The development of ESP: Language description and its influence on pedagogical materials

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This paper provides a brief overview of the different phases of development undergone by the ESP/EST movement since its beginnings in the 1960s. The aim of the survey is twofold: on the one hand the main approaches to ESP/EST will be identified and analyzed with respect to the five relevant features provided by West (1995). On the other, we want to consider how the different language descriptions in each of the phases influenced the type of teaching materials used.

The knowledge of the evolution of the movement will make us more aware of the different issues at stake when we have to make decisions as ESP teachers and materials designers.

Introduction

From its early beginnings in the 1960s, English for Specific Purposes (henceforth, ESP) has undergone several phases of development. It needs to be pointed out first of all that ESP is not a monolithic universal phenomenon. It has developed at different speeds in different countries and examples of all the phases that we will see can be found operating somewhere in the world at the present time. The content of this paper will be, therefore, general in its focus.

One area of activity has been particularly important in the development of ESP. This is the area usually known as English for Science and Technology (henceforth, EST). Swales (1985:x) in fact uses the development of EST to illustrate the development of ESP in general:

> *EST is the senior branch of ESP — senior in age, larger in volume of publications and greater in number of practitioners employed. [...] With one or two exceptions, English for Science and Technology has always set and continues to set the trend in theoretical discussion, in ways of analyzing language, and in the variety of actual teaching materials.*

Searching for what might be called the foundations, essential features or basic principles of ESP (Swales, 1991) uses the term "endu-

ring conceptions"), West (1995) finds five of those features in the literature:

research-base	«a trend towards papers that rely on some kind of data-base» (Swales, 1991)
coherence of discourse cohesion of text	«[An ESP course should aim at developing] the ability to understand the rhetorical functioning of language in use (coherence of *discourse*) [...] The ability to recognize and manipulate formal devices to create continuous passages of prose (grammatical cohesion of *text*).» (Allen & Widdowson, 1974)
need	«the language-using purposes of the learner are paramount» (Strevens, 1977)
authenticity	«the main consideration in ESP exercise typology must be that of authenticity (= authentic texts + authentic tasks)» (Coffey, 1984)
learning/ methodology	«make the materials both more relevant and more interesting to the student by varied and ingenious exploitation of the opportunities provided by ESP settings» (Coffey, 1984)

The aim of this survey is twofold. On the one hand, we want to identify the main approaches to ESP/EST and see how each of them has focused on one of the major features just mentioned and, thus, has contributed to the concept of ESP itself. On the other, we want to point out how each of these approaches has described language and how those descriptions have influenced teaching materials. As Robinson (1991:23) already points out:

> *earlier studies focused on elements of the sentence and their construction; later cohesion (particularly grammatical cohesion) was an important consideration. Attention then moved to the meanings of forms (notions and functions) rather than their structure and to the study of forms in context.*

Subsequently, approaches from discourse analysis and pragmatics were utilized.

Let us consider then the different phases in the evolution of ESP/EST.

1. The register analysis phase — The conception of research [approximately 1965-1974]

This first approach, which took place mainly in the 1960s and 1970s, is that which is outlined in M.A.K. Halliday, A. McIntosh and P. Strevens *The Linguistic Sciences and Language Teaching* (1964). Here the point is made that language varies in relation to the different people who speak it and in relation to the different purposes to which it is put. The authors conclude that, since there is variation in language, there must be different and distinct varieties of particular languages. These, it is claimed, divide into two types: one is associated with the different users and these are dialects, while the other is associated with different uses and these are registers. Both types are said to be defined by reference to their formal linguistic properties. That is to say, they are what Widdowson (1979:55) called *types of text*. Thus, scientific English, and its various subdivisions, are represented as distinct registers which can be characterized in terms of how the language system is manifested.

