BRITISH COUNCIL

TeachingEnglish

ELT-42

Team Teaching in ESP

Milestones in ELT

Milestones in ELT

The British Council was established in 1934 and one of our main aims has always been to promote a wider knowledge of the English language. Over the years we have issued many important publications that have set the agenda for ELT professionals, often in partnership with other organisations and institutions.

As part of our 75th anniversary celebrations, we re-launched a selection of these publications online, and more have now been added in connection with our 80th anniversary. Many of the messages and ideas are just as relevant today as they were when first published. We believe they are also useful historical sources through which colleagues can see how our profession has developed over the years.

Team Teaching in ESP

This 1980 title looks at collaborative teaching where a subject and an English language specialist plan and deliver lessons jointly. Contributions in the book come from two universities; a further education college; an adult literacy unit; a national technical institute; a United Nations institute; and the British Council. Countries represented include Algeria, England, Kuwait, and Zambia. All but the final two chapters discuss reasons for introducing team teaching, and how far this approach succeeded in their institutions. The first three papers are from the University of Birmingham. Subsequent chapters look at team teaching for learners on literacy, vocational, technical, medical, and secondary school courses. Chris Kennedy concludes the volume with a response to some contemporary criticisms of ESP and a call for more research into the valuable work being carried out by ESP practitioners in general.

ELT documents

106- Team Teaching in ESP

ETIC publications

The British Council

ENGLISH TEACHING INFORMATION CENTRE

ELT documents

106-Team Teaching in ESP

The British Council
ENGLISH TEACHING INFORMATION CENTRE

ISBN 0 900229 87 X

© The British Council, 1980
Produced in England by The British Council, Printing and Publishing Department, London

3M/2/80

CONTENTS

	Page
INTRODUCTION	5
MAIN ARTICLES	
An experiment in team-teaching of overseas postgraduate students of transportation and plant biology	6
A collaborative approach to the teaching of vocabulary for accounting students	24
The team-teaching of introductory economics to overseas students	34
Moving towards subject-language integration for a college of further education	48
Linked-skills courses: An account of the theory and methodology of linking literacy teaching with specialist areas	70
Co-operative teaching: bridging the gap between E and SP	76
INELEC: Teamwork in an EST Program	86
The English Teaching and the Camera — team-teaching for special purposes	92
The SP of the E	97
An English Language Testing Service: subject/language collaboration in ESP test design	109
Fundamental problems in ESP	118
Recent publications: books, films and tapes	127

LETTER TO THE EDITOR

Dear Sir

I write in support of Ian Dunlop's proposals for a possible BEd in TEFL which could be obtained through a unit credit system. (ELT Documents 104). The advantages to such a scheme are firstly, that many good teachers of EFL, at present unable to take higher degrees in Applied Linguistics and therefore barred from applying for more senior posts in TEFL, would, in future, with graduate status, be able to do so. Secondly, such a part-time arrangement would enable those who, for professional or financial reasons, cannot leave a job for a one-year course, to gain an advanced TEFL qualification. Such a scheme, carefully planned and executed, could only raise the quality of teaching and increase the professional status of TEFL.

A similar philosophy underlies much of the EFL teacher-training courses here at Birmingham. We already have running a very successful BPhil (Ed) degree course in TEFL which is open to both non-graduate and graduate teachers. For some, therefore, it is an additional degree, for others a first degree, and for all, a further qualification in TEFL and Applied Linguistics. Plans are also nearing completion for a 'sandwich' MA course with special reference to ESP. This would be spread over two years, participants coming to Birmingham for one term's intensive teaching in each academic year. The rest of the period would be spent in the participants' teaching establishments during which time they would be working on projects related to their work but also counting towards the degree. In this way, we hope to be able to help the teacher who can only be 'released' from his institution for a short period and also, by linking MA course work with the actual teaching situation of the participant, to narrow the gap that tends to appear, inevitably, between theory and practice on one-year full-time courses.

Yours faithfully

Chris Kennedy
Lecturer, English Language Research
University of Birmingham

ELT Documents is now including a correspondence section. Comments arising from articles in current issues will therefore be most welcome. Please address comments to ETIC, The British Council, 10 Spring Gardens, London SW1A 2BN.

The articles and information in *ELT Documents* are copyright but permission will generally be granted for use in whole or in part by educational establishments. Enquiries should be directed to the British Council, Printing and Publishing Department, 65 Davies Street, London, W1Y 2AA.

INTRODUCTION

Several practical solutions to some problems of the language teacher in a specialist field of EFL are offered here. The principle of collaboration between the teachers of two disciplines, is one oft propounded but ne'er so much expressed in practice. As the essential feature of ESP courses is the combination of language skills and subject skills, the vital question posed is how to arrive at the best combination. Present common variations on the theme are: employment of a teacher holding a degree in eg Physics plus EFL training or experience, or the obverse, employment of an EFL teacher who has already acquired some training in eg physics. Both these eventualities depend upon training acquired during a hypothetical previous career, ie before coming to the job in hand. As such they do not answer the ideal solution of formal teacher collaboration within the actual teaching programme.

This volume attempts to present a record of several programmes planned to produce the right combination of the two skills, by integrating the work of both subject and language specialists. The main focus of attention is naturally in the forum most interesting to the teacher — the classroom itself.

There is, of course, no single technique applicable for instant effectiveness, simply because a variety of learning conditions demands equal variety in teaching arrangements. Success in this particular teaching field owes a very great deal to the evolution of an individual methodology to suit each individual teaching situation. This is usually achieved by selecting from a range of planning options available to staff; the range may be broad or narrow according to other less malleable exigencies, for example financial and staff constraints etc.

Despite the variety though, it should be possible to discern a certain number of constant factors in all ESP team-teaching. For example, a starting point common to all is that input is needed from both sides (EFL content plus subject content). Another necessary factor is that whatever points of collaboration exist must be clearly identified before the start of the actual teaching. This is of course no new discovery; identification of correct input and a clearly-defined goal being necessary prerequisites of any teaching course.

By putting together written records of several team-teaching programmes, we hope that this issue will provide the reader with a means of observing similarities and differences of each, according to their several purposes.

Elizabeth Smyth

AN EXPERIMENT IN TEAM-TEACHING OF OVERSEAS POSTGRADUATE STUDENTS OF TRANSPORTATION AND PLANT BIOLOGY[1]

T F Johns and A Dudley-Evans
English for Overseas Students' Unit, University of Birmingham

Since 1971, the English for Overseas Students' Unit at Birmingham University has concentrated in its in-session teaching on the 'common-core' language problems of students across as wide a range of subject-areas as possible. Within the overall programme these problems are identified both from the stand-point of the form of the target language, and from the standpoint of the functions to which the language will be put in the overseas student's life in a British industrial city, and — more particularly — his work in a British university department. Courses defined formally include Remedial Grammar, Vocabulary Studies, and Pronunciation, while those defined functionally (Johns 1975) include Academic Writing, Scientific Report Writing, Structured Dialogues, Listening Comprehension, and Note-taking and Reconstitution. The programme is elective in that, with the advice of the Unit, students select that course or combination of courses which is most likely to meet their particular needs or learning-styles.

The experience of the past seven years has confirmed that the 'common-core' approach has both theoretical validity, and — particularly in the training of the productive skills — practical applicability. Not only are most of the formal features of the language, and areas of potential difficulty with form, consistent across different subject areas, but the communicative uses to which English is put also have more points of similarity than of difference. In all subjects, for example, the language is used to describe structure and process; to give precise expression to spatial, temporal, and cause-and-effect relationships; to identify, define, compare, and hypothesise; to refer to and evaluate previous academic research and debate, and set the writer's own work and ideas against that background; and so forth. Inevitably, however, a common-core programme of this sort entails a degree of 'abstraction' from the actual situation of the student

---

[1]This paper is a revised version of Johns and Dudley-Evans (1978); our thanks are due to our colleagues in the subject departments who helped us to avoid inaccuracies in the earlier version, and to Roz Ivanic whose perceptive comments on that version prompted the revision. Any remaining errors and obscurities are our responsibility.

battling with his particular problems in his department. In order to ensure that the generalisations on which the programme based and the priorities it embodies correspond to the reality of that situation, it became increasingly evident that it needed to be supplemented by some sort of 'involvement' at the cutting-edge in departments, both in order to help students more directly, and as a form of 'on-the-ground' research. For administrative and pedagogical reasons, that involvement has taken the form of an experiment in team-teaching in certain departments between subject teachers and language teachers.

The main administrative problems which prompted the experiment were those of the timetabling and information. With some MSc courses involving over 25 hours of subject tuition a week, it is difficult for the students attending them to find the time — or the energy — to attend all the classes they may need in the Unit. In addition, with students from over twenty departments in all Faculties attending classes in the Unit, it is impossible to find times for classes which can be attended by all the students who may need them. Partial solutions to these problems have been found by holding classes in the lunch break (1300 — 1400) and in the late afternoon (1700 — 1800); by some departments writing certain classes from the common-core programme into their own timetables; and by attempting to design teaching materials in such a way that they can be used on an access basis by students who are unable to attend classes. Despite these measures, the timetabling problem remains. The problem of information derives from the difficulty of keeping track of the progress of each of the 180 or so students attending classes in the Unit. It has not proved possible to keep all departments informed on a regular basis as to the progress of each of their students: conversely, the Unit often does not hear until too late of a student who is falling behind in his work because of language difficulties. We are aware that our administrative procedures in this area could be tightened up: nevertheless, it would be over-optimistic to expect that administrative procedures alone could overcome the problem. What is needed is that there should be as much personal contact as possible on a regular basis to ensure that difficulties are discussed as they arise, and that assessment is made from both sides as to diagnosis and whatever remedial action may be necessary.

The pedagogical problems arise from the perception, reinforced by discussion with subject teachers and with students (particularly in the one-to-one consultations which form an essential component of the Unit's work) that an overseas student's failure to keep pace with his course or with his research is rarely attributable to 'knowledge of the subject' or 'knowledge of the language' alone: most often, these factors are inextricably intertwined. If their work is separate, it is difficult for the subject teacher, and even more so for the language teacher, to take

account of that intertwining. In the triangle of which the three angles are the student, the subject teacher, and the language teacher, each needs a certain type of assistance and feedback from the other two. The student needs to know how his performance is measuring up to the expectations of his teachers, and to have immediate assistance with his difficulties as they arise: a type of monitoring and assistance that may not be available from the subject-teacher or the language-teacher working in isolation. The subject teacher needs to have a clearer idea of how effectively he is communicating with his students, and how that communication might be improved. Since learning a subject in any case centrally involves learning how that subject is talked about (at the simplest level, for example, how entities and relationships are named), his teaching inevitably incorporates an element of language teaching, and there is at least a *prima facie* case that that side of his work may be assisted by a language teacher.

The language teacher, we believe, needs to be able to grasp the conceptual structure of a subject his students are studying if he is to understand fully how language is used to represent that structure; to know how the range of different subjects are taught during the course; and to observe where and how difficulties arise in order that he can attempt to help both student and subject teacher to overcome them. Only within such a framework can he hope to solve the problem of 'authenticity' which looms so large when language teaching is divorced from subject teaching. Much has been written in recent years about the desirability of using written and spoken texts for subject-specific language classes which are 'genuine': that is to say, which have not been simplified or in other ways doctored by the teacher. However, genuineness does not guarantee relevance, for understanding a text must include understanding the significance of the text within the overall learning/teaching process. How does the information in the text relate in terms of what is 'given' and 'new' to information already acquired? How far does it confirm or supplement the student's conceptual framework, or modify that framework? What use will the student be expected to make of the information or ideas? The language-teacher is unable to answer questions such as these without reference to the subject-teacher: in the absence of the answers, the teaching of comprehension can easily become an arid affair, divorced from the contextual factors which are always present when 'real' comprehension takes place.

The problem of authenticity is not limited to comprehension, but extends also to the productive skills. Here, the assistance of the subject teacher is particularly important when it comes to the teaching of writing. Most overseas students are given far too little instruction or practice in the task by which their success will mainly be judged, namely the writing of examination answers under time pressure. If the language teacher is to

offer training in this skill, he needs to know exactly what the subject-teacher intends by the questions he sets; what sort of structuring is expected in the answers; and what sort of performance is accepted as adequate. Feedback on the last of these is vital to ensure that the language teacher's priorities in the teaching of effective communication (for example, the significance accorded to 'mechanical' errors in the assessment of written work) reflect those of the subject teacher.

The departments where we have, in recent years, introduced experiments in team-teaching in an attempt to overcome the problems and meet the needs outlined above are the Development Administration Group of the Institute of Local Government Studies, the Department of Transportation and Environmental Planning, and the Department of Plant Biology. This paper concentrates on the last two of these[1]. The main characteristics of the work of these departments may be worth noting. Both teach one-year MSc-courses comprising course work and project work: in Plant Biology the course is on the Conservation of Plant Genetic Resources, while in Transportation we are concerned with two courses with a considerable degree of overlap, the one being on Highway and Traffic Engineering, and the other being on Highway Engineering for Developing Countries. In both departments the work is highly specialised, and is not replicated exactly elsewhere in the United Kingdom. As a result of this specialisation, and the world-wide applicability of the training given, a high proportion of the students are from overseas (9 out of 10 on the Transportation courses, and 3 out of 4 on the Plant Biology course). Most of them are in their late twenties and in their thirties, having had some years' working experience in their profession. They are faced by the problems of returning to academic life; of adjusting to the special conventions of study in a British university; and, often, of having to tackle unfamiliar subjects (for example, economics and sociology in Transportation). Finally, there was before the experiments started, an awareness in both departments of underachievement among some of their overseas students as a result of problems with English: both responded readily to the idea of collaboration, and members of staff were willing to give time and trouble, and to tolerate a degree of intrusion on their teaching, to help make the experiments a success. Work got under way in the 1977/8 session in Transportation and Environmental Planning, and in 1978/9 in Plant Biology.

---

[1]For an account of the first term's work in the Development Administration Group, see Johns (forthcoming), which touches on and elaborates some of the points raised in the present paper. The second term's work in DAG closely resembles that in Transportation and Plant Biology; it has given rise to some ongoing research in the Unit on the linguistic and communicative features of examination questions in Development Studies courses at a number of British universities.

In order that individual attention can be given to each student, and that all students should have an opportunity to participate, team-taught groups are restricted to 10-12 students. Since there may be more than that number of potential participants in a department, some form of selection is necessary. At the moment this is done mainly on the basis of the Assessment and Diagnostic Test taken by all overseas students on arrival at the University, preference being given to students with lower scores on the test. Each class meets once a week; in theory the session should last an hour and a quarter, but such is the heat of the discussion generated on all sides, that in practice it may last two hours or more. For each term a programme is worked out with the department so that subject-teachers take part on a rota basis, each contributing one or two sessions a term, while the language teachers alternate week by week in the two departments.

It was decided, after discussion with the departments and with the students that the work in the first term should concentrate on comprehension, with an emphasis on comprehension of lectures; and in the second term on production, and in particular the writing of examination answers under time pressure. In the first term, one of the subject-teacher's lectures is recorded during the week before the session on a small cassette recorder with a built-in microphone. The language-teacher is not present during the recording: we have found that this arrangement causes the least alarm to the lecturers, who soon forget that they are being recorded, and who tell us that their recorded lectures are fairly typical. The language teacher listens to and analyses the lecture in preparation for the team-teaching session — the recording is never used in the session itself. In most cases he has the lecturer's own notes or handout to guide him through the material, and subject teachers have been generous of their time in explaining the more obscure topics and their significance in relation to the course as a whole. For about half the number of sessions, we prepare — in some haste — an 'ephemeral' handout as a starting-point for the session's activities. We regard the job of preparing a handout as most valuable in concentrating the language teacher's mind on the task in hand, and in providing a general framework for the session: the materials, being ephemeral, cannot become an end in themselves.

The general pattern of activities within each session in the first term's work is as follows[1]:

---

[1]The traditions within which we are working in our teaching will be apparent to our fellow practitioners. We would particularly wish to draw attention to the parallelism/-indebtedness of our approach to the ideas of Professor Henry Widdowson, in particular the concept of 'information transfer': see, for example Widdowson (1973).

Global Understanding

Questions are asked to check whether the students have understood the main points of the lecture.These questions are usually answered without reference to the students' notes. Activities include:

a Re-arranging a randomised list of the points made by the lecturer into the order of presentation in the lecture. The following example is taken from a session in plant Biology on 'Classification'.

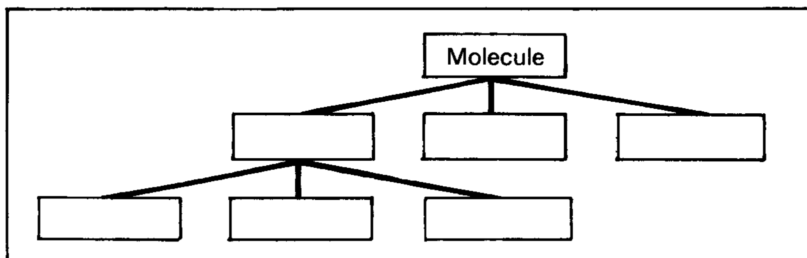
1 Phylogenetic Systems of Classification
2 Difference between 'Character' and 'Character State'
3 The Controversy over Phylogenetic Systems
4 Natural Systems of Classification
5 General Aims of Taxonomy
6 The Various Forms of Expression of 'Character'
7 Artificial Systems of Classification
8 Definition of 'Character'
9 Definition of 'Unit Character'

b Showing that the overall argument of the lecture has been grasped by completing a representation of it in non-linear form (eg a matrix, a tree diagram) or a flow diagram). For example, students were asked to complete a simple 2 × 2 matrix to show that they could distinguish between 'Technological' and 'Pecuniary' cost benefits, one of the key points in a lecture on Cost Benefit Analysis in Transport Economics:

3 Difference between technological costs and benefits and pecuniary costs and benefits

	Definition	Example
Technological Costs and Benefits		
Pecuniary Costs and Benefits		

In the following example students were asked to use a tree-diagram to classify the various kinds of molecules described in a lecture on 'Biochemical Systematics':



Understanding of Detail

Students answer questions on some of the subsidiary points in the lecture, including some of the lecturer's examples and 'asides'. In this case they are allowed to consult their notes. The purpose of this phase of the session is to discover how accurately students understand and record detailed information and, more importantly, whether they understand its relevance to the main argument. As in the work on global understanding, considerable use is made of diagramming techniques to represent information and argument. This example is taken from a session in Plant Biology following up a lecture on 'Cucurbitaceae':

The work on global understanding and understanding of detail gives the subject teacher an opportunity to check possible gaps in background understanding, and on occasion to see how modifications in his presentation might improve communication; allows students to catch up on points missed, or not completely understood, and, through the techniques used for testing comprehension, enables him to understand and take notes from future lectures with a greater awareness of the lecturer's intentions; and allows the language teacher to note the questions that arise that he had not foreseen, and to assess the role played in them by the relationship between comprehension of the subject-matter and comprehension of the language. This observation has proved invaluable in analysing material and planning activities for future sessions. The general pattern of group interaction in this part of the session is that the language-teacher starts by questioning the students with the subject-teacher acting as 'consultant'; passes the students to the subject-teacher on points of explanation, clarification and application, the language-teacher acting as 'monitor' and occasionally as 'mediator'; and often ends with the subject and language teacher jointly summarising the main points that have arisen. We have found it important that the subject-teacher and the language teacher should sit fairly close together in the group so that students do not suffer from the 'Wimbledon effect' as the lead passes from one to the other.

Nomenclature		Characters						
Botanical Name	Common Names	Leaf	Flower	Fruit				
				Shape	Size	Skin	Flesh	Seeds
Citrullus vulgaris								
Cucumis sativus								
Cucumis anguria								
Cucumis melo								
Luffa cylindrica								
Lagenaria siceraria								

Vocabulary

The overseas student often identifies his difficulties with English as 'not knowing enough words'. In the past language teachers have tended to give a low priority to the learning of vocabulary, and to concentrate instead on structure. The work on comprehension has pointed up the very real difficulties students do have in this area; a subject-specific team-taught class offers an opportunity to 'point students in the right direction' in order to overcome those difficulties, and we try to devote part of each session to vocabulary difficulties. The recording of the lecture is analysed with reference to the following main areas, one or more of which may form the focus of the work done in the session.

1 Technical Vocabulary

Subject-lecturers often assume that technical terms are familiar to students; much of the time this assumption is justified, but checking students' comprehension does occasionally reveal terms or groups of terms which are not fully understood, particularly where these derive from subject areas 'on the fringe' of their academic knowledge. The main problems seem to be:

a Sound-spelling correspondences. Many technical terms are international, and may be used in the student's first language in the same way as they are used in English. However, the familiar term, while presenting no difficulty on the printed page, may be difficult to recognise when spoken — for example because of different rules of stress-placement in English polysyllabic words such as 'phy**lo**geny', 'phylo**gen**esis, 'phyloge**ne**tic'. We attempt to give guidance where necessary not only on the sound-spelling correspondences of individual words, but also on some of the underlying principles — eg the effect on stress-placement and thereby on vowel reduction, of 'strong' suffixes (Guierre, 1975).

b Problems in understanding the 'meaning' of technical terms may be divided between those which relate to the denotation of the term (ie the relationship between the term and the entity, state, or process in the 'real world' to which it refers) and those which relate to the sense-relations between a term and a set of other terms (eg the relations of 'synonomy', 'antonomy', 'inclusion' and 'converseness')[1]. Establishing the denotation of a term in the sciences is complicated by the considerable

[1] The distinction between 'denotation' and 'sense', and the framework of sense-relations, is drawn from the work of Professor John Lyons: most recently, Lyons (1977).

degree of abstraction in the 'real world' as the scientist describes it — and indeed the coining of technical terms is an essential step in that process of abstraction. However, we have found that fairly simple concrete denotations, of the sort which can be established by a 'diagram-labelling' exercise, may not be fully grasped by many students. This was the case when we asked students to indicate their understanding of three crucial terms during a session in Transportation on 'Gap Acceptance':

1 Define the terms gap, lag, and lead

a by labelling the following diagram:

b in words:

gap is . . . .

lag is . . . .

lead is . . . .

We regularly set short exercises on sense-relations where these appear to be important and where they may present difficulties in the technical vocabulary of a subject area. Here is an extract from an exercise on antonyms for a session in Transportation on Statistics:

1 A histogram may be symmetrical or . . . .

2 A variable may be continuous or . . . .

3 A population may be real or . . . .

2 Semi-technical Vocabulary

Here the emphasis is on terms drawn from the 'common core' of English which take on a special signficance in a number of different subjects, either in description or as a result of the nature of the teaching/learning interaction. An example of the first in provided by the transitive verbs of process, which we have found to cause difficulties (eg 'affect', 'effect', 'yield', 'deplete', 'withstand'). An example of the second is the importance in many of the lectures we have recorded of the linguistic signals — for example the 'implicative verbs' (Karttunen 1971) — by which the lecturer mediate the work and ideas of other people: that is to say, the way in which he indicates his assessment of their validity. The following is an extract from an exercise set for a session in Plant Biology on 'Cassava and Sweet Potato': what was valuable was the opportunity both language-teacher and students had to check with the lecturer (in this case, the head of the department) their interpretations of the linguistic signals.

2 What do the underlined phrases tell you about whether an idea is generally accepted or about the lecturer's own attitude to the idea?

a From the work of Abraham et al reported in the Indian Journal of Botany it looks as though Manihot esculenta can be considered a tetraploid already.

b One explanation is that man got to know several varieties of Manihot esculenta and he gradually tried the more bitter varieties until he found methods to deal with the most dangerous. One very different hypothesis is that the bitter varieties were originally used as fish poisons.

c Most authorities have considered that Manihot esculenta is American in origin.

d Rogers even goes so far as to say that many of the wild species are nothing more than escaped esculenta.

e From one point of view one might think that there were two centres of origin of the sweet varieties of cassava from the diversity seen. Others have said the centre of origin might be the eastern foothills of the Andes. Rogers even suggested cassava might be domesticated on the west coast of Mexico.

f It has been pointed out by Yen that secondary association cannot indicate hybrid origin. He points out that Ipomoea rarely reproduces ...

3 Colloquial Vocabulary

An overseas student may have acquired in his own country a fair command of the written language of his subject, but still be puzzled by the colloquial words and phrases used by a lecturer when he talks about that subject. A few examples drawn at random from our recordings:

'This is **pretty** difficult'

'We'll need to **jack up** the figures'

'Well, **you pays your money and you takes your choice**'

Here the work concentrates on developing the student's ability to guess the meaning of colloquialisms and to find equivalents in formal written English. Part of an exercise from a session in Plant Biology on 'Storage of Seeds':

> **Colloquial Words and Expressions**
>
> Explain the words or phrases underlined. What equivalents would you use in formal written English?
>
> a The viability of the seed has a lot to do with the rate of cooling and the rate of thawing.
>
> b Storage in air is somewhat better than storage in pure oxygen.
>
> c There is little evidence as to how much oxygen is needed to keep a seed ticking over.

This part of the session requires a degree of tact on the part of the language-teacher, and of self-awareness on the part of the subject-teacher, most of whom do not realise how many colloquialisms they use. The majority react to the realisation by attempting to control the type and density of colloquial expressions in their lectures; one the other hand, one lecturer in Transportation appears to have increased his use of sporting metaphors, perhaps with the intention of putting the language-teachers on their mettle:

'Are you trying to **hedge your bets?**'

'What are you going to put in the surface? **Mouldy old jockstraps?**'

Follow-up Work

Both subject-teachers and language-teachers are concerned to drive home the point that understanding a lecture is not simply a matter of knowing

the information it contains, but also — and crucially — of being able to evaluate and use that information. Follow-up activities are usually agreed on in advance by the subject-teacher and the language-teacher, and have included the following:

1 Application of the general principles explained in the lecture to a practical task. These have ranged from describing the characters of flowers in Plant Biology to designing a road in Transportation.

2 Reading a short text related to the lecture, and assessing how far the information in the text supplements or modifies the information in the lecture.

3 Use of the underlying 'conceptual structure' as exposed by diagramming in the work on comprehension as a way of developing 'creative thinking' in the subject. The following example is taken from a session in Plant Biology on Adaptation, in which students are led to form their own hypotheses and to decide how they would test them.

The procedure for a good deal of scientific research may be shown as follows:

Initial observation → Formation of hypothesis → Testing of hypothesis → Conclusion

Complete the following diagram to show how this procedure was applied in the investigation of Eucalyptus:

What is the important point which is still not explained in the Eucalyptus observations? Can you form a hypothesis to provide an explanation? How would you test your hypothesis?

4 As preparation for the work in the second term, use of the students' notes as input to limited writing tasks:

a Construction of sentence-long statements (eg definitions, explanations) according to a model.

b Completion of a longer clozed written passage based on the lecture. An example taken from the session on 'Adaptation':

> a Complete the following written description of Clausen's experiments on *Potentilla glandulosa*:
>
> Clausen collected samples of *Potentilla glandulosa* .... a wide range of ...., distances, and habitats, and .... that his samples differed .... many characters. These variations .... geographically patterned in that .... races growing at high .... were quite different from .... growing at low altitude.
>
> b Rewrite the passage, using the passive to describe what Clausen did (eg 'Samples of *Potentilla glandulosa* were collected ...').

c Conversion of section of notes to paragraph (model notes and paragraph given).

As has been mentioned, the second term's work in the two departments concentrates on production, with the major emphasis on the writing of examination answers.

