\_\_\_  
\_\_\_\_\_)

26. If you could choose, would you like secondary education to:

- (a) use the English language for learning all subjects, as at present? ( )
- (b) use a Nigerian language for learning all subjects? ( )

THANK YOU VERY MUCH FOR YOUR ANSWERS

## APPENDIX 7

### QUESTIONNAIRE RESULTS

#### A. TEACHERS

(i) <u>Number of teachers responding:</u>	58
Number of female teachers :	38 (65.5%)
Number of male teachers :	20 (34.5%)

#### Question 1

(i) <u>Length of teaching experience:</u>	
(a) less than one year :	0
(b) between 1 and 2 years :	17.2%
(c) 2-5 years :	34.5%
(d) 5-10 years :	31.0%
(e) more than 10 years :	17.3%
(ii) <u>Years spent teaching in present school:</u>	
(a) 1-2 years :	3.5%
(b) 2-5 years :	72.4%
(c) more than 5 years :	24.1%

#### Question 2

<u>Subjects taught:</u>	
(a) English :	17.2%
(b) Other languages :	13.8%
(c) Science subjects:	31.0%
(d) Arts subjects :	37.9%

#### Question 3

<u>Mother tongue:</u>	
(a) Yoruba :	29.3%
(b) Hausa :	17.2%
(c) Igbo :	22.4%
(d) Other Nigerian languages :	20.7%
(e) non-Nigerian language :	10.3%

Question 4

<u>Languages spoken other than MT:</u>	
(a) other Nigerian languages::	34.5%
(b) English :	96.5%
(c) other non-Nigerian languages:	27.6%

Question 5

<u>Language used most with:</u>	<u>MT</u>	<u>Eng.</u>	<u>Others</u>
(a) husband/wife:	94.8%	56.9%	12.1%
(b) children :	96.6%	98.3%	3.4%
(c) parents :	100.0%	20.7%	1.7%
(d) friends outside school:	87.9%	75.9%	34.5%
(e) fellow-teachers in school :	70.7%	100.0%	0%

Question 6

<u>Language used most in :</u>	<u>MT</u>	<u>Eng.</u>	<u>Others</u>
(a) Church or mosque :	100.0%	58.6%	25.9%
(b) Shopping :	82.8%	*60.3%	12.1%
(c) Parties and celebrations :	100.0%	84.5%	1.7%
(d) Visiting friends :	96.6%	46.7%	10.3%
(e) discussing family matters :	100.0%	51.7%	6.9%
(f) discussing politics:	70.7%	100.0%	6.9%

\*(Pidgin English in all cases)

Question 7Qualifications:

(a) to (c): no teachers had these qualifications <u>only.</u>	
(d) H.S.C./A-Level :	5.1%
(e) N.C.E. :	13.8%
(f) B.A./B.Sc. :	13.8%
(g) B.Ed. :	34.5%
(h) P.G.C.E. :	27.6%
(i) Higher degree :	0%
(j) Technical Diploma :	5.1%

Question 8

<u>Experience in other jobs:</u>		
(a) administrative	:	6.9%
(b) nursing	:	15.5%
(c) trade/business	:	36.2%
(d) secretarial	:	8.6%
(e) other	:	0%

Question 9Average number of pupils in class:

Overall average:		38
Range	:	30-42

Question 10Teaching specialist subject:

Yes:		89.7%
No:		10.3%

Question 11In-service courses attended:

Yes:		36.2%
No:		63.8%

Type of course mentioned:

Mathematics	:	42.8%
English	:	9.5%
Science	:	47.6%

Question 12English Language Courses:

(a) during initial training:		87.9%
(b) in-service courses:		12.1%
(c) individual study:		37.9%

Question 13Further studies:

(a) full-time residential:		93.1%
(b) by correspondence	:	6.9%

Question 14Accommodation:

(a) storey house	:	15.5%
(b) bungalow	:	32.8%
(c) 2-bedroom flat	:	51.7%
(d) and (e) 1/2 rooms	:	0%

Question 15Availability of Library:

(a) public library	:	100.0%
(b) educational institution	:	74.1%
(c) and (d) other/none	:	0%

Question 16Equipment/Media:

