UNIVERSITY STUDENTS IN CRISIS! IS ESP THE ANSWER?*

Pimporn Chandee
Assumption University,
Bangkok, Thailand

In this paper, I examine the needs of students whose first language is not English but who are required to study in an English-medium environment. My conclusion is that language teachers can help best by aiming to improve general proficiency levels rather than by concentrating on teaching the so-called specific purpose English. This is not to say that subject-specific texts should be avoided. After all, their inclusion can increase students' motivation. Nor am I claiming that specific study skills should not be taught. My point is simply that what finally matters most is that a student should be helped to achieve a high level of general English competence. There is no short cut to this.

INTRODUCTION

All western universities, whether in Australia, Britain, Canada, New Zealand or the USA, state clearly in their calendars and prospectuses the minimum TOEFL, GRE scores or IELTS' band levels required for admission to a particular faculty. A high level of proficiency in general English is clearly expected from international students. The emphasis is on 'common core' English rather than on English for Specific Purposes (ESP) notwithstanding the fact that part of the IELTS tests is subject-specific.[1]

Students whose first language is English have, in general, a better chance of surviving academic life in the UK or Australia or wherever than others. This is partly because they usually have a higher level of general linguistic competence and they are likely to have a greater awareness of the cultural constraints governing intellectual property that operate in the environment of secondary or tertiary education.

---

*This paper was originally presented at the ELICOS Conference October 1-3, 1992, Adelaide, Australia while the author was a doctoral candidate at Waikato University, Hamilton, New Zealand.

[1] A note of caution is necessary. Some of these tests mentioned give little predictive validity, e.g. a high score in TOEFL does not guarantee that students will have sufficient language skills to achieve academic success.

Nevertheless, first language speakers of English will not necessarily be good information-processors. Although the knowledge involved in high level processing is, in part, cultural knowledge, some of it is clearly not related to culture nor is it related solely to level of language proficiency. The problems non-native speakers have in tertiary education are often similar to those experienced by native speakers.

CULTURAL DIFFERENCES IN TEACHING AND LEARNING APPROACHES

International students may not only face linguistic problems in their studies but also cultural problems and problems relating to different learning style and approach. Cultural differences in educational systems are evidenced in students' responses in lectures, seminars and essay writing in a Western university. Unlike most Western students, a number of international (especially Asian) students, tend to avoid situations involving assertion or challenge. In lectures and seminars, they may choose not to question the lecturers, even though they may wish to do so. It is common for Asian students to accept the teacher's authority and knowledge absolutely. Questioning or challenging a lecturer can be a sign of disrespect.

Because interactive methods of learning and teaching are seldom used in Asian countries, some international students experience extreme difficulty in making the necessary adjustments to Western-style systems. A study of the learning problems of international students carried out by Samuelowicz revealed that only 28 percent were familiar with tutorials conducted in an educational setting and 18 percent with any form of group discussion (Samuelowicz, 1987). Such students are likely to be hesitant about participating in lectures or seminars for fear of giving the wrong answers and therefore losing face. They are therefore at a disadvantage and may be perceived as passive, submissive or even academically limited. Asian students in particular are unlikely to approach essay writing in the same way as western students. They assume that the lecturers know the basic concepts required for a particular essay topic and hence that it is not necessary for them to explain these concepts. These students' essays tend to be general rather than specific. They might not think it necessary to answer questions asked directly. They might simply give a 'list' of facts. They may consider it impolite to attempt to support or refute positions their lecturers adopted in class. They may not see the relevance of reading books and articles which, they may assume, have already been summarised in lectures in a way the lecturer considers appropriate.

Kaplan, in his "different rhetorical structure" theory, claims that different cultures develop different rhetorical conventions. For this reason, the `model' Chinese essay-derived ultimately from patterns of rhetoric found in Confucius-differs from the `ideal' Arab essay -- which models itself on rhetorical structures found in the Koran. The native speaker of English would probably characterise Kaplan's examples of written discourse produced by students of various nationalities as being, to a greater or lesser extent, incoherent. That is they fail to conform to accepted Western rhetorical traditions of writing.