Examination Questions and Answers

Each session is taught with the subject-teacher responsible for setting the question studied, and has three principal components:

1 Understanding the question

It is necessary for both students and teachers to realise that the language of examination questions is highly conventionalised (eg 'How far ...', 'Discuss critically ...', 'Compare and contrast ...', '... with reference to ...'), and that by the time the student reaches the examination-hall it is too late for him to start to learn those conventions. As a basic functional distinction for questions set in these subject-areas, it has been found necessary to divide questions — and sub-parts of questions — according to whether they ask for **definition, description, explanation, discussion**, or **calculation**: in the team-taught sessions we concentrate on the first three of these. The skills we attempt to develop in the students are:

a Understanding of form-function correspondences in examination questions: for example, the different ways the 'same' question can be phrased (for **definition**, 'Define ...', 'Give a definition of ...', 'What do you understand by ...', etc).

b Assessment of the examiner's intentions and expectations. For example, in a **definition**, a **description** or an **explanation**, what needs to be included, and what can be 'taken as given'; and which of the various interpretations of 'Discuss ...' is most appropriate in the context of a particular question.

2 Planning the answer

This is usually done through group discussion, and involves:

a Structuring of information and argument. In addition to basic 'linear' methods such as listing points to be made, we encourage students to organise information and to think through arguments in a 'non-linear' way by using diagramming methods, the work on production thus being linked to that on comprehension in the first term.

b Discussion of the relevance of students' own points in relation to the overall framework.

c Initial decisions as to the presentation of the answer: eg ordering of points, paragraphing.

3 Writing up the answer

Students individually write up a section of the planned answer under time pressure: the section (one or two paragraphs in length) may be selected by one of the teachers, or by the students themselves. In doing the writing-up students are able to obtain immediate assistance on any point of difficulty either with the subject or with the language. Where possible, completed work is checked by both subject-teacher and language-teacher.

Oral Presentation

The ability of students to communicate orally on their subject is considered important by both departments. In our second-term work in Transportation we have had two sessions which attempted to develop students' fluency and self-confidence in this area. In the first of these, students were asked to prepare and give a short talk to the rest of the group, presentations being commented on for content and language. In the second, students were asked to prepare a course of action for a particular road-engineering problem, and to present it to the imaginary works committee of a local authority, the committee consisting of two language teachers who attempted to simulate the sort of cross-examination to which an engineer might be put in the real situation. Students then had to write up a short description and justification of their proposals. The sessions, both of which were prepared by the subject-

teacher concerned (the second session being organised by the head of the department) were very successful, and have shown us a further possible development of team-teaching for the future.

Project Work

In both Transportation and Plant Biology, students have to carry out and write up a project after the examinations. Towards the end of the second term they are required to present a research proposal for approval by the department. In Plant Biology the preparation of the proposals was made the focus for two consecutive sessions. In the first, students were asked to present their proposals orally, the subject-teacher commenting on the feasibility of the project, while the language-teacher, with the help of the subject-teacher, commented on problems that might arise in organising the proposal, and in handling the language. During the following week, students prepared the first drafts of their proposals: in the second session the subject-teacher and the language-teacher together discussed the drafts with each student individually.

We believe it is still too early to make any definite evaluation of the work described in this paper: however, some general and largely subjective observations may be found useful by teachers considering the possibility of introducing a similar programme, where resources do not permit the 'ideal' of full-time collaboration between subject-teacher and language-teacher at all stages of the teaching process (Skehan & Henderson 1979). In general, we feel that the approach we have adopted has gone a long way to filling the need for three-way feedback described above. Attendance and interest on the part of the students has, on the whole, been excellent. Lecturers in the departments have told us that they have observed improvements in the students' English, or in their command of the subject, or both. Such evidence, while encouraging, cannot be regarded as conclusive in view of the small numbers of students involved and the variations which can take place between one year's intake and the next, irrespective of the teaching they are given. It may also be worth noting that there has been a total absence of that suspicion and even hostility which language-teachers often report encountering when attempting to set up some sort of cooperation with subject-teachers. We believe that our good fortune in this respect is not simply a matter of luck or of personal compatibility, but that it may be related to certain aspects of the approach adopted. Firstly, a clear framework was agreed in advance for the pattern of activities, and the responsibilities of each side were defined. Secondly, we attempted to reduce intrusion on the subject-teachers to a minimum, while exploiting the help they could give us to the maximum. In doing this, we hope we avoided the hubris which can too easily afflict the EAP teacher when, with a smattering of knowledge in the subject area, and a view of himself as an

expert on communication, he comes to regard himself as an expert — or the expert — on how the subject ought to be taught, and even on what the subject ought to be. For our part, we attempted to engage with the subject areas on their own terms, and to understand as best we could what was being taught and what was being done. Where in an operation of this kind subject and language are so enmeshed, finding out what the language-teacher has learnt of the subject may be as reliable a way of estimating its success as measuring the improvement in the students' English. On this criterion we could certainly not claim to be entirely successful, but we enjoyed the effort at understanding, even where we know that our understanding is still incomplete.

Experience over the last couple of years has shown that one of the most important conditions for the success of this work is group homogeneity. In the best-organised departments there may turn up from time to time a student who seems to be 'ineducable', no matter how he is taught: the presence of one such can hold up both teachers and other students. Conversely, if — as in one department in 1978/9 — the numbers of overseas students are such that they can all be admitted to the team-taught sessions without reference to initial language competence, the danger is that the linguistically more able (who tend also to be the more able from the point of view of the subject) do not, as a result, get the level of teaching or the amount of individual attention they require. In the department in question it was the impression of both subject-teachers and language-teachers (an impression borne out by the examination results) that while there was some improvement attributable to the team-taught sessions for all students, that improvement was far greater with the stronger students than with the weaker: that is to say, they achieved the reverse effect to that intended.

The unresolved problems with this approach have in large part been a product of its success. Students may have been led to concentrate, inappropriately, on those topics covered in the team-taught sessions, to the exclusion of others: in one department, they asked for similar follow-up sessions to all lectures — a request that had to be turned down. Some subject-teachers remain concerned that we may be giving an 'unfair advantage' to the students given this additional help: should it not be available to all students in the department, including native speakers? The language-teachers are also conscious of a degree of discrimination in that the limited resources of the Unit make it impossible to offer this sort of help to all the students who may need it. Clearly it is better that some students should be helped in this way than none, and we hope that it will be possible over the next two or three years to set up team-teaching cooperation in at least one new department a year: nevertheless, for the foreseeable future it will be only a minority of overseas postgraduate students who will benefit.

Bibliography

GUIERE, L
'Drills in English Stress-Patterns', Armand Colin - Longman, Paris, 1975.

JOHNS, T F
'The Communicative Approach to Language Teaching in the Framework of a Programme of English for Academic Purposes', in Roulet E and Holec H (eds), *'L'enseignement de la Competence de Communication en Langues Secondes'*, CILA, Neuchatel, 1975.

JOHNS, T F (forthcoming)
'The Text and its Message: an Approach to the Teaching of Reading Strategies for Students of Development Administration'.

JOHNS, T F and DUDLEY-EVANS, A
'Team-teaching of Subject-specific English to Overseas Postgraduate Students', Birmingham University Teaching News 5, 1978.

KARTTUNEN, L
'Implicative Verbs', Language 47, 340-58, 1971.

LYONS, J
'Semantics I', Cambridge University Press, London, 1977.

SKEHAN, P and HENDERSON, W
'The Team Teaching of Introductory Economics to Overseas Students' (this volume), 1979.

WIDDOWSON, H G
'Directions in the Teaching of Discourse' in Corder, S P and Roulet, E (eds), 'Theoretical Linguistic Models in Applied Linguistics', AIMAV, Brussels and Didier, Paris, 1973.

A COLLABORATIVE APPROACH TO THE TEACHING OF VOCABULARY FOR ACCOUNTING STUDENTS

by D Houghton, University of Birmingham

In 1976 the Iranian Ministry of Finance signed a contract with the Faculty of Commerce and Social Science at Birmingham University. The latter was to provide a two year Certificate in Finance course for two groups of 50 Ministry of Finance employees from various offices throughout Iran. The first group, mainly men in their late twenties, many of them married with children, arrived in January 1977. The second group, 41 students, slightly younger on average, arrived a year later. The contract provided for a programme consisting of economics, finance, accounting and management as subjects to be examined for the Certificate. English and mathematics and statistics were to be provided as service subjects. It was intended that the students should be taken in the two years to a level in their main subjects comparable with that expected of British undergraduates at the end of their first year, though this aim was expressed in general terms only. Detailed syllabuses were drawn up by various relevant departments, who were also to provide or appoint staff to teach on the course.

The Tutor in English for Overseas students of the University was able to arrange for some of the potential students of the first intake to be tested in Tehran. His report indicated that the level of English to be expected would be considerably below that of most other University students. This in fact was the case, but for various administrative reasons the implications of this were slow to be fully realised. The staff initially appointed to teach the academic subjects lacked experience of teaching overseas students with severe language problems, and provision had been made for only one full-time English language specialist. Over time this imbalance was remedied by the appointment of lecturers with suitable experience, and by a greater emphasis on English teaching as an integral part of the course.

As a general principle it is likely that both English language teachers and academic specialists would argue that overseas students should only begin study of their academic subjects when their English is of a sufficiently high standard to enable them to cope reasonably well with all the demands of the subject. However, the situation in which the Finance course found itself did enable experimentation to take place in the area of language/academic subject liaison, with results that have in general been positive.

The link between English and accounting illustrates the experiments and problems of the approach. A research associate was appointed on a part-time basis, a few months after the course began, (a) to undertake research with a view to the preparation of special materials for the accounting course, and (b) to give specialist language advice to the accounting lecturer, who was finding that the students' lack of English created serious problems in class. Professionally such an appointment lies in a very delicate area — either party in such a relationship could feel threatened, and it is unlikely that collaboration will be fruitful if there are clashes of professional approach and professional responsibility. In the case of the Finance course, the language adviser knew no accounting, which may have been an asset, for she was able to sit in the accounting class and learn alongside the students and follow the same programme as the students. Thus a reciprocal relationship developed, in which exchange of information and advice was two-way. Tact on both sides, together with an ability to receive criticism without taking offence, are two important qualities required of parties to such collaboration. Additionally, it is essential that the professional relationship between the specialists is such that students are able to air grievances and discuss problems without playing one member of staff off against the other.

It was some time before the language specialist was familiar with the type of language used by accountants professionally, and the language used to instruct students in the technicalities of recording financial transactions, so that initially it was difficult to offer suggestions with confidence. The students' problems in the classroom were enormous — they had difficulties with listening comprehension, maintaining attention, following instructions, writing, reading and the routine of lessons. Most of the suggestions made in the earlier stages were concerned with the creation of simple sets of routines which could provide some sort of lesson framework. These were mainly concerned with the pacing of the lesson, amount of reinforcement needed, and methods of assessing student readiness for more advanced materials. During the remainder of the first year it was difficult to deal with serious learning problems except on an ad hoc basis. Occasionally the language specialist went over very simple accounting points in remedial English classes, and prepared handouts on pitfalls of language in accounting questions.

However, by the end of the first year it was possible to perceive the kinds of problems likely to be encountered by the second group of students during their first few months on the course, and the language specialist was recommended by the Director of the course to concentrate on the needs of the new students, rather than to follow the first group into their second year. One complication was that though the language specialist would be liaising during preparation of the materials for the new course

with the accounting lecturer who had taught the first group, it would be another lecturer who would teach the new students in the initial stages. Though this was, both then and during the actual teaching, judged to be the best deployment of resources, the language adviser sensed that the new lecturer felt slightly threatened by the situation in which he found himself on arrival. Thus she did not feel as confident of close liaison as she had done previously. It is doubtful whether this had any detrimental effect on the students' progress in accounting, but it is an example of a situation that could under certain circumstances be counter-productive.

With the agreement of the Accountancy department, the language adviser was to contribute to the accounting course in the following areas:-

1 To teach an English course of 2 hours a week to small groups of students during the first term, using basic areas of accounting such as the balance sheet, the accounting equation, the ledgers and books of first entry, to give the students practice with the English that the lecturer and basic textbooks would be likely to use. This course would be based on the notional approach exploited in the 'Nucleus' materials edited by Bates and Dudley-Evans. This approach is based on the principle that the starting point of a design for language programmes should be the desired communicative capacity of the students. Such a course would be orientated towards the content rather than the form of the areas of language to be learnt and would stress the language relevant to an understanding of the basic concepts of the subject. In the case of accounting this would include such areas as the English number system, location of items in accounts, relationships and operations, value statements, entries and transfers, and the use of the passive to describe transactions.

2 The preparation of a special vocabulary book to cover most of the first year's work. It would be a reference tool both in class and for private study. It would be the result of collaboration at all stages between the accounting and language specialists. This attention given to vocabulary represents something of a departure from current ESP orthodoxy, which with certain exceptions (Ewer and Hughes 1974) tends to pay very little attention to vocabulary or to its grading for learning purposes.

3 At a later stage, to include classes giving an introduction to the format and layout of the basic accounting text to be used in class, *Business Accounting* by F Wood. This was chosen on the grounds of its simplicity of language and clarity of presentation, though it was sometimes old-fashioned in its use of terms.

During the preparation of the above it became clear that to produce a vocabulary of a standard acceptable to accountants was exceedingly time-

consuming, and most other aspects took second place. Before the vocabulary was introduced, when the students were in their second term of the new course, they were introduced to the basic text and asked to underline all the words in the first two chapters which were unfamiliar and a list compiled of the frequencies of underlining by students, to assist the accounting staff. The lists showed lack of familiarity with a fair number of sub-technical words which had no special associations with accounting and suggested that a certain level of competence in general English was necessary for success in a specialist area. This finding supports work done by Ghadessy with Iranian undergraduates at Pahlavi University, Shiraz.

The vocabulary, the main innovation, was presented after the students had begun to make regular use of a textbook. It was a deliberate policy not to introduce self-access reading materials until this stage, as experience the previous year had shown that the students' accounting abilities were initially ahead of their reading abilities, and that introduction to texts before the students possessed adequate vocabulary and reading skills had had an adverse effect on the students' motivation to obtain information from written sources. This had put severe strain on the accounting lecturer, who was continually asked to explain the same terms, and it was difficult for him to give explanations that were simple enough to meet the students' needs. So the vocabulary was designed to partially solve these problems to be simple enough to answer the most basic problems of accounting, and to encourage the students to use it as a tool for private study.

The essential point here is that the book is not just a vocabulary. The headwords, arranged alphabetically, are all terms which are special to accounting, or given special meanings by accountants, but the nature of the explanations goes beyond that of a lexicon. Sometimes the entries are a simple definition, where that seems adequate to ensure full understanding of a term; but often the entries are explanations of the practical implications of the use of a term in an accounting situation. Though the entries are constructed on linguistic principles, the main intention of the vocabulary is to give students help in understanding the most basic accounting terms, ideas and practices. The aim is conceptual, to produce a greater understanding of accounting. The importance of conceptual development needs stressing in this respect, as it was generally felt by the staff teaching on the course that the students were not deficient in linguistic terms alone, but lacked many of the concepts regarded as essential prerequisites for academic study.

The choice of words and terms was made after a detailed survey of a selected number of texts used in the early stages of courses in the University, polytechnics and further education, plus consideration of those

terms which the students had queried in class. Most of the headwords are nouns. The choice of entries covers six main areas:

1 crucial accounting terms — profit and loss account, balance sheet, sales ledger control account, etc.

2 words from the common stock which have special accounting uses — share, interest, disposal etc.

3 words which are part of our everyday vocabulary for talking about money and financial transactions, which an overseas student may not know — takings, sundries etc.

4 words which occur frequently in examples and problems, many of them part of the basic vocabulary of running a business — plant, machinery, leasehold premises etc.

5 words which are essential for the calculation of amounts and the recording of transactions — addition, increase, balance etc.

6 words which are to do with the abstractions of accounting — concepts, conventions etc.

In all, these are about 800 entries. Here are a few examples:

CASH DISCOUNT A business wants its customers to pay for goods as soon as possible. A business may offer to receive less money from the customer if the customer pays by a certain date.

Eg, on January 1st Mr J sells goods value £50 to Mr R on credit. If Mr R pays before February 1st Mr J will allow 10% off the full price.

Mr R pays before February 1st, so he pays £50 less 10% = £45.

The £5 is called a CASH DISCOUNT. Mr R does not have to pay by cash. If he pays by cheque before February 1st, he still receives the CASH DISCOUNT.

See: DISCOUNT ALLOWED
DISCOUNT RECEIVED

DEPRECIATION **Fixed assets** have a useful life which lasts for a number of years.

Eg,	
Motor vans and lorries	— about 3-5 years
Plant and machinery	— about 7-12 years
Furniture and equipment	— about 10-20 years
Buildings	— about 20-50 years

The business must therefore charge to the **profit and loss account** the cost of the asset which it has used. It does not know the exact amount until the end of the life of the asset. But the business makes an estimate and charges an amount as an **expense** to the profit and loss account each year. This is for the estimated amount of the asset that the business has used up in the year.

Eg, A machine cost £1000. The business estimates that the machine will last 10 years. There are a number of ways to calculate DEPRECIATION. One way would be

$$\frac{\text{Cost}}{\text{Estimated Life}} = \frac{1000}{10} = £100 = \frac{\text{DEPRECIATION}}{\text{per year}}$$

See: PROVISION FOR DEPRECIATION
STRAIGHT LINE METHOD
REDUCING BALANCE METHOD

In general the entries are graded. They try to cover questions and problems that beginners are most likely to need help with. But obviously as students become more proficient their needs are likely to change, and this was as far as possible built into the vocabulary. Basically there are two types of grading — that based on learning stages, and that based on linguistic needs. The linguistic simplicity of an entry is affected by the categorisation of the entry into one of three learning stages for first year accountants:

1 complete beginners — basic terms of accounting like assets, balance sheet etc — what is required for about the first six weeks,

2 the very practical stage of familiarisation with the manipulation of accounts and ledgers, up to about the tenth month,

3 manufacturing accounts, partnerships, ventures, limited liability companies etc, and concepts and conventions.

This is not a rigid categorisation. A topic like depreciation, which is usually introduced fairly early, but which students find very hard, belongs to both stages (2) and (3). But in general from the accounting point of view, the explanations for stage (1) are likely to be simpler than those for stage (3). There is no special grading shown against each entry, but it is assumed that an accounting lecturer knows at what stage he would introduce his students to a term or concept, and will be able to categorise the difficulty of a term for himself. The visual presentation reinforces the learning stages. The entries are designed to be easy to read, with clear conventions to indicate cross references, which are graded. The kind of extra references that a student would need to make will obviously change as he progresses. References in the text to other terms defined elsewhere in the vocabulary are underlined, and there is likely to be less underlining with the more difficult items. It is assumed that a student will consult the vocabulary for terms that are essential to the particular level of accounting he is studying — if he is a beginner he will not need to refer to difficult entries and vice-versa.

The linguistic simplicity of entries runs in parallel. The language of a group (1) item will be as simple as is possible within the agreed linguistic limitations. The language of a group (3) item will permit greater structural complexity where this is necessary to describe an item satisfactorily. However, even at this level, the limitations on structural complexity are fairly strong. The linguistic simplification includes structure, sentence length and vocabulary. With structure, it was assumed that the level of the students on beginning their course was likely to be between stage II and stage III as defined by Alexander et al (1975). This suggested that the students would know most tenses of active verbs, but would not be familiar with the passive (there are very few passives in the vocabulary). Also, the students would be able to cope with some modal constructions, but not all. Of the subordinate clauses, they would be able to cope with simple relative clauses, but not with conditionals and concessives etc. In addition, the language adviser's knowledge of Farsi helped in the assessment of which type of subordinate clauses they would be able to cope with. It was assumed that structures familiar to them from their own language would be easier for them to understand.

An additional constraint was sentence length. Here the Flesch (1948) scale acted as a guide. This suggests that the readability of a passage is affected by the average sentence length. The reading level of the best students was assessed to be comparable with that of 8th or 9th year native speakers (age 13—14), which gave the maximum permissible sentence length of 20 words. This was based on the level of reading material that students had been working on with the SRA reading laboratory — the poorer students found difficulty with materials requiring a 17 word maximum sentence

length. Where it was not possible to adequately shorten a sentence to cope with student difficulties of this kind, the sentences were broken up with colons etc.

With vocabulary, there was an attempt to restrict the language of the explanations to the kind of words that generally come in the earlier stages of a general English course — the non-technical, "core" words of our everyday vocabulary, and to limit the variations when dealing with a choice of words with similar meanings. Thus this language is not particularly characteristic of the language found in textbooks. There were certain difficulties with verbs — accountants use certain verbs with semi-technical connotations, like the verbs post and enter, which it has not been entirely possible to avoid. Thus they are used in the explanations. But they are excluded from the headwords. It was felt that a more detailed study of the use of verbs in the language of accounting was required before they could be incorporated into a vocabulary with confidence. To overcome this difficulty in the short term they were dealt with in the English lessons.

The final assessment of the value of the vocabulary can only come after it has been tested extensively. Now that the second group of students has used it for their first year it will be possible to look for answers to questions such as:

1 does the vocabulary contain the most important or useful items?

2 are the explanations helpful?

3 can the vocabulary cope with the preferences of different teachers and textbooks-

4 what about the problem of verbs? Do nouns have any comparable problems?

5 is the basic idea of a vocabulary useful, or should the problems it tries to solve be tackled in other ways?

6 what kind of mistakes are revealed?

7 how can it be revised?

Likewise, the wider area of language/subject specialist liaison needs to be looked at from the perspective of this experiment. Certain conclusions can, I think, be drawn:

1 In that the experiment was part of the general English language team policy of bringing to the attention of all the subject specialists involved in

the course the importance of taking account of English, both as a means of developing confidence in the students and as a tool for understanding of the academic subjects, it has had a very positive outcome.

2 In this experiment it was always assumed that the subject specialist was the ultimate authority, and that the language adviser's role was primarily that of offering suggestions which the subject-specialist had the option of accepting or rejecting. Thus it is not strictly team-teaching, being originally envisaged in response to a practical difficulty as a kind of troubleshooting. This type of situation contains the inherent danger of clashes of professional approach, and for these to be avoided the onus definitely lies with the language adviser to create an atmosphere in which both parties can work together with trust and confidence.

3 It is unlikely that linguistic factors alone will account for learning failure, and the language adviser will need to make use of learning and pedagogic theories in his contribution to the solution to problems. Thus he must be a competent teacher with an interest in education and learning theory as well as in ESP.

4 This type of liaison will probably be easier when dealing with elementary levels of academic subjects when the subject matter is easily within the grasp of the language adviser, and the academic specialist has more time to consider linguistic and pedagogic fac ors.

5 Accounting is traditionally conceived as a body of information and principles related to a practical activity. This makes it a suitable subject for the kind of liaison described, in that it is possible to make suggestions for improvements that build upon a fairly well-defined area. When considering liaison in other subject areas it needs to be borne in mind that the nature of the academic subject may place some constraints on the type of liaison likely to be successful.

Finally, the most important implication of this experiment relates to the planning of future courses of this type. Universities are increasingly undertaking to teach contract courses to students from developing countries. The lesson to be learnt from the Finance experiment is that the needs for English must be realistically assessed as early as the planning stage, and every effort made to integrate the subject teaching and the language teaching from the start. To bring in language specialists during the course to remedy serious language problems can only be partially successful. What happened on the Finance course was that difficulties perceived among the first group of students led to the second group receiving a more appropriate type of teaching. The group of students who initially needed assistance only received limited benefits. It is very often

difficult for language specialists to convince their academic colleagues of the importance of English in an academic course, but it is an essential component in any course where there are large numbers of students from non-Anglophone countries on in-service courses for development purposes.

Bibliography

ALEXANDER, L G, STANNARD ALLEN, W, CLOSE, R and O'NEILL, R J
'English Grammatical Structure', Longman, 1975.

BATES, M and DUDLEY-EVANS, T
'Nucleus: English for Science and Technology', Longman, 1976.

EWER, J R and HUGHES, D E
'Instructional English' in ELT Documents No.4, British Council, 1974.

FLESCH, R F
'A New Readability Yardstick' in Journal of Applied Psychology, Vol.32, June 1948.

GHADESSY, M
'An error analysis of the writing of Iranian freshman students learning English — a pilot study', Pahlavi University, 1976.

HOUGHTON, D and WALLACE, R G
'An Accounting Vocabulary — pilot edition for use on the Certificate in Finance Course', Birmingham University, 1978.

WOOD,F
'Business Accounting 1', second edition, Longman, 1972.

THE TEAM TEACHING OF INTRODUCTORY ECONOMICS TO OVERSEAS STUDENTS

W Henderson & P Skehan, Department of Economics, University of Birmingham

The General Framework

The Iranian Ministry of Finance approached Birmingham University in 1976 with a view to establishing courses at Birmingham for its employees. The courses were to teach economics, management, accounting, and finance, and also as much English language as was necessary to allow the students to be effective learners. The students were to be Ministry of Finance employees, probably in the 25-30 age group, who had worked for the Ministry for some minimum period. The students were all Iranian high school graduates and it was the intention of the Ministry that the two year course at Birmingham would bring these students to an equivalent level to that of normal students completing the first year of a BComm Course.

Iran approached Birmingham for three main reasons. First Iranian Universities had been stretched to capacity and were unable to accommodate the whole of the retraining envisaged. Second the Ministry had recognised that the civil servants at this level had a very narrow educational background and needed to be exposed to different ideas, including those to be gained from operating in a different cultural context. Third, there had been in the past educational links between Birmingham and top Iranian civil servants.

On the arrival of the first intake of students in January 1977 it became possible to put into operation plans for the Course and investigate how attainable the original syllabus was. It became more and more apparent that the initial approach — to teach a 'slowed down' version of a traditional first year course — was not effective. Accordingly some experimentation was conducted and considerable thought was put into the preparation of a redesigned first year course for the second group of students. In particular the following problems were identified. In the first place the general English proficiency of the existing students was much lower than had been expected. They had received some language instruction prior to their arrival, but this was clearly inadequate for the demands put on them as students, and considerably more instruction was required. English staffing increased from a half-time appointment (initial plan) to two and a half appointments (during the overlap period with two courses). The second problem related to the amount of 'economic experience' possessed by the students. This was very low and clearly they had little understanding of even the general institutional features of economic life eg nature of

industrialisation, mass production, advertising, general structure of companies. They even had little perception of the economic role and workings of their own Ministry.

Third, the people we received had very little idea of how to be students, what the role of a student was, and how to work effectively. They had spent some time out of school (up to ten years), so that for many of them the lecture room situation was strange. In any case the education system of which they were products had not emphasised effective and active learning on the part of the student, but had rather accustomed them to a passive role in which rote-learning was the expected norm. Fourth, the students were career orientated rather than academically orientated and were progressively troubled by the turn of events in Iran throughout the period of the Course. Fifth, several of them were accompanied by their families and found it very difficult to operate in the new situation they found themselves. It was felt, correctly that the second intake would not be significantly different from this pattern.

The problems that have just been described are not at all unique; they characterise many courses for non-Anglophone students both in Britain and abroad. Three things were however a little different in this case. The time pressure and syllabus completion pressure was very clear: the Course aimed at an equivalent to end-of-first-year level, so it was for the teaching staff to try and attain this ambitious aim in a comparatively short space of time. This was in the context of a Course which retained its academic focus both in terms of its approach to the subject matter and in terms of the relationships between discrete subject inputs, accounting, management etc. Second, the teaching situation brought together an English specialist (Skehan) whose initial training had been a degree in economics, and an economics specialist (Henderson) with overseas teaching experience and a keen awareness of the linguistic problems that were involved. The result was an attempt at joint planning to use the time available as efficiently as possible. The third special factor was the course management structure and approach. Course-wide adjustments were difficult to discuss, though subject teachers were free to produce, on an individual basis, whatever alterations in material and methods were deemed essential to cope with learning problems as revealed in the classroom. Thus while curriculum reform in the grand sense (worked out on the basis of some grand strategy) was ruled out, piecemeal changes were encouraged.