The need for a *research-base* for ESP was set out by Halliday et al. (1964) as well:

> *Registers [...] differ primarily in form. The crucial criteria of any given register are to be found in its grammar and lexis. Every one of these specialized needs requires, before it can be met by appropriate teaching materials, detailed studies of restricted languages or special registers carried out on the basis of large samples of language used by the particular persons concerned.* (op.cit. 88, 190; underlined mine [MPGM])

The aim of the analyses carried out at the time was, therefore, to identify the grammatical and lexical features of those registers. Frequency studies became very important since the early days of ESP. The peculiarities of languages for specific purposes were first and foremost of a quantitative nature. For some authors, it was the significantly frequent occurrence of certain speech elements, forms or structures that characterizes scientific writing and spoken discourse. One of the first and most important frequency studies was the one carried out by Barber (1962) *«Some measurable characteristics of modern scientific prose»*, which stimulated a number of other works. Swales (1985:1) points out that the statistical information contained in Barber's article provided *«important ammunition»* for teachers trying to convince their colleagues and superiors that scientific English was different from general English or literary English in ways other than its use of technical or specialized vocabulary [1].

Teaching materials of the time (Herbert, 1965; Ewer and Latorre, 1969) tend to take the formal features of register as their syllabus and give priorities to forms students would meet in their science studies in English. Herbert, for example, believes that by placing emphasis on the typical forms of language found in written engineering texts, by highlighting the typical sentence patterns and by isolating certain aspects of vocabulary from the texts chosen for class discussion, the foreign student of engineering will be substantially aided in his/her specialist English. Scientific statements in the form of a substitution table were presented for practice (see Fig.1). Although this is a potentially useful approach, it neither gives guidance as to *when* one form is preferred to another nor indicates *how* any particular form fits into the structure of a text, that is, what precedes or follows it.

[1] As Swales points out, in the early sixties syllabuses were essentially structural and , for example, all the tenses of English were taught simply because they were there —as part of the language system—. Barber's results could be —and were— used as an argument for not teaching the progressive tenses in scientific English classes.

This machine	*differs* *is different*	*from*	the other one	in	its shape. several respects. the fact that it is more powerful. that it is more powerful.
	can be distinguished			by	its shape.
It is useful to	*differentiate* *distinguish* *make a distinction*	*between*	a blower and a liquid pump.		
This engine,	*unlike* *as distinct from* *as apposed to*		the earlier one, has six cylinders.		
This engine as six cylinders		*as against* *as compared with* *as apposed to*		the four cylinders of the earlier one.	

Figure 1. From A. Herbert (1965) *The Structure of Technical English*

The items to be taught in courses following Herbert's approach were selected in the main on an intuitive basis. One of the first courses to be based on research into scientific text was Ewer and Latorre's *A Course in Basic Scientific English* (1969). The authors analyzed more than three million words of scientific English, covering most of the areas of science and technology. From this corpus, they selected the most frequent grammatical patterns, structural words and vocabulary items (including prefixes and suffixes) common to all scientific disciplines.

The register analysis phase has been criticized for being only descriptive, not explanatory. As Robinson mentions (1991:24), the two approaches should be combined in such a way that the description leads to the explanation and the explanation is backed up by

descriptive data. The approach was very much sentence-based and form-focused (*usage-exemplification of the language system*) and, on the pedagogical front, did little to encourage a student to view his specialist English as a vehicle for communication. The criticism made can be summarized in the following comment by Widdowson (1979:55-56):

> *The fact that scientific English exhibits a relatively high proportion of certain syntactic features and a relatively low proportion of others may be useful for identifying scientific English texts should we ever want to do such a thing. [...] But this approach cannot reveal the communicative character of what was written. It cannot of its nature deal with discourse.*

2. The rhetorical or discourse analysis phase [approximately 1974-1980]

Register analysis as a research procedure was rapidly overtaken by developments in the world of linguistics. Whereas in the first stage of its development, ESP had focused on language at the sentence level, the second phase of development shifted attention to the level above the sentence, as ESP became closely involved with the emerging field of discourse and rhetorical analysis. The leading figures in this movement were Henry Widdowson in Britain and the so-called Washington School of Larry Selinker, Louis Trimble, John Lackstrom and Mary Todd-Trimble in the United States.

What was important now was not so much «the frequency of feature *x* or *y* but the reason for the choice of *x* rather than *y* in the developing text. The focus was thus on the sentence, and on the writer's purpose rather than on form» (Robinson 1991:24). A very practical and readable account of this approach is given in L. Trimble (1985) *English for Science and Technology: A discourse approach*. Whereas the first approach (register analysis) is quantitative and tells us what linguistic forms occur and how frequently,

this new approach is qualitative and tells us what the forms count as communication, how they express elements of discourse (see Fig. 2).