(a) radio	:	100.0%
(b) television	:	67.2%
(c) tape-recorder	:	24.1%

Question 17Newspapers read:

(a) quality paper	:	79.3%
(b) other/popular paper	:	100.0%

Question 18Number of books read:

(a) one or two per month	:	65.5%
(b) less than one per month	:	34.5%

Question 19Books read:

(a) connected with teaching job	:	100%
(b) further studies	:	36.2%
(c) pleasure	:	19.0%
(d) information and advice	:	39.7%

Question 20Title of last book read:

(a) Textbook title	:	100.0%
(b) novels	:	24.1%
(c) other academic books	:	17.2%

Question 21Listen to T.V./Radio programmes in:

(a) English	:	32.7%
(b) Nigerian languages	:	31.0%
(c) Both	:	36.2%

Question 22Listen to radio:

(a) every day	:	100.0%
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Question 23Watch television:

(a) never	:	0%
(b) once a week	:	6.9%
(c) general times a week:	:	69.0%
(d) every day	:	24.1%

Question 24Outside-work activities:

(a) housework	:	74.1%
(b) academic coaching	:	53.4%
(c) sport	:	20.7%
(d) visits	:	89.7%
(e) indoor games	:	15.5%

Question 25Part-time job in addition to teaching:

Yes:	70.7%
No:	29.3%

Type of job: private lessons/academic coaching

Question 26Hours per week spent:

(a) 15+hours	:	78.0%
(b) 10-15 hours	:	17.1%
(c) less than 10 hours	:	4.9%

Question 27Intend to remain in teaching:

(a) Yes	:	48.3%
(b) change	:	51.7%

Question 28English to continue as medium:

(a) Yes	:	100%
---------	---	------

Question 29Standard of spoken/written English of Pupils:

<u>Spoken</u>		<u>Written</u>	
(b) good:	10.3%	(b) good:	3.4%
(c) average:	17.2%	(c) average:	17.2%
(d) poor:	72.4%	(d) poor:	79.3%

Question 30Pupils problems with English:

(a) difficult language of textbook/teacher:	17.2%
(b) pupils' poor English ability	: 63.8%
(c) poor teaching in English	: 13.8%
(d) No interest in learning	: 5.2%

B. PUPILS

(i) Number of pupils responding: 320

Question 1Age:

Between 10 & 12	:	26.25%
Between 13 & 14	:	63.75%
Between 15 & 16:	:	10.00%

Sex

Female	:	43%
Male	:	57%



Question 2

<u>No. of siblings:</u>		
(a) 1-3	:	6.6%
(b) 4-6	:	77.2%
(c) 7-10	:	11.25%
(d) over 10	:	5.0%

Question 3

<u>Father's occupation:</u>		
(a) Professional/Public sector:	:	6.25%
(b) Skilled/commerce	:	43.75%
(c) Semi-skilled/small farmer	:	41.25%
(d) Unskilled/petty trading	:	6.25%
(e) Unemployed	:	2.5%

Question 4

<u>Mother's occupation:</u>		
(a) Professional/Public sector	:	2.5%
(b) Skilled(teacher & nurses included)	:	10.0%
(c) Semi-skilled/commerce	:	15.0%
(d) Unskilled/petty trading	:	40.0%
(e) housewife	:	32.5%

Question 5

<u>Father's wives:</u>		
(a) one	:	65.3%
(b) 2-3	:	25.0%
(c) more than 3	:	9.7%

Question 6

<u>Type of accommodation:</u>		
Bungalow/Storey house	:	25.3%
Flat	:	22.2%
2 rented rooms	:	30.9%
1 rented room	:	21.6%

Question 7

<u>Mother-tongue:</u>		
(a) Yoruba	:	32.2%
(b) Igbo	:	27.8%
(c) Hausa	:	17.8%
(d) other Nigerian languages	:	17.5%
(e) Non-Nigerian languages	:	4.7%

Question 8Other Nigerian languages spoken:

(a) no other	:	64.7%
(b) one other	:	16.6%
(c) 2 or 3 others	:	14.1%
(d) more than 3 others	:	4.7%

Question 9Language used most at home:

(a) mother-tongue	:	86.3%
(b) another Nigerian language	:	7.5%
(c) English	:	6.2%

Question 10Language used most at school:

English: 100%

Question 11Language most often used with:

	MT	Eng.	Other
(a) parents	93.4%	5.6%	0%
(b) siblings	81.2	18.4%	0%
(c) grandparents	100.0%	0	0%
(d) other relatives	89.7%	10.3%	0%
(e) friends at school	19.7%	75.0%	5.3%
(f) friends outside school	70.0%	27.8%	2.2%

Question 12Languages Spoken by mother:

(a) mother-tongue	:	100%
(b) English	:	79.7%
(c) one other Nigerian language	:	64.1%
(d) 2 or more other Nigerian languages	:	13.4%

Question 13Languages spoken by father:

(a) mother-tongue	:	100%
(b) English	:	95.3%
(c) one other Nigerian language:	:	74.7%
(d) 2 or more other Nigerian languages	:	30.6%

Question 14Language used at church or mosque:

(a) English	:	68.4%
(b) Arabic	:	31.5%
(c) Nigerian languages	:	99.1%
(d) others	:	5.9%

Question 15Language used for shopping:

(a) mother-tongue	:	81.25%
(b) English:	:	12.2%
(c) Other Nigerian languages	:	6.7%

Question 16Radio programmes listened to:

(a) in English	:	42.8%
(b) in Nigerian languages:	:	57.2%
(c) in both	:	100%

Question 17Newspapers read:

(a) Quality paper	:	25.9%
(b) other/popular paper	:	74.1%

Question 18Frequency of newspaper reading:

(a) every day	:	52.2%
(b) 2/3 times per week	:	35.3%
(c) once a week	:	12.5%

Question 19Frequency of T.V. watching:

(a) never	:	9.7%
(b) once a month:	:	30.9%
(c) once a week	:	23.8%
(d) every day	:	35.6%

Question 20Library in neighbourhood:

(a) School library	:	100.0%
(b) Public library	:	57.8%
(c) Others	:	18.4%

Question 21Out-of-School activities:

(a) sports, dancing, socials	:	97.2%
(b) reading	:	84.1%
(c) extra lessons	:	89.6%
(d) economic activities	:	68.4%
(e) household duties (inc. shopping)	:	98.4%

Question 22Part-time Job out-of-school:

Yes:	66.25%
No:	33.75%

Question 23Type of jobs:

(a) errand girl/boy:	57.1%
(b) paid house help:	33.5%
(c) other	9.4%

Question 24Language used at part-time job:

(a) mother-tongue	:	93.4%
(b) English	:	6.6%

Question 25Job ambitions:

Professional/Highly skilled:	100%
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Question 26Medium of secondary education:

English:	100%
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APPENDIX 8

Number of Discourse Acts in each of the 40 Lessons  
of the Investigation

Social Studies		English	
Lesson No.	No. of Discourse Acts	Lesson No.	No. of Discourse Acts
1	292	11	530
2	407	12	430
3	541	13	451
4	153	14	338
5	247	15	479
6	326	16	304
7	299	17	502
8	602	18	311
9	366	19	494
10	347	20	369
Median	336.5	Median	440.5
Mathematics		Science	
21	584	31	271
22	343	32	249
23	438	33	152
24	382	34	437
25	680	35	446
26	312	36	644
27	342	37	370
28	313	38	423
29	297	39	309
30	336	40	260
Median	342.5	Median	339.5

APPENDIX 9

Number of Choices from the Clause Process Options  
in each of the 40 Lessons of the Investigation

Social Studies		English	
Lesson No.	Clause pr.Options	Lesson No.	Clause pr.options
1	556	11	797
2	734	12	889
3	909	13	743
4	440	14	519
5	570	15	782
6	644	16	630
7	583	17	692
8	844	18	833
9	574	19	896
10	654	20	611
Median	613.5	Median	762.5
Mathematics		Science	
21	808	31	391
22	497	32	377
23	629	33	299
24	472	34	863
25	882	35	789
26	470	36	849
27	468	37	645
28	423	38	726
29	529	39	449
30	504	40	571
Median	500.5	Median	608.0