The first term (of eight weeks) was taken up with an intensive course in English for intermediate level students. This used *Kernel Lessons Intermediate* and tried to establish a basic competence in the language. emphasising the skills of listening and speaking. Simultaneously students were being introduced to the nature of economic analysis and thinking, and the elements of the process of production. These two Course

components were quite independent from each other at this stage (and from the Accounting English classes reported in the article by Houghton in this volume). For both disciplines, then, the first term could be seen as the establishment of a necessary foundation.

The Team Teaching Component

By the second term it was felt that the students were capable of dealing with more ambitious work. A number of general and specific aims now became important. These aims can be considered under two main headings — aims deriving from economics syllabus considerations, and aims that were the consequence of the pedagogic approach taken.

The most general aim was to provide the students with a thorough grounding in the content area of microeconomics. This was the area of economics which was clearly indicated from syllabus and pedagogic considerations. Beyond this it was also hoped to develop interest and insights into economic problems, with an emphasis, in the first instance, on a descriptive treatment. However it was felt to be of crucial importance to go beyond this descriptive level and try and develop the ability to think analytically and at a more abstract level. Finally it was thought important to maintain a close contact with day-to-day, real economic problems and to show the relevance of the course being studied for the real world. (NB. In this article 'Course' refers to the overall structure including all the separate subjects. Any reference to 'course' on the other hand refers to one of these component subjects, most often, in this chapter, to the particular economics course that is being described).

These economic aims provided the framework for the course. Within this framework several pedagogic aims were also involved, and these in turn related more clearly to the language component. First, we had to come to terms with the realisation that while rote memory was the main strategy of students to the entire educational enterprise, the teaching aim was to promote understanding and a critical approach to learning. This related very clearly to the intention noted earlier of trying to develop analytic economic thinking. Paradoxically the second aim in this section was concerned with students' inadequate retentive abilities. Probably because they were unable to make sense of the material covered by memorisation alone, the long term retention of the students was not very good. Consequently it was felt desirable to build in a considerable amount of repetition and constantly to reinforce previous learning. (This issue will be taken up later when spiral approaches to syllabus design are discussed.) The third teaching aim was to use a variety of approaches to teaching, and to de-emphasise the place of conventional lecturing. It was decided that

visual materials should be used as much as possible, and indeed a thorough-going audio-visual approach might be most appropriate. In this way as many different channels of communication would be used as possible. Finally it was felt that some provision should be made for the wide range of ability and experience possessed by students. In other words it was felt that provision should be made to allow less able students the opportunity to cover the same quantity of material by devoting more time to study. It was felt that some form of self-access materials would be the most useful. (Sinclair 1978)

Language teaching aims were closely related to those already described. Corresponding to the pedagogic aim of using a variety of approaches to teaching it was decided to stress receptive skills — listening and reading with material pitched at a difficult level which would stretch the students. Speaking skills also received some emphasis, although to a lesser extent. It was decided that writing would not be taught, but deferred until a later stage in the course.[1] in terms of levels of language, stress was put on the acquisition of the necessary microeconomics vocabulary, together with those aspects of syntax and morphology eg elision and word formation that seemed of particular importance for the material to be used.

The economics specialist originally chose as course material an audio-visual course written by Wilson (1977). In its original form this course consists of a tape of around twenty minutes which accompanies a set of fifteen to eighteen colour slides illustrating the point being covered. There are ten units ie ten tapes covering such topics as the stages of production, business integration, demand supply etc. The English specialist decided that the language used in these tapes (aimed as they are at native language speakers) was too difficult. However it was agreed by the two teachers that the content and format was suitable for the type of student on the course. Accordingly it was decided to simplify the language used. The first eight tapes were transcribed and rewritten in a simplier form, one that was more accessible for the students. The rewritten script was then recorded and this became the teaching tape for use in class.

It should be emphasised that these contacts at the planning phases were exploratory and that the account presented so far probably gives a misleadingly neat version of what happened. In an ideal world one would like to identify aims clearly at the first stage, moving from general to

---

[1]This had an important implication for the examination of the economic component since it precluded traditional essay type assessments. Considerable thought was required to produce objective test items and other questions which did not presuppose writing abilities which the students did not possess but which sampled the subject content taught in a reliable and valid manner.

specific. Then one would develop techniques by which these aims could be realised, and finally implemented. In fact, although such a progression was involved to some extent, it should be recognised that the 'stages' were partly simultaneous and reflect an ongoing attempt to devise an appropriate course for the problem concerned. Consequently the account given here is a retrospective idealisation.

The simplified tape-slide presentation was the end point of each unit of the course, the material whose mastery was aimed at, but the level of each simplified tape was still a little beyond that of most of the students. This was a deliberate choice since it was intended that preliminary material, written by the English specialist, would bring the students up to the level necessary to understand the tape/slide sequence. This preliminary material contained five sections. First, there was an introductory reading text of about two hundred and fifty words. Second, difficult lexical items were identified and glosses provided. Third, there were exercises (of a blank filling sort) using the newly learned lexical items. Fourth, there were exercises on linguistic features of the unit concerned. These did not follow any linguistically based progression, but dealt with whatever aspects of the tape seemed likely to cause difficulty. Thus there were exercises on elision, the use of inter-sentence connectors, word families, etc. Fifth, and not so much preliminary as complementary to the text, there were comprehension questions and exercises.

Now that the teaching material has been described it is possible to illustrate how it was used. This consisted of four stages. The first stage involved giving students their copies of Sections 1-5 of a new unit. This was done 7-10 days before the unit was covered in class. Students were then expected to work through the written material, the lexical section, and the lexical and general language exercises. When this was done they were ready for stage two. The tape had been recorded and several copies were provided in the self-access section of the university language laboratory. Students went to this laboratory and listened to a copy of the tape. (This was done within the normal timetable.) They could listen to the tape as long as they liked, and they were to try and use the taped information to answer the questions in Section Five of their handout — the comprehension questions and exercises.

On completion of stage two the students were ready for some classroom instruction and teacher contact. They should, by that stage, have developed some familiarity with the new lexis and general content of the unit. Stage three brought the students to the English class. The aim in this period of one to two hours was to check on the degree of learning of Sections 1-4 and to go over selected parts of the tape in some detail. By the end of stage three it was felt that students had been sufficiently

prepared to go into an economics class taught by an economics specialist without experiencing undue difficulty. This then became the final stage in the covering of each unit. The relationship between the different sections of the material and the phases of instruction is illustrated in Figure 1.

The description of the Course presented so far has not given any details of what was happening outside the team teaching component. Most relevant to present considerations are the other aspects of the English and economics courses. In English four other types of lesson were involved. First the grammar based course continued from the first term. Second, classes were held (see Houghton — this volume) on the specialist language of accounting. Third, students were given instruction in social English and fourthly and finally they were taught reading skills (see below). In economics there were two additional themes. The first was an introductory economics book — Baron's *'Economics'* — which was worked through during the term. This also formed the basis for some English — economics co-operation. Another member of the English department — Richard Meade — used the chosen economics textbook as the basis for the reading skills course mentioned above. Thus once again language skills were being taught by an English specialist through the content area of economics, and this content coverage provided a transition phase to help the economics specialist better teach his own subject.

FIGURE 1

PHASE	SECTIONS	LOCATION
1 Student given material Work through preliminary sections.	Sect. 1 - Introduction Sect. 2 - New Vocabulary Sect. 3 - Vocabulary Exercises Sect. 4 - Language Exercises	Private Study At Home or in Library
2 Student listens to tape in Lab.	Sect. 5 - Comprehension Questions and Exercises	University Self-Access Language Laboratory
3 Student covers material with instruction and prompting from English Teacher.	Students are given Section 6 (Text) at some point in lessons	English Class (2 x 1 hr)
4 Student attends Tape/ Slide presentation by Economics Teacher. Material is exploited to teach economic concepts.	No additional material except slide presentation	Economics Class

The second additional aspect of the economics course was a series of field trips designed to supplement the classroom work. Such trips were intended to give students the chance to relate some of the ideas developed in the classroom to the world around them. The visits started off within the University: a trip was arranged to the Library Bindery to examine craft production, and later a visit was made to the Film and Television Unit in order to look at small scale production undertaken not on a craft basis but on the basis of high technology. Later a tour of the Ironbridge Gorge Museum Trust took place. This visit together with one to the Gladstone Pottery Museum, helped put production into its historical context. Modern production processes were examined on a visit to an important brush manufacturing company and to a car factory production line. Visits were used as an alternative to classroom work, as a means of expanding the general educational background and as a way of linking abstract concepts to real situations.

Evaluation

Following the teaching of the course in the academic year 1978, we are in a position to evaluate its effectiveness. This will, of course, relate to the aims as described earlier. At the lowest level the assimilation of specialist lexis can be assessed. Students were given two multiple choice vocabulary tests during the term in which the team teaching course was completed. On both occasions high average scores were obtained, indicating effective learning and retention. This was encouraging, not the least because vocabulary is an art of ESP that is sometimes neglected. The approach adopted had clearly proved effective. At a second level while we cannot directly assess the effects of the course in terms of improved listening comprehension and ability to process connected discourse, it would appear that these skills, too, were enhanced. As to the learning of economics, progress was satisfactory in that students retained ideas and showed an ability, in simple objective tests, to identify concepts correctly and apply them to simple problems.

As a result of this developing ability, a change of gear, in the third term, to more abstract material approximating to an A-level standard, was therefore possible without too many casualties. Finally one aspect of the course, that requires consideration is that relating to the self-access nature of the materials. Once students came to stages 3 and 4, in the classroom, they were affected by the familiar lockstep of classroom teaching. However in stages 1 and 2 they were free of this constraint. This meant that students who were either linguistically weak or who found difficulty in understanding the concepts could put in extra work and arrive at the same level of mastery prior to entry to stage 3. Clearly the first consideration here is that some students are more motivated to work than others. Some

are interested in remedying their weaknesses while others are not. Given this situation, the self-access nature of the materials was very successful. A number of students who would ordinarily have been under some difficulty in keeping up with more gifted colleagues were able to work effectively and remove the initial disadvantage. Given the frequency with which this sort of problem is likely to occur, the effectiveness of the provision for individual differences in ability and knowledge is an approach that merits wider use.

General Considerations

Several issues emerge from the general description of the teaching procedure. These are the connection between language and subject specialists; the implications of this course for syllabus and curriculum design; the type of team teaching that was involved; and the authenticity of materials. These issues will now be taken up.

The connection between language and subject specialists: One of the problematical areas in any team teaching relates, quite obviously, to the relationships between the teachers. To the extent that the team of teachers comprises language **and** subject specialists the problems may be exacerbated. It is difficult to establish general principles here that can be applied in any situation since much depends on particular combinations of students, teacher personalities, subject area, and general teaching context. The following remarks should be taken as arising from a particular experience and consequently should only be generalised to other situations with caution.

Two factors were of fundamental importance. First the Certificate Course was the central concern of all teachers involved: indeed in terms of organisation they were as accountable to the Course itself as to their own university department. Second, each of the authors could claim some expertise in the speciality of the other. Generally ESP subject specialist/language specialist co-operation can produce an uneasy alliance with some clear common aims but with undefined lines of demarcation inhibiting attempts at resolving exactly where the difference in approach lies. Most language teachers designing ESP courses have met the subject specialist who conveys his unspoken or overt feelings that language teachers manage to miss the point, concentrate on the inessential, or generally blunder around in areas where they are not competent. The above two factors combined to facilitate the solution to this problem since the fact that the course was our central concern brought teachers from different areas together in a 'free' situation and their joint expertise allowed the development of a fairly relaxed approach to course design and teaching. Indeed the fact that both teachers had some knowledge of the discipline of the other was very important since it is a pre-requisite for

team teaching that contributors should feel free to comment on work that is outside their province. This is important in the immediate teaching situation since language specialists may well have something relevant to say about the communication procedures adopted by the subject specialist, while the subject specialist, in turn, is likely to be an important influence on the SP part of the ESP enterprise — he is the judge, in other words of the validity of the subject content and concepts that necessarily form a part of an ESP course. The connection between team members is even more important at the planning stage. It is here that pedagogic and linguistic criteria can be applied to course design and can operate on the content base to produce a teaching approach that is appropriate for the students concerned.

Consequently it was important here that both team members were able to discuss freely the merits and demerits of the economics, the language, and the teaching that were possible. This resulted in a number of benefits. First it enabled the subject specialist to choose an economics course, amongst other reasons, because it used an audio-visual rather than written text presentation. Second the language specialist was able to advise against use of the original material. Instead he produced a rewritten, simplified version, leading to the somewhat surprising situation of an economics teacher using as teaching text material that had been 'written' by a language teacher (although 'written' on the basis of the original Wilson material, modified somewhat to make it more appropriate for the Certificate Course). Finally, it was possible, at the planning stage, to structure the teaching situation so that aspects of both language and subject matter were given thorough coverage in every unit taught.

Implications for Syllabus Design: the cardinal principle of the syllabus described here is its spiral organisation. Within the second term topics underwent planned repetition as units were covered first by self study than by the English teacher and finally by the economics specialist. It was felt that the presentation of the material in just one type of lesson (Economics or English) would have been insufficient. Consequently material was pitched at a level of difficulty appropriate to the three phase teaching sequence so that progressively deeper comprehension could be attained at each successive phase.

There was also a larger spiral operating within the overall first year economics syllabus. The first term covered descriptive material on the process of production. The second term, which is the subject of this chapter, extended this introductory coverage by giving detailed consideration to topics such as business integration and economies of scale. The second term also introduced students to economic analysis through the topics of demand, supply, and price determination. Finally the third term reviewed the descriptive information base and proceeded to

more analysis and abstraction. Thus while essentially similar material was covered in the first, second, and third terms, there was a progressive movement from description to conceptual thinking.

The attractions of spiral syllabi are not new to EFL. Howatt (1974) for example, has argued that they should be used more frequently. The present application of one such syllabus extends the approach described by Howatt since it is concerned with ESP and team teaching. The basic rationale of spiral syllabi is that there is only so much material that one can hang on to at a single presentation. Consequently revisiting the same theme, grammar point, function or whatever will enable more to be retained on subsequent occasions not least because the learner will have already established 'conceptual hooks' to which he can attach new knowledge. The underlying assumption is that one cannot learn everything at once.

This superficial analysis of spiral syllabi demonstrates why such an approach is desirable in the sort of ESP team teaching described here. The student is being asked to assimilate new lexis, probably some new syntactic structures, new descriptive material in economics and finally new analytic insights into demand or supply or their interaction (say). This in the context of functioning in a foreign language is a daunting task. The only way to achieve this ambitious aim is to develop a spiral approach such as has been described here. Two aspects of the approach are integrally involved with the spiral syllabus approach. First there was considerable linguistic emphasis on the receptive skills of listening and reading. Some priority was given to speaking and virtually none to writing. This was both to promote efficiency and also to emphasise the acquisition of knowledge. The aim of the course was to enable the students to learn as much economics as possible in the time available and to develop linguistic skills which would help them in their future studies. Hence the priorities just described.

The second aspect of this approach that is relevant here is that some new economics material was actually presented first in the English class. Generally such a procedure is not to be recommended. It is justified in the present case by first, the emphasis on descriptive material presentation ie a unit might cover a description of the features of business integration, and second, the discussions that took place between the teachers prior to the actual teaching, and third, by the training in economics of the English specialist. In this way it was felt that various pitfalls were avoided. Principally students were not overloaded because of the planned repetition built in to the spiral syllabus. In addition there was little danger of 'bogus' economics being taught. Finally the emphasis on receptive skills meant that the acquisition of information was the primary purpose and no time was spent in the English class dealing with (and perhaps confusing the students

about) economic concepts. On the other hand the fact that the information being used was new and genuine made the teaching situation more authentic and was a move away from the artificial tasks that often characterise English teaching. (More will be said on this in the section on authenticity below.)

Team Teaching: The issues reviewed in the last two sections are germane to any discussion of team teaching which involves language teaching. However, in this section explicit consideration will be given to this issue.

The defining characteristic of team teaching is, of course, that teachers from different specialities should jointly be involved. However, there is considerable scope for different approaches which all conform to this basic characteristic. Two variants of team teaching can be mentioned. First, more than one teacher may be in the classroom at the same time. This is probably the commonest type of team teaching; certainly, where two different disciplines are both involved eg psychology and education, or geography and transportation. Second, two teachers may either present a similar viewpoint but from two different perspectives, or they may use two different viewpoints. In the latter case the value of the team teaching may derive from the interaction of the two differing approaches.

Clearly the example of team teaching described in this paper does not follow either of these variants. The teachers were never in the classroom at the same time, and an identical viewpoint was emphasised throughout. Indeed a common body of materials was covered by the two teachers working in the fixed order of (1) self-study to (2) English class to (3) economics class. However, team teaching necessarily involves more than what occurs in the classroom. There is a before and after, and it is at these stages that this course involved team co-operation. Thus there was joint planning of the work both at the macro level — overall definition of aims, agreement on syllabus, specification of teaching methods and relationship between English and Economics input etc — as well as the micro level shared materials, (informal) knowledge about exactly what students were doing, what points they had reached, feedback about students' problems etc.

If the present experience qualifies as team teaching, then it is not because of what happened jointly inside the classroom but rather because of the team initiative and planning. This contrasts with the approach taken by Johns and Dudley-Evans (The first article in Chapter I of this volume) since it involves the presence of more than one teacher in the classroom. However, the present approach may have some relevance to other situations where academic oriented ESP is at issue. The saving of time that can be effected is considerable and the value of using genuine materials is

great. However, the approach requires, of necessity, more than a passing acquaintance of the specialist subject by the English teacher, and a willingness to devote considerable time and energy to the planning stages of the course and the development of materials. Team initiatives of this sort require a considerable degree of collaboration and foresight at this early stage.

Authenticity: The materials used in this example of subject and language specialist co-operation are of some interest to the debate on authentic material. A central problem in this debate is the question of what constitutes an authentic text. Various solutions to this problem have been proposed (Widdowson 1978, Mountford 1975) but for present purposes we shall turn to a suggestion made by Morrow (see also Sinclair 1978 for a similar view). Morrow argues that authentic texts are texts written for real audiences while non-authentic texts are written for imaginary audiences. Morrow also writes:

"Unlike texts which are specially written or doctored to meet the limitations or needs of a particular group of learners, they (ie authentic texts) may thus make use of a wide range of language features, some of which may be quite unfamiliar to the learner".

The present material certainly is authentic by the first criterion since it was written for a real audience; indeed it was a basic teaching text in both English and economics. However the texts used were specially written — or rather doctored — to meet the needs of a special group of students, and so by the second criterion they are not authentic. Morrow seems to be suggesting that material which is written for real audiences is not usually doctored. This may be true in general, but it need not be so in principle.

Later in his article Morrow discusses the importance of topic, channel, function and audience for judgements of authenticity. Consideration of these features of communication in effect de-emphasises the questions of whether a text has been 'specially written or doctored' and provides a clearer basis for deciding whether the present materials are in fact authentic. From such an analysis the current materials are authentic in topic since they are concerned with micro-economics and are in fact the teaching texts used. They are also authentic in terms of channel since they were presented for listening (with visual accompaniment) just as the original material would have been presented. It is also equally clear that there was a real audience since the texts were written for a specific group of learners. The most interesting of the four criteria for the judgement of authenticity is that of function, since it is this aspect that is likely to be the most problematical. The task facing the course teachers was to develop material that would teach certain elementary concepts in micro-economics

within the context of limited linguistic abilities, and limited general economic knowledge. The present materials attempted to satisfy these pedagogic criteria within this limited context. As such they fulfilled an important requirement given the nature of the course, and so achieved authenticity in terms of function. In so doing they demonstrate that it is possible to produce authentic materials which are specially written and doctored for a particular group of learners provided that other more important criteria of authenticity are met.

Conclusion

Since the content area of the present course was economics, it seems fitting that the conclusion should draw attention to the thoroughly economic concept of efficiency. The English-Economics integration aimed at teaching elementary micro-economics to overseas students with the twin handicaps of economic naïveté and poor language ability. The resulting course was successful because it generated appropriate material of linguistic simplicity which was valid for economics teaching. This was achieved by careful progression and grading of materials, and the paring down of what was taught to the essentials. Traditional lines of demarcation between subject specialists were ignored, and self-access modes developed so that actual teaching time could be used to maximum advantage. These factors combined to allow a considerable amount of specialist teaching to be accomplished in a relatively short period of time. In the process they also showed that the relationship between subject and language specialists has considerable potential for redefinition and that a 'phased' approach to team teaching has a lot to commend it.

Bibliography

HOWATT, A
'The Background to Course Design'. In J P B Allen and S Pit Corder (eds) (Edinburgh Course in Applied Linguistics' Vol.3, London, Oxford University Press, 1974, pp 1-23.

MORROW, K
'Authentic Texts and ESP'. In S Holden (ed) 'English for Specific Purposes', Modern English Publications, 1977, pp 13-16.

MOUNTFORD, A
'Discourse Analysis and the Simplification of Reading Material for English for Special Purposes', unpublished MLitt Thesis, University of Edinburgh, 1975.

SINCLAIR, J
'Issues in Current ESP Project Design and Management'. In C J Kennedy (ed) 'MALS Journal', Summer, 1978.

WIDDOWSON, H G
'Teaching Language as Communication'. London, Oxford University Press, 1978.

WILSON, R
'Economics'. Audio Learning Ltd, 1977.

MOVING TOWARDS SUBJECT-LANGUAGE INTEGRATION FOR A COLLEGE OF FURTHER EDUCATION

Contributions by: Loveday Herridge, Frances Murdoch, Mike Taylor, Evan Hughes-Davies, Suzi Rice, compiled by: Roz Ivanič,
Kingsway-Princeton Further Education College

The College

Kingsway-Princeton is a college in Central London. The students are characteristic of inner city college students: widely disparate in backgrounds and goals, yet nearly all for one reason or another relying on the college for a second chance at getting an education.

The English section at Kingsway-Princeton has been lucky and perhaps remarkable because it has been led for many years by heads committed to English as an integral part of the whole college in addition to English as an academic subject. This is not just a question of 'Eng.Lit.' or 'Eng.Lang.', but a determination that language cannot be divorced from context: that reading and listening must always have a purpose; that writing and speaking must always have an audience. Most students study several subjects at college and so it is to these subjects we turned for the contexts, purposes and audiences.

The college has demonstrated its commitment to subject-language integration by establishing two special responsibility posts within the English section (Lecturer Grade II level). The lecturer responsible for communications across the college coordinates the language services to vocational and other structured courses. She is responsible for providing language courses for classes made up entirely of, for example, prospective legal executives or pharmacists. Her job includes timetabling, facilitating liaison between language teachers and subject teachers, and development of language materials appropriate to specific courses. The lecturer responsible for the Language Support Service provides facilities for students who are not reaching their apparent potential for want of language skills. This is my position and as such I have been directly involved in some of the projects described here.

The Rationale

The initiative for subject-language integration has come from the Language Across the Curriculum Project of the Department of English Education at the University of London and has been supported by the recommendations of the Bullock Report 'A Language for Life'. They promote the principle of integration on two counts.

On the one hand, specific language teaching can help students master their chosen subjects, vocational, academic or preparatory, where a general language course may fail. Every English teacher has been troubled by comments from subject teachers to the effect that students are failing because their English isn't good enough. The truth of the matter usually is that their English is perfectly good enough, it's just that they have had no help in transferring their language skills to other subjects and adapting them to meet slightly specialised demands. Subject-language integration comes from recognising that this transfer does not happen automatically for the majority of students and deserves special attention.

On the other hand, language skills acquired while studying a subject chosen by the learner are likely to be thoroughly learned because of association with a real context and intrinsic interest. Something thoroughly learned, however specific, can act as a model or anchor for further learning. For example, if you learn how to analyse what is implied in the wording of examination questions for History 'O' level, you will be equipped to cope with most of the questions you will meet in other subjects too. If in cooking you learn to read, spell and use a 'wooden spoon', you have a reference when trying to read or learn the spelling of any other word containing 'oo'. Thus subject-language integration can generate language development beyond the specific subject-matter.

There is always the possibility of conflict between these two aims. What is it all for — learning the subject or learning the language skills? The ideal, of course, is that there should be a dynamic interaction between the two. As the subject teacher fires the students with interest and hands out stimulating assignments, the language teacher uses the material for practising a skill. This in turn improves the student's performance in the subject. For the subject teacher, no more worries about how the students will cope with the assignments. For the language teacher no more of those irrelevant examples gathered incongruously together for the sake of practising some abstract pattern or skill.

It is probably true to say that most of the projects at Kingsway-Princeton originated with one of the two aims uppermost. The projects are now in various stages of development and represent different points on the continuum from 'for the subject' to 'for the language skills'.

The problems

One of the problems with such a principle is that it is very untidy in practice. Language teachers do not always know as much as they think they know about the language demands of other courses. Pay schedules do not allow for two teachers in one classroom. Some aspects of language appear to be subject-specific and others do not. The extent of the

responsibility of subject specialists for teaching the language of their subjects is unclear. Language teachers can find themselves lured into situations where they are attempting to answer questions about subject matter which is not their specialism.

Not only is subject-language integration untidy for teachers and administrators; it can also be confusing for students because it overrides the neat barriers between subjects upon which many of them depend. This is particularly true of students with language difficulties. They think of themselves as 'no good at English' and long to get out of the English classroom into the photography workshop or into the sociology lecture where they enjoy an albeit temporary sense of security that they will succeed. On the one hand it is desirable that such students should not feel doomed to failure everywhere because of language difficulties. On the other hand there is the reality that many jobs, most promotions and qualifications depend to some extent on language skills. An important task in subject-language integration is to help such students realise the value of the language part of the subject.

Vocational Courses

In vocational courses at Kingsway-Princeton most subject-language integration is aimed primarily at helping students master the language skills which will be required on the job. Any pay-off in terms of improving their language competency in general is incidental. The college has for many years offered business courses of the sort that are now under the umbrella of BEC (Business Education Council). The syllabi for these courses demand a 'communications' component. This has always been taught by a language teacher with a special interest in business. Since the reclassification of business courses according to BEC guidelines in 1977, there has been justification for demanding more time for liaison in the form of course team meetings and common development of materials. The communications component of the new BEC courses is taught by a series of assignments which were devised by the course team to correspond with subject matter which is presented concurrently in business lessons. The course teams have been working in association with similar teams from colleges throughout London under the guidance of the ILEA FE/HE Communications Skills Curriculum Development Project advisers. This is remarkable in that it is a large scale commitment to subject-language integration, not just the initiative of one college.

TEC (Technical Education Council) has also specified a communications component in any course it validates. The Photographic Technicians Course, established at Kingsway-Princeton in 1977, has attached to it a language specialist who attends all course meetings, is present three hours

a week alongside the photography expert and teaches the group for a further three hours a week during which she develops language skills related to the lesson she has shared with them.

The English section provides similar services for secretarial courses, trainee pharmacists, and a course preparing students for careers in the leisure services.

Academic Courses

The impetus for subject-language integration in academic subjects has been in part the development of Mode III GCE 'O' level courses. Mode III is an examination style in which up to 50% of a student's final mark is based on coursework devised and assessed by his own teachers under the guidance of an external moderator.