According to Johnson's 'diminished thought' theory, academic writing requires highly developed thought processes; thinking in a foreign language is difficult, and the students' conceptual ability is severely restricted by their linguistic poverty. Hence, students who are capable of writing quite coherent discourse in their first language may be incapable of the same task in a foreign language (Johnson, K. 1977).

Another problem Johnson points to is the students often are unaware that they have not expressed their intentions clearly. What the student may mean as a generalisation may be interpreted as a statement of topic change. The student simply may not know how to encode the functions being dealt with. As Hymes puts it, the student does not know the 'rules of use' (Hymes, 1972). When all of these problems are combined, it becomes clear that the difficulties facing many international students -- and those facing their lecturers -- may be profound.

Countries such as Thailand send students overseas not only because they value the education that is available in countries such as Britain, North America, Canada and New Zealand. They also do so because they recognise the value of having competent speakers of English return to take positions of responsibility. However, after studying in universities in the West, graduates often return to Thailand with a command of English that is little better than they had before they left. This is a real problem since these are the very people who are expected to help countries such as Thailand progress economically and intellectually. These are some of the people who obtain university posts which require them to teach through the medium of English.

What, then, is the problem? Why is it that graduates returning from English speaking countries so often lack fluency in English and a sound grasp of their academic disciplines?

The fact is that many overseas students whose proficiency in general English is low initially, often **survive** rather than progress. They survive by seeking help -- often a great deal of help -- from others. It is not unusual for these students to memorise notes written by others, to 'commission' others to read books for them and to provide short summaries. It is a very common practice to have essays rewritten by well meaning friends before they are submitted.

Turning a blind eye to these things is not really very helpful. Students need to improve their English. They need to learn to read in a variety of different ways. They need to learn to discriminate between relevant and irrelevant information. They need to learn to understand what their lecturers say to them. They need to have opportunities to talk to staff about their work. They also need to learn the Western norms of rhetorical traditions of writing.

How can lecturers help? Not by being either too critical or too defensive. Not by complaining that students 'cheat' and so are unworthy of help. These students are often lonely, afraid and depressed. They are not, in most cases, incapable of adapting.

Their problem is simply a lack of under-

standing of the educational system and its requirements in a culture very different from their own, inadequate language to cope effectively, and fear. They are afraid that they will be sent home if they admit to their problems. The fact that unrecognized racism may also be present worsens their dilemma. There is sometimes an implicit racism underlying the relationship between Asian students and Western university lecturers. Without consideration of the cultural differences in educational systems, lecturers will sometimes simply assume that their students are incapable of learning. They may reject them at the early stage of their Western university studies without giving them sufficient time and opportunity to learn about and adjust to the new educational system.

Asian students are not the only ones who may suffer from lack of understanding. Other students -- even those educated in Western countries, also suffer from the change from school to university. In their first year at university, they too have to adjust to new types of academic expectation. This is a problem which is beginning to be recognised -- a recognition that accounts for the growth in support services of various types.

Two problems are often confused: that of general language proficiency and that of information processing. High levels of proficiency in reading, writing and processing information is not necessarily something that all native speakers of English exhibit. These skills require, apart form other things, an adequate general academic vocabulary. Native speakers of English do not necessarily have the necessary lexical resources. Nor do they necessarily have the ability to read and process information quickly and with accuracy. Proficiency in spoken, conversational English alone is not enough. If native speakers of English have problems, it is hardly surprising that others do. It sometimes seems an impossible task to get students to a proficiency level adequate for study in an English-medium environment. How can this be achieved? In seeking to address this problem, I shall begin by examining the situation in Thailand.

Thai is both the national and official language in Thailand and so we have had no need to use English in our daily life or careers. However, the use of English has rapidly become necessary in an age of international trade and exchange. Foreign investment is increasing in Thailand and that investment brings with it demands for higher levels of language proficiency. The general public seems to be aware of the urgent need to be able to communicate in English. Private language schools are springing up in all the major cities. Everyone seems to be involved in language learning. And yet there is little sign that standards are improving dramatically. What is even more worrying is that Thai university graduates -- even those who have been educated through the medium of English -- are, in general, not sufficiently proficient in the language to cope with studies overseas. What is going wrong?

