

## DISCOURSE ANALYSIS AND NAVAL ARCHITECTURE

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*Abstract: Discourse analysis is a modern discipline that has inherited lots of attributes from text analysis. So broad is the range of texts and so different the perspectives under which these texts can be analyzed that we can easily understand the different fields that discourse analysis as a whole can cover. The aim of this paper is twofold: firstly, to clarify how discourse analysis can be applied to naval architecture texts and, secondly, to offer a perspective of what the language used in science and technology might involve.*

*Keywords: discourse; analysis; methods; research.*

### **Introduction**

Allen and Widdowson state that communicative competence consists of both the ability to handle the formal devices of the language which enable a user to create and combine sentences, and the ability to recognize how sentences are used in the performance of acts of communication, the ability to understand the rhetorical functioning of language in use. Considering this, one can be aware of the fact that language used in science is associated with the means that are characteristically employed in science to reason. Thus, the reasoning processes, as R. Mackay and A. Mountford (1978) note, associated with defining, classifying, generalizing from observation, drawing conclusions etc. represent general communicative uses of language in science, such acts of communication being means of presenting the "content" of science. The authors rightfully conclude that an analysis or characterization of a piece of discourse has implications for the way interpretation takes place. Thus, understanding intersentential relationships has become an important aspect of developing interpretive competence.

### **Naval architecture (as branch of ESP) and the discourse analysis**

As far as the relationship between ESP and discourse analysis is concerned, P. Robinson (1991) considers both of them as being developments within the communicative revolution in language teaching and the study of language. Naval architecture is a branch of ESP so naval architects as ESP students look beyond the textbook to their actual job in which they will both encounter real discourse and create it. They will need comparative discourse analyses, because they can best fit the discourse analysis for translation purposes.

The discourse (rhetorical) analysis, as a logical development of the functional / notional view of language, corresponds to the second stage of ESP development (whereas the register analysis, based on sentence grammar, corresponds to the first stage). Now attention has shifted to the level above the sentence and emphasis is laid on understanding how sentences are combined in discourse to produce meaning. Discourse analysis has largely influenced ESP, and naval architecture, as well. Its influence on ESP has been shown by British and American linguists. It was Henry Widdowson in Britain and the so-called Washington School including Larry Selinker, Louis Trimble, John Lackstrom, and Mary Todd-Trimble in the United States that stated the basic principle of this analysis.

Thus, Grammar and Technical English (1972) is a crucial paper in the development of ESP because it created a new perspective of what an understanding of the language used in science and technology might involve. As J. Swales (1988:52) comments upon it, "the emphasis the authors place on rhetorical consideration as determining grammatical choices is worth mentioning, the paper marking a great step towards the discourse analysis. The three authors write: "We have tried to show that when we begin to examine purely grammatical notions in relation to technical writing and communication, in an effort to help the student manipulate technical information in English, we are drawn from purely grammatical relationships to the attitudes and intentions of the writer and to the position of the sentence under discussion in its rhetorical relationships to the rest of the paragraph". (J. E. Lackstrom, L. Selinker and L. Trimble 1972:5). Consequently, correct grammatical choices cannot be taught to naval architecture students apart from consideration of rhetoric and subject matter, unlike the sentence-oriented approach which describes grammatical choices only in syntactic and semantic terms, without contextual references. In order to support this, they show that: 1) choice of tenses in the written medium is dependent not on "time lines", but on rhetorical and subject-matter considerations; 2)

the specific grammatical choices involving definite and indefinite articles depend on rhetorical and subject-matter principles; 3) the choices involving adverbs, aspect, agent phrases, and nominalization often demand contextual directives.

Within the discourse or rhetorical analysis, the organizational patterns in texts are to be identified and the on rhetorical and subject-matter considerations; 2) the specific grammatical choices involving definite and indefinite articles depend on rhetorical and subject-matter principles; 3) the choices involving adverbs, aspect, agent phrases, and nominalization often demand contextual directives.