Language for Sociology

Mike Taylor, the language teacher who has become part of the team responsible for Mode III 'O' level Sociology, describes the reasons for the sociology teachers opting for Mode III and the way in which it has affected their work as 'O' level teachers.

> "The adoption of Mode III is a reflection of the sociology teachers' belief that students often failed because of what were seen as language problems, made more acute by the examination-only mode of assessment. It was hoped that Mode III would be 'fairer'. The students' tasks would vary from the traditional five essays written in three hours.
>
> At the beginning, discussion among the sociology teachers centred around the content of the syllabus. The course work was not seen as a problem. It was felt that it would reflect the students' knowledge of the various topics on the syllabus in much the same way as the traditional essay appeared to do. But, as the course evolved, greater student and teacher attention was directed to the course work. The immediate reason was probably that it was to be considered in the final assessment. However, there was also a desire to involve the student in a wider range of activities that could be called sociological than those usually employed in the preparation and writing of the traditional essay.
>
> In the revised syllabus, each assignment involves different kinds of reading. One requires reading of figures, another a book, while the third requires reading of various handouts and chapters from the course textbook. The fourth assignment is a small research project

which, with assistance from the teacher, is individually chosen and designed. This involves many of the activities practised in the previous assignments and includes the construction of a small questionnaire. Each assignment culminates in a written report of findings."

Assignments of this type appealed to Mike's view that language teaching should be concerned with the organisational skills which underlie listening, speaking, reading and writing and should emphasise the relationship between them. In order to put this theory into practice, he has designed worksheets to accompany each of the course work assignments. Each worksheet is a page or series of pages divided into spaces for the students to complete. Mike describes the design and purpose of these worksheets:

"The spaces are drawn to form a pattern, parts of which are labelled. The pattern is an attempt to represent spatially relationships between ideas. It is an attempt to present in a non-word or almost non-word form the links which are usually difficult to identify in the printed word or in a lecture.

One purpose of the worksheet is to provide a structure for students when they read a particular text. The students are often not able to identify the salient points nor to recognise their relationship to each other and to the topic of immediate concern to the class. The worksheet attempts to enable students to elicit from the text that which the teacher expects.

In addition, a worksheet attempts to provide the students with a plan that will enable them to organise their writing for the assignment. For example, the content of a line, column or space can be seen as the basis for a paragraph. The students will thus be able to organise their writing in a way that begins to be (socio)logical.

The worksheets can also be used in connection with the talks and discussions held in class. Students can relate what they hear to an overall structure for the topic.

Another function of the worksheet is to enable the teacher to see if the students understand what they are reading before they attempt to write. The teacher, by looking at the notes the student has written on the worksheet, has some warrant for making a judgment about whether or not the student has comprehended what she has read in more than a literal sense. Important discussion can arise from the way a student has completed his worksheet, since the worksheet highlights the issue of which particular ideas are important in a given context. It enables this issue to be scrutinised by teacher and student without the

intrusion of questions of sentence construction, paragraphing and other minutiae of formal written presentation.

There are, of course, difficulties with worksheets. The relationship outlined above between the worksheets and the students' reading and writing, is a mite too ideal. In the classroom, they can meet with misunderstanding because students are used to thinking of oral work, reading and writing as isolated activities. Previously learned reading methods often result in a failure to grasp the likely structure of the kind of text studied in sociology. Students are likely to fall back on these methods at first, rather than adopting, their current teacher's suggestions. One effect of this is that the students tend to make notes on everything in the text. When asked for their own writing, they regurgitate random chunks, changing as many items of vocabulary as possible since they have been told that it must be 'in their own words'. The only part of this process the teacher evaluates is the writing, so the students assume that it is their writing that is at fault. Labouring under that delusion they cannot see the point of the worksheets. It is therefore essential for the teacher to emphasise constantly the relationship between effective reading and success in writing in order to show the students the part played by the worksheets in their studies."

Mike has two other important functions as language teacher on the 'O' level Sociology team. One is to advise the subject teachers on the working of their examination questions and handouts. This has led not only to more realistic reading demands for the students but also to a greater understanding on the part of the teachers of the difficulties caused by the language of the subject. The other function is that of helping students individually with language problems they encounter in the course.

In the first year of Mode III 'O' level Sociology, one third of a period a week could be taken by a language teacher in order to help with technical writing problems and books. The course is now timetabled so that students spend three hours on sociology in the morning followed by three hours of English language in the afternoon. It is interesting that the sociology teachers themselves feel that the course is working very much better now that a proportional time has been allocated for the subject matter and the language support.

English and History Combined 'O' Level Course

This is the longest standing subject-language integration project at Kingsway-Princeton. It has probably gone furthest towards achieving a balance between subject development and language development. Loveday

Herridge, the English teacher who has been associated with the project for three years writes this account of the combined course.

"The AEB Mode 3 GCE O-Level World Powers History course was set up at Kingsway-Princeton and City and East London College in 1972. The course was specially devised by History teachers at the colleges to meet the particular needs of Further Education students. By this time the Mode 3 AEB English Language O-Level exam was well under way at Kingsway-Princeton and by 1974 students who wanted O-Levels in both English and History were being encouraged to join an English and History combined course.

The association of the two subjects was a result of the same thinking that had prompted the devising of the two courses initially. In the first place, Harriet Ward's textbook for the History Course, 'World Powers in the Twentieth Century', was written with the language needs of students firmly in mind. This concern for language grew out of the recognition that language skills were a prerequisite for success in the History course, particularly as it depended so heavily on reading and the assessment of written work through course essays and the final exam. While the concepts and information with which the book deals are complex, the language in which they are expressed is simple and lively. Separate from the main text but linked by theme as Study Topics which develop more difficult ideas. A Glossary of important terms and concepts is provided. Questions at the end of each chapter encourage the student to review what he has read, to make judgements about its content, to discern key ideas, to discriminate between cause and effect — in other words, to read the text efficiently. In these ways the varying ages and educational experiences of a typical Further Education classroom are recognised in the textbook.

The English Language course emphasises the same skills which are practised in the History course — those of reading, writing, speaking and listening. Clarity in expression, a sense of organisation, an appropriate vocabulary, imagination, sensitivity to audience, technical competence, comprehension and responsiveness in both written and spoken modes are sought during the English course. Implicit in the course is the belief that these skills can best be achieved by constantly practising them on subjects of interest to the student and deriving from his other areas of study. In fact, the English syllabus expressly allows the student to include in his folder of work for final assessment up to three pieces of writing on other subjects in the curriculum out of a minimum of ten. Sometimes a written assignment from the History course is used for this purpose. Because of the flexibility of coursework the student is able to develop skills according to his own

needs — and these are often thrown into relief by his performance in other subjects, where he tries to apply the skills which have been taught in the English lessons. Where English Language is studied on its own there is a danger that the student will lose sight of the reasons for the pursuit of clarity, correct paragraphing, or inventiveness, or the right tone in his writing. Where English is studied in association with History the skills of ordering and selecting information, of 'analysis' and 'assessment' become more meaningful when the student can see that to recognise cause and effect, and the significance of past events, is essential in understanding their influence on the world.

At Kingsway-Princeton College on the English and History combined course three hours are allowed for each subject so that part-time students, who usually are on day-release, may follow the course within their day. Full-time students also participate. This year an English and a History teacher each take their separate subjects. Ideally, in my opinion, each would participate in the other's class so that they could bring their separate skills and functions to the class simultaneously, each class effectively becoming English-and-History. Unfortunately, the college does not recognise this type of arrangement. At present the two teachers confer, weekly if possible, over coffee cups, to discuss individual students' progress rather than teaching materials. An alternative to this arrangement, which has existed in the past at Kingsway-Princeton College is that the same teacher takes both classes, each class again becoming English-and-History. This involves the teacher in a good deal of responsibility for the students — two O-Levels represents an important slice of an individual's investment in college. And presumably, however good a teacher he is, his charm could wear thin over six hours. Of course, the frequent meetings of teacher and students can also bring real benefits. A further practical consideration is the decision to take both classes on the same or on separate days. To break artificial subject barriers as far as possible and to improve accessibility for part-time students, it seems preferable to me to have both classes on the same day.

In practice, the 'English' class is spent in studying themes from the History course in two ways — not only in helping the student to learn information and write History essays, as I have described, but also, and equally importantly, in helping him to understand in a more personal way the events of History by trying to imaginatively interpret them. So, for example, a study of America in the Thirties might involve talking about Dorothea Lange's photographs of poor white workers, or reading *Grapes of Wrath* or writing about strikers in England in 1979. This approach is one which the crowded syllabus of the weekly History class could only rather perfunctorily adopt, but which I think is

for most people a necessary part of understanding. I believe it represents the vital and irreplaceable element of 'English' in education.

Little has been done at Kingsway-Princeton College in the way of analysing what results for the students have come about through this collaboration. Certainly, in my experience it makes teaching English a less isolated, more purposeful business. For the students, if the measure of exam success is applied, and in the absence of any statistical information, my impression is that the students have certainly done no worse than they might have by taking a combined English and History course. But other factors seem important to me too. I think I detect in my English class more honesty in discussion, more readiness to write and a more profound interest in the topics, more awareness of cross-subject connections generally, as a result of the association than I find in the more usual independent English class."

Here the history teacher, Harriet Ward, recognised the language needs of her students and took considerable responsibility for these needs herself in the way she wrote the textbook. The team-teaching project further enhanced a practice she had instituted alone.

It is interesting that I feel obliged to refer to Loveday as an 'English' teacher rather than as a 'language' teacher. This is because she is concerned to integrate literature, creative and responsive writing with history, in addition to developing language skills.

Language Workshop

Needless to say, timetabling and lack of funding make it impossible to provide language support of this sort to all academic and vocational courses offered at Kingsway-Princeton. In order to provide a partial service to other courses, we have a language workshop which is open every morning of the week. This workshop does not operate as a general English course but rather as a support for students experiencing difficulty with the language demands of their other subjects in college. We do not accept 'I need help with English' as a reason for attending the workshop. Students are encouraged to define exactly what they want language assistance for. If a student says: 'I need to be able to understand my biology textbook', we are in business. The principle is that rather than load the already anxious students with extra work for improving their English, we look at what they actually have to do and give them guides and strategies for it.

We have come to believe that developmental language materials defined (by skill) can boost students' morale, but may not be of much practical use. What we need in addition are graded aids and supports to real, local

language demands. Unfortunately these cannot, by definition, be provided by publishing companies. We are attempting to develop our own bank of materials filed according to subject matter.

The types of exercise are nothing out of the ordinary, the point is the relevance of the content. We are writing cloze exercises, not from random material, but from specific course textbooks with the aim of helping students' comprehension of the reading currently assigned to them. Punctuation practice exercises are taken from course essays written by students, not from literary models or tired teachers' heads. Sequencing exercises use the steps of science experiments or recipes which actually appear in college courses. Think-as-you-read guides are made to accompany handouts written by subject teachers. Read-along tapes and simplified texts are being made for sections of textbooks. Sentence combining exercises use material from model essays for college courses. Examples of spelling or pronunciation patterns are taken from the vocabulary of particular subjects. The implication is that we should have 'n' x the quantity of materials a regular workshop might have, 'n' being the number of courses at the college. This may be the truth, and rather daunting at that. However, our hope is that relevance will reinforce the skill and quantity will be unnecessary.

Several teachers have a morning in the workshop as one part of a varied timetable. This means that one language specialist can be assigned to each of our four broad subject areas (Arts and Languages; Social and Community Studies; Maths; Science and Technology; Office and Business). Each takes responsibility for liaison with the subject teachers in her area and coordinates the development of language support materials for that area. In this way the ideal of a language workshop with materials relevant to all college courses can gradually become a reality.

In addition, we make it our business to be a source of handy hints that can be adapted to language demands in various contexts. We keep stores of 'blanks' which give structures, for planning different types of essay. We have a file of 'techniques' categorised under 'Learning', 'Remembering', 'Notemaking' etc to which teachers and students can refer for inspiration. We meet frequently to share methods for helping students with particular tasks. We have fought for a teaching ratio of 1-8 so that the principle of helping students at their own level with their own immediate language tasks can be realistic.

Using the present tense here is really wishful thinking. This method of running a language workshop is at present not much more than a conviction. However, we have laid the foundations for it by reorganising our materials according to subject-matter and gradually the underlying

principle is permeating the college. We are indebted to Ruth Lesirge, adult literacy adviser to Holloway Adult Education Institute, for her far-sighted recommendations which inspired us to develop the workshop in this way.

Preparatory Courses

The college offers services to students who are not, for one reason or another, ready to embark on any specific training, academic subject, or employment. For many of the students that reason is inadequate language skills. We feel that these students above all need a context to make reading, writing, listening and talking purposeful. However, these are also the students who are most inclined to complain if they think their favourite subjects are being used as an excuse for another English lesson.

Language for Job Skills

The majority of these students are enrolled in a 'Gateway' course. One of the compulsory subjects on this course is 'Job Skills'. Students may choose one of six jobs and may change each term if they wish. These classes cannot be described as professional training; they are simply with children, needle trades or painting and decorating. We felt that this would be a suitable place to introduce language teaching, firstly because the subjects have high interest value for the students and secondly because it is easy to justify: one thing you must know about a job is how to cope with the reading, writing and speaking that will be required. Without the aid of a language teacher, the job expert faces a dilemma, if he disregards the language requirements of the job, the students will enjoy the introduction at college but may well regret it later. If he attempts to deal with the language requirements himself, he may alienate students with severe language difficulties who feel embarrassed showing themselves up in front of him. A language teacher can, as it were, relieve him of this responsibility.

The language teacher team - teaches with the subject teacher for one hour out of a three hour class. During that hour the subject teacher introduces aspects of the job that will require language skills. In painting and decorating, for example, selecting the best tin of paint for a job will require the reading of paint tin labels and advertisements. This may involve decoding difficult words including brand names, colour names and chemical terms; dealing with different sizes of print and the relative importance of information; discriminating between factual and persuasive language; comparing several sets of information and figures. The subject teacher acts as authority on matters of vocabulary and emphasises the relationship between the reading and the practical task in hand. The language teacher breaks the task into manageable units or steps, provides

materials which clarify or simplify the 'real' material and suggests techniques the students might use in order to cope with this type of task.

Where most of the students in a job skill class attend the same core English group, the language teacher can make connections between what they need to be able to do 'on the job' and more general language demands. Unfortunately, timetabling is such that this ideal rarely works out in practice.

It is important to point out that this job skill-language team-teaching project means that the students receive only three hours of core English lessons per week instead of four. The justification for this allocation of time is, in order of priority:

1 the students need the language skills for the jobs;

2 language lessons on the job, albeit narrow in scope, are likely to be more successful than language lessons for their own sake;

3 with luck and under ideal conditions, language skills learnt in this way will become the foundation for generalisations which will lead to greater language competence in other fields.

English for Dressmaking — introductory stage

Many of the students seeking preparatory education at Kingsway-Princeton are immigrants with English as their second language (ESL). Their needs attracted the attention of Suzi Rice, who found several with talent for dressmaking were handicapped in her classes by their inadequate grasp of English. She discussed the problem with Evan Hughes-Davies, one of our ESL teachers and they decided to work together on a special course for those students. Here is their account of the work they have done so far:

There are many EFL and ESL students who, though interested and sometimes highly skilled in some particular craft or technical subject, are not able to follow a course in the college because they lack knowledge of the specific vocabulary and structures of English required.

We have therefore devised an introductory course which is based on a practical subject and which can be taught if necessary by a non-specialist EFL or ESL teacher to students who have a little knowledge of English, but who need some preparation before entering a regular class for native speakers.

This course is the first stage of a scheme which is intended to develop from the 'common knowledge' language of the subject concerned to a more specialised terminology. The final stage will be for students who wish to take the subject at 'O' examination level and will be concerned with the language and methods of study required for an examination syllabus.

The object of the introductory course is to help students to learn the basic vocabulary, understand the main concepts and follow and give instructions before entering a regular dressmaking course.

(We would also recommend a course in 'Instructional English' as described in ELT Documents 74/4 (June 1975 — J R Ewer and E H Davies).

The introductory course consists of six basic units:

1 'Deciding which clothes to make'.

2 'Choosing a pattern and taking measurements'.

3 'Choosing the fabric and estimating yardage'.

4 'Haberdashery'.

5 'Personal equipment'.

6 'The Workroom'.

Each unit is made up of the following components:

a A catenised vocabulary in which words are linked together with associated groups and phrases.

b Comprehension exercises, in the form of questions on the vocabulary and a test passage.

c Simple practical work using instruction cards and real equipment.

(NOTE: **Catenised Vocabularies**

In this arrangement vocabulary is presented by linking together associated nouns, adjectives, verbs, etc. These words are taught not in isolation, but grouped to form a matrix of ideas-associations and concepts. The material is sequenced so that explanations and examples follow naturally in progressive steps. A student is thus able to grasp the complete meaning of naturally-occurring groups of words, understands and learns associations more easily and is eventually able to organise his written work more logically.)

Lesson 3 'Choosing the Fabric'

Vocabulary

Nouns	Associated words and phrases	
material) a scrap of fabric) a piece of cloth) a remnant		quality, suitability crease proof, washable long-lasting
appearance	to look at	plain, patterned * (checked, striped, spotted, floral, etc) shiny, dull one-way patterns nap, pile
texture	to feel	rough, smooth
feel	to touch to handle	stretch
weight light, medium, and heavy-weight		thick, thin
fibres natural synthetic synthetic	to be made of to come from	basic, original (source animal — silk, wool vegetable — cotton, linen artificial, (man-made) — nylon, terylene, acrilan polyester, etc.
pattern		envelope view chart
measurements	to take measurements	tape measure
size	to measure	bust, waist, hips
quantity		length, width
amount		long, wide, narrow
yardage		yard (yd), inch (in)
yardstick		metre (m), centimetre (cm)

* NB: A pattern can mean two things:

a a design painted on material or

b a template around which the material is cut to give the correct shape

Instructions to Teacher:

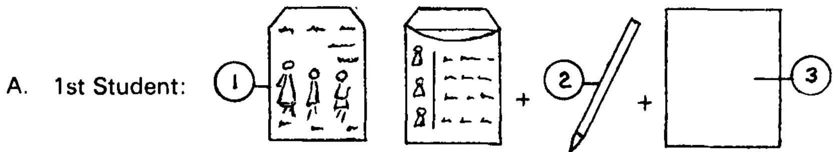
1. You will need the following:
   - A selection of paper patterns in their envelopes
   Writing paper and pencil.
   - A tape measure.

2. Complete the blank in instruction 1. with the name of one of the patterns you have available.

FOLLOWING SEQUENCED INSTRUCTIONS (These instructions are on workcards with actual equipment and materials available)

Lesson No 3 'Estimating Yardage'

A. 1st Student:



1. 'Pick up a pattern (1) for a ......* from the pile on the table, and a pencil (2) and some paper;' (3)

2/ 'Write down the number of the 'view' you would like to make up;'

3. 'Look at the measurements on the back of the envelope, and find your size. Write it down;'

4. 'On the chart, find out how much material you would need to make the view you have chosen, with:

   a. narrow material, and

   b. wide material

5. 'Write down the amounts (yardage), you have found, in:

   a. yards and inches, and

   b. metres and centimetres.'

B. Students now change places and repeat the instructions.

The lessons are designed to be both written and oral, combining handout sheets with tape recordings. Section (c) can be used either by two students instructing each other, or by one student working alone with a cassette recorder.

The introductory course will be tested out on selected students in the summer term after which it will be assessed and, if necessary, amended. We would like to operate all stages of the scheme by the end of the next academic year. If successful it might be worth considering as a model for other subjects.

As students progress into regular dressmaking classes, we hope that they will benefit not only from following a course that interests them, but also that through contact with English-speaking colleagues they will improve their general knowledge of idiomatic English and also gain a better understanding of English life and customs.

This differs from other team teaching projects in the college in two respects. Firstly, the language support is intended to precede participation in regular classes rather than to run concurrently. Secondly, the team effort has been concentrated in the production of materials rather than the classroom. Suzi and Evan have been working together regularly for over a year to develop this course. The results have been invaluable for both teachers: for Suzi, in-service training in the methods of ESL teaching and an understanding of her students' language needs; for Evan, an opportunity to see how the format of an intermediate ESL course can be adapted to deal with specific subject matter and capitalise on the realia available in practical classrooms. After such intensive collaboration they now feel that either of them could teach the course independently — fortunate, since funding is unlikely to be available for both to be present in one class!

Read, Write and Cook

The college has always attempted to make special provision for the least literate students who come its way. For several years this was in the form of small groups working on very basic language exercises. The students enjoyed the classes and made steps forward but there was a terrible sense that nothing went further than the tutorial room door. It was as a response to this problem that two classes were set up specifically as a vehicle for teaching basic language skills. Instead of 'extra English', the 10-25 students in this category are recommended, almost obliged, to take cooking or media studies or both. We explain that these are classes especially to help them with English and that we hope they will find them interesting too. Inevitably some say they don't like cooking **or** photography but most enrol more or less enthusiastically in both.

Here is an account by Frances Murdoch of the cooking class:

"A course of Literacy with Cooking was set up at Kingsway-Princeton College in September, 1976, as a result of discussions between a lecturer in English and a lecturer in Home Economics, who found that they had been thinking along similar lines concerning the possible value of reinforcing the learning spelling and reading through the medium of a practical activity. It was felt that this could make a useful contribution to the literacy programme of the college.

The Students

The students taking this course included a number taking a basic education course, and some external students attending the Community Education Unit of the college. The age range of the students was from 16 to 25 years, and included both sexes, with the majority male. There were three main categories of student:

1 Those who had had educational difficulties at school.

2 Physically handicapped students whose education had been seriously interrupted.

3 Foreign students, not long arrived in the UK.

Teaching Arrangements

It was arranged that the English lecturer and the Home Economics lecturer were present together for the first hour of each two-hour session, whilst the Home Economics lecturer took the class alone for the second hour. This arrangement was dictated by administrative constraints, and it was felt that it would have been better for the English lecturer to be present for the second hour instead. This would have enabled the literacy work arising from the practical session to be dealt with whilst the prepared food was cooking.

Preparation Work

The Home Economics lecturer chose a talking point for each lesson and selected recipes appropriate to this. The English lecturer then designed the language work around the talking point and the recipes.

Additional work sheets were prepared for use by students who were quicker in completing the set tasks.

It was important to use a consistent format for the recipes, using the same headings each time, eg Ingredients, Equipment, and Method.

Writing had to be in a consistent style, or students found they were unable to recognise letters they had mastered previously. This led to the Home Economics lecturer preparing all the work sheets, in consultation with the English lecturer, instead of sharing the load. Manuscript was used, in the light of the value of having the students read letter forms they could themselves produce.

As cookery requires a knowledge of basic arithmetic, a numeracy content was added to the work sheets.

The Lessons

An important feature of this project was that the course material was developed in active use with a live class, so that the lecturers were able to learn as they went along, and develop the most effective ways for presenting the material. For example, the provision of pictorial guides, which was originally arranged to help students to recognise words describing items of equipment, was discontinued half way through the year at the request of the students, who found that, when the pictures were provided, they did not trouble to read the words.

As the year went by, a routine format for the language part of the lessons evolved. Students received the recipe and studied it. At first we read it to them and they followed as best they could. Gradually we encouraged them to do more and more of the reading for themselves. The frequent repetition of common words on the sheets had the benefit of providing consolidation, and it was not long before students recognised familiar words. This increased the students' confidence and most of them were able to read the recipes out loud to the rest of the group by the end of the year.

Next, we worked with the 'cooking dictionaries'. These were small notebooks labelled alphabetically with each double spread divided into words for 'ingredients' and words for 'equipment'. The students copied new words into the appropriate place in the dictionary and identified words they had learned before. We chose words from the dictionary to learn to spell and revised spellings learned in previous weeks.

The third item was a worksheet based on the recipe. These worksheets were often, probably too often, phonic in content. Others involved calculations; there were cloze exercises; there were open-ended sentences about food for the students to complete with help from the teachers; there were sequencing exercises and various types of gap-filling tasks. It was found that the number of sheets issued to students for a lesson was significant. Two sheets, including the recipe, seemed to be the optimum. If three or four sheets were issued, students became

confused. Also, the amount of information on each sheet had to be carefully controlled. These restrictions, of course, had the effect of limiting the scope of the practical work that could be done in any lesson.

Effect on the Students

The students attending the course generally were lacking in confidence, as they were conscious of their inadequacies in written work. Practical activity can do a great deal to foster self-confidence. Work has to be organised into the correct sequence, which involves making decisions. Skills in using basic tools have to be acquired, and the operation of more sophisticated appliances has to be mastered. Furthermore, the requirements of safety and hygiene have to be borne in mind at all times.

The production of a tangible result from the work gives students a sense of achievement, and they often proudly displayed their work to their friends, and thus achieved a boost to their morale.

The effects on the three categories of student mentioned previously were as follows:

1 Students who had had educational difficulties at school exhibited the same characteristics which presumably had contributed to their earlier difficulties. They were capable only of a low level of concentration, so that the written work had to be done in short spells. Also, the level of commitment required in Home Economics was more than most of these students could meet.

2 The physically handicapped students derived much benefit from the course. Their reading and writing ability increased significantly and they gained confidence as their practical work improved. They managed to overcome many of the difficulties associated with their handicaps.

3 Most of the foreign students, who were, in the main, more mature females, were quite competent in the Home Economics area. They gained a great deal from the written work linked to the practical work.

Conclusions

Preparing a course of this nature is very time-consuming, since no existing materials are appropriate. However, it is worth persevering as the course does seem to be meeting an important need.

The time allocated to the lesson was insufficient. The ideal unit was thought to comprise three hours in the Home Economics area. The first two hours would be with the Home Economics lecturer, and the third

hour with the language support lecturer as well. This arrangement would permit the subject matter to be extended in the first hour to include shopping expeditions. These would reinforce word recognition, and could include further teaching in the areas of consumer advice and budgeting. The practical work could follow and, whilst cooking was being completed, the literacy work could be done, including going over in language exercises the morning's activities,

We managed to justify running this course with two teachers in one classroom for an hour by billing it to the administration as in-service training for Frances. Since then, however, it has not been possible to fund the team-teaching and Frances has been successfully running the class alone, presenting the language and numeracy as well as the cooking. A continuation of this sort depends on having a subject teacher who is interested and able to acquire new teaching skills and a language teacher with time and enthusiasm enough to help voluntarily with the further development of course materials.

Read, Write and Look

Mixed Media is the other course set up specifically for the least literate students. The media studies specialist arranges a number of projects throughout the year in which students produce photographs, slides, posters, tape recordings, movies and animations. Like cooking, this is first and foremost a practical course in which students are working with real materials and equipment. Opportunities for language development arise naturally out of necessity: instructions for using chemicals must be read: reels of tape must be labelled; working scripts must be written; permission to visit a 'location' must be obtained by telephone or letter. Like cooking, the course has tangible end results which the students can display with pride. The media specialist makes a point of demanding certain standards of presentation from the students, thereby building their self-esteem and giving them a sense of quality.

There are, however, unique advantages in using a mixed media course as a vehicle for language instruction. Firstly, the course offers students with minimal literacy an alternative to writing as a means of self-expression. Saying it in pictures takes some of the anguish out of not being able to say it in words. Secondly, many of the thinking skills underlying reading and writing are required for working with other media: sk lls such as sequencing, contrasting, recognising and cutting out repetition, adding details, focusing on a main point, choosing a title.

While recognising the enormous potential of this integration, I have to admit that my development of the language element has been somewhat haphazard. The media projects have been so good and I have been aware

of the students gaining so much from them that I have trod lightly for fear of interrupting. I attend the last hour of a three hour class each week and often drop my planned work in favour of responding spontaneously to what is happening when I arrive. There are often as many as fifteen students in the group and, since equipment is limited, there are often several different activities in progress.