The policy of teaching English and other foreign languages in Thailand changes all the time. Lately, according to one Supervisory Unit of the Thai Educational System, the learning of English at primary school level is not a requirement. From the first to the fifth year of secondary school, English is

compulsory. In the final year before university, however, English becomes an optional subject. After a gap of one year for many students, there is university entrance and they are again required to take English courses in their first university year. They are then free to drop English.

If they are fortunate enough to pass the national English examination and/or to obtain the required TOEFL score and be awarded scholarships to study in an English speaking country, students are usually faced with great emotional and academic problems. English becomes a barrier to understanding. They may have strong opinions but they are generally unable to communicate them effectively. Nor are they necessarily able to understand subject-specific instruction. Since being educated abroad is a prestigious value in Thai society, these students cannot give up and return home empty handed. They cannot face the great loss of face involved in returning without the qualification for which they were enrolled.

In Thailand, the emphasis in language teaching at all levels is on structure. Even so, there is some understanding of the importance of reading comprehension as a preparation for tertiary study. What is not understood generally is that skills need to be integrated. Reading skills develop in tandem with listening skills. Because programmes are seen to be less effective than they might, credibility problems develop and students neglect their studies. Such students are only too ready to believe that short, specific-purpose courses are the answer to their problems.

There is also the problem of variety of

standards. The best Bangkok schools produce students who are fluent, while the country schools, which cannot attract well-qualified staff, produce students who are almost inarticulate in English (Higgins, 1967). There is no uniformity.

Because there are so many problems, the private English language schools thrive and are able to make a great deal of money. ESP courses are popular. Students want and ask for English for different occupational purposes. Schools compete with each other and provide courses such as English for Business Correspondence, English for Law, English for Engineering, English for Nursing, English for Survival in an English-speaking Country, English for the Tourist Industry, English for the Tourist Police, English for Hotel Personnels, English for Air-hostesses and Stewards and so on. The contents of such courses are geared towards the vocabulary used in the different disciplines. These courses usually last from 30 to 180 hours and at the end students are unlikely to have acquired much more than a bit of additional vocabulary.

It took me three years of intensive study of English in an English speaking environment, of reading graded story books and novels and of writing summaries of them before I was able to reach an adequate proficiency level to study in an English school where I had to work on the same programmes as first language speakers of English. I had to learn through the medium of English -- something that is impossible without an adequate general proficiency. In such a situation, students have a double learning burden -- they must improve their English proficiency at the

same time as attempting to employ their language skills in understanding subject-specific instruction. At the beginning of my studies, I had to translate everything from English to Thai -- hardly an ideal situation. Gradually, however, I began to translate complex English into simpler English with the aid of dictionaries and grammar books. Eventually, even this became unnecessary. It was only, however, after three or four years of English-medium instruction that I began to think in English. In fact, I even began to dream in English if my dreams involved English speaking people. Now, after twelve academic years of using nothing but English, and after over ten more years of using no other language but English in my career, I have few problems. It was, however, a long and difficult journey -- and I am convinced that it could not have been achieved if I had attempted to take short cuts to achieving a high level of general proficiency.

SOME CURRENT DEBATES ON ESP

I have analysed the language of the introductions to the following text:

Kitson, T.M. (1988) *Organic Chemistry: A Guide to Common Themes*. Edward Arnold: Auckland.

Odifreddi, P. (1990) (ed.) *Logic and Computer Science*. London: Academic Press.

Herbert, R. A. & G.A. Codd (1986) (ed.) *Microbes in extreme environments*. London: Published for the Society for General Microbiology for Academic Press.

Irvine, A.D. (ed.) (1990) *Physicalism in Mathematics*. London: Kluwer Academic Publishers.

