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The growth of ESP

Formerly two lectures: "The growth of ESP - an approach not a product" and "Summary of different schools of language description". Revised and expanded, with an introduction to genre, and the teaching implications for genre added.

Last updated 3 November 2009

Introduction

Since the Second World War, there have been three major strands of development in TEFL and in ESP in particular. This article deals with the changes in the theories of learning, and the changes in the way language is described. The third area - needs analysis, requires separate and extensive treatment.

A. Very brief outline of the theories of learning

See Hutchinson & Waters 1987 ch 5,

1. **Behaviourism: learning as habit formation** --Pavlov's dogs, conditioning, stimulus response --L2 learning should reflect and imitate L1 learning ==> Never translate; hear, speak, read, write; frequent repetition; prompt correction of errors.
Pattern practice does have a place, but not exclusively (Audio-lingual method).
 2. **Mentalism: thinking as rule governed activity** Chomsky: thinking is rule governed, ==> it is not habits, but rules that need acquiring.
 3. **Cognitive code: learners as thinking beings** The learner is an active processor of information. ==> **the problem solving task**. Recently, ESP courses that teach reading skills.
 4. **The affective factor: learners as emotional beings** Motivation is an affective factor.
 - a. **Integrative motivation**. Internally generated desire.
 - b. **Instrumental motivation**. Learning because of an external need, (not a desire)
- Complex. ESP has frequently assumed "relevance to target needs" is the main motivator.
5. **Krashen: learning (conscious) and acquisition (subconscious)** Both needed. For excellent articles summarising and critiquing Krashen in a readable format see <http://www.timothyjpmason.com/WebPages/LangTeach/Licence/CM/Lecture-Mainpage.htm>
 6. **Learning skills and strategies - do they transfer?**
 - a. Until the development of ESP, these were assumed to be independent of the subject.
 - b. In the 1980's there was interest, not just in grammar and discourse, but also in the thinking processes that underlie language use. This was led by practitioners, who published skills based courses. Many, but not all, were focussed on reading.

- c. The main idea is that, underlying all language users, there are common reasoning and interpreting processes, which, regardless of the surface forms, enable us to extract meaning from discourse. These are underlying skills. There is therefore little need to focus on surface forms. The focus should rather be on the underlying interpretative strategies, which enable the learner to cope with the surface forms. Eg guessing words from the context, interpreting visual layouts, exploiting cognates (words which are the same in L1 and L2). This is especially true once students progress beyond the basics, and L1 language skills can be applied to L2. In short, I think the transferable language skills argument applies particularly to the advanced student, but can also apply to the beginner eg in the ability to pick out important phrases - even if the surrounding text is not understood. For an example see below.
- d. It was further assumed that a focus on specific subject registers is NOT needed, because the underlying processes are not specific to any subject register. Reading skills are therefore assumed to be universal, and, in addition, independent of the subject.

THINK: do you agree with this view?

The question is not so simple. The problem I have observed is that the reading skills of students are very poor in any language. Some of the skills, though only some, are also different in Arabic and French or English. Take for instance, summarising skills. I have had advanced English students ask me, seriously, how they are supposed to identify the main ideas in a passage before summarising it. In contrast, even when I do not understand the text well - because it is in L2, or because the subject matter is beyond my grasp - I can usually identify the main points, therefore I have no idea how to teach this extremely basic skill. Similarly, I delight to take a letter in Arabic inviting me to a departmental meeting, and show students how I do not even need to be able to read or understand all the words. I can quickly verify my name, look for who sent it, and when, followed by dates and times and room numbers or names. Then I can quickly identify the main items on the agenda, and get these words translated if they are not known to me. All this can take less than 30 seconds. This is a clear example where my L1 skills transfer readily to L2, even when my L2 ability is rather basic.

This lack of competence even in L1 in reading skills has been recognised by some ESP practitioners. Some ESP teachers have therefore been in the strange position of teaching skills in L2 that are not even mastered in L1. The situation is made even more complicated when diglossia is taken into account. See <http://www.scientificlanguage.com/provocative/cefr-diglossia-esp.pdf>

- e. Some students whose mother tongue is not English already possess advanced study skills in their native language. In this case they may merely need help in the transfer, and help in the language and the pragmatics - such as the accepted style, the accepted degree of impersonality or hesitation.

7. How inter-related are the four main language skills?

a. From the 1980s onwards there was also more sophistication, at least among the teachers leading to a recognition that **the four skills are INTERdependent**.

Eg listening to a lecture also demands note taking: a so called micro-skill.