I might spend half an hour making a neat copy of a story for one group of students so that they could study it for dictation, then move on to help another student read instructions for developing her black and white film and finish my hour guiding others in the task of labelling their photographs. One of my most important functions here is to break down the language task into steps, each of which can be easily accomplished by the students in question. For example, writing a caption for a photograph can be achieved by these steps:

1 Look at the picture. Ask your friends to help you choose three words about it.

2 Ask your teacher to write them on separate cards for you.

3 Think of as many captions as you can using one, two or all three of the words. Ask your friends for their ideas too. Write them on scrap paper. It doesn't matter about the spelling.

4 Ask your teacher to copy them neatly for you.

5 Ask your friends to vote for the caption they like best.

6 Decide for yourself which one you will choose.

7 Decide exactly where you want to place the caption.

8 Use tracing paper to draw out the exact space you will have to write in.

9 On the tracing paper practise fitting the caption into the space, using the pen you intend to use on the final version. Do this as many times as you want.

10 When you are ready, write the caption in the final position in pencil.

11 Check with the teacher that it is OK.

12 Go over it with the pen you have chosen.

Of course, most of the students cannot read a set of instructions like this. The way I have used this breakdown is to have several students working on captions together and ask me for one step at a time.

It may seem like a long way round a short task. However, without these steps students write words which mean nothing to them in writing of which they are ashamed. This procedure can be completed in an hour and much reading, vocabulary exploration, sentence construction, spelling, evaluation and decision-making happens along the line.

There are times when I can conduct an activity like this with the whole group at once. On other occasions when group work is possible, I use a reading or writing exercise based on something members of the group have produced the week before, or something which seems to embody the same thinking processes (eg recognising repetition, sequencing) as the students are engaged in for their media projects. I have also tried to establish a routine whereby students choose at least one word each week from the day's events to learn to spell.

There is probably no point in expecting a workshop class of this sort to be more predictable — better to accept the need for spontaneity and plan to make the most of it. This will mean resigning myself to working from week to week, since language work should always arise out of students' own experience. In addition we need to build a bank of materials and aids which can be used as the need arises. We already have simplified instructions for many of the processes involved in black and white photography and one or two cloze passages related to them. We need more material of this sort. We could make planning sheets suited to the various projects. Perhaps we could make tapes of instructions for frequently repeated procedures like writing a caption for a photograph. We certainly need to make some record of procedures which have proved useful for helping students with particular tasks.

Conclusion

Although subject-language integration has been a principle in the background of our thinking for a long time, it has never been a coherent policy. The projects currently in operation developed more or less piecemeal with varying sources of inspiration and goals. Many of them are in their infancy and need considerably more thought before they achieve that ideal balance where subject learning and language learning feed each other. Now that we have seen the value of these independent projects, the college can develop subject-language integration in many other areas. Without a doubt, much remains to be done.

Bibliography

THE BULLOCK REPORT
'A Language for Life'.

HUGHES-DAVIES, E and EWER, J R
'Instructional English'. Pub. ELT Documents, 1973/4.

LINKED-SKILLS COURSES: an account of the theory and methodology of linking literacy teaching with specialist subject areas

C Moorhouse ILEA Adult Literacy Unit

Introduction

Neither the philosophy nor the practice of teaching reading and writing skills via the medium of a specialist subject area is new. This approach to teaching occurs in both primary and secondary education in Britain, often subsumed under the nebulous title 'The Project Method'. Functional literacy schemes in developing countries frequently use the language upon which the local economy is based as the medium of literacy instruction, which itself is seen as a means to informing, for example, about new methods of agriculture. Here it is the product, in this case an improved economy, rather than literacy itself which is considered to be important, whilst the **process** of learning is merely a means to an end. That end achieved, literacy may well diminish in its importance to the learners.

Background to the development of linked-skills courses in Inner London

The linked-skills courses which have developed in a few adult education centres in Inner London attempt to go a stage further. the work has developed from the awareness and initiative of a fashion and creative crafts teacher, Monica Buchwalter, who over a period of fourteen years noticed that a number of people in her classes had difficulty in coping with the written instructions contained in, for example, knitting and dress patterns. They were frequently quite able to understand the language of the processes described verballly, and respond to the instructions, but they could not read them for themselves. Monica Buchwalter felt that their interest in craft skills could be used as an incentive for them to acquire at the same time some basic literacy skills, and in due course she made contact with a group of interested literacy teachers and linked-skills courses began.

Linked-skills courses, as the name suggests, attempt to combine the teaching of a specific practical skill in conjunction with the literacy skills need to practise and extend that skill to an independent level. For example, a student who wants to learn to make a skirt will be taught to read the language of instructions involved in making and following a pattern so that she can eventually follow and implement those instructions without aid. Having experienced success both in producing a garment and learning to read a basic vocabulary, she may then feel encouraged to progress to

learning how to make a dress. In other words, she will be able to reinforce and extend her previous literacy learning by using it in an activity of her choice. Each new step leads to the acquisition of an additional practical skill together with the ability to read, and eventually write, the vocabulary relevant to that skill. As a student progresses, she learns to extend the use of her literacy skills to other contexts. For example, the word 'cut' appears not only in dress patterns, but on other d-i-y instructions, packets, on magazine coupons, the abbreviation 'st.' means stitch in knitting and crochet instructions, but written as 'ST.' or 'St.' can in other contexts mean 'street' or 'saint' and here is an opportunity to extend the learner's knowledge from specific to more general contexts. While the work originated from experience of students whose main objective was to learn a practical skill, it is an equally valid approach for those whose first objective is to acquire literacy skills. Literacy skills, as all other skills, function in a context, and in addition to teaching adults literacy skills to enable them to function confidently and competently in specific and general life situations, we think that some students will enjoy learning general literacy skills along with, and as part of, a specific subject area such as Fashion or Craft. A new sewing or craft skill learned is confirmed and extended by being re-expressed and understood in print; a literacy skill, the understanding of instructions, becomes an operational skill as the student responds to the practical implications of the instruction. The relevance, and interdependence, of both sets of skills becomes obvious to the student, whether her original motivation was to make a garment, or to become literate.

Planning

The success of any link course is dependent upon the time and effort spent on the planning stages, and these require a close working relationship between the subject specialist and the literacy teacher. Decisions have to be made about the nature, scope and objectives of the skill to be taught; the teaching approaches, media and materials to be used; the sequence of instruction; and, particularly important, the pacing of presentation. Two major questions have to be asked. First, what is the minimum skill and literacy learning content that needs to be taught to enable the students to achieve their immediate objective, and to prepare them for their next, and long term objectives? Secondly, how far can the language of the skill be extended to apply to everyday life situations?

Close liaison

The subject specialist and the literacy teacher need to agree upon a common and controlled language of reference and instruction for both verbal and written communications to students. The language input needs to be both relevant to the topic and applicable to other situations where

literacy skills are required. Conpromises often have to be made; what may be an easier word to read than a jargon term may be unacceptable to the subject specialist for a variety of reasons, which have to be talked about until agreement is reached. For example, the most precise term for the materials used in knitting is 'yarn' because it can be applied both to natural and man-made fibres. However, a literacy specialist would argue that 'wool' is a more appropriate term to introduce in a linked-skills course for the following reasons: it is the term most **frequently** used in common usage to describe the materials; it is more likely to be in the learners' own speech vocabulary; it is more likely to be seen eg in advertisements; it appears in a wide variety of contexts, from 'cotton wool' to carpets. The fashion specialist might well respond that these are not adequate reasons for withholding vocabulary from students which will enable them to talk on equal terms with others interested in their chosen skill. The literacy specialist may then suggest a compromise: that the word 'wool' should be introduced first, but that at some point in the course students should be introduced to other, more specialised vocabulary. Discussions of this nature are likely to occur throughout the planning of the course and the accompanying materials, and if the outcome is to be satisfactory to both specialists, each must have a mutual respect for and understanding of the other's knowledge and preferences.

Additionally, the literacy teacher may need to instruct the subject specialist in the most appropriate handwriting to be used for overhead transparencies and handouts, and how much printed matter a page should contain. The subject specialist may need to instruct the literacy teacher in the vocabulary of the subject, and in how to present diagrammatic information in work sheets. Linked-skills teaching thus involves much more than merely deciding to work together in the same classroom. It requires literacy specialists with enough enthusiasm, energy and time to learn how to present literacy skills through the medium of a defined subject area, and subject specialists with the motivation and skill to dissolve the knowledge pertaining to their particular skill into the students' total learning needs. Linked-skills courses are not diluted versions of an ordinary adult education curriculum with all the difficult or advanced aspects removed. Instead, the curriculum is analysed and broken down into smaller learning steps than is usual, but the quality of both the learning processes in which the students participate and the final product of those processes is required to be of the highest standard., The seams of a dress made on a linked-skills course are expected to be as straight and as neat as those on a garment made by a professional dressmaker. A potential danger, which has to be circumvented from the beginning, is the possibility of the students' concern with the skill, eg of making a skirt, overtaking the language work, which should be concurrent. This requires self control on the part of the teacher as well as the students! Ideally, a literacy teacher is present at all

the practical sessions to monitor the students' ability to understand concepts, and read instructions. She will subsequently not only incorporate the language used into materials and activities for the literacy sessions, but also encourage the students to generate new language from that already encountered, and to personalise their experience in the form of scrapbooks, journals and reports. For example, students can record their own measurements, and their choices of colour and materials with their reasons.

The practical and organisational implications

The two most important considerations are **time** and **money**. The two specialists need both pre-course time for the initial planning and preparation of the course and its materials, and time during the course for amending and adding to content and materials in the light of the students' response to them. Ideally, there should be enough money to enable a variety of instructional media to be employed, for example, tapes, slides, overhead projector transparencies, booklets and worksheets. Such scope allows for both group and individualised learning activities, and the development of a permanent resource bank which can be made available for subsequent courses and act as a working model for the development of courses in other subject areas.

In terms of teaching organisation, the literacy and subject specialist need to be timetabled so that the literacy specialist can be present at the practical skill sessions and assist the skills specialist in the presentation of the language elements of the subject. She also requires at least one additional teaching session with the students in order to concentrate upon the development, practice and extension of the relevant literacy skills.

The ILEA Learning Materials Service has published some of the ideas and materials developed to date in 'In the Pattern', a teaching pack which illustrates the linked-skills teaching approach to patchwork, knitting and making a skirt. In addition to providing samples of teaching materials, the pack includes notes explaining how the approach has been applied to each subject, and these principles could equally well be applied to other subjects which involve the interpretation and following of written instructions. The following summary is intended to give an indication of the procedures followed by the authors, who comprised both literacy and fashion specialists. The language of knitting is used to illustrate the points.

Rewriting a knitting pattern

1 Delete irrelevant or redundant information ie

   a alternative versions of patterns (eg 'with sleeves')

b brand names (eg Milward disc)

c abbreviations (see 3 below)

d superfluous wording (eg 'when working in striped pattern')

e alternative measurements (see 2 below)

2 Reorganise and rewrite remaining information with special regard to ease of reading. One size (92 cms/36 ins) was chosen for the main pattern, but instructions are included for two other sizes.

3 Break down the rewritten pattern into easy learning stages, eg divide for neck; shape shoulder, etc.

4 Provide a reference book for each student
Particular attention needs to be given to abbreviations as these may be unfamiliar to students. They can be magnified and used as a basis for the students' Word Book as follows:

a Letraset alphabet letters in top right hand corner of each page, one letter per page; capitals and lower case.

b Cut out from pattern **actual abbreviations** and stick into book on respective letter page.

(Several copies can be produced by photocopying or electro-stencilling.)

c Put some extra pages at the end of the book for use as reference for 'days of the week', 'months', etc.

d Students add **own** words to the Word Book as they progress with knitting and literacy work.

5 Prepare visual aids: these might include wallcharts and overhead projector transparencies illustrating various concepts and processes, eg tension, right and wrong side, knit and rib.

6 Prepare Literacy related activities deriving from and extending key words in the pattern. These might include workcards, worksheets (some with illustrations). They can be used to reinforce students' learning of new information and vocabulary. Add to these to suit the particular needs of individual, or small groups of, students. For example:

a tension: the sound 'shun' is spelt in so many different ways, eg 'tion', 'shion', 'cion', 'tian', 'scion', as well as 'sion', that it needs to be

approached with care so as not to confuse the student. 'tion' is the most common.

b silent 'k' as in 'knit': it would be a good idea to make a special page in the Students' Word Book for silent 'k' words (there are about a dozen fairly frequently used words).

7 Collect additional books and aids

a Select books which are attractive and clearly written and would be useful to students new to knitting:

Extending the subject range

Similar principles can and have been applied to preparing and presenting materials to promote the development of literacy skills in a wide range of practical subject areas. eg cookery; photography; gardening; woodwork; driving. Nor need the approach be confined to practical topics. Some adult learners express an interest in more traditionally academic subjects, eg history. politics and philosophy. While it might seem a daunting task to break down often complicated concepts into a simpler form of expression, it is not impossible — after all, philosophical writings frequently express the most abstract ideas in a comparatively uncomplicated language; it is the meaning the reader is able to impute to the words which is important. We learn most easily and effectively if we are interested in the content of a subject and as Bruner has said, it is possible to teach anyone anything if we break the learning task down into small enough learning steps.

All the foregoing has been written with the learning needs of the student for whom English is a first language in mind. In the case of learners of English as a Second Language, who initially need much more emphasis on language structures, the vocabulary and syntax used in teaching presentations and materials needs to be even more carefully controlled to take account of their current level of verbal competence. Thus, while it is possible to develop and provide a resource bank of materials for the linked skills teaching approach, the success of both the materials and the approach will always be dependent upon the effort made by the literacy and subject specialists to adapt and complement resources to meet the specific as well as the general needs of learners.

CO-OPERATIVE TEACHING: BRIDGING THE GAP BETWEEN E AND SP

Diana E Adams-Smith Faculty of Medicine, Kuwait University

Interdepartmental teaching is much in the air these days, but judging from the IATEFL conference in London last year, the occasions on which it has tentatively come to earth are few and far between. Not surprisingly, most ESP instructors are attracted by the prospect of directly involving real technical experts in language teaching. Too often it has seemed that the English course is an empty vehicle waiting for the subject area specialist with his medical, engineering or scientific expertise to turn on the switch that will bring it to life.

But there are obvious massive difficulties in the way of establishing real team teaching between disciplines as dissimilar as English and biochemistry or mechanical engineering, among them being near-total mutual incomprehension of purpose, subject matter and pedagogical approach, together with conflicting schedules, different commitments to research, and problems of basic attitude. Particularly tactful handling is required of scientists who have never before taught non-native English speakers. Some of them react violently to any suggestion that they might consider speaking more slowly or using visual aids, and see in such proposals a threat to maintaining professional teaching standards.

So the old dilemma remains, does the EL unit attempt to provide the specialised English that the students want to learn but that the instructors frequently do not feel competent to teach, while at the same time they face the derision of their scientific colleagues who say, 'How can you people teach anything about electron microscopy/virology/heart disease? You'll only mess up the students'? Or does the English instructor stick to what he knows in the field of general English or very basic biology, while the students clamour with growing frustration for materials dealing with medicine and technology?

This second option was unacceptable to the course developers in the English division of the faculty of Medicine at Kuwait University, but to handle the first one successfully we needed an injection of specialist knowledge and a more positive attitude from our medical colleagues. Taking as our motto, 'if you can't beat them join them — or, better still, get them to join you', we set up a series of limited teaching situations where participation by a medical scientist would be helpful, and went to colleagues in the clinical and pre-clinical departments for advice and assistance. Detailed descriptions follow of some of the teaching units which were developed as a result of this co-operative approach.

Electron Microscope Unit (second semester pre-medical)

This unit, based on a reading passage taken from the students' biology textbook, was amplified by exercises emphasizing vocabulary, reading comprehension, speaking, writing, the interpretation and labelling of diagrams and information transfer. The next step was the discovery of an excellent film of the right level of linguistic difficulty and a suitable length (twenty minutes); *Electron Microscopy.* The script was recorded and transcribed, and a student worksheet devised. The film was shown twice At the first showing comprehension and vocabularly were checked. At the second showing, the associate professor in charge of the electron miscroscope unit led a lively discussion, bringing the film up to date and answering technical questions clearly and in simple terms. The last phase was a series of small-group visits to the EM unit, where the director explained and demonstrated the equipment and described research projects in progress. The unit concluded with the students returning to their English classes for a final discussion. The student response was enthusiastic, and the EM unit director, who had clearly enjoyed this contact with the students, suggested a number of other possible avenues of cooperation between the English division and the medical science departments.

Heart Attack Unit (fourth semester pre-medical)

This unit was based on a BBC Horizon film called *Disease of Our Time: Heart Attack,* an article on artificial hearts, a chapter on factors that cause coronary disease, and worksheets focusing on vocabulary, comprehension, note-taking and discussion. Horizon films, unlike the film used in the electron microscope unit, are not primarily intended for instructional purposes, and with a length of forty to fifty minutes they are considerably longer than any the students had previously dealt with. However, we wanted to experiment with them because the length approximates that of many lectures, and the effort of comprehending from a spoken and visual source is roughly similar. The level of difficulty in both English and scientific content was about right, and the sophisticated type of presentation was attractive to our students, who spend a lot of free time watching television and feature films.

Before the first showing of the film the students were given worksheets containing essential vocabularly items to look up and a list of questions to direct their attention to the main points. During the first showing the teacher stoped the film at approximately ten-minute intervals to allow time for a quick comprehension check. Small groups of students were then given topics on which they were requested to make notes during the second viewing prior to making oral reports to the class.

The dean of the medical faculty, a cardiologist, attended the second showing of the film and afterwards spent about forty minutes answering students' questions. Like the speaker on the electron microscope, he was helpful in bringing the film up to date, explaining how techniques had changed since 1970, and giving the results of research studies described. The following day he took eight students to visit his laboratory and the cardiac care unit in the hospital. Another group of eight students, having read the chapter on factors predisposing to coronary disease, spent two hours with a psychologist faculty member who helped them to construct a survey questionnaire on factors likely to lead to heart attacks, for administering to staff and students. In a later session the results were tabulated and analysed.

After the whole group had studied the article on the artificial heart, a clinical professor from cardiac surgery came in for an hour to answer questions, demonstrate models of mechanical hearts and valves, and talk about his research work. In the final phase of the unit, students presented oral reports to the class on their various assigned topics, including the visit to the hospital and the results of the survey. If success of teaching materials can be gauged by career motivation, this unit would have scored high. Most of the class, at least temporarily, announced their intention of becoming cardiac specialists.

The role of the Nurse (fourth semester pre-medical)

When approaching members of other departments to ask for co-operation, it is as well to be prepared to have the tables turned. This occurred, for example, when we requested the director of nursing training to recommend someone to take part in a panel on the role of the nurse in the health care team. She agreed to participate together with her senior assistant, but asked in the same breath if the English department could help in a three-week postgraduate teaching training course for clinical tutors involved in courses for newly arrived nurses from the Far East. The experience, although time-consuming, proved interesting and valuable, especially for those of us concerned with developing materials for nursing students.

Some other teaching units where co-operative teaching has been successful include the following:

Virus (fourth semester pre-medical). Film, articles, library research. The film discussion was led by a virologist who later supervised an English term paper for one student.

Laboratory Animals: (fourth semester pre-medical). Articles, film, observation of experiments in the departments of pharmacology and

anatomy, together with a panel including faculty members active in research and the director of the animal house. Students made written and oral reports on the experiments observed.

The Psychology of Learning (second semester pre-medical). This lecture by a psychology professor was evaluated by the students as "most interesting, most useful and most relevant". It has since been expanded into a videotaped series for use in note-taking practice in the second semester English class.

History of Medicine (second semester). This course, required for all medical students, has been of mutual benefit to both departments. The English division used the first few lectures of the course as a model to teach note-taking skills, and later (at the request of the History of Medicine lecturer) presented the text of the Hippocratic Oath and certain other primary materials in more detail than they could be given in the history lectures.

During the preparation of other materials, articles on *Blood* and *Bone* were passed to a physiologist and an anatomist for checking and comment, while study skills units on the use of medical journals (third and fourth semesters) were checked by a faculty member with considerable research experience. In the planning stages of preparing a guide to writing a term paper we discussed with the chairman of the department of community medicine the format he would be requiring the following year. To satisfy the final requirement of the English course, at the end of the fourth semester each student prepared a term paper which became the material for a viva examination before a group including both English and medical science faculty members.

The principal difficulty arising from the participation of medical faculty members in English classes has been the need to follow a very tight schedule, arranged well in advance. (See Appendix 1, *Heart Attack*, Student's Worksheet.)

It has proved difficult to reorganise classes even for the sudden announcement of a university holiday or student meeting (not such a rare event in this part of the world), and almost impossible to allot extra time for run-over activities such as student reports. However, this loss of flexibility has been more than compensated for by the many benefits. First, it has provided a valuable exercise in public relations. The faculty members involved are now better informed about the function of the English language division and have become very supportive. The students have enjoyed the opportunity of learning something about their future teachers, and in the process have been brought a little closer to "the real thing" — an important motivating factor in a seven-year-long professional course.

They have also been exposed to a wide variety of spoken English, including that spoken by Arabs and Indians. Since they are required to prepare questions ahead of time to put to the visitors, their interviewing techniques and ability to frame clear and intelligible questions have improved considerably. The scheme has provided a kind of in-service training for the English instructors, who now know much more about scanning EM's, atherosclerosis and interferon than they would formerly have thought possible. The injection of the specialists' point of view means that we can say in response to a difficult question, "I'm sorry, I don't know. Be sure to ask Dr X on Tuesday". Our visitors have been very good about sticking to the format that we ask of them. They are helped in this by being given ahead of time a timetable and a complete copy of the materials for the unit so that they can see exactly how their contribution is meant to fit in. On several occasions we have been able to videotape guest speakers, so that we are developing a useful library of videotapes on topics ranging from *Medicine in Kuwait in the 1930s* to *Bed Bathing* and *Techniques of Study*.

In our experience, co-operative teaching is attainable, successful, and enjoyable for student and teacher alike. Through this kind of communication and co-operation, we hope that the English language division in the medical faculty will provide the students with a tool precisely designed for the years of study that still lie ahead.

Bibliography

Heart Attack

PHIBBS, B
'The Human Heart: A Guide to Heart Disease'. St Louis: C V Mosby, 1975

TUDGE, Colin
'One Day, A Mechanical Heart'. World Medicine, April 6, 1977, 17-20

(Film)
'Disease of our Time: Heart Attack'. BBC, Horizon series.

Electron Miscroscopes

(Film)
'Electron Microscopy'. Colchester-Hughes.

JOHNSON, W H, DELANNEY et al
'Biology'. 4th edition. New York: Holt, Rinehart and Winston, 1972, pp 79-81.

Laboratory Animals

(Film)
'Man's Best Friends'. BBC, Horizon Series.

HARLOW, Harry F
'Love in Infant Monkeys', in *'The Nature and Nature of Behavior: Developmental Psychobiology'.* Readings from Scientific American, ed. William T Greenough. San Francisco: W H Freeman, 1973.

RAY, P M and SCOTT, W N
'UK Legislation relevant to the keeping of Laboratory Animals', from the 'UFAW Handbook on the Care and Management of Laboratory Animals'. London: Churchill Livingstone, 1976, p.1.

Virus

(Film)
'Virus'. BBC, Horizon Series.

'Epidemiology: Measles Vaccine'. Br Med J, 14 June, 1969, 701.

'Porton Down, the Microbiological Research Establishment'. Nursing Times, Dec 2, 1976, 1875.

COOPER-SMITH, Frances
'Research for Survival'. Nursing Times, Dec 2, 1976, 1876-8.

HEART ATTACK

Student's Worksheet

INTRODUCTION

Over a period of two weeks, all students will be expected to do the following

1 Study the passage *Coronary Heart Disease: Causative Factors* and the article *One Day, A Mechanical Heart.*

2 Watch and take notes from the film *Disease of our Time: Heart Attack.* After you have seen the film once, you will be assigned a topic from the list below. During the second viewing of the film you will take notes on your assigned topic, which you will present to the class on Sunday 30 April. You will have no more than a maximum of ten minutes for your presentation.

Note-taking topics

a What is coronary artery disease?
b Factors contributing to coronary artery disease.
c Cholesterol and coronary artery disease.
d Coronary care unit.
e Exercise therapy.
f Heart surgery.

PROJECTS

One group of students, at the invitation of the Dean, will visit the Coronary Care Unit in Al Sabah Hospital and the cardiology laboratory in the Chest Hospital. Another group, under the guidance of Dr Robin Priestnall, will plan, write and carry out a survey of students and faculty concerning the factors predisposing to heart attack. Both groups will prepare written reports which they will present to the class.

FILM

Disease of Our Time: Heart Attack

a Summary

Taking as its subject the modern epidemic of heart disease, the film explains what coronary artery disease is, which people are most at risk, and how diet can contribute to it. Experiments related to cholesterol levels being carried out in Belgium and in Scotland are described. After a heart attack, the patient may be taken to a special coronary care unit provided with sophisticated electronic and computerised equipment. Recovery from

a coronary may be assisted by supervised exercise. For other people, surgery may be necessary to re-establish a good supply of blood to the heart muscle.

b Vocabulary

Be sure you understand the following terms:

ectopic	degenerative	cardiac massage
fibrillation	ventricle	unsaturated) fat
defibrillator	atherosclerosis	saturated) fat
aorta	cardiologist	oscilloscope
lumen	hypertensive	catheter
(to) incorporate	(to) graft	(to) dilate
crucial	(to) implant	clamp
pericardium	coronary	manic
cholesterol	(to) predispose	inherent

c Questions for class discussion

Part I: Coronary disease and predisposing factors

1 What are some of the warning signs of heart attack?
2 Why is heart disease described as a modern epidemic?
3 What is atheroscierosis?
4 What is an oscilloscope used for?
5 Which people are most at risk?
6 What danger factors are exemplified by Kit Hobday?
7 How much more likely is Kit Hobday to have a heart attack because of his family history of heart disease?
8 What theories have been put forward to explain the apparent connection between cigarette smoking and heart disease?

Part II: Diet

1 In what ways have animal-rearing techniques changed over the last fifty years? How has this affected the beef, chicken and eggs that we eat?
2 What is the significance of the observations about Eskimos and British pilots?
3 Why are Trappist monks described as the 'ideal experimental animal'? What were the results of the Unilever experiment?
4 Give examples of types of food low in saturated fats. What foods should someone like Kit Hobday avoid?
5 Have we any evidence that lowering cholesterol levels reduces the incidence of heart attack?
6 Describe the cholesterol experiment being carried out on volunteers in Scotland. If the results are positive, what action do you think should be taken?

Part III: Coronary Care Unit

1 Why is speed so important in a heart attack emergency?
2 What emergency techniques should members of the general public be familiar with?
3 Why do the nurses have to monitor the patients so closely?
4 What is meant by fibrillation? What is the purpose of a defibrillator?
5 Are ectopic heart beats a good sign or a bad one?
6 What are the special benefits of the computer devised by Dr Neilson?

Part IV: Heart Surgery

1 Describe Edward Timpson's condition before the operation.
2 How was the functioning of the heart tested before the operation?
3 Which artery was used for the first part of the operation? And for the second?
4 Do you think that surgery is the ultimate solution to coronary artery disease?

d Prepare your own questions to ask the dean when he comes in to discuss the film on Saturday 29 April.

When reading the passage *Coronary Artery Disease: Causative Factors.*

1 take brief notes of the factors which cause heart disease.