Within the discourse or rhetorical analysis, the organizational patterns in texts are to be identified and the linguistic means signaling these patterns should be specified. Such patterns should form the syllabus of the English for naval architecture course. The typical teaching materials based on the discourse approach help students to recognize these textual patterns and discourse markers mainly by means of text-diagramming exercises.

The fact must be underlined here that Hutchinson and Waters (1989:10) call this type of analysis rhetorical or discourse analysis, whereas L. Trimble uses the term rhetoric to refer to one important part of the broad communicative mode called discourse. In L. Trimble's opinion, rhetoric is "the process a writer uses to produce a desired piece of text. This process is basically one of choosing and organizing information for a specific set of purposes and a specific set of readers. A naval architecture text is concerned only with the presentation of facts, analysis, whereas L. Trimble uses the term rhetoric to refer to one important part of the broad communicative mode called discourse. In L. Trimble's opinion, rhetoric is "the process a writer uses to produce a desired piece of text. This process is basically one of choosing and organizing information for a specific set of purposes and a specific set of readers.

Considering what a naval architecture text is concerned with, naval architecture rhetoric can be defined as including the ways in which information is organized, as L. Trimble puts it, "when organization means: 1) the sequencing of the items of information in a piece of written discourse, and 2) the expression of the kinds of relationships that exist between these items" (idem, ibidem). In this respect, the fundamental characteristic of written naval architecture discourse must be taken into consideration, namely that it is very concise and concentrated on presenting ideas, often heavy-footed stylistically, and most frequently difficult as far as grammatical and lexical elements are concerned.

According to L. Trimble, EST rhetoric exists at several levels in a piece of discourse, but the rhetorical process is best seen operating at Levels C and D of his EST rhetorical chart.

EST Rhetorical Process Chart

Level

Description of Level

A. The objectives of the total discourse.

Examples: 1. Detailing an experiment

2. Making a recommendation
3. Presenting new hypotheses or theory
4. Presenting other types of EST information

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B. The general rhetorical functions that develop the objectives of Level A.

Examples: 1. Stating purpose

2. Reporting past research
3. Stating the problem
4. Presenting information on apparatus used in an experiment
  - a) Description
  - b) Operation
5. Presenting information on experimental procedures

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C. The specific rhetorical functions that develop the general rhetorical functions of Level B.

Examples: 1. Description: physical, function and process

2. Definition
3. Classification
4. Instructions
5. Visual-verbal relationships

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D. The rhetorical techniques that provide relationships within Level B.

Examples: 1. Description: physical, function and process

2. Definition
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D. The rhetorical techniques that provide relationships within and between the rhetorical units of Level C.

Examples: I. Orders

1. Time order
2. Space order
3. Causality and result

II. Patterns

1. Causality and result
2. Order of importance
3. Comparison and contrast
4. Analogy
5. Exemplification
6. Illustration

It is obvious that the information on the description and operation of apparatus can only be presented to the reader through the specific rhetorical function of description (Level C). This requires the use of the rhetorical techniques (Level D), including the natural patterns (times order, space order, and causality and result), as well as the logical patterns indicating the relationships between these items of information. That is why the rhetorical functions most

affected by the grammar are those that writers choose most frequently to convey the basic scientific and technical information through a technical piece of discourse.

### Conclusion

The areas of rhetoric most involved with the more difficult grammatical elements are descriptions and instructions, as well as the field of the so-called "peer writing" (that type of naval architecture language used by experts, even more specialized than the technical writing meant for skilled technicians who lack the theoretical training which engineers have), which can be found in scientific articles, book, reports, theses, dissertations, etc.

It is in this type of texts that the translator faces the greatest grammatical and lexical difficulties specific to naval architecture, i.e., the passive in the rhetoric of descriptions and instructions, the modals in the rhetoric of instructions, etc.

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