Eg some learners demand a mixture of skills

NB, it would be interesting to find out how much the opinion makers think that the four skills are independent - MA thesis idea - maybe part of a wider question, of attitudes to learning ESP.

Question: what evidence is there that the skills are inter-related?

THINK: is it harder to learn new skills, or to change old skills?

Many students may not have required skills, in any language. THINK: In your own country. Which is true? Who teaches it?

b. The first requirement of any student is the development of study skills to a level appropriate for the subject, plus, attainment of general language proficiency. This includes:

1) Lectures and note taking

2) Participation in group discussions (seminars, tutorials)

3) Academic writing

8. Quotation for critical discussion:

"ESP, then, is an approach to language teaching in which all decisions as to content and method are based on the learner's reasons for learning." Hutchinson and Waters 1987:19.

Part B: language descriptions, begins on the next page.....

B. Language descriptions

1. Classical/traditional grammar

This has never significant in ESP though the terminology is sometimes useful.

2. Structural linguistics

- a. eg substitution tables.
- b. A structural syllabus, leading to easy selection and grading of language learning items by level of difficulty, which usually means a step by step approach. It is still in use, because it provides a systematic description of the core structures of the language.
- c. Weaknesses:
 - 1) there are large areas of language use that it cannot explain. In particular, it cannot be used for the communicative use of structures.(pragmatics).
 - 2) It is extremely difficult to organise a progression of difficulty beyond the beginners and intermediate levels. In a similar way to first language acquisition, there does not seem to be a fixed order for the learning of the details. This should be obvious, but for some people it is not.

3. Transformational Generative grammar

You will know more than I about Chomsky. For ESP, his performance-competence distinction is important, widened to cover more than just syntax.

Performance, surface structures

Competence, deep level rules.

eg understanding new words, guessing their meaning = competence. This competence includes pragmatics.

NB. For an excellent, readable explanation and evaluation of Chomsky, I highly recommend the relevant lectures from:

<http://www.timothyjpmason.com/WebPages/LangTeach/Licence/CM/Lecture-Mainpage.htm>

4. Language variation and register analysis [Hutchinson & Waters 1987:30-1].

***The concept of special language for a subject.**

***Word and sentence level.**

In modern terms, this was some variety of language that was recognisably different.

- a. The concept of language variation gave rise to the type of register analysis which was based on register analysis theory.

IF: the language varies according to the context

THEN: we should be able to identify the kind of language associated with a specific context

---a domain of knowledge (legal English, medical English)

---an area of use (technical manuals, academic texts, doctor-patient communication etc)

==> ESP research which was focused on determining the formal characteristics of various registers in order to establish a basis for the selection of syllabus items.

- b. This continues today. But, it has proved difficult to discover where the language of science differs in a ****significant way****.

Clearly, some language forms are used more in one context rather than another. But the forms are not distinctive.

THINK: they can be. eg connectives, which have science specific meanings
eg non- verbals. How readily do ordinary people and people from the humanities, read
tables, diagrams, mathematical formulae?
eg compound nouns are rare in general English, but common in ESP.

- c. Strevens, Ewer, Swales, and others studied the language of science, with the practical objective of making the ESP course more relevant to the needs of learners by giving priority to language forms students would meet in their study of science.
Eg, Ewer and Hughes Davies (1971) (in Swales 1988), found that school textbooks neglected some of the language forms commonly found in Science texts, eg, compound nouns, passives, conditionals, modals. Therefore ESP courses should give precedence to these forms.

"The problem for any textbook writer who wishes to base their material on register analysis is that **research is either inadequate or non-existent**". (Robinson 1980:17, bold added). This means that intuition is the guide for textbook writers, instead of confirmed evidence. The situation is made more complicated by the great variety of prose in the language of science.

This is no longer true today. Corpus linguistics is making great strides, but the research has yet to filter down to teacher training level, let alone to textbooks for use in the ESP classroom.

5. **Functional/Notional grammar**

- a. **Functions**: social behaviour, and represent the intention of the speaker or writer eg advising, threatening, describing
- b. **Notions**: categories for dividing reality, eg time, gender, number, quantity, etc
- c. There is a lot of stress on communication, therefore it has been called <the communicative approach>.
- d. **Syllabi suffer** from lack of an organising framework. Best combined with the structural, situational, and topic approach.

6. **Situational**

This lists the situations/contexts in which the language will be used, and derives the needed language.

7. **Topic**

Topics are selected from the specialist studies of the students. the language is analysed and appropriate vocabulary, grammar, and discourse genres are practiced.