2 mark sections which have special relevance to the film.

3 note useful new vocabulary.

4 prepare the following questions as a basis for discussion in class.

1 What is a mesomorphic individual? Give an example from the film.
2 Define obesity. Is it a serious factor in the development of coronary artery disease?
3 What inherited factor may contribute to heart disease?
4 What is meant by systolic and diastolic blood pressure?
5 What is cholesterol? Where does it come from? What kinds of food are high in cholesterol? What other foods could be substituted for them? (Remember the American Heart Association TV advertisement in the film.)
6 How does cigarettes smoking contribute to coronary artery disease?
7 What experiments have been carried out to show the importance of exercise?

8 Are men more likely to suffer coronary attacks than women? Is age a significant factor?
9 What is the difference between predicting coronary problems in a population and in an individual?
10 What steps does the author recommend to prevent coronary artery disease?
11 Explain which are the more important in the occurrence of coronary artery disease; inherited tendencies or environmental factors.

When reading the article *One Day, A Mechanical Heart*

1 make the paragraph which contains a summary of the article.

2 note useful new vocabulary.

3 prepare the following questions before discussing the article in class.

1 What are the major problems to be resolved in developing an artificial heart?
2 What requirements must be satisfied when designing a heart chamber and valve? Explain the contributions made by Dr Bellhouse.
3 What properties must a suitable material for an artificial heart possess? How can the scientist prevent its being rejected by the body?
5 What methods have been tried to provide a power source for an artificial heart? What are the problems in using nuclear power?
6 Study the diagrams so that you can explain them in class.
7 What are the arguments for and against developing an artificial heart? What is your own opinion?
8 What is meant by the last sentence?
9 Prepare your own questions about artificial hearts and valves to ask Dr Ismail Sallam on Tuesday 25 April.

INELEC: TEAMWORK IN AN EST PROGRAM

Marjorie K Morray, Institute of Electricity and Electronics, Algeria

The Algerian National Institute of Electricity and Electronics (INELEC) was established in 1976 to train men and women as engineers and technicians for Algeria's growing industrial system. Its unique feature in Algerian terms is the fact that all its coursework is conducted completely in English. Education Development Center of Newton, Massachusetts, which provides staff, equipment and guidance in curriculum design, works closely with INELEC in developing an innovative program based on the country's needs.

Bilinguality in French and Arabic is associated with a high degree of language-learning aptitude on the part of INELEC students. Moreover, many of them have had several years of English during their high school careers. Nevertheless, their first semester is almost entirely taken up with the study of English (25 hours per week); during the second semester they spend 15 hours per week in the English classroom.

From March 1976 to September 1977 the INELEC curriculum employed, for the most part, general EFL or EAP materials. However, the need for a program that would prepare students to comprehend engineering and technology lectures, understand laboratory instructions, write technical reports, and read required texts forced a re-evaluation of the curriculum.

An analysis of the needs of INELEC students, taking into account their backgrounds, course demands and future occupations, revealed specific skills and content areas in which assistance was essential. In view of departmental controversy as to the type of English that would best aid students in the development of these skills, the question was investigated in a two-semester research project carried out by four instructors (Scholz, Hansen, Scholz, Van Hammen, 1979) on first- and second-level students. Four sections grouped on the basis of language proficiency was divided in the following manner: one of the high-proficiency groups was taught a course in mathematics while the other an English for Science and Technology. The two lower-proficiency groups were divided in the same way. Pretests and post-tests, including the Michigan Placement Test, Michigan Test of English Language Proficiency, CELT Structure and Writing Ability Tests, and four cloze passages (two general EFL and two EST), were administered for evaluation of the progress made in the various aspects of language-acquisition emphasized by the English instructors in their courses. The results were as follows: although both EFL and EST groups showed progress in English, the latter's gains in structure and

writing were inferior to those of the former. Listening comprehension gains were similar. On the EST cloze tests, the two groups in the English for Science and Technology program did significantly better than the others; the reverse was true on the EFL cloze passages.

In addition, a poll of student reaction to the two types of program was administered. All four groups felt that their general English proficiency had improved; however, only 60% of the EST learners as compared to 87% in the EFL sections expressed this view. 85% of the EST students indicated that their work in English had helped them in their D-C Circuits course, while 60% of the EFL students did so. (Actually, the students in the former group performed significantly better in D-C Circuits than did their counterparts in the latter.) With respect to knowledge of structure, 85% of the EFL students expressed the opinion that they had improved, while only 40% of the others did so. Consistent with these findings was an almost unanimous agreement (95%) among the EST students that they needed more grammar as compared to 69% of the EFL learners.

Given the results, the decision of the investigators and Language Coordinator was that in the future, first- and second-semester English classes for technology and engineering students would include English for Academic Purposes but stress English for Science and Technology. Their reasons have been well expressed by Peter Strevens (1977):

> On the whole, ESP (English for Special Purposes) is taught to learners who are cooperative because they are aware of the benefits of success and are grateful not to be subjected to the long and irrelevant haul of a general-purpose English course. (7:126)

In accordance with this decision, INELEC instructors are working on the development of vocabulary and of listening, reading, and writing skills *per se* in their classes. However, they are, to an increasing degree, approaching skills development through activities involving materials in the students' areas of speciality. This does not mean that English teachers are instructing students in technology and engineering — emphatically not; they are responsible for teaching the ways in which these fields use English.

To develop the INELEC students' command of English within a context of scientific and technological discourse, their instructors have created an impressive collection of materials that combine relevance, stimulating activity, enjoyment, and exercise of language skills. The remainder of this paper will be devoted to a description of these materials and to the way in which they involve teamwork between the English Department staff and colleagues in the fields of Technology and Engineering.

The Electricity Module (Raither, 1979), *English for Electricity,* was designed 'to give relevant content to readings and exercises for beginning English language students'. (4.1). It is not a substitute for a structure course not for formal instruction in electricity. However, when taught in combination with a course in grammar, it reinforces the structures presented in the latter by employing them in another context. Moreover, it stresses constructions which are used frequently in science but seldom dealt with thoroughly in the usual grammar text.

At the time the Electricity Module was first conceived, the authors planned that it would be taught by a team of English and Technology/Engineering instructors. *English for Electricity* was to be taught by an English instructor with members of the other two departments present in the classes to explain scientific concepts and answer students' questions relating to electricity. After eight weeks the emphasis was to change: the Technology/Engineering instructor was to lead the class with the English staff member on hand to explain problems arising as a result of the language employed to convey technical information. Staffing constraints made that goal impossible, but joint planning by faculty in all three areas has been basic to the development of the course. The English instructor, whose preparation in science and technology is similar to that of most English majors, has depended heavily on her colleagues in Technology and Engineering for the information that makes up the content of the module. At the same time, she has assisted them in the preparation of lectures and laboratories by showing them how to modify the language they are accustomed to use in lectures to a form understandable by the students.

English for Mathematics (Sylvia, McGrew, Van Hammen, 1978, 1979) was originally created by a faculty member in the Department of English with a degree in mathematics, it has subsequently been expanded by other instructors who have taught it.

The principal objective of the Maths Module is to teach English. Its vocabulary and grammatical structures have been taken from materials designed for the teaching of mathematics.

The goals of the *English for Mathematics* course are as follows:

1 Review of previously learned math concepts.
2 Ability to read a mathematical expression.
3 Ability to express a mathematical problem.
4 Understanding of the number system.
5 Thorough undertanding of measurement, with emphasis on the metric system.

6 Knowledge of the laws of fractions.

7 Ability to read a word problem and identify which mathematical operation to use.

8 Knowledge of the basic vocabulary and concepts of algebra, trigonometry, and geometry.

As in the case of *English for Electricity,* the original plan of the authors of the Math Module was that it would be taught by representatives of the Departments of English and Technology with the English teacher in charge, changing at midterm to a course in mathematics with the main instructor a mathematics specialist. Again, this has not been realized because of staffing restrictions; however, plans for this semester's course include a four-hour videotaped mini-course composed of lectures and supplementary exercises dealing with problems in advanced mathematics. This series will be presented at the end of the term by technical faculty.

Adaptation of texts from books used in INELEC math classes will soon be incorporated into the materials employed in the Mathematics Module.

Another joint project of interest and assistance to technical students is a series of short (15-minute) videotaped lectures on topics included in the students' technical program (Hansen, Van Hammen. 1979). The English instructors select segments from technology textbooks and rewrite them so that structures under consideration in language classes are included. Presented by Technology faculty, the lectures include several English dialects, all the lecturers' idiosyncrasies, and the mistakes (repetition, stumbling, wrong words. etc) which frequently occur in class lectures.

Around the content of these mini-lectures have been built reading. writing, listening comprehension, and vocabulary exercises. For example. an introductory summary of the textbook passage included in each lecture is presented to the students in the form of a cloze test, which assesses their knowledge of technical information. lexis, and structure. Sub-technical vocabulary is pulled out of the reading texts. discussed, and. then put into new contexts. frequently accompanied by idioms used by the lecturers. Requiring students to take notes on each lecture puts listening comprehension to the test.

Thus. not only do the learners acquire language skills in a context closely related to their occupational goals; the lessons are a result of close collaboration among the English. Technology. and Engineering Departments.

The film has been used with significant success in a series of units created for first- and second-semester engineers (Brock. 1978. 1979). The

soundtracks of short motion pictures on scientific topics ('Introduction to Lasers', 'Waves and Energy', 'Learning About Sound', 'Learning About Light', etc) are employed for the development of listening comprehension. The students are asked to take notes as the soundtrack is played. After they have heard the tape once or twice, they are given an aural comprehension test. Thereafter, a transcript made of the soundtrack is examined for unfamiliar lexical items and structures. The students are asked to correct their listening comprehension quizzes by comparing them with the film transcripts. After the film has been shown once or twice in its entirety, vocabulary and the concepts it presents are discussed.

Inman states:

> ...it is obviously subtechnical vocabulary which should be focused on in teaching scientific and technical English. Technical vocabulary, on the other hand, is best left to presentation through the discipline itself. (1978)

The Brock series does precisely that, emphasizing subtechnical vocabulary, which Cowan defines as 'context-independent words which occur with high frequency across disciplines.' (1974) Examples of sub-technical words are 'system', 'result', 'process', 'temperature', and 'form'. Achieving comprehensive coverage without unnecessary duplication requires collaboration between the English instructor and colleagues in other departments. Clarification of scientific concepts is provided through consultations with instructors teaching engineering courses on the same level as that of the group viewing the film series.

Similar procedures to those followed for the science film can be used for the sound filmstrip. The students first listen to the audio portion of the filmstrip as they read along with their written transcripts. After identifying new or difficult vocabulary, the teacher goes on to the filmstrip. However, the filmstrip has a distinct advantage over the 16 mm film. The teacher can ask individual students to discuss or describe what is happening in the filmstrip frame by frame. Each student is asked to come to the projector, operate the machine by advancing a frame, and describe what is happening. He is not allowed to look at his transcript. However, the other students can look at their transcripts and give him help. This method forces the students to listen to and communicate with each other in English. The teacher does not interrupt the speaker, but lets the class assist him. If both speaker and class are unable to describe the actions in the frame, then the teacher can assist them by asking brief questions, a method which also allows for greater class participation. Not only does the speaker get attention, but the entire class must remain alert to correct his errors and to give him help.

Using the filmstrip in this manner to elicit oral production is appropriate for all levels of language proficiency. At the beginning level, the teacher can direct the speaker to practice a particular grammar point, such as to describe what is happening in the frame in the present continuous tense. At higher levels, the teacher can encourage the students to broaden their vocabulary or to vary their style by describing the action in different ways. In addition to the oral practice in describing the action in the frames written support materials can be added. For each filmstrip unit grammar exercises, a comprehension test, and a cloze passage are prepared. Therefore, the student receives a comprehensive English lesson, including oral production, listening comprehension, and controlled writing.

Finally, a set of lessons designed to improve the reading comprehension skills of INELEC students in their first and second semesters is in preparation (Scholz 1978, 1979). Passages of several pages in length are taken from textbooks, eg Malvino, *Resistive and Reactive Circuits,* used in the learners' technical classes. Each segment represents one particular type of discourse device (description, process, exemplification, classification, definition, etc). After the students have gone over the reading rapidly, key lexical items are presented in a context other than that in which the book gives them. The class is asked to define these terms from their context. The next step is an explanation of the organization usually employed in the discourse device under consideration. Thereafter, short illustrated readings (eg Kaufman, *What Makes It Go?, The Way Things Work*) which exemplify the form being discussed and which are on approximately the same level of difficulty as the students' technical texts, are given to further familiarise them with the discourse device. Included in the exercises are labelling the parts of the mechanical or electrical tool under consideration; describing its appearance, components, and process; and comparing different models of the same tool.

These lessons accomplish several objectives: vocabulary expansion, familiarization with discourse devices commonly employed in technical textbooks, and ability to use these devices in well organized prose.

Although the Scholz materials do not represent inter-disciplinary collaboration among INELEC faculty members, they demonstrate clearly the direct contribution that skilful language instruction can make to the readability of technical literature.

As a result of the activities just described, instruction in the INELEC English program is geared to the needs and interests of its students. Moreover, the methods and materials being developed are applicable, not only to the Algerian National Institute of Electricity and Electronics, but to other technical and engineering programs employing foreign languages as their medium of instruction.

THE ENGLISH TEACHER AND THE CAMERA — TEAM TEACHING FOR SPECIAL PURPOSES

A G Hansen and D L van Hammen INELEC/AD Boumerdes, Algeria

EFL teachers are always searching for new ways to make language lessons relevant, to bring the 'real world' into the language classroom. Here at the Institut National d'Electricite et d'Electronique (INELEC) we have a special problem: our students study two intensive semesters of English and then begin to study (in English) electrical engineering and technology. How can we as English teachers hope to understand the complexities of electronics and help our students to learn the special language needed for their studies?

One way to bridge the gap between science and language classes is to rely on team-teaching. Ideally, an English teacher and an electronics teacher could work together to prepare an introductory course of study which would present scientific vocabulary and concepts with an emphasis on language. The students would learn the special language of electronics and the course would focus on technically relevant material. But pragmatically speaking, hiring two instructors for a single course is just too expensive for most institutions. Yet team-teaching seems a viable solution to our problem. Must we abandon it?

The answer is no. With a television camera and a videotape recorder a technical lecture can be taped and then an English lesson based on material presented in that lecture can be prepared. This technique has been employed at INELEC and has been successful in providing a meaningful context for our second semester (intermediate) students. The following discussion will focus on the creation of such lessons and will offer various suggestions to the language teacher who has similar problems.

First, topics for the lessons had to be selected. As it was felt that the students should be presented with a reading passage to accompany the video-taped lecture and as most of the students are not yet capable of reading an actual electronics textbook, an EST text with graded readings was sought. *English for Electrical Engineers* by J McAllister and G Madama (Longman: 1976) was found to be an excellent text. It not only provided graded readings on topics in the field of electronics but also reading comprehension questions and vocabulary and grammar exercises.

Next the aid of the technical faculty was enlisted. Lecturers were asked to prepare a 10-15 minute 'mini-lesson' on one of the topics covered by McAllister and Madama. The lecturers were given copies of the reading passage and requested to use any or all of that information as well as to

introduce any related vocabulary and subject material which they considered essential to the topic. Then the lecture was taped.

The instructors working on this project had little previous experience with videotape equipment, so some time had to be spent learning to manipulate the camera, tri-pod, videotape machine, etc. However, it was found that the equipment was not overly complicated and the learning period was short.

One minor problem that was faced was the lack of a second VTR machine, which meant that all editing had to be done 'in camera'. To facilitate this, the lecturers were instructed to quietly back off-camera if a mistake was made or notes had to be checked. The tape could then be rewound to an appropriate point, the cameraman could fade in to a close-up to change the scene, and the lecturer could begin again.

Technical faculty reported that the total preparation time for one lesson varied from 1 to 2 hours. Approximately 30 minutes of their time was used in the videotaping process. After the lesson was finished, it was submitted to the technical lecturer for his approval. In other words, total time spent for the lecturer was no more than 2½ hours; yet with the aid of the videotape recorder, the lecture can be viewed by all of the second semester classes, and can be re-used semester after semester.

After the videotaping was completed, the English teachers involved in the project viewed the lecture several times, noting vocabulary, pronunciation and structures which were felt to be unfamiliar to the students. These became the basis of listening comprehension exercises.

If a technical term is defined during the lecture, the students might be asked to write a definition of that term. Parts of the lecture which are interrupted by hesitations or errors and self-correction are used as sentence completion exercises. For example, during the course of a verbal explanation of a mathematical formula, a lecturer incorrectly interposed the symbols of the equation, hesitated and then corrected himself. His sentence of self correction appears as a fill-in exercise.

The rationale for such close attention to self correction and restatement by the lecturer is that students need to deal with problems similar to these in a real lecture situation. They have to be taught how to extract important information from natural speech.

The format of all the lessons is similar. The students are first presented with an introductory summary of the reading passage. For familiar material (material that the students might have previously studied or that they are studying at the moment) the summary is in the form of a CLOZE passage (7th word deletion). This type of exercise asks the students to use their

technical knowledge as well as their knowledge of the English language to correctly fill in the missing words. In later lessons, where the subject matter is new to the students, the summary is not CLOZED out.

Next, vocabulary definitions are given. These words are selected from the sub-technical vocabulary which appear in the lecture and the reading passage. (A definition of sub-technical vocabulary appears in Cowan, 1974). The decision to concentrate on this type of vocabulary was made because most new technical words are explained during the lesson, either in the lecture or in the reading passage. After the vocabulary is reviewed, the students are prepared for the listening phase of the lesson.

As the lesson is viewed for the first time, students are instructed to draw and label any diagrams which they might see and write down any formulas given as well as to listen for general information. At the conclusion of the first viewing, the class reviews the diagrams and formulas which they have copied. They are also asked to answer several general true/false questions based on the lecture.

It is felt that this first viewing should be a rather general listening exercise. Since the videotape monitor is small, the students have to concentrate on accurate copying of the diagrams and formulas and so might not be able to pay special attention to lecture content. When the tape is shown a second time, the exercises are of a more specific nature. Students are asked to take written notes which can be used as an aid to answering the questions. Typical exercises include fill-in exercises, sentence completion, definition writing or listing of specific examples given in the lecture. All of these activities attempt to focus the students' attention on the technical content of the lesson as well as to give them a chance to practice note-taking.

Grammar exercises follow the technically based exercises. A recurring pattern used in the course of the lecture or a structure previously studied in class form the basis for these exercises. (John Swales' *Writing Scientific English* is an excellent source of those grammatical structures which are frequently used in technical writing.) The students have to use technical information from the lecture and manipulate it linguistically.

It is at this point in the lesson preparation where English teachers may have serious problems. In their eagerness to create meaningful grammar exercises, they may manipulate the language of the lecture and inadvertently change the meaning of a sentence. An example from our experience follows.

One lecturer stated, "As the electron cloud has a negative charge, the electrons repel each other." The English instructor, in attempting to create

a grammar exercise chose to review 'when' clauses, which are quite common in technical prose and often give the students difficulty because of the tense changes which may or may not be necessary. Thus, the sentence was changed to read: "When the electron cloud has a negative charge. . " (expected answer: "When the electron cloud has a negative charge the electrons repel each other"). There is only one problem with the above sentence: It is technologically misleading. Electrons **always** have a negative charge. Thus while the two sentences are grammatically similar. the second sentence implies that electrons can have a positive **or** negative charge. This was pointed out by the technical lecturer when he reviewed the lesson, and the sentence was deleted from the exercise.

Experience like this underscored an essential rule: Always ask the technology expert to review the completed language lesson. What may seem like a logical linguistic change to an English teacher may be a factual error to an expert in the content area. Such correction takes only a few minutes of the technical instructor's time, and maintains the technical integrity of the lesson.

After the listening comprehension and grammar exercises, 'thought' questions are asked in order to provide a basis for class discussion. The students must use their previous technical knowledge as well as information presented in the lecture to answer these questions. Some questions require the students to use the formulas presented in the lecture. Other questions attempt to relate the technical information to the students' lives. For example. in the lesson on transformers the students are asked to think of the different devices in their own homes and in the classroom which needed transformers to operate. At this point, the first phase of the lesson 'package' is complete. Total time spent with the videotape depends on the level of the students. but averages about three hours.

Next the students are presented with the reading passage. As mentioned, our reading material is accompanied by comprehension questions, grammar and vocabulary exercises. If such exercises are unavailable or incomplete, then they must be created. It is advised that comprehension questions similar to those suggested by William Norris (1970) be used. Other exercises which might accompany a reading passage include word study (changing a lexical item from one part of speech to another), consideration of a grammar point which recurs in the text, and paragraph or composition writing (focussing on comparison and contrast or process description). This part of the lesson can be as varied and extensive as the teacher desires.

At the conclusion of the lesson, the introductory paragraph is again presented as a cloze passage. Most students are able to successfully fill-in the blanks with a high percentage of exact words. This is an indication that

the students have not only learned the technical material but have improved their knowledge of the technical language, as well. Formal research has indicated that the students learn from the lessons and enjoy them. (Scholz, Hansen, Scholz and Van Hammen, 1979). A typical combined videotaped-reading lesson requires from 5 to 7 hours of classroom time, depending on the level of the students.

The VTR brings a technical instructor into the English classroom. Rather than a language teacher (or worse, an actor) reading a script, the students are presented with a native speaker using real language to explain a technical point. Hesitations and errors in speech, such as those found on our tapes, will be encountered by students in their technology classrooms and they must be prepared for them. In using a variety of lecturers, the students are also exposed to dialectical differences which sometimes give them problems. Another advantage is that the lessons can be re-used and easily supplemented whenever pertinent information is found.

Kennedy states that video must do something a teacher cannot do in order to be useful. (Kennedy, 1978) This is precisely what the VTR program at INELEC has accomplished. It has been a substitute for extensive collaboration between members of the Technology and English faculties. Moreover, it has provided language instructors with technical information which serves as a basis for a number of language-related activities.

Bibliography

COWAN, JR
'Lexical and Syntactic Research for the Design of Reading Materials'. TESOL Quarterly, 1974, 8, 4.

KENNEDY, Chris
'Video in ESP'. English for Science and Technology Newsletter, 1978, October, p.3.

NORRIS, William
'Advanced Reading: Goals, Techniques and Procedures'. TESOL Quarterly, 1970, 4, 1.

SCHOLZ, George, HANSEN, Adele, SCHOLZ, Celeste and VAN HAMMEN, David
'Teaching in an EFL/ESP Context'. Paper presented at the National Conference of the teachers of English to Speakers of Other Languages — Boston, 1979.

SWALES, John
'Writing Scientific English'. Thomas Nelson and Sons, 1971.

THE SP OF THE E

R Chamberlain, United Nations Institute for Namifia, Lusaka, Zambia

Introduction

My comments in this paper are directed at EFL work in the overseas setting: in the upper secondary school (where few opportunities exist as yet) in tertiary vocational institutions: and in the university, where at present probably the majority of programmed ESP takes place. And while the title suggests that the teaching itself may be the main topic, in fact a very substantial amount of the thinking is concerned with planning and realisation of potential. I want to visualise the ESP operation throughout from the viewpoint of the concerned developing country, which means a constant awareness of its ideologies, its economy, and the structure of its society as these affect both national and student objectives. At the upper end of the foreign country's educational system it is perfectly reasonable to expect to find students and planners geared towards their coming contribution to the country's development, but at the same time we can overdo, if we are not careful, the SP of the E: In other words, ESP overseas is a serious business, where administrators and students need observable results in a short time; but it has to be made interesting and active.

The ESP — English for Specific Purposes — Background

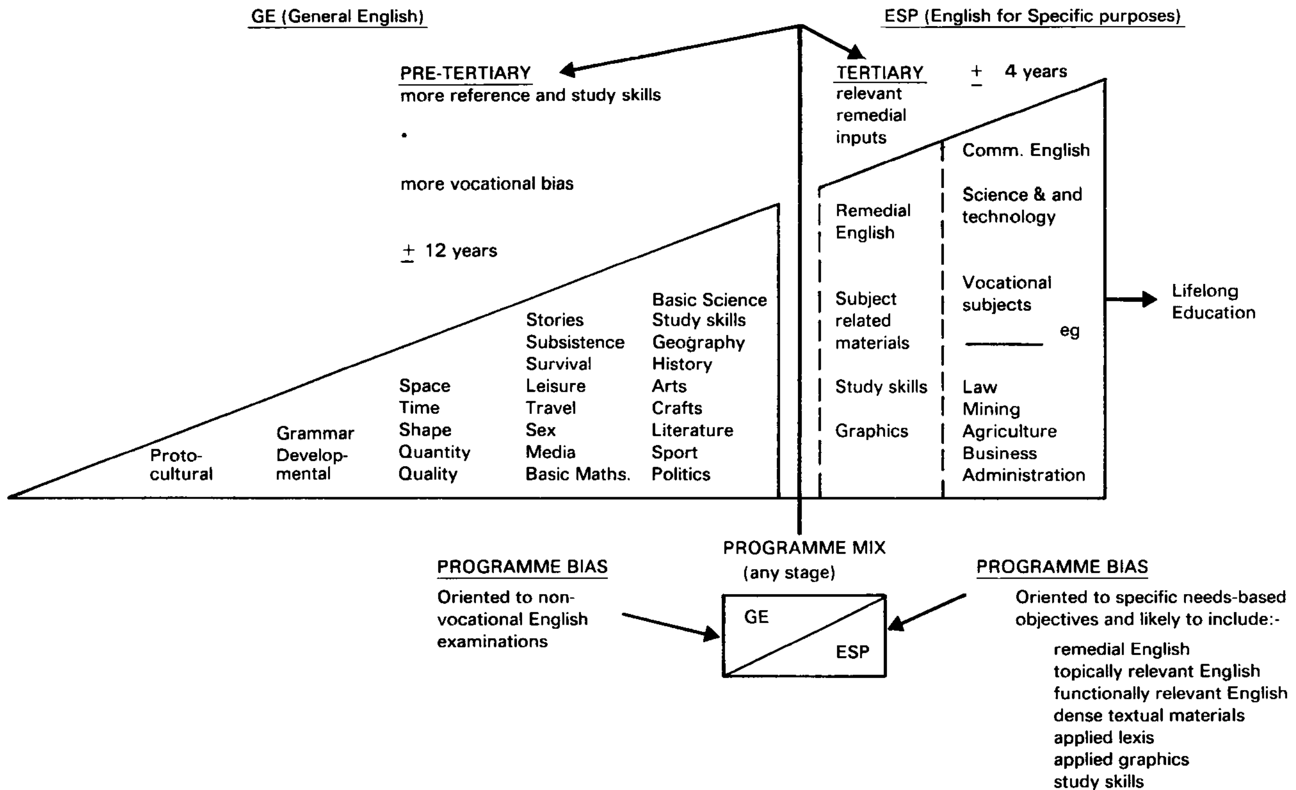
Ask a practitioner of English for Specific Purposes when ESP should start and he will be very likely to say 'earlier' for in most EFL situations it still seems to be true that planned ESP programmes tend to begin at tertiary level. Whether or not English has been the student's medium of instruction at school, by the time he or she has reached the tertiary institution it will have been after about 12 years of general education. As Figure 1 suggests, this is only marginally biased to any vocation, and even more rarely as yet to national needs. There is little doubt that this picture is changing, but it is not likely to change fast; while developing countries may see a need to modify their school syllabuses in this way (eg Production Units — Zambian Educational Reforms, 1978) activation depends so much on teacher training and money available for syllabus reform in the educational budget, where priority is still likely to go to creating enough secondary or primary school places.