To illustrate this last point, consider the following three statements (Widdowson 1979:57):

> Plants to convert cellulose of pine sawdust into fermentable sugar and that into alcohol *fail* because sawmills *can't* sell as much lumber as plans *call for*, and thereby *curtail* the alcohol plants' raw material supply.
>
> Plants to convert cellulose of pine sawdust into fermentable sugar and that into ethyl alcohol *have failed* because sawmills *haven't been able* to sell as much lumber as plants *have called for,* and thereby *have curtailed* the alcohol plants' raw material supply.
>
> A plant to convert cellulose of pine sawdust into fermentable sugar and that into ethyl alcohol *failed* because a sawmill *couldn't* sell as much lumber as plans *called for*, and thereby *curtailed* the alcohol plant's raw material supply.

Figure 2. Choice of linguistic features in discourse

What authors are interested in now is how the choice of certain linguistic features affects what kind of statement is made in each case. Thus, the choice of the present, present perfect or past tense in the three statements above is not a choice based upon the time of the ethyl-alcohol plant failures, but upon how general the author believes this phenomenon to be. To put it in a different way, the author will choose one or another of the tenses depending upon how many instances of ethyl-alcohol plant failures he knows about. If he has knowledge of a large number of cases, he will use the present tense. If he knows of fewer cases, he will use the present perfect. If he knows only one case, the past tense will be used.

Widdowson argued for a program of research on scientific English which, he claimed, should not be considered a variety of English defined in terms of its formal properties but as a kind of discourse, that is to say, a way of using English to realize universal notions associated with scientific enquiry[2]. Thus, his reaction against the register analysis approach concentrated on the *communicative values of discourse* rather than the lexical and grammatical properties of register, as is clearly illustrated by the following (Allen and Widdowson, 1974:2):

> *The first [ability] is to recognize how sentences are used in the performance of acts of communication, the ability to understand the rhetorical functioning of language in use. The second is the ability to recognize and manipulate the formal devices which are used to combine sentences to create continuous passages of prose. We might say that the first has to do with coherence of discourse, the second with the grammatical cohesion of text.*

In practice, the discourse analysis approach tended to concentrate on how sentences are used in the performance of acts of communication and to generate materials based on functions (definitions, descriptions of experiments, inductive/deductive statements, instructions ... etc). Concern with these functions led to the *Focus Series* (P. Allen and H. Widdowson (eds.), OUP), nine volumes in all from 1973 to 1980. The starting point is not an inventory of grammatical items but of rhetorical functions and students are taught to recognize those in scientific texts. Despite its theoretical underpinnings, the *Focus* series was neither a critical nor a commercial success due, perhaps, to the rigidity of the format (structure of units and exercises) and its overemphasis on the homogeneity of discourse.

[2] Widdowson's (1975) contention that there is a universality in the cognitive processes of science and technology that underlies their expression in any given language and his assertion that ESP students will already be familiar with these processes from science studies in their language was criticized by Robinson (1980:23) and Swales (1985:71).

The other major textbook series of the time was the *Nucleus Series* (M. Bates and T. Dudley-Evans (eds.), Longman). This series is historically important in ESP because of its best-selling status. Whereas the *Focus Series* was structured along rhetorical-functional lines, as we have just seen, the *Nucleus Series* opted for a syllabus design limited to the language of observation and description. Now we find a concept-driven syllabus in the sense that its organizing principle lies within the basic scientific concepts, such as *structure, function* and *causation* extractable from descriptive scientific statements. One of the advantages of this approach was that "concept" was not tied to either discipline or subject matter (*structure* could be equally applied to the cell in biology or the atom in physics). The new textbook series was successful because it was teacher-friendly, it had an attractive lay-out and it used inventive visual prompts (see Figure 3). Nevertheless, there were dissatisfactions too; the most important one relates to the communicative value and the feeling that this series, like *Focus*, does not live up to its promises in this area.