8. Discourse analysis

a. Introduction

The key players were Widdowson in Britain, and Trimble, Lackstrom, and Todd-Trimble in USA. Attention shifted from sentence grammar, to how sentences were combined in discourse to produce meaning. There was the assumption that the rhetorical patterns of text organisation differed significantly between specialist areas of use, but, this point was never seriously examined.

b. Meanings of 'discourse'

- 1) **spoken interaction**, analysed in terms of units of meaning, and organised into a hierarchy employing some or all of the terms 'act, move, exchange, transaction' etc.
- 2) **discourse as text**, spoken or written, analysed in a way which concentrates on **cohesion**. The cohesion devices such as connectives are particularly important in a logically developed presentation of scientific information.

(Dawe (1983) argued that logical connectives were the single most important feature of language that mono-lingual students had greater mastery of than bi-lingual immigrants. Linkwords are a marker of language proficiency, and are crucial in thinking in mathematics. Cohesive factors are also taught in EGP, but to a lesser extent than is needed in ESP.)

- 3) **rhetorical functions/communicative purposes**. eg description, classification, time order, space order, causality. Widdowson is the main thinker. He argues that:
 - a) the deep structure of science is universal and language independent. [not proven]
 - b) the surface realisation of scientific discourse in any language will be a combination of verbal and non-verbal devices. The non-verbal devices are supposed to be international. [not always] See Lowe 1992 and 1996 for contrary evidence, and a summary www.scientificlanguage.com/esp/words.pdf and www.scientificlanguage.com/esp/nonverbals.pdf

Discourse analysis gradually gave way to genre analysis, and the two terms are roughly equivalent for our purposes. Students should though be aware that some writers use the terms in distinctive, more limited ways, and in any research they should check this and specify and defend their own use.

9. Genre analysis See Jordan 1997:230ff. Swales 1990.

a. Short definition. .."the study of how language is used within a particular setting". Jordan 1997:231

b. Examples Research articles or papers. Abstracts. Theses. Textbooks

c. Comment

Most research has concentrated on written academic text. Speech has received little attention. Seminar speeches are very conventional. It is often very difficult identifying what is distinctive. Conventionalised and accepted rhetorical structure, even of essays, varies with the subject. It is too facile to assume that similar conventions apply. The basic idea that texts can be classified by some system of genre is a good one. But, right now, there is no one recognised and widely used system of classification; there is not one taxonomy of genres. Biology is partly founded on systematic description and classification of species. But linguists are not so advanced.

The usefulness to teaching of the concept of genre should be obvious. The ESP teacher should know about all the genres and sub-genres within the speciality of the students, and should attempt to use example material from a wide selection of these genres. Students will one day be required to use these English Speciality genres, and they should get practice now. So for instance, scientists would rarely be asked to write a fax or an essay, but might be asked to read a research article or write a technical report. The genres of the discipline, and only these genres, should be brought into the classroom.

There is also the assumption, as yet largely untested, that formal explanation and study of the structure of these genres will help students to learn them. This is in contrast to another viewpoint that students, through exposure to a genre will pick up, will absorb the structure, with little or no conscious thought about the structure. My own view is that formal teaching can probably do little harm, provided students do not try to follow it too rigidly, or seek for rules. In addition, all students benefit from repeated exposure to a genre.

d. Detailed definitions

- 1) Set and used by a discourse community
- 2) Possesses characteristic features of style and form, characteristic conventions,
- 3) Possesses known public purpose
- 4) Has specialised, accepted, terminology, and high level of expertise/expected prior knowledge and assumptions about the discipline and the genre ==>institutionalised culture.

e. The structure of research articles

The most common formats after the Abstract are:

IMRC

Introduction

Methods

Results

Conclusions

IMRAD

Introduction
 Methods
 Results
 And
 Discussion

f. The structure of abstracts

One of the clearest examples of genre analysis is Swales 1990 three move CARS (Create A Research Space) model. Swales initially proposed a four move sequence, but, moves 1 & 2 were hard to distinguish, so, in 1990 the three move sequence was published. See Jordan 1997:233. For students who are not familiar with this, I present a summary. Swales argued that in many abstracts the following structure is used.

- Move 1. Summarise the topic area, the field, the opposing viewpoints, ie put your work in context.
- Move 2. Establish where there is a gap, something new that needs to be done. This gap is sometimes called your 'niche'. You might make a counter-claim.
- Move 3. Show how you filled this gap and what your findings showed, and the implications.

Example: Abstract for an article (taken from Lowe 1996:217). I have superimposed the moves language. I have also shown the alternative framework.