If we look at the English component of this general syllabus, it is not usually geared to language communication related, say, to the sciences or trades, except in the widest sense. Nor again are any of the skills-oriented

tasks essential for vocational or professional training likely to be anticipated to any large extent in that English component. A natural paradox occurs here. Developing countries are under intense pressure to absorb and handle technology; to equate with 'developed' societies in all systems rarely if ever streamlined, mostly colonialistic with built-in inappropriacies, based on the ideals of creating well-rounded minds, spirits, and bodies. Is there time for this? Is it not essential for the established broad-based education to focus sharply on national needs? And the English curriculum surely has to keep with this. The practice requires modification. Let us spare a moment to survey it.

On average, in either EFL/ESL situations overseas, students plough through primary and secondary English programmes consolidating written errors of grammar, spending large amounts of time on work associated with literature, much of it inappropriate, and very little time on practical communicative or organisational language work. This is illustrated in Figure 1. On arrival at the tertiary institution the students, if they are lucky, may receive an intensive English programme for 6 or more (or fewer) weeks, or if less lucky just be thrown straight into orientation and subject specific programmes, in which the English and the skills involved will be almost like another language to them. Soon the lecturers will say "What have these students been learning at school? Look. They can hardly speak English, or even understand what we're saying to them. As for writing . . ." We have all met situations like these, and found it hard to convince the disenchanted lecturers that these students have been enjoying a broad general education, with wide reading, character study assignments, and so forth, which have hopefully contributed to the development of their powers of judgement, and knowledge of the world. We have also found it hard sometimes to convince ourselves, especially if we have ever taught English as a subject overseas at school level. So much of the work is purposeless, or if there is purpose, it is too often the nebulous kind whereby one trusts to the exam-oriented syllabus and expects everything to jell after GCE. And of course, it doesn't. I draw here on experience of EFL/ESL at secondary and tertiary level in East Africa, Malaysia, and Saudi Arabia, for example, not to speak of the English taught to underprivileged black communities in Southern Africa and Namibia, and write from the viewpoint of a professional ESP programme and materials designer.

There is not very much that can be done immediately about the school curriculum. In many parts of the world, school courses in English are gradually changing; integrated primary courses (like the Singapore Primary Pilot Scheme) exist already, Curriculum Development Units in close contact with Universities are developing ESP inputs at Form IV (11th year) and even lower levels in the secondary school, and relevant training film


ENGLISH SYLLABUS BIAS IN THE ESL/EFL SETTING
(related to needs of the speech community and seen cumulatively)
GE (General English)
ESP (English for Specific purposes)
PRE-TERTIARY
more reference and study skills
more vocational bias
± 12 years
Proto-
cultural
Grammar
Develop-
mental
Space
Time
Shape
Quantity
Quality
Stories
Subsistence
Survival
Leisure
Travel
Sex
Media
Basic Maths.
Basic Science
Study skills
Geography
History
Arts
Crafts
Literature
Sport
Politics
TERTIARY
relevant
remedial
inputs
± 4 years
Remedial
English
Subject
related
materials
Study skills
Graphics
Comm. English
Science & and
technology
Vocational
subjects
eg
Law
Mining
Agriculture
Business
Administration
Lifelong
Education
PROGRAMME MIX
(any stage)
GE
ESP
PROGRAMME BIAS
Oriented to non-
vocational English
examinations
PROGRAMME BIAS
Oriented to specific needs-based
objectives and likely to include:-
remedial English
topically relevant English
functionally relevant English
dense textual materials
applied lexis
applied graphics
study skills

programmes such as 'Teaching Observed' are readily available. The picture is far from gloomy. But in spite of awareness both by overseas administrators and language teaching organisations progress is going to be slow. School work is closely linked to Form V examinations, and the nature of these is historic, even with localisation; the bias is mainly for cultural rather than communicative literacy. While the roots of the problem are arguably at school level, it will still be at tertiary level that most of the solutions have to be found, since the development of bridge courses and study skills are heavily dependent on progressive teacher training. Finally, there are understandably serious reservations in the minds of senior educators in developing and 'developed' countries about introducing children too soon to a work ethos.

The overall effect of this sort of language learning background, which I suggest is quite widely applicable throughout so-called Third World countries, is a pressurisation on the English programme, at tertiary level, and its basic ESP focus. The phenomenon is nothing new, in educational and developmental terms. But the pressures are probably trebled. Students are studying for work now. They have to learn self-discipline and study habits. But the study and the reference sources are mostly in English, so pressures on listening, reading, and writing skills in English are enormous. And while motivation is usually high at first, it drops off very quickly when students feel that they are not progressing as fast as they expect to.

With these factors in mind, it seems reasonable to make every effort to 'socialise' ESP work as much as possible. I mean by this that we should do more with our available human potential, because in my view much can be done to lighten the study pressures and increase learner interest and enjoyment simply by more planned interaction inside and outside the lecture room. This would involve teamwork a variety of ways, which I shall define later. First I want to consider personnel in ESP situations overseas.

ESP Personnel Overseas

In overseas ELT situations in developing countries, it is possible to make two main divisions from the point of view of staffing. This is as it applies to ministries, and academic or training tertiary institutions, excluding for the moment various Direct Teaching operations, though the issues may equally apply there. First there is the individual specialist/lecturer post, which may involve both lecturing and materials production in a variety of forms (such as the British KELTs). Such posts may sometimes be the basis for expansion or development, with additions in the shape of textbook writers or media support staff. In any event, they will graft on to existing ELT systems, small or large, with local or in some cases other expatriate staff from various sources. Here personal interactions will be taking place,

almost always with the classroom or seminar as the initial action and feedback source, whatever the job specifications, for ESP is after all intended to help people, not to design books or audio-visual equipment. By interactions I am referring in this context to the building up of relationships of mutual personal and professional respect, so that ideas, information, advice and help can readily be exchanged. Secondly there is the larger team operation, such as the KAAU Project in Jeddah, where a battery of specialists support teaching programmes and large scale materials production units. Here there may not only be language but science, subject specific specialists recruited on the staff. Interactions similar to but with a wider range than the smaller units will again be taking place. These interactions may be defined usefully in the following categories:

1 between recruited ELT staff themselves

2 between recruited and local ELT staff

3 between recruited ELT and subject specific staff

4 between all English Programme staff (inclusive of 1, 2, and 3 above) and local institutional subject specific staff

5 between English Programme staff and institutional administrative staff.

There are of course other permutations but I think these are probably sufficient to consider here. Now potentially valuable interactions — for the students — are, I suggest, going to be seriously affected by a number of common constraints, found in varying degrees:

1 over-isolation of members of the language team from the institutional subject lecturers, both socially and professionally.

2 isolated attitudes (eg we teach or plan the English, **they** teach the science, or whatever: and the reverse.)

3 introversion amongst ELT staff. Far too little class exchanging, sitting-in with each other, participating with each other in a class: too many 'closed' instead of 'open' attitudes. While much of this is due to sheer timetable pressure, a lot more is due simply to not making the effort, or not realising the value of greater personal interaction.

4 reserve in getting to the real ESP problems faced by subject-specific lecturers in the classroom. It is not difficult to work out learners' objectives and needs, though quite time-consuming, before planning and implementing an ESP syllabus (Munby 1978) but it does require deliberate

effort to find out just **how** on-the-spot help can be given. Do the lecturers have false expectations? Do they fail to explain in basic language basic points? Do they speak too fast? Do they 'talk to' the best students only? This can only be solved by discussing, by going in to the class (often more welcomed than distrusted) and by participating where acceptable.

5 Service English as a subject is often, consciously or unconsciously, deemed to be inferior, in institutional terms.

6 the student is still too often regarded as the object of the learning/teaching process, instead of as a partner in it. Two-way dialogues can benefit all concerned, if comprehensive feedback systems are built in to the programme from start to finish.

These attitudinal factors are likely to be exacerbated by the fact that Service English staff are:

1 often distant from faculties or departments which they are working with.

2 infrequently, or never, represented at institutional management boards or meetings. There are many decisions and policies which the English staff, local and recruited need not and probably should not contribute to: but equally there are many where informed consultation would help students greatly. It is quite possible, for example, for students starting University life to think that they are going to have 20 hours English a week for one or more years, just because clear explanations have not been jointly offered by management and ELT staff before a crash course.

3 often recruited through an organisation (such as the British Council) separate to and with different conditions from other institutional staff. this system of importing funded personnel often involves great sensitivities at the host institution on the one hand of degree of commitment, on the other of the 'coming to take over' syndrome. These are real areas of concern, and need to be treated very seriously.

All the factors I have mentioned here seem to me to be relevant to team teaching and teamwork in the theatre of ESP, whether single post or large team operations hold. Next, in building up the picture I want to discuss briefly Subject-language specialist characteristics as they may affect a programme.

Subject-Language Specialist Characteristics in ESP

Devising ESP materials, designing a syllabus, and teaching it all requires very positive relationships between language and subject specialists, either

institutional or within the same team. This means physical effort, because information about student needs, objectives, and courses will not necessarily come of its own accord to the ELT unit. It is useful if the English syllabus can be linked, broadly if not in parallel to subject syllabuses as they are taught, so that relevant language areas can match; this too requires close liaison. And it is also a help if the ELT staff can be seen to be actively interested and informed about the students' specific curriculum, with its attendant problems. Now if the ELT staff have primarily language and literature backgrounds, this really means doing two jobs. You have to learn about the subject or subjects, and take an interest in them whether you like them or not. This can be equally true of administration (say the language of official ministry correspondence) or science (say the language of experiments). Here is a question of attitude rather than of ability. You are not trying to change your job, simply getting an understanding: you will still be an English specialist, but one who can relate better. However, and here I am getting close to the theme of this paper, you are going to be interacting positively, and it is interaction, not takeover, that I hope to be supporting. Even if you study the Maths or Economics or Biology or Architecture closely, evening after evening, you are never going to be able to do the specialist's job. Furthermore, you don't want to, and you will be wasting your time if you try. All you require is understanding, and a working knowledge of topic, concept, objectives, and syllabus. Neither the subject nor the language specialist can learn each other's job overnight. The question may be raised — what about the language specialist with MA and B/MSc combined? No doubt the overall value of such a background is high, but I have reservations. These reservations stem from a conviction that rational humility is very important in the ESP field. If you go in thinking that you already know the other side's work, or indeed go in with too many preconceived notions of any kind, you may do more harm than good. Once again, attitudes are all-important. In any case, needs, curricula, and students are usually so specific that you would still have to learn anew. By far the most constructive attitude to begin with, regardless of qualifications, is that throughout the programme everyone has a great deal to learn from each other, which must not be left unlearnt, if the students are to get maximum value from the courses.

The implementation of teamwork also depends on an awareness of more specific subject-language characteristics, and harnessing their respective values. Contrast a mathematician or scientist, and a linguist, and their respective habits of thought. To the former, a fact or process is right or wrong, provided or unproved: procedure and action is based on logical steps: intuitive reasoning and subjectivity are not acceptable. There is none of the woolliness of language about scientific precision. To the latter, on the other hand, language is organic, ever-changing, permissive of a thousand nuances of meaning dependent on a thousand contextual

factors, often innovatory. A linguist can say — "Well it does mean that but. . ." Both states of mind have to be accepted, though maybe neither totally, and this can emerge clearly with team teaching. Nobody can afford to be completely dogmatic in the classroom.

Potential ESP Teams

I should now like to set out some likely team teaching and teamwork opportunities which arise in tertiary institutions overseas, then discuss implementation, and finally look at the impact of these on the students, or teacher-trainees. Space will make it necessary to restrict the scope of this discussion, to the following:

a Language teams

b Language-discipline teams.

in crash courses (2-12 weeks) and in full English programmes (1-3 years). In the first I refer to team teaching and teamwork involving only English language teacher or specialists — in the second to that involving a discipline specialist as well. This specialist may be someone recruited for a crash ESP course, if the project is a small one; or for one or more years, in a large project; or a member of the institution's subject specific staff who is willing and interested enough to participate. In most cases subject lecturers do not have the time, and it is a sufficient achievement if they provide regularly copies of their handouts, perhaps help make tapes, and are made to feel that the ESP team is actively concerned with their problems. Actual instances of team classwork may be very rare, with the object of problem assessment rather than student activation. For this reason it is more realistic to think in terms of a recruited subject specialist.

Let us begin by tracing the development of an ESP programme which involves locally recruited ELT staff, together with temporary and permanent ELT staff recruited through an overseas aid scheme. The temporary staff-specialists come to write and teach an intensive pre-sessional course, lasting for 6 weeks. The permanent staff will develop a full programme over a period of 2—3 years with a range of ESP teaching materials. We are here going to be concerned only with the chemistry of the teamwork, and the interrelationships of personalities. On a base of defined student needs and objectives, together with expected/actual levels of the intake, initial materials are devised and written. This work can rarely be started before arrival at the institution, and may have to be written under time pressures. It is difficult to deny the importance of the materials writers teaching their materials, certainly at the start, and so operations will follow a pattern of writing — proofing — duplicating — collating — using — assessing — modifying. The modifications may have to be left to a

later date, but assessment based on discussion and feedback does need to be immediate. The language team has to integrate quickly, that is local and overseas-recruited members (if there are both) will need to work out their various roles as much as possible, and here considerable diplomacy may prove necessary. Experience suggests that a major problem is where to strike a balance between consultation and getting things done. A good rule-of-thumb principle might be to make sure that everyone knows what's going on and who is expected to do what when. It is always amazing to note how often basic communication seems to be lacking — not that there should be blame for this, just awareness and amendment, for specialists tend to be inward-focusing.

If the team works closely together physically, so much the better for communication. It seems useful, at this intensive phase, for regular cross-checking and proofing patterns to be established, and for the team to plan subject areas for each individual — or pair — to work on, if only just for speed. It does not normally take long for characteristics to emerge: who is an efficient proof-reader, who types best (if there is no secretarial service) who is impatient, slow, inaccurate, logical, tactful, etc. The team leader will probably find that constructive, objective comments to the point, but made in a collective spirit, should overcome most difficulties. However, he or she may find that the most important task of all is to keep an overall perspective in mind of what is being done, and what is going to be done, since it is all too easy to lose sight of the path when the action is fast and furious.

In this intensive phase can come the first opportunities for team teaching. Some general points may be mentioned first. Students undergoing crash courses at a tertiary institution are, for a start, under substantial pressures. There are unfamiliar voices, people, accents: the work is hard: the environment is strange: the administration may still be in the process of orienting them: they have a wide variety of peers with whom they may feel in competition: except for ESL countries, they are now working much more with a foreign language. So it is best not to confuse them by facing them with more than one teacher at a time until they have had at least two weeks familiarisation. In any case, they may also be shell-shocked by the new freedom of discipline; they are expected, indeed urged, to contribute, to participate, and they may not have been used to this atmosphere in the classroom.

One way of helping to develop new attitudes is, of course, by judicious use of informality. Referring to what has been said previously, about isolated attitudes and introversion amongst ELT (and other) staff, it may be an objective from the start, agreed amongst the team members, never to make the classroom a little kingdom. After all, in a University setting this

should not be the case: with acceptable courtesy in mind always, team — and local staff — members can deliberately practise and encourage a friendly interactional classroom atmosphere that will vastly enhance student enjoyment without seeming casual. It is then a short step to actual teamwork in the classroom, by two or more people.

When this does take place, with ELT staff only involved, then the scene is already being set for an ELT-discipline pair to operate later. Basically I view the situation as a dramatic one, but one which must be viewed objectively. The students are getting two people instead of one at the same time, and this cannot be wasted. We have to take into account.

1 respective roles: it is usually better if they are seen to be equal, but fairly clearly defined. Maybe you are dramatising a situation; teaching graphics (Boardwork/explaining/questioning) running a quiz (equal roles) demonstrating speed reading techniques (one explaining, one demonstrating) or team teaching to put over enjoyably a difficult concept of grammar.

2 objectives of the lesson: two teachers can talk twice as much as one, so there has to be awareness of pace and progress.

3 student maturity: while the standard of English may be low, their perception of personalities interacting and getting across is likely to be quite keen.

4 enjoyment capacity: injections of life and interest into the class can be absolutely vital, but will lose out if overdone.

5 monologuing: the presence of more than one lecturer in a class should be an indication of a dialogue situation, and not the chance to air views or become anecdotal.

Most of the points above, which are all very basic, apply to the team teaching situation which I would like to discuss in conclusion. This is where a language/discipline pair take a class, or classes, as part of an overall ESP programme.

Language-Discipline Teams — Implementation and Impact

It may prove useful to structure comments with an actual example in mind around which we can discuss issues. I shall take a recent presessional English course for Namibian refugee students held in Zambia, where it was decided to incorporate a basic Language of Maths component. Students were going to train as administrators, and would all in their first year be

studying economics and agriculture, amongst other subjects. The institution was planning to set up a maths section: students had been deprived of a basic maths and science training in school: approval of the component was unanimous. We were fortunate enough to have a Maths/Engineering specialist with wide ESP experience with the team, by special request. The short course he wrote was designed to introduce and practice basic concepts of numeracy, space and dimension, ratios and percentages, and the metric system. We wanted the course to be as varied methodologically as possible, and in fact it involved 10 classrooms, language laboratory, and practical sessions. How was it implemented, and what issues emerged?

First, we decided to team teach as much as possible, to ensure that language as well as mathematical concept was fully grasped. We decided that certain orders of priority and role should prevail, to avoid confusion. The task of initial presentation and organising activities was to be handled by the Maths specialist, who had in any case written the programme. In other words, he was really to be in charge. However, since we had taken care to make sure that joint thinking and planning went into the programme design, we did not want either of us to appear dogmatic or authoritative too often, we established that the tone should be one of mutual enquiry, of asking, even of concealing certainty (which can of course sometimes err!) in order to stimulate what we felt was a proper explorative attitude as example. I think that this worked very well, giving maximum opportunity for humour and least for boring monologues.

The task of the language specialist was clear also, he was to act as a constant check to see that any questions or problems of structure, vocabulary, or pronunciation were given immediate attention. Throughout we found that instant, informal, interruption of each other when necessary contributed to a relaxed class atmosphere and set a useful example to students who, perhaps more than most, had not been accustomed to stopping lecturers for questions. It was frequently possible to get three-way discussions going as a result of this.

In such a basic course, it may seem unlikely that a language specialist would be much, if at all out of his depth, but he is nevertheless not well fitted to conduct the class operations. After all, it is not his subject. The depth of knowledge, experience, and confidence is not there. I am not suggesting any hopelessness in an ESP situation where one cannot have recourse to an expert, simply that the method outlined above is to be preferred. In a practical session, for example, on laying out and measuring a badminton court, respective deployment of forces clearly emerged. This is a standard operation for a mathematician, involving tricks of calculating angles in practice. He has one objective — to get the correct result: but

the language practitioner has a different one: to get the students talking as they work, using relevant language with understanding, practising orally all the time, repeating, exchanging, repeating. . The secret of this teamwork lies in the mutual acceptance of these different objectives, ways of thought, and skills. It is deeply rooted in the chemistry of human interaction.

All this is being done for the sake of the student. Specialist benefits are incidental. What in fact do the students gain? I would summarise main points thus:

1 Increased motivation and interest.

2 Thorough handling of a basic subject which is seen — and explained — to be relevant, leading to better understanding.

3 More stimulus to use language than occurs normally.
4 The experience of a new dimension of language learning.

5 An enhanced spirit of enquiry, deriving from perceived exchanges.

6 More active, participatory class conduct, useful in future lecture sessions.

and conclude that deliberate team teaching policies can promote understanding amongst staff and students, not to mention learning benefits, and is an approach to be recommended in the practice of ESP

Bibliography

Zambian Educational Reforms Government Printers, Lusaka. 1978

MUNBY, J
'Communicative Syllabus Design', CUP. 1978.

CUMMING, J
'A Basic Language of Maths Course (forthcoming) and personal communication.'

AN ENGLISH LANGUAGE TESTING SERVICE: SUBJECT/LANGUAGE COLLABORATION IN ESP TEST DESIGN

E A Smyth, F Arnold and I Seaton, English Language Division, The British Council

English language testing of overseas students coming to the UK has suffered some trenchant criticism over the years. One of the most frequent objections made is that a single test cannot adequately assess the ability of students coming from, and pursuing, a wide range of academic or vocational interests. Among the many courses of study available, nowadays, no two make exactly the same language demands on the foreign learner. The British Council, encountering this problem frequently in connection with administration of training and scholarship programmes, took great interest in the possibility of researching and developing a new test design. The Cambridge Local Examinations Syndicate agreed to collaborate with the British Council, and in 1975 a testing service was proposed.

Test materials were produced and went on trial at British Council overseas centres in 1976. These aroused a certain amount of comment and criticism from the overseas centres. In particular, doubts were expressed about the adequacy of a testing instrument constructed along guidelines very similar to the earlier test. New thinking was needed. Taking into account the extensive range of curricula and materials which at that time were being developed for Special Purpose English, the British Council put forward suggestions for a new approach to the testing service. This proposed to assess student linguistic potential within the framework of a range of discrete subject specifications: distinguishing, in other words, the physicist from the sociologist, the engineer from the postgraduate doctor, etc — a diversification unknown to previous tests in this country.

The British Council English Language Consultancies Department undertook the setting up of a preliminary investigation programme. Five subject areas of tertiary level study were identified for the pilot programme. These were selected on a statistical basis according to numbers of students from abroad handled by the British Council training schemes. They were as follows: Business, Agriculture, Engineering, Medicine, Technician. A sixth area of language needs was identified: Social Survival; the results of which would be combined with those of each of the other five in turn.

The next requirement was to specify the communicative needs of a learner in each of the six subject areas. This stage was completed by different

members of the British Council English Language Division, working according to the Munby model for specifiying communicative needs in syllabus design. (Munby, Dr J: Communicative Syllabus Design, CUP 1978.) Although the model advocated by Munby is directed specifically towards the interests of the syllabus planner, it was considered here for its particular significance to the designer of language tests. The results appeared in the form of six Communicative Needs Profiles, one for each subject area.[1] The six Profiles were embodied in a British Council publication: B J Carroll, ***An English Language Testing Service: Specifications,*** British Council 1978. This publication drew attention to several points:

1 The relevance (to students and teacher alike) of testing subjecst/specific areas of study.

2 The present lack of emphasis on ELT testing for communicative ability.

3 The advantages of defining those language skills —

a Common to all subject areas.

b Peculiar to only one area.

c Overlapping between one area and another.

In this way, the possibility of matching course programme demands against the actual proficiency of the student, can be outlined within the context of that student's proposed field of study (Fig. 1). The new test design, according to this match, would therefore be based on criterion — rather than norm-reference testing techniques.

The Profile would provide the first step in a criterion-referenced test design, indicating the performance expected of the student by specifying the language skills or functions which he is required to master. The second step would be the development of test items to match those skills and functions. Items thus designed would represent a constant criterion of student performance. The result is a test of constant validity, since each item exists for a single purpose within an overall pattern. If the item does not fulfil that purpose it must be revised or re-written, no item can be rejected out of hand without a substitute, or the pattern and consequently the purpose of the whole test would be drastically altered.

---

[1] For a detailed description of the process by which the Profile is defined, see ***Syllabus Design for Specific Purposes*** by R A Hawkey in ELT Documents Special Issue: ***'Projects in Materials Design'.***

Note was taken by Carroll of the constricting operational requirements of a worldwide testing service, as in the long run these are the factors which influence, and may well make or mar such a programme.

Some of the more inflexible constraints mentioned are:

1 Tests must be readily available at all times of the year.

2 Results of the tests must be available within days or even hours of their administration to candidates.

3 Clear guidance must be available to assist overseas staff in interpreting test results for placement and/or tuition purposes.

4 In certain countries there are large numbers of candidates (estimates vary between 50 and 80%) who have no reasonable chance of achieving any kind of satisfactory pass performance. A rapid screening device for identifyng such candidates is urgently needed.

5 Most testing administrators are keen to see an improvement in the efficiency of the testing service but wish to achieve this with the minimum of increase to their administrative load.

6 The cost of testing is a sensitive issue. Considerable opposition to a proposed fee of £10 has been demonstrated.

7 Security of tests is extremely important, particularly as versions of the present test are known to have been compromised. This does not mean that every test has to be a completely new one, but that alternative versions should be available, and old versions should be replaced, at a rather faster rate than they are at present.

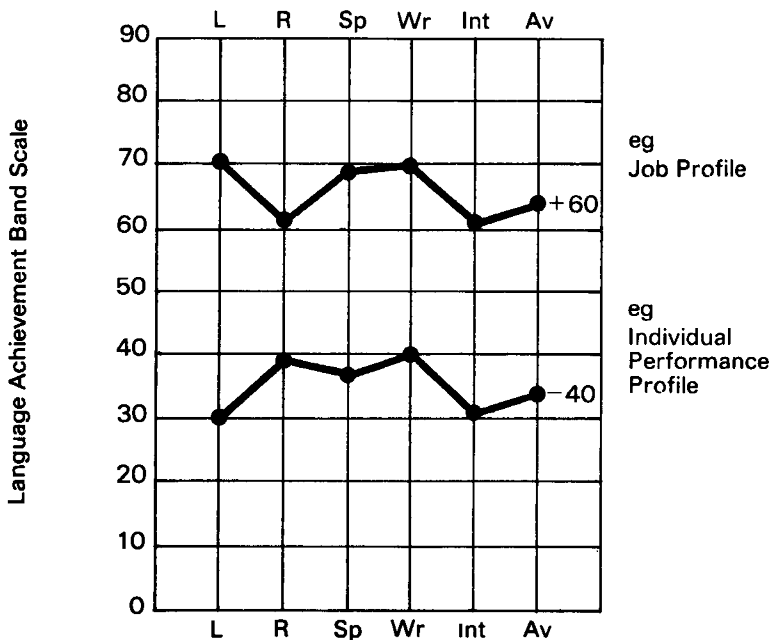
8 In small Representations or where professional ELT resources are not available, the application, marking and interpretation of tests may require external assistance.

The final recommendation of Carroll's paper proposed a modular testing service, ie a series of testing units, each devised to test those language skills opposite to one specific subject area.

To investigate the feasibility of these recommendations, it was proposed that a workshop be set up to work on pilot test materials in several separate subject areas.

The workshop took place early in 1978. It comprised two three-day discussion seminars, allowing a period of several weeks in between for

Figure 1 Matching programme demands and student proficiency



Scale of Language Skills & Functions

L Listening

R Reading

Sp Speaking

Wr Writing

Int Integrated Skills

Av Average

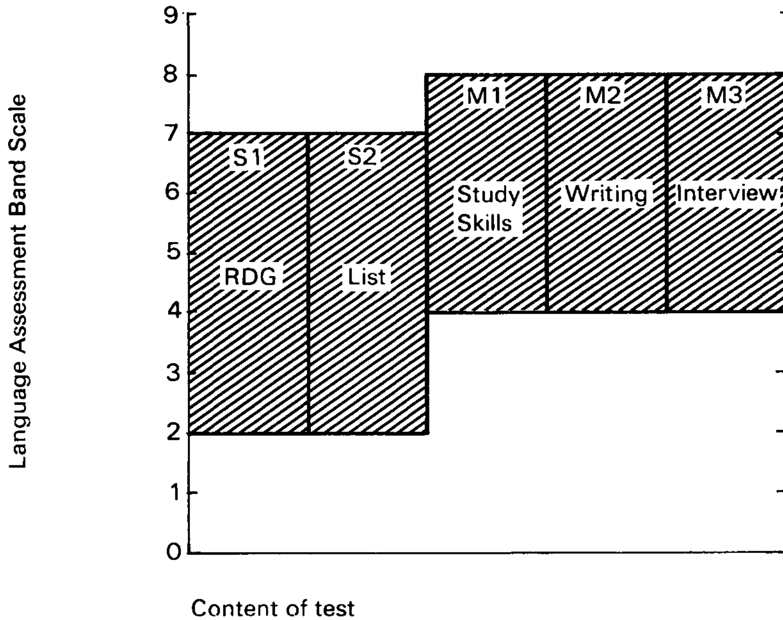
individual independent work. A two-tier testing system was proposed (see Fig II). The first tier (S1 and S2) would test those language skills which had been shown by the 6 Profiles to be common to all subject areas. (In the event, these proved to be mainly reading and listening skills.) S1 and S2, referred to as phase A by Carroll would act as a screening test for all applicants. An outside testing specialist worked on S1 and S2, in collaboration with an ELT testing consultant from the British Council. On successful completion of S1 and S2, a candidate would proceed to the modular test (M1, 2 and 3 — phase B in Carroll) preselected according to the subject area of his proposed studies.