My analysis shows that there is no difference between the structures, tenses and so on used in these passages than there is in those used in a range of non subject-specific materials. Structurally, there appeared, in addition, to be no differences between the English used in biology texts and that used in physics texts. A finding that supports the observations made by Hutchinson and Waters (1987). As Halliday observes grammatical resources have not been invented by scientific writers. Rather, what these writers have done is taken the resources that already exist in English and used them for their own rhetorical purposes (Halliday, 1988).

A number of studies have put into question the claims that has sometimes been made that scientific texts are syntactically different from non-scientific texts. A computer count of the order of frequency of the most frequent simple and complex finite verbs as used in the language of radio, interviews, T.V. etc., showed that the present imple is used 35.5% of the finite forms; the next most frequent or 26.7% is that of the past simple. This is followed by only 4% of the present perfect and only a range of 0.3 to 3.6% of the rest of the finite forms (Joos, 1964; and similarly, George, 1963; Ota, 1963; Kranksy, 1969).

Tarone et al., examined the frequency of the active and passive verb forms in two astrophysics journal articles. They found that we plus an active verb occurs at least as frequently as the passive in both articles. Windgard's (1981) study of verb forms and

functions in six medical texts shows that verbs in the active voice outnumbered verbs in the passive. Tarone et al. examined the occurrence of passive and active verb forms in journal papers in one field, astrophysics, in order to determine whether writers in this field do prefer the passive over the active, and they investigate in depth the rhetorical functions of these forms.

Tarone et al. found that in both the Stoeger and Lightman Papers, active verb forms greatly outnumbered passive verb forms, regardless of whether existential verbs are counted.

If we look only at the incidence of active we verb forms as opposed to passive, they find that Stoeger uses about twice as many first person plural active we forms as passive; in the Lightman paper there are more passives than active we forms. Though there are variation in the frequency of active we verb forms and passive verb forms, the overall tendency for both writers is to prefer the active to the passive (see Table 1 below):

Table 1

Overall Frequency of Active and Passive Verbs in the Stoeger and Lightman Papers

	Stoeger	Lightman
Total number of verbs	244	370
Active Verbs	21 (88.5%)	301 (81.4%)
Active we Verbs	58 (23%)	40 (10.8%)
Passive Verbs	27 (11.5%)	69 (18.6%)
Total Verbs, Existentials Omitted	137	248
Active we Verbs	52 (37%)	40 (16.1%)
Passive Verbs	27 (20%)	69 (27.8%)

Paltridge's (1993) analysis of the introductions to journal articles in the area of environmental studies did not show that any particular process type rather than another might typically occur in the texts. Further, it did not show that any particularly narrow range of verbal or nominal group structure essentially occurs in such texts. Paltridge also found that a wide range of language resources and structures are possible in scientific articles.

Certainly, there are lexical differences. However, it is doubtful whether language teachers can, or should, teach technical vocabulary. My analysis of the introductions to the four books mentioned above reveals that only about 10% of the total words counted are technical words. In his examination of an extensive corpus of scientific and technical writing, Inman found that technical vocabulary accounted for only 9% of the total range of lexis (Inman, 1978). Phillips et al., too, found that only about 15% of the verbs in four agriculture textbooks were specially associated with agriculture, whereas 60-70% were 'semi-technical' and the remainder were verbs for the 'organization of knowledge' (Phillips et al., 1985). Further, this technical vocabulary was used far less frequently than non-technical. Technical terms, in any case, are likely to give less trouble to learners than general vocabulary since these terms are often internationally used. Additionally, their meanings are often calculable on the basis of a knowledge of the subject matter and common word roots.