Alternative framework	Swales' three move CARS framework
Introduction	<u>Move 1.</u> The symbols and other 'non-verbal' devices of science are commonly assumed to be international
Methods	<u>Move 2.</u> I tested this assumption for the French and English languages at the pre-university level of science. The setting was two pilot schools in Tunis, one of which taught an accelerated Tunisian curriculum in French, and the other taught the identical curricula in English.
Results	<u>Move 3.</u> The results were surprisingly unambiguous. There was total correspondence only for the symbols of the elements and the symbols for amino acids. Differences were found in the areas of numbers, the ways of writing equations, the indications of scale on graphs, symbols in chemistry, and the symbols for trigonometry.
Discussion Conclusion	Some reasons for the differences are considered, along with a discussion of the factors influencing standardisation. It is helpful for ESP teachers to know where constancy exists, and to be able to point out differences to students.

The three stage framework is not the only one possible. Another framework is illustrated below. It comes from my thesis (Lowe 1992: Abstract) and was written before I knew about Swales, and before I had studied discourse analysis. As such it represents a style that I had learned without receiving any formal instruction, and without being consciously aware of the linguistic pattern. With hindsight it is quite clear that I had simply used the experimental

report format, which I had been taught since my first year at grammar school (seven years before the Baccalaureate) and had in turn taught other students when I later became a science teacher. This is the famous format of Introduction, Methods, Results, and Conclusions. Unlike the example above which can be analysed equally well with IMRAD and CARS, this example suits the IMRAD best.

Introduction	In 1983 two pilot schools in Tunis began teaching sciences and mathematics, one through French, the other through English, but based on the French curriculum and textbooks. The content and language of science was assumed to be similar: only the host language changed.
Methods	In the pilot schools, physics, chemistry, and biology lessons were observed, set textbooks and their translations were compared, teachers' meetings attended, and sixth year pupils were tested. The validity of the assumption that scientific language is similar in French and English was assessed, and some of the consequences explored. The work was restricted to communication through words and non-verbals such as symbols.
Results	The results show that the assumption is only fully valid for the symbols of the elements and amino acids, and the SI system of units. Scientific language is not necessarily constant between French and English.
Conclusions	Implications are drawn for linguistics and for the teaching of English to students of science: the differences cannot be ignored, as many of them are fundamental ones.

10. Genre analysis and business letters

There is an interesting article by Jenkins S & Hinds J 1987 called Business letter writing: English, French, and Japanese. The paper is very repetitive in my opinion, but at the same time is a clear example of the application of genre analysis to business letters in three different cultures. As I remember it, the emphasis in English is to write clearly, and to achieve results. The French though view a letter much more as a legal document, and with this goes a more formal style.

11. Genre comparison in medicine

The following article is very interesting. Régent O 1985 A comparative approach to the learning of specialized written discourse In Riley P (ed) *Discourse and learning* p105-120. UK: Longman. This article specifically compares the rhetoric of medical articles, written in French and those written in English.

12. Genre: teaching implications

a. Explicit knowledge of genre speeds up comprehension and production

The basic expectation is that if students know the structure of a genre, they will be more selective in their reading or listening. Because they know their way around the genre, because they know what to expect, they will understand it quicker. Similarly, the typical structures of a genre can provide patterns - frameworks - which students can use when they wish to produce that genre. Teaching genres encourages students to develop 'top down' reading strategies, in which they are selective in their reading and jump around the text. The

easiest way to demonstrate this is to show the link between Abstracts and the rest of the article. Commonly, people first read the longish title, then if they are interested read the Abstract. From there, readers jump to the parts that interest them. Maybe they have not understood the methods, so the reader skips the introduction and concentrate on that part. Often readers are mostly interested in the conclusions - then they read how the writer came to the conclusions.

There are variations, from one journal to another, and between disciplines. But learners have to begin somewhere. Therefore it is advisable to choose examples which are 'typical' or 'representative' of the genre.

Note, the expectation that explicit teaching about genre form leads to production, is still only an expectation - it has not yet been firmly established.

b. Genre transformation exercises

Given the high number of genres in a discipline, particularly in business English, another area of exploitation opens up. There are many traditional transformation exercises. These include:

- 1) Turning text into reported speech
- 2) Eliminating the passive tenses in a text
- 3) Taking a passage and turning all the active tenses into passive tenses
- 4) Taking informally written text and re-writing it formally
- 5) Translation

But now I am suggesting that students transform a text into a different genre. For instance, we have had the 'abstract' for decades, but in recent years some internet sources, such as the Cochrane database of evidence based medicine, which are providing a 'plain language summary'. It would be a good exercise to alternate between these two genres: abstract, and plain language summary.

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