The carbon cycle

The life of plants and animals depends on the chemical substances containing carbon atoms. Plants obtain carbon from the very small amounts of carbon dioxide in the atmosphere. This atmospheric Co_2 is continually absorbed and given off (released) in the "carbon cycle".

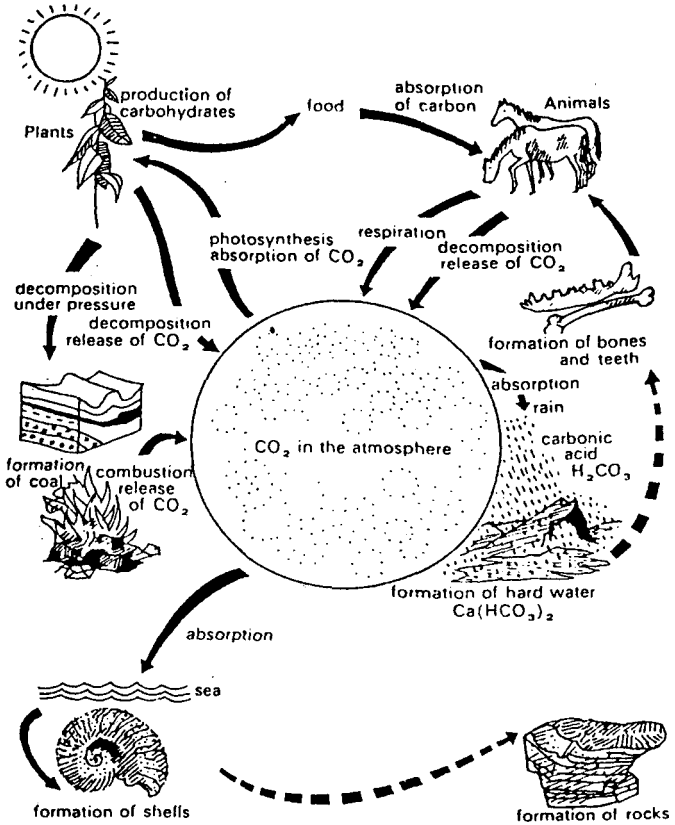

Figure 3. From M. Bates and T. Dudley-Evans (1976) *Nucleus General Science*

The rhetorical approach has been influential especially in the United States. Pettinari (1985) considers the alternation in a series of

surgical reports of sentences with indefinite subjects and those with the dummy subject *there* and she showed the importance of relating the grammatical description to the real-world role of the complete text. In the context of surgical reports, the discourse function of the indefinite subject/dummy *there* opposition is to provide an alternation between thematic information (the one the surgeon assumes is relevant to the surgical event) and non-thematic information (the one less likely to relate directly to the procedure).

Several important studies have focused on the verb system. For example Tarone *et al.* (1981) consider the relative frequency of active and passive forms in two astrophysics journal articles, finding that, contrary to many assumptions about scientific English, *we* with an active verb occurs at least as frequently as the passive[3]. As Robinson points out (1991:25) «what is important is that Tarone *et al.* try to identify *the rhetorical reasons* for the choice of active or passive, reasons that relate to the developing text and to authorial meaning and not to any prior stylistic decision» (underlined mine [MPGM]). This approach is later continued by Malcolm (1987) who explores tense usage in scientific articles.

3. The conception of need — The target situation analysis [approximately 1980-1987]

The stage that we come to consider now did not really add anything new to the range of knowledge about ESP. What it aimed to do was to take the existing knowledge and set it on a more *scientific basis* by establishing procedures for relating language analysis more closely to the learner's reasons for learning.

Given that the purpose of an ESP course is to enable learners to function adequately in a target situation, that is, the situation in which the learners will use the language they are learning, then the

[3] See also Tarone *et al.* (1998) for extensions of these ideas to astrophysics articles in other languages and other fields.

ESP course design process should proceed by first identifying the target situation and then carrying out a rigorous analysis of the linguistic features of that situation. The identified features will form the syllabus of the ESP course. This process is usually known as *needs analysis*. However, Chamber's (1980:29) term *target situation analysis* (TSA) is a more accurate description of the process concerned.

