CHAPTER 2

NEEDS ANALYSIS

Needs analysis forms the basis for designing any ESP course.

2.1 ESP AND LEARNERS’ NEEDS

ESP has been defined as an approach to course design which starts with the question ‘why do these learners need English?’ A survey of literature on ‘Needs’ of the learners throws light on the importance of learners’ needs. Hutchinson and Waters (1989) argue that this should be the starting question to any course, general or ESP. All courses, they argue are based on a perceived need of some sort. In drawing the difference between ESP and GPE, they contend that in theory nothing, in practice a great deal. Therefore what distinguishes ESP from GPE is not the ‘existence’ of a need as such but an ‘awareness’ of the need. Thus, although it might appear on the surface that the ESP course is characterized by its content, this is only a secondary consequence of the primary matter of being able to readily specify why the learners need English.

They are of the opinion that any course should be based on the analysis of the learners’ needs.

This implies two things: firstly the learner and teacher should be constantly aware of these purposes and not introduce irrelevant materials into the course, and more importantly, than an ESP course should be ‘learner centered’.
ESP has developed alongside a new concern for the needs and feelings of the learner rather than requirements of an externally imposed syllabus.

Blanca refers to the use of English as the language most people need for their careers and reading comprehension is the skill most widely accepted as responding to this need.

Blanca distinguishes between 'real' and 'ideal' needs. A great deal of literature in science and technology is mainly available in English. A 'real' need is only felt in most cases, towards the end of the careers, when more specialized up to date reading material has to be handled.

He suggests that it would be reasonable, convenient and most relevant to offer English courses to students in the last part of their study programmes.

Further, he stresses on the needs awareness' technique which must be encouraged and complemented by similar moves from the specialist teachers who must be persuaded to recommend from the beginning reading material in English which complements their own courses.

White (1988) is of the opinion that the impetus for needs analysis came from recognition of the link between language code and language use. It was not possible to define learners' needs except in terms of the language system itself. He also points out that the purpose for which the language is to be used
becomes a key consideration in defining the content and objectives of a language syllabus.

Hutchinson and Waters (1989) refer to very significant ideas contributed by Richeterich and Chancarel. They suggest that the identification of a learner’s needs is undertaken by three separate bodies: the learner himself, the teaching establishment and the user – institution. (i.e., the learner’s employer). They suggest that needs analysis is an ongoing process and is certainly not confined to the beginning of the course. They thus recognize that a learner’s needs may change even while he is taking a language course, because of such diverse factors as a change in his financial resources, a change in his job, a modification of his objectives due to his (lack of) progress in the course.

Waters & Hutchinson discussing Munby’s contribution to the study of ‘learner’s needs’ agree that his primary concern is language and purpose specific language programmes. His model operates in two stages, firstly by building up a profile of student needs and secondly by converting needs into syllabus content.

2.2 THE ESSENTIAL COMPONENTS OF NEEDS ANALYSIS

a) Professional information about the learners; the tasks and activities learners are/will be using English for ‘target situation analysis’ and ‘objective needs’.

b) Personal information about the learners’ factors which may affect the way they learn such as previous learning experiences, cultural information,
reasons for attending the course and expectations of it, attitude to English
c) English language information about the learners: what their current skills
and language use are – ‘present situation analysis’
d) ‘The learners’ lacks’ the gap between (c ) and (a) –lacks.
e) Language learning information: effective ways of learning the skills and
language as identified in (d) –‘learning needs’.
f) Professional communication information about (a): knowledge of how
language and skills are used in the target situation – ‘linguistic analysis’,
‘discourse analysis’.
g) What is wanted from the course.
h) Information about the environment in which the course will be run –‘means
analysis’

2.3 ANALYSIS OF THE NEEDS

It is important to know before hand wherever data is being collected,
what will happen to the raw data and to the information derived from it. Having
built up a profile of students’ needs, the next step is to interpret the needs in
terms of specific language skills and in terms of units of meaning together with
the linguistic encoding for these units of meaning.

Any real needs analysis is liable to suffer from a number of drawbacks,
such as the lack of a common language between informant/student and teacher
and lack of information regarding job specification either because the student is
a novice or trainee in his special subject or because there is no access to the employee/subject specialist teacher, etc.

Responses given by the learners through questionnaires, interviews and other means are analyzed in detail before designing the syllabus for ESP course.

**NEEDS ANALYSIS**

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[from Developments in English for specific purposes – Dudley Evans (1998:125)]

### 2.4 NEEDS ANALYSIS: A SURVEY

In the context of ESP, needs analysis has become the dynamic impulse underlying course design, the driving force that has motivated teachers and course designers. It is an awareness of need that characterizes the ESP
situation. But awareness is a matter of perception and perception may vary according to one standpoint. Needs analysis has parallel with curriculum. In needs analysis the planner or the teacher investigates the language required for performing a given role or roles. The specification derived from this forms the plan for the language syllabus.

‘Needs Analysis’ has been discussed in detail by many ESP specialists. Needs analysis is the process of establishing the ‘what’ and ‘how’ of a course. It is neither unique to language teaching – ‘needs assessment’ for example, is the basis of training programmes, - nor, within language training, is it unique to LSP and thus ESP. However, needs analysis is the corner stone of ESP and leads to a very focused course.

Richeterich and Chancerel (1980) concerned with needs analysis, point out that needs analysis will contribute information not only before the course, but during as well. Need analysis contributes information regarding decision-making, about the aims, objectives, content and methods of a learning programme. Although needs analysis is regarded as a pre-course stage, it is seen as an ongoing process which will help both learners and teachers by providing feedback according to which succeeding stages of a programme can be modified, and in doing so, needs analysis can make provision for the unexpected outcomes which are seen to be an important aspect of education. With the advent of communicative approaches to language teaching, needs analysis has become an important stage in syllabus design.
It would be relevant here to mention Richertich and Wilkins (1975) contribution to needs analysis concerned with the definition of needs for adult learners, they express the idea that one of the characteristics of the adult learner is his desire to learn rapidly something he can use immediately. They proposed defining language needs and content by obtaining quantitative and qualitative statistical data from polls and surveys. According to them it is less difficult defining needs for specific requirements.

Holliday and Cooke (1982) have raised the status and significance of needs analysis. It should be regarded not as a subsidiary but as an equal stage in the syllabus planning process. They opine that it is only by checking with the user community and with the learners themselves that rounded picture of needs can be obtained. They mention a number of practical difficulties like gaining access to the user community whose language use forms the basis of the learners needs and eliciting information from clients, sponsors and prospective learners.

Johnson (1982) points out the other side of needs analysis. He observes that it enables us to discriminate between various learner types, and to produce syllabus inventories (and courses) especially geared to their needs; although, he continues, this only works satisfactorily as long as we are dealing with groups having the same needs?

Widdowson (1984.22) refers to the ideas of Trim. To him, 'needs analysis' means the whole cluster of techniques which lead to an
understanding of the parameters of the learning situation: ego, fellow learners, teachers, administrators, course-writers, producers, resource-analysis etc. are relevant factors in addition to the original predicated communicative behaviour. Since none of these are constant, analysis becomes a central aspect of course management and eventually allow the learner to take charge of his own learning.

Hutchinson and Waters (1989), as already noted, interpret needs as 'the ability to comprehend and/or produce the linguistic features of the target situation'. A basic distinction is made between 'target needs' (i.e., what the learners need to do in the target situation) and 'learning needs' (i.e., what the learner needs to do in order to learn).

'Target needs' is an umbrella term which encompasses a number of important distinctions. Target situation is seen in terms of 'necessities', 'lacks' and 'wants'.

i) Necessities: - 'Necessities' is the type of need determined by the demands of the target situation. For example, a businessman's need to know the linguistic features-discoursal, functional, structural, lexical-which are commonly used in the situations to understand business letters, to get necessary information from catalogues etc.

ii) Lacks: - The ESP course designer needs to know what the learner knows already, so that he can decide which of the necessities the learner lacks. One target necessity might be to read texts in a particular subject area. The target
proficiency, in other words, needs to be matched against the existing proficiency of the learners. The gap between the two can be referred to as the learner’s lacks.

iii) **Wants**: - Learners may have a clear idea of the ‘necessities’ of the target situation; they will certainly have an idea of their ‘lacks’. But it is quite possible that the learners’ views will conflict with the perceptions of other interested parties such as course designers, sponsors and teachers.

2.5 **TOOLS ADOPTED IN SURVEYING THE NEEDS**

The analysis of target needs involves far more than simply identifying the linguistic features of the target situation. There are a number of ways by which information can be gathered. The most frequently used ways are:

1) Questionnaires
2) Interviews
3) Observation
4) Data collection eg.. gathering texts
5) Informal consultations with sponsors, learners and others.

2.5.1 **QUESTIONNAIRES**

Of the methods suggested by Richterich and Chanceral the most commonly applied is the questionnaire. The administration of questionnaires is advocated but the beginning of a course in order to estimate students’ needs and wants. This is advocated as an essential pre-requisite to materials preparation.
Questionnaires are the best tools to gather information about the learners’ job specification, academic background, the present status of the learner’s language ability, the problems faced by him in understanding a particular text.

Job analysis of the learner includes job description and job specification. Job description includes the nature of the job, the purpose, the duties and responsibilities involved in it. This gives a clear indication of the professional background of the learner. Job specification asks for the knowledge and skills required in order to carry out his job.

The academic background, plays a very important role in deciding the tasks during the course. The data collected through questionnaires are analyzed for further designing of the course.

Questionnaires usually have open-ended questions in order to elicit information in more detail.

Scaled questions – usually call for statements and asks for degrees of agreement.

‘Leading questions’ are also included in order suggest there is one desirable or desired answer. ‘high brow’ questions, which use long words liable to be misunderstood, ‘complex’ questions with many sub parts, may also form question pattern in a questionnaire. These questionnaires are administered to the concerned personnel in the field of an organization.
2.5.2 INTERVIEWS

Face to face interviews with concerned personnel who require a specific English course training also help in gathering information about the needs, lacks and wants of the learners.

Before interviewing the people it is better some groundwork is done including checking the literature for relevant articles, contracting colleagues and organizations who might have experience of such groups.

Interviewing is also a popular technique. It features as the preferred research tool in many investigations because

- It is usually one to one, and therefore sensitive to individual differences and nuances of emphasis and tone even if a standardized structured list of questions is the content.
- It has a potential for openness and allows control of what is revealed to remain more