In addition to the two workshop members involved in the design of S1 and S2, there were two members for each subject area, whose experience and qualifications covered both the specific subject and ELT (if possible within that subject area). Thus a member of the seminar with a degree in Biochemistry worked in parallel with an English Language specialist on the Life Sciences module; a physicist together with an ELT specialist on the Physical Sciences module; the Social Studies module was the product of collaboration between an ELT specialist and an ELT-trained sociology graduate, and an engineering graduate with ELT experience worked with an ELT specialist on the Technology module. It was unfortunately not possible to find a doctor for the medicine module. In this case, the team consisted of two English Language teachers, both of whom had taught either doctors and/or medical students for several years, and one of whom was a Medical Council examiner for the TRAB (now PLAB) examination. Advice was provided by a Senior House Officer in a teaching hospital in the UK.

The modular test was designed to rely on a source-book, ie a booklet of authentic study material selected within the particular subject area in accordance with the language skills indicated by the Profiles. Carroll (1973) proposed that the substance of the modular units could be divided into three main sections. Reading & Study Skills (M1), Writing Skills (M2) & Structured Interview (M3) (see Fig. II).

M2 and M3 were designed with the purpose of providing an assessment of productive language skills, as opposed to the receptive skills assessed in S1 and 2, M1. In the very difficult area of language skills covered by M2 and M3, it was essential to devise an entirely reliable system of marking. It was at this point that the advantage of criterion-referenced testing *(Communicative Language Testing: Revolution of Evolution* K Morrow. forthcoming) proves its worth most effectively. M2 and M3 could be marked by consulting the scale of student performance shown in Fig. III Band 0-1 represent no performance in language by the student, Band 7-8 represent perfect performance in language. The intermediary bands allow a correct representation of students ability for his particular task. This was

Figure II A two Tier Testing Scheme



Content of test

S General Function, covering all disciplines

M Multidisciplinary, covering, eg, the following ESP areas:

- Medicine
- Life Sciences
- Physical Sciences
- Social Studies
- General Academic

Figure III GENERAL ASSESSMENT SCALE (for student rating)

BAND	COMPETENCE DESCRIPTION	REMARKS
9	Very competent native user.	No language problems.
8	Ordinary native user, or high level non-native user. Advanced level.	No language problems, but may benefit from improved study skills in English.
7	Competent but recognisably non-native user. Proficiency level.	Main problems are of fluency and appropriacy in using English.
6	Broadly communicative user, but limited in style, fluency and accuracy. Good Intermediate level.	Will required assistance both as to language correctness and its use in day-to-day communication.
5	Marginally communicative, with gaps in language competence. Intermediate level.	Can manage or survive, but will have usage and stylistic errors and have difficulty in keeping up in day-to-day communication.
4	Limited communicator with very uneven level of accuracy and fluency. Basic level.	Has constant difficulty in following and communicating in day-to-day English. Will need extended remedial work.
3	Overall non-communicator, little better than a beginner; possibly however a 'false beginner'	Can get the gist of a text or dialogue. Quite unable to hold his own in English. Systematic extended course needed, including basic English usage.
2	Knows a little English but has no real ability to communicate except in simplest of terms. Beginner.	Requires a course as if he were a beginner, with a systematic start on all basic language elements.
1	Non-speaker of English; may not even recognise text or speech to be in English. Beginner level.	May know 1 or 2 greetings ('por favor!') and words but not a user of English in the accepted sense.

NB Students in Band 7 will have adequate mastery of English for most purposes and those in Band 6 will be approaching this level.

proposed as the most satisfactory method of taking into account those characteristics of language described by Morrow as features of language use which do not seem to be measured in conventional tests: unpredictability, context, purpose, performance and authenticity. A confrontation in such a test,suggests Carroll,is between the worker and his task; not between one candidate and another. as it would be in a norm-referenced testing system.

The source book provided material for all three modules, and would be available to the student for perusal before and during his test. Thus, familiarity with the material would enable him to perform with greater ease as the more difficult of the test items approached him!

The first three-day seminar was spent familiarising members with the proposed scheme, and with the preliminary research that had been conducted. Thereafter the workshop divided into subject groups, for discussion and selection of material to be included within the source book. Selection of 'raw material' having been concluded, a period of one month intervened before the workshop reassembled. This period was used for construction of banks of test items (often more than were necessary, but not all of equal quality!). The final three-day discussion period provided time for each module to be discussed in turn by the whole group. The members then dispersed to prune/reconstitute/rewrite the test items, before submitting them in a corpus for the pilot testing service.

In effect, several untidy diversions from the main plan took place, which had the result of changing the course of the seminar and also the end result. The first was that the subject-areas covered by pre-workshop research were redefined as follows:

1 **Life Sciences** (eg biology, chemistry, biochemistry, etc) assisted by a combination of the original Agriculture Profile together with specification of skills needed for a Biochemistry Degree.

2 **Physical Sciences**: a) was entirely separate from Life Sciences; b) was developed according to the authors' analyses of needs.

3 **Technology**, developed using the teaching concepts of both specialists, with reference to the Technician Profile.

4 **Social Studies** was developed from a combination of the Business Profile with the main weight of evidence gleaned from tertiary-level sociology studies.

5 **Medicine**: an outline of essential skills was selected from the Profile. Medical teaching materials, together with those used in Medical English courses, were selected to match these essential skills.

6 **A General Academic** module was also proposed to cover the 'academic arts' subject areas. It was decided that this could be considered after the preceding five modules had reached the 'first draft' stage.

In selection of source book material there was a tendency for members of the seminar to veer between the research evidence provided by the Profile and information gained through previous personal experience. In theory, a combination of both was needed. In practice it proved difficult not to allow one or the other to predominate. Personal experience usually won, unless the author took great pains to return at regular intervals to his Profile(s). The union proved a happy one in some cases and a disaster in others. However no disasters were utterly irretrievable, more often they occasioned delay, while the material was reconsidered and rewritten. It was universally agreed that there had not been enough time to develop the plan originally laid before the seminar. But the overall result was substantial enough to show that a scheme of this nature was possible, and (in the opinion of the seminar) had reached the stage where a pilot English Language Testing Service might be set up.

A working group within the British Council English Language Division was drawn up for this purpose. Some time was devoted to amendment and reorganisation of the materials in the six testing modules. The General Academic module was composed, in accordance with the principles that had governed the production of the other five.

The first part of the lengthy validation process began when the testing materials were distributed for initial pretesting among 20 centres (university and private EFL language schools) in UK. It was only after this in October 1978 that the British Council formally established the English Language Testing Service. Its first task was to analyse the pre-test and prepare for a second larger trial in overseas EFL centres.

Since the beginning of 1979 the ELTS unit, working in close collaboration with testing experts from the Cambridge Syndicate, has been engaged in production of an amended overseas version of the test together with all its ancillary administrative documentation. These revised materials have been printed and despatched to a large number of test centres in British Council Representations across the world. The times scheduled for the pre-tests are the middle months of the year and the results will be processed at Cambridge with a view to drawing up an approved 'operational draft' (ie complete test battery, support documentation and basic item bank). This is due to be transferred to the Syndicate in October. The syndicate is now responsible for the administration and operation of the testing service, while the British Council retains the responsibility for further research and development.

FUNDAMENTAL PROBLEMS IN ESP

Chris Kennedy, University of Birmingham

Gerry Abbott's perceptive article on ESP (ELT Documents 103) prompts me to continue the discussion of some of the points he raises and to add my own personal views to his appraisal of the present state of the art. I should like to deal with the points he raises one by one.

ESP as a juggernaut

Mr Abbott complains that ESP is in danger of becoming a juggernaut, with vast resources being committed to ESP programmes despite the fact that basic problems still remain to be satisfactorily resolved. This is true insofar as the main impetus behind ESP has been the need for urgent solutions to problems of English language learning, especially at the tertiary level, involving students needing English in some aspect of their studies. The result has been an involvement at the more practical end of the market and a concentration on the provision of courses and materials to the neglect of more theory-based research. A period of consolidation is required to avoid the unnecessary duplication of materials. At the moment, no suitable system for storage and retrieval of materials produced worldwide exists nor do we have an adequate classification of activities and methods in ESP which would benefit any course writer. We have reached a degree of sophistication in the definition of a learner's sociolinguistic needs (Munby 1978) but have no model of linguistic needs, especially at the level of discourse. We do not yet have an adequate theory of spoken or written discourse on which to base any pedagogy, though progress has been and is being made (eg Sinclair and Coulthard 1975, Tadros 1978, Widdowson 1979, Hoey 1979). However, ESP practitioners in the field cannot wait for the results of research before implementing programmes, which seems to be the drift of Mr Abbott's remarks. Research is a long and involved process and the practitioner has to respond to the situation in more immediate ways. He can conduct his own 'on-line' research, he can follow his own normally reliable intuition of what works and what does not and he can adapt or change his programme as the results of 'off-line' research reach him, assuming of course those results are valid and appropriate for his situation. There is nothing particularly new in this 'eclectic' reaction to ESP syllabus of course design; it is a tradition which EFL teachers have pursued for some time.

This brings me to the further point that if anything has been a juggernaut in the past driving on regardless of unresolved problems, sometimes unaware of them, it has been EFL in general rather than ESP, as Mr Abbott claims in his article. Many of the problems mentioned, problems of

motivation, materials and methods, are common to English language teaching situations in general and not peculiar to ESP. ESP has not produced these problems. They have been in existence for as long as English language teaching has existed, and all that ESP has done is to recognise them and suggest ways in which they might be overcome. ESP is not a distinct discipline although its origins do stem from problems specific to certain situations, when English is used as a medium of study in Science and Technology for example. But the terms ESP and EST are not synonymous as some writers have tended to assume. ESP is a system, to be refined certainly, which attempts, as rigorously as possible, to analyse certain factors in a learning situation and to decide to what extent those factors should influence syllabus design and the production of materials. The value of ESP is that it is attempting to tackle fundamental problems in ELT and has given a fresh impetus to the teaching and learning of English language. There would be much to be gained in fact by discarding the confusing acronyms which are in use (eg TEFL, TESL, TESOL) and approaching all English language teaching situations from an ESP viewpoint. This would put an end to the rather pointless debate over differences between EFL and ESL. Immigrant teaching in Britain has been traditionally regarded as an ESL situation and I have noticed in talking to teachers of immigrants at the secondary level that this tends to lead to a narrowing of view, so that anything labelled 'EFL' has been regarded as somehow different and not relevant to an 'ESL' situation. An ESP approach to the teaching of immigrants in secondary schools would be likely to reveal needs in areas as yet neglected in English for immigrants, for example, study skills and the language of other subjects on the curriculum.
To conclude this first section, then, I would claim that it is EFL which up to now has possessed the characteristics of a juggernaut and that ESP is an attempt to improve this situation by looking more closely at the fundamental problems which EFL has tended to ignore.

Needs

The question of needs is complex and one which ESP practitioners have oversimplified. It is quite right, as Mr Abbott says, that university and other bodies do call ESP programmes into being without properly considering student needs and that students can often succeed within the system by using mother-tongue handouts and notes. There are two points to be made here. Firstly, the situation whereby English is part of a curriculum because a higher authority has decreed it, is a problem faced in many EFL situations and is not peculiar to ESP. What an ESP approach should do is to recognise this factor and realise its effect on student motivation, which in turn has to be considered in the design of materials and methods of assessment. Secondly, students who resort to ingenious methods to avoid using English are taking the only route they see open to them, possibly

because their previous experience of learning English is negative or because previous English programmes had been irrelevant to their needs. What is needed in these cases is a programme to show the students the link between English and their studies, to make apparent the fact that English can be useful, and by designing interesting, relevant materials change the students' attitudes so that they have a more positive attitude towards the learning of English. The 'Nucleus' series was apparently designed for just such a situation and it appears to have had the desired effect. (Bates 1978).

An analysis of needs should of course include all points of view — the learner, the language teacher and the subject specialist should all be consulted so that some consensus can be arrived at. The learner and his needs as he sees them should not be neglected, and Mr Abbott is to some extent right that there has been a tendency to observe learner needs from the analyst's point of view rather than the learner's. However, there can be pitfalls if the learner's wishes are allowed to dominate entirely. A learner's notion of proficiency in English may be naive or based on inadequate educational experience. He may think that to 'know' a language implies a concentration on speaking skills, or his conception of 'reading' may be culture-bound and very different from the teacher's notion of reading.

Having said this, respect must be shown for learner wishes and if, to use Mr Abbott's example, 'Social English' is demanded by the learner then this requirement should be catered for as part of the ESP programme. How it is catered for is another matter and lack of space precludes further discussion of means of achieving its inclusion in a programme. It must be said at this point that the notion that 'Social English' does not belong in an ESP programme is misguided. If there is a need, then it should be satisfied. Mr Abbott himself draws attention to programmes catering for speaking skills, and there are numerous references in the literature which indicate that oral interaction is in no way regarded as being outside the scope of an ESP programme (see, for example, Jordan (ed) 1978, Johns & Johns 1976, and the UMESPP and SESS materials which include specific oral interaction components).

More evidence that learners' needs are being taken into account is provided by the increasing interest in individualised learning and self-access materials (Mead 1979) which is pushing ESP approaches to their logical limits in drawing attention to the need to cater for individual linguistic requirements, learning styles, and motivation.

Motivation

The area of motivation is one which has received little attention and that attention has tended to deal rather simplistically with two student 'types' —

those integratively — or instrumentally-motivated. It is not possible to categorise most ESP learners as simply as this, and students will probably exhibit degrees of both types of motivation. It is tempting to jump to the conclusion that any learner studying English for Academic Purposes will be instrumentally-motivated and will see the connection between the study of English and his subject speciality, especially in an English-medium institution. The situation is likely to be more complex. A student may regard his studies as a means of getting him abroad to an English-speaking country where he will at least initially need 'social' English. False assumptions may also be made about the reasons a student is studying a particular subject. The fact that he is studying Engineering does not necessarily mean that he particularly wants to become an engineer, or likes the subject. Medicine may have been his first choice but his exam grades may not have been high enough for entrance to that field. He may therefore react against subject-specific English, regarding it as another aspect of a subject discipline he resents.

Subject specific v common-core English

The common-core approach has now been used in many programmes and appears to be a viable approach to ESP. A number of the linguistic problems students have can be dealt with using non-subject-specific texts (Johns 1975) and certainly with heterogeneous groups (in terms of subject specialism) it would be difficult to imagine any other approach. There are, however, specific features of text, most obviously at the lexical level but also at the level of discourse, which are subject-specific, and there therefore comes a point beyond which common-core materials cannot fully satisfy the students' needs. A logical response to this situation is a common-core set of materials to develop general interpretative abilities which could be transferred across different subject specialisms, together with a set of subject-specific unit to practise those linguistic elements or activities relevant to specific specialities. This is the approach adopted in the UMESPP materials which have common-core components on reading and oral interaction and further subject-specific units for Science and Economics students. A subject-specific approach is also likely to be needed in short-duration courses when students wish to see an immediate return for their efforts, and also in those situations in which the students demand strict adherence to subject relevance. ESP practitioners tend to become partisan and dogmatic about particular issues in ESP and the common-core v. subject-specific debate is one of them. The essence of ESP is catering for the needs of particular groups of students, taking into account the variables and constraints involved. It is therefore of little use becoming an adherent of one or other of the two approaches, since one situation is likely to pose different problems and hence suggest different solutions from another. One of the variables to be taken into account in deciding for

subject specific or common-core materials concerns the teacher and I should like to comment briefly on this since it is also an aspect that Gerry Abbott mentions in his article.

Role of the language teacher

The language teacher is a crucial variable as subject-specific materials do undoubtedly place additional burdens on teachers which are not as evident if a common-core approach is adopted. There are clearly a number of 'teacher factors' which have to be taken into account before decisions relating to subject-specific English can be taken, such as experience, training, native or non-native speaker, knowledge of and interest in science/technology, (see Kennedy 1979). The level at which the subject is being taught is also an important consideration. Most teachers, including non-native speakers of English who might be expected to experience particular linguistic difficulties, can handle low-level scientific texts as exemplified in the 'Nucleus' or 'Basic English for Science' materials. There should be little problem, certainly for native-speakers, in handling the language and concepts of most science and technology at a standard equivalent to 'O' level. At higher levels, and especially at post-graduate level, the task of the language teacher becomes increasingly difficult as, even though his task is ostensibly to teach language and not content, it is difficult to separate the two and it becomes necessary to understand content if the language is to be effectively taught. There are various responses to this situation. Some language teachers are in fact scientists who have 'switched' and been re-trained as ESP teachers. These 'hybrids' are rare and programmes cannot be initiated on the assumption that such teachers will be recruited. Other ESP teachers willingly 're-educate' themselves and become specialists in a particular subject discipline. One cannot assume all teachers will be willing or able to do this, and, in any case, there will still come a point beyond which the language teacher will need the assistance of the subject teacher. This need leads naturally to the concept of team-teaching between language teacher and subject specialist which may be more than the pious hope that Mr Abbott suggests. Certainly there will be situations where both language teacher and subject specialist are so suspicious of each other's motives that no co-operation may be possible. Barriers can often be broken down however, and there are many situations where both sides welcome each other's interest and concern. For evidence of the latter situation see, for example, Nolasco (1978), Johns and Dudley-Evans (1978), Skehan and Henderson (this volume), and Smyth (forthcoming). There are a number of reasons why team-teaching is a welcome innovation. It ensures more personal contact between students, subject specialist staff and language teachers. Problems can be discussed between all three parties involved and the student can see that both subject and language teachers are working together with the

common aim of helping him. The conceptual problems the language teacher may have when teaching the language can be eased by the subject teacher and, conversely, the subject teacher may be made more aware of the language problems his own teaching presents the student with. There is the additional benefit that the language teacher does not have to intuitively choose 'authentic' texts for teaching, nor hypothesize about the probable problems of his students when confronted with subject-specific texts, since these issues will be explicitly covered in the team-teaching sessions.

Team-teaching is costly in terms of time and is more suited to tertiary-level education where actual teaching loads tend to be lower than in the secondary sector, where contact time is high. However, there are signs of interest at the secondary level, and such an approach may do much to bring together language work and other subjects on the secondary school curriculum, a movement that has been advocated for some years now. (Widdowson 1978).

Finance

Mr Abbott warns of the dangers of using ESP as a slogan for commercial gain. I do not see this as a problem particular to ESP, since business interests for many years have been responding to the demand for 'general' English. In any case, I find the idea that ESP and commercial enterprise is somehow not 'respectable' reminiscent of a traditional academic attitude which regards with suspicion any teaching operation tied to financial interests and with horror any suggestion that financial profit may be involved. Of course there are dangers but I believe these are exaggerated. The fact that a customer has paid for teaching services may in fact introduce a healthy element of competition, (a dissatisfied customer goes elsewhere), and this had led to more efficiency and increased professionalism in many teaching operations. We have I think now reached an interesting stage where the gulf between public and private sectors in ESP, and to a lesser extent EFL, is narrowing. The public sector, in particular the universities, have academic prestige but little money for staffing and research. The private sector, especially the larger language schools, have finance but are aware of the need to raise academic standards and increase their status through research. The private sector is getting more research-oriented therefore, and the public sector is overcoming its fear and distrust of financial enterprise and operating language courses and training programmes on a commercial self-funding basis. The two sectors, public and private, are coming closer in outlook, which is a welcome trend and one which hopefully should lead to cross-fertilisation of ideas and more mobility of teaching and research staff between public and private institutions.

Conclusion

I have tried in this article to expand some of Gerry Abbott's comments and to provide some tentative answers to the important questions he raised, and I hope my comments will in turn prompt further discussion. Problems there are and, as I have indicated, we do need more research into many aspects of ESP work. Work in psycholinguistics has tended to be neglected in favour of sociolinguistics, though the balance is beginning to be redressed. Research into the discourse structure of both spoken and written text needs to be intensified, so that we may have something approaching a model on which to base methods and materials. And finally, more effective testing instruments need to be developed so that programmes may be more efficiently and convincingly evaluated. The literature on ESP is full of papers describing in detail the planning and implementation of programmes, but few mention programme evaluation except in the most subjective terms.

These, then, are some of the areas in which more work is needed, but this should not obscure the fact that ESP has already made a valuable contribution to ELT theory and practice. It is a creative force which has effected a rewarding amount of research and innovation in syllabus and materials design, and which will continue to play an important role in second language learning and teaching.

Bibliography

ABBOTT, G

'Motivation, materials, manpower and methods' in ELT Document 103, 1978.

Basic English for Science', OUP, 1978.

BATES, M

'Nucleus' in Mackay and Mountford (eds), 1978.

HOEY, M

'Signalling in Discourse'. Discourse analysis monograph no 6, English Language Research, University of Birmingham, 1979.

HOLDEN, S (ed)

'Teacher-Training'. Modern English Publications, 1979.

JOHNS, T and JOHNS, C

'The Current Programme of Materials Development in EAP at the Universities of Birmingham and Aston' in Richards (ed), 1976.

JOHNS, T

'The Communicative Approach to Language Teaching in the framework of a Programme of EAP' in Roulet and Holec (eds), 1975.

JOHNS, T and DUDLEY-EVANS, A

'Team-Teaching of Subject-specific English to Overseas Postgraduate Students' in Birmingham University Teaching News 5, 1978.

JORDAN, R (ed)

'Pre-Sessional Courses for Overseas Students' ETIC Occasional Paper, 1978.

KENNEDY, C

'Teacher-Training in ESP' in Holden (ed), 1979.

KENNEDY, C (ed)

MALS Journal Special Issue — ESP, University of Birmingham, Summer 1978.

MACKAY, R and MOUNTFORD, A (eds)

'English for Specific Purposes', Longman, 1978.

MEAD, R
'Self-Access Materials' (mimeo), English Language Research, University of Birmingham, 1979.

MUNBY, J
'Communicative Syllabus Design', CUP, 1978.

NOLASCO, R
'Science Activity and the Language Teacher' in Kennedy (ed), 1978.

NUCLEUS series, Longman, 1976.

RICHARDS, J (ed)
'Teaching English for Science and Technology', RELC Anthology Series no 2, 1976.

ROULET, E and HOLEC, H (eds)
'L'enseignement de la Competence de Communication en Langues Secondes', Neuchatel: CILA 1975.

SESS materials, University of Tabriz, 1978 (unpublished).

SINCLAIR, J and COULTHARD, M
'Towards an Analysis of Discourse', OUP, 1975.

SKEHAN, P and HENDERSON, W
'Team Teaching of Introductory Economics to Overseas Students' in ELT Documents 106.

ELT DOCUMENTS 103
'Individualisation in Language Learning', 1978.

ELT DOCUMENTS 106
'Team Teaching in ESP, 1979.

TADROS, A
'The Notion of Predictive Structure and its Pedagogical Implications' in Kennedy (ed), 1978.

UMESPP materials, University of Malaysia Press, 1979.

WIDDOWSON, H
'Teaching Language as Communication', OUP, 1978.

WIDDOWSON, H
'Explorations in Applied Linguistics', OUP, 1979.

RECENT PUBLICATIONS: BOOKS, FILMS AND TAPES

BROMHEAD, P
Politics in Britain
Evans, 1979

A survey of British political life helpful for students preparing for the British Life and Institutions paper of the Cambridge certificate. An introductory chapter explains the electoral system and the party system. Using the life of a fictional MP, the book goes on to give some historical background, a tour of political London, and a description of the career of an MP from first election to Cabinet Minister. The book is written in a simple, clear style and is well illustrated with photographs. There is a glossary of basic parliamentary terms at the back and a set of comprehension questions, some of which require further reading.

FERGUSON, N and O'REILLY, M
English for Bank Cashiers
Evans, 1979

Part of a two-part series this book is intended as a teaching aid and as a reference manual. It is built round dialogues between cashier and customer and covers situations in every day banking. Units are: cashing a cheque; paying into an account; withdrawing from an account; balance enquiry; transferring money; changing foreign currency; opening an account; collecting a transfer; enquiries. Each dialogue is followed by a cloze type exercise, suggestions for parallel situations and vocabulary lists. There is an accompanying tape of dialogues.

KINGSBURY, R and O'SHEA, P
Seasons and People Songbook — Book £0.75
Oxford
University Press,
1979 — Cassette £3.50

A cassette containing recordings of twelve specially written pop songs which is accompanied by a song book which includes words and music. Each song is illustrated and vocabulary and structure exercises are provided. There is activity material with each song and a useful key is at the back making it possible to use this as a self study book.

RIDGEWAY, B
Words About Town
Edward Arnold, 1979 — £1.20

A book of reading comprehension exercises based on signs and notices to

be found around any British town. Topics covered include: traffic, supermarkets, hospital, what's on in town, garages, the launderette. The book is intended to provide meaningful practice material for secondary school leavers, but also gives useful exercises on authentic material for EFL students.

MACK, Angela
English for Businessmen
Futura/BBC, 1979 £1.50

A course for students with a working knowledge of English who want to learn up-to-date business terms. It is a serial story in dramatised form about a small manufacturing company. Each incident deals with a different department bringing out the relevant words and phrases. Each of the 24 units consists of: an introduction summarizing what happens in the following dialogue, noted on special terms, specimen letters and reports on the topic, sentences for oral practice and other exercises. The dialogues are illustrated with cartoon-type drawings with a key to each exercise at the back. The book is drawn from the BBC's recorded course — Language of Business.

STRUNK, W and WHITE, E B
The Elements of Style
Collier Macmillan, 3rd ed. 1979 £3.75

Written with a sense of humour, this book will be useful to advanced students of English who wish to polish up their written style. It discusses all aspects of punctuation in English including various more obscure things like the use of the dash and correct pronoun use. There are chapters to help with grammar and chapters on misused words and phrases as well as the elementary rules of usage.

TRIM, J and M
Sounds Right!
Cambridge University Press, 1978

This is a game of phonetic bingo for six or more players. The rules are explained clearly in the front of the book. There are several possible variants of the game which is based on minimal sound contrasts. In addition to the book there is a pack of cards which are used in the playing of the game. It is intended as a classroom teaching aid for lower intermediate to advanced students.

contents

Team-teaching of transportation and plant biology

A collaborative approach to the teaching of vocabulary

Team-teaching of economics

Towards subject-language integration

Linked-skills courses

Bridging the gap between E and SP

Teamwork in an EST program

The English teacher and the camera

The SP of the E

Subject/language collaboration in ESP test design

Fundamental problems in ESP

Letter to the editor

Recent publications

News items

price £2.50
ISBN 0 900229 87 X

© British Council 2015 / F044
The British Council is the United Kingdom's international organisation
for cultural relations and educational opportunities.