> *By the language I mean the language of the target situation. Thus needs analysis should be concerned with the establishment of communicative needs and their realisations, resulting from an analysis of the communication in the target situation — what I will refer to as target situation analysis (TSA).*

In looking at the target situation, the ESP course designer is asking the question «What does the expert communicator need to know in order to function effectively in this situation?» This information may be recorded in terms of language items, skills, strategies, subject knowledge .. etc. The most thorough explanation of target situation analysis is the system set out by John Munby in his book *Communicative Syllabus Design* (1978). Munby presents a highly detailed set of procedures for discovering target situation needs. He calls this set of procedures the Communication Needs Processor (CNP). The CNP consists of a range of questions about key communication variables (topic, participant, medium) which can be used to identify the target language needs of any group of learners.

The Munby model produces a detailed profile of the learner's needs in terms of communication purposes, communicative setting, the means of communication, language skills, functions, structures ... etc. The model, however, has been widely criticized for its over-fullness in design and for what it fails to take into account. In declaring that all except target-situation considerations were «*irrelevant to the*

specification of what the learner needs the target language for» (Munby 1977:7), Munby excluded logistical, psycho-pedagogic and methodological considerations among others. Munbyan needs analysis may be seen as reflecting a belief popular in the 1970s: technical rationality, that is, a belief in the capacity of applied science to deliver practical solutions to social/human/learning problems. But what the CNP produced was a list of the linguistic features of the target situation. There is more to needs analysis than this, though.

Although the target situation analysis stage marked a certain "coming of age" for ESP, in the sense that what had previously been done very much in a piecemeal way, was now systematized and learner need was apparently placed at the center of the course design process, as time went by it could be seen that the concept of needs that it was based on was far too simple. To counter the shortcomings of target-situation needs analysis, various forms of *learning needs* or *pedagogic needs* have been identified to give more information about the learner and the educational environment. These forms of needs should be seen as complementing the target-situation needs analysis and each other, rather than being alternatives:

— deficiency analysis: this gives us information about what the learners' learning needs are, i.e. which of their target-situation needs they lack or feel they lack

— strategy analysis: this seeks to establish *how* learners wish to learn rather than *what* they need to learn. By investigating learners' preferred learning styles and strategies we «*get a picture of the learner's conception of learning*» (Allwright 1982:28)

— means analysis: means analysis investigates precisely those considerations that Munby excluded. These relate to the educational environment in which the ESP course is to take place (classroom culture, ESP staff profiles ... etc, cf. Swales, 1989)

Needs analysis is a complex process, involving much more than simply looking at what the learners will have to do in the target si-

tuation. Both target situation needs (language use) and learning needs (language learning) must be taken into account (see Figure 4)

A target situation analysis framework

Why is the language needed? (study, work, both, training)
How will the language be used? (medium, channel, types of text or discourse)
What will the content areas be?
Who will the learner use the language with?
Where will the language be used?
When will the language be used?

A framework for analyzing learning needs

Why are the learners taking this course?
How do the learners learn?
What resources are available?
Who are the learners?
Where will the ESP course take place?
When will the ESP course take place?

Figure 4. Analyzing target and learning needs. A framework (adapted from T. Hutchinson & A. Waters. 1987)

4. The concept of authenticity — The skills and strategies approach

One of the earliest concepts to emerge from the development of ESP was that of authenticity. As West (1995) mentions, the first generation of ESP materials that appeared in the mid-1960s took skills as their principal means of selection. The definition of skill was somewhat broad, establishing little more than the ranking of the four usual language skills. Of these, it was almost always reading[4]

[4] For sociolinguistic reasons, mainly the spread of English as an academic/research language, ESP has often prioritized the development of reading skills.

that was singled out in early materials (e.g. Broughton, 1965; Close, 1975, Thornley, 1964-72), all of which consisted of specialist texts with accompanying comprehension and language exercises. The concept of authenticity was central to the approach taken to the reading skill but, at the time, it was limited in several ways: it was confined to authenticity of *text*, with no differentiation between different kinds of scientific/technical texts. A closer examination of the texts reveals that authenticity was being contrasted with simplification, in that the vocabulary and grammar were not simplified in any way. Moreover, there was no thought of authenticity of *task* in this early conception.