In order for an English teacher to teach the first section of Kitson's Introduction to Organic Chemistry (see Appendix A), the

teacher him/herself has to understand the passage and be able to explain the chemical processes involved in **carbocation**. The instructor must first be able to explain what a **carbocation** or **carbonium ion** is. This is surely the organic chemistry teacher's job. To be able to explain the definition of **carbocation**, the English teacher further has to know what an **alkane** is and be able to explain what a **hydride ion** is to the students. Further, the teacher must also know what **electrons** are in order to explain **the species which results**. The instructor must also know what **valence shell** is and what the term **reactive** in organic chemistry means. The teacher will most likely have a hard time explaining what **planar** and **trigonal** shapes are and what **sp2-hybridised bonds** mean. Further, the teacher will also be faced with explaining what **carbocations which are highly resonance stabilised** means and what all the other technical words mean.

If this were the first ESP English class for first year, first semester organic chemistry students, the teacher would have to define 28 terms (from the 287 words used or approximately 10%) and many different chemical processes, each of which is likely to be new to the students. It is highly likely that the lesson, whatever teaching techniques are used, would be tedious and unmotivating. The words and concepts could almost certainly be explained more meaningfully by an organic chemistry teacher him/herself. Additionally, the concepts themselves should be taught not in one lesson, but in an accumulated experimental and meaningful way.

Could the problem be solved by team teaching? It probably could not be. The fact

is that, with a high level of English and the skill to process information, students will be equipped to learn a discipline. Without it, they will not. Surely, there is a logical flaw in thinking that somehow or other it is the job of the language teacher to teach subject disciplines. Surely, it is absurd to imagine that an English expert can, without training, become an expert in philosophy, psychology, sociology, science, technology, etc. It is no wonder that Kennedy and Bolitho report that vocabulary teaching has been rather neglected in ESP programmes (Kennedy and Bolitho, 1977). The fact is that subject-specific vocabulary expresses concepts which rely on subject knowledge.

Cheong says that the study of the lexicon of scientific writing has been conducted generally on three levels: ordinary, scientific, and intermediary (sub-or semi-technical) language (Cheong, 1975). He suggests that frequency counts of words of the three types mentioned cannot be said to be complete or useful unless the following factors are included in the frequency measurement:

1. defined semantic contexts
2. circumstances of defined formality
3. particular collocations
4. date of publication of texts
5. size and coverage of writer's vocabulary

Bearing this in mind, one begins to wonder how realistic the task really is. Further, more scientific words constantly undergo 'a process of semantic erosion' so that words with highly specific meanings like 'force' and 'energy' in scientific discourse

become ambiguous. In subjects like science and technology whose concept and content change rapidly, word frequencies do not remain stable. They change over a period of time. Words, representing new concepts, new discoveries, rise sharply from zero frequency to high frequency (Cheong, 1975). It is important to acknowledge that English teachers will not be aware of all the lexical loadings. E.M. Anthony, (1975) maintains that it is better to encourage learners to learn the 'core' meanings before concentrating on specific senses. In any case, one cannot understand a field solely through studying the language associated with it. One must combine, in a spiral process, the accumulation of experience in the field itself with the lexicon that is characteristic of the field.

Swales found that much of what has been written by applied linguists about 'the language of' science and technology has been "at a level of rhetorical generality" which conceals the real problems (Swales, 1984:78). As Crookes says "the analysis is deliberately abstract" (Crookes, 1985:23). Where generalisations have been made, "they tend not to be borne out in reality" (Swales, 1984:77).

UNDERLYING COMPETENCE IS NEEDED

Hutchinson and Waters suggest that there must be a basic Underlying Competence that enables students to process new knowledge. This Competence is fundamental to the whole teaching-learning process, because it is the starting point for the interaction of teacher and student in the transfer of knowledge.

Hutchinson and Waters draw attention to the fact that a student on entering a British technical college, may have had no previous experience of studying his or her chosen discipline. She/he cannot, then, be expected to have any knowledge of, or the specific terms associated with the discipline. Yet with a reasonable amount of intelligence and attention, s/he will be able to cope adequately with the flow of new information. There is no reason to suppose that a student for whom English is a second language and who has a high level of competence in English will necessarily be any less able to cope.

The conclusion must, surely, be that the Underlying Competence required of students of any discipline is that required for any effective use of language. The linguistic and factual resources required are those of the intelligent, motivated layperson. Hence, there is little or no justification for subject-specific ESP courses. This does not mean, however, that there is no value, from the point of view of motivation, in using subject-specific materials some of the time.