More recently, in the 1980s, ESP has seen an attempt to look below the surface of language[5] and to consider not the language itself but the thinking processes that underlie language use. The principal idea behind the skills and strategies approach is that underlying all language use there are common reasoning and interpreting processes, which, regardless of the surface forms, enable us to extract meaning from discourse. There is, therefore, no need to focus closely on the surface forms of the language. The focus should rather be on the *interpretive strategies* which enable the learner to cope with the surface forms, for example, guessing the meaning of words from context, using visual layout to determine the type of text ...etc.

Skills and strategies-based approaches to ESP have enlarged now the conception of authenticity in two principal ways. First, authenticity of text was both broadened to include texts other than written texts and narrowed to differentiate between the different types of text generated by each skill, so that reading, for example, could be

[5] We noted that in the first two stages of language development of ESP all the analysis had been of the surface forms of the language (whether at sentence level, as in register analysis, or above, as in discourse analysis). The target situation analysis approach did not really change this because in its analysis of the learner's need it still looked mainly at the surface linguistic features of the target situation.

sub-divided into reading reports, reading technical journals, reading instruction manuals ... etc. Secondly, the conception of authenticity was enlarged to embrace *authenticity of task.*

In effect, this meant designing tasks requiring students to process texts as they would do in the real world, i.e. employing the same skills and strategies as would be required in the target situation (see Glendinning & Holmström, 1987). Most of the work in the area of skills and strategies has been done in schemes such as the National ESP Project in Brazil, the University of Los Andes Project (Bogotá—Colombia, 1980) and the University of Malaya ESP Project. The Brazilian National ESP project puts out a useful journal (*The ESPecialist*); the second project gave rise to the *Reading and Thinking in English Series* (John Moore *et al.* 1980). *Skills for Learning* (published by Nelson and the University of Malaya Press, 1980) was the end product of the third project.

In terms of materials, then, this approach generally puts the emphasis on reading and listening skills. The characteristic exercises get the learners to reflect on and analyze how meaning is produced and retrieved from written and spoken discourse. Taking their cue from cognitive learning theories, the language learners are treated as thinking beings who can be asked to observe and verbalize the interpretive processes they employ in language use.

5. Latest trends within ESP: A learning-centered approach and genre analysis [1987-]

Hutchinson and Waters' (1987) book *English for Specific Purposes: A learning-centred approach* ushered in what they thought would be a new approach to ESP. Essentially, this amounted to a reinstatement of the psychological/educational bases of ESP, that is to say, the primacy of methodology, of learning processes, rather than the linguistic basis. According to these authors, all the approaches mentioned so far, were fundamentally flawed in that they were all based on descriptions of language use. Whether this description

is of surface forms, as in the case of register analysis, or of underlying processes, as in the skills and strategies approach, the concern in each case is with describing what people do with language. Their concern is different (op.cit. p.14):

> *Our concern in ESP is not with language use —although this would help to define the course objectives. Our concern is with language learning. We cannot simply assume that describing and exemplifying what people do with language will enable someone to learn it [...]. A truly valid approach to ESP must be based on an understanding of the processes of language learning.*

Whereas a language-centered approach says: This is the nature of the target situation performance and that will determine the ESP course, and a skills-centered approach says: That is not enough. We must look behind the target performance data to discover what processes enable someone to perform. Those processes will determine the ESP course. A *learning-centered approach* says: That is not enough either. We must look beyond the competence that enables someone to perform; what we really want to discover is not the competence itself, but how someone acquires that competence.

Hutchinson and Waters argue that the course design process should be more dynamic and interactive. In particular, factors concerned with learning must be brought into play at all stages of the design process. This approach to course and materials design has received its widest circulation in the papers and materials of Hutchinson and Waters (1981, 1982, 1987) and, more recently, Waters and Waters (1992).

Also, and as a second direction within the latest approaches to ESP, we find *Genre Analysis*. This approach involves the study of the forms of discourse that particular discourse communities engage in, their communicative conventions and purposes, the role texts play in particular environments, their genre products, and crucially

the differences between the discourses within and of different discourse communities. Genre analysis is narrower and deeper than the discourse analysis of phase 2. The studies differ from traditional register or text analysis in the importance they attach to communicative purpose within a communicative setting.