CONCLUSION

Students should learn 'common core' English and a range of reading and study skills. They should also be encouraged to use good English dictionaries -- ones that explain idiomatic expressions, give verb patterns, etc. As much as possible, they should be encouraged to spend time reading English newspapers and magazines, listening to English radio programmes, watching good English TV programmes and sound track video tapes, and

talking to both naive and non-native English speakers. Educational institutions at all levels should provide self-access centres catering for students of different levels of English proficiency. A teacher's overall professional competence, including a high proficiency level in English is of critical importance. In addition, the sooner we learn about the cognitive processing involved in language acquisition, the better it will be for all concerned.

REFERENCES

Crookes, G.(1985) *Towards a Validated Discourse Analysis of Scientific Text*. Occasional Paper #4. Honolulu: Department of English as a Second Language, University of Hawaii at Manoa.

Crombie, Winifred and Rika-Heke, Powhiri, (1991) E.S.P.: Fact or Fiction? *Revisita Alicantina de Estudios Inglese* n.(0) 4 de la Universidad de Alicante.

Halliday, M.A.K. (1988) "On the language of physical science" In M. Ghadessy (ed.) *Registers of Written English*. London: Pinter.

Herbert, R. A. & G.A. Codd (1986) (ed.) *Microbes in extreme environments*. London: Published for the Society for General Microbiology for Academic Press.

Higgins, J.J. "Hard facts" Notes on Teaching English to Science Students, Chiangmai University, Thailand, *English Language Teaching* 21, 1, 1967.

Hutchinson, T. and A. Waters (1980) 'ESP Crossroads' *English for Specific Purposes*, 36, Oregon State University, 1980 in Swales's.

Hutchinson, T. and A. Waters (1987). **English for specific purposes** : *a learning-centred approach*. New directions in language teaching. Cambridge : Cambridge University Press.

Irvine, A.D. (ed.) (1990) *Physicalism in Mathematics*. London: Kluwer Academic Publishers.

Johnson, K.(1977) Why are foreign students incoherent? In Holden, S. *English for Specific Purposes*, (19).

Kaplan, R.B. (1976) *The Anatomy of Rhetoric* Harrap-Didier.

Kennedy, C. and R. Bolitho (1990) *English for Specific Purposes* ELT: Modern English Publications.

Kitson, T.M. (1988) *Organic Chemistry: A Guide to Common Themes* : Edward Arnold:Auckland.

Lee K. C. (1975) Trends in the Linguistic Study of English for Science and Technology. In *Teaching English for Science and Technology* Jack C. Richards (ed.) Anthology Series No. 2 Singapore University Press. SEAMEO Regional Language Centre.

Odifreddi, P. (1990) (ed.) *Logic and Computer Science*. London: Academic Press.

Paltridge, B.(1993) English for Specific Purposes: A Systemic Functional Perspective. *System*. 21, 2.

Phillips, M.K. & C.C. Shettlesworth (1985) How to Arm Your Students: A Consideration of Two Approaches to Providing Materials for ESP The British Council, in Swales' Episodes in ESP.

Samuelowicz, K. (1987) Learning Problems of Overseas Students: Two Sides of a Story. In *Higher Education Research and Development*, Vol. 6, No. 2, 1987.

Simpson, K. (1991) *Health and Counselling Service* Flinders University of SA.

Shettlesworth, C.C. How to Arm Your Students: A Consideration of Two Approaches to Providing Materials for ESP. In *ELT Documents: ESP*, The British Council.

Swales, J. (1984) Research into the structure of introductions to journal articles and its application to the teaching of academic writing. *ELT Documents* 117, Common Ground: Shared Interest in ESP and Communication Studies. Oxford: Pergamon.

Tarone, E., S. Dwyer, S. Gillette, and V. Icke (1981) On the Use of the Passive in Two Astrophysics Journal Papers The ESP Journal Vol. 1. No. 2 Spring.