Tarone *et al.* (1981) used the term "genre" but up to that point it was rare in ESP. Like all technical terms, it has various interpretations, as summarized by Robinson (1991:25). For some writers, "genre" seems to be the same as "text type" and, as with the rhetorical approach, a genre analysis approach looks at the operation of language within a complete text, seeing the text as a system of features and choices. Selection is made according to the communicative purpose of the text producer. For example, Salager-Meyer *et al.* (1989a/b) analyzed medical English scholarly papers, divided into case reports, research papers and editorials, which are referred to as "sub-genres". The results suggest a systematic difference between each sub-genre according to the attitude of the writer to the reader:

case reports: pure description
research papers: advice and suggestion
editorials: judgement, value and instruction

Salager-Meyer *et al.* appear to indicate that they see case reports, research papers and editorials as sub-genres of the "genre" of medical English, and consider the different *communicative function* of the different types of texts. Again as reported on in Robinson (1991:25), for other researchers, "genre" is superordinate to domain, so that the genre of editorial might have sub-genres of medical/physics/pharmacy editorials.

Swales also used the term "genre" for the first time in 1981, but for him it seems to imply much more than text type. This is the definition of genre he provides in 1988:

> *[...] A class of communicative events, the members of which share some set of communicative purposes. The purposes are recognized by the expert members of the parent discourse community and thereby constitute the rationale for the genre. This rationale shapes the schematic structure of the discourse and constrains the choice of content and style.*

For Swales genre involves not only text type but also the role of the text in the community which produces it, thus implying some study of institutional culture. Swales' pioneering work on the study of the introduction section of academic journal articles from a wide range of disciplines (his CARS —*creating a research space*—) model has been an important breakthrough in the field and has stimulated a number of further studies (Crookes, 1986; Dudley-Evans, 1987, 1989; Hopkins and Dudley-Evans, 1988; among many others). Genre analysis is an exciting and fruitful development within ESP. It exemplifies the current importance of content, particularly the social and institutional aspects of the content.

As far as pedagogical materials are concerned, genre analysis can give rise to "genre-driven" pedagogic activities. The following are some teaching procedures that can be followed in a genre-based approach to materials design and exploitation (Ferguson, 1994):

1. THINK about purposes of the genre, setting, and communicative behavior surrounding the genre.

2. STUDY authentic examples of the genre (read, analyze, discuss). The teacher draws attention to the content, organization (moves), and typical language features of the genre.

3. AWARENESS-RAISING ACTIVITIES to make students aware of the typical/conventional content and organization of the genre as well as of typical linguistic features (register) (use jumbled sentences, identifying moves by underlining, labelling parts of text ...)

4. PART PRACTICE: focus on isolated elements or moves and concentrate practice on production of these elements in isolation from others. Controlled production.

5. WHOLE PRACTICE: activities that invite students to reproduce the whole text as practice (e.g. given an article, students write an abstract for it).

6. INTEGRATION: students use what they have learnt to produce authentic genre products that they need in their working/academic lives. They integrate genre into their normal working practice.

We should not finish this review, though, without mentioning the impressive amount of work that has been carried out in the field of contrastive rhetoric in ESP (cf. Bloch and Chi 1995; Busch-Lauer 1995; Clyne 1987, 1981; Connor and Mauranen, 1999; Mauranen, 1993; Precht 1998; Ventola and Mauranen 1996) which, no doubt, with time will find its way into the teaching materials and the classroom.

Conclusion

This paper has traced the evolution of the essential principles of ESP from the very beginning of the movement in the early 1960s until the present day. As West (1995) points out, while these principles have now reached a maturity which serves ESP well, there continue to be tensions arising from their applications to practical materials design and deriving in part from a conflict between real-world and pedagogic conceptions. These tensions include some of the following areas: target needs vs learning needs; target authenticity/research-data findings vs materials design.

Hopefully, knowing about the evolution of the movement and the different emphasis in each of its stages would make us aware of its complexity but, at the same time, would facilitate the decision-making process that ESP teachers and materials designers have to face in their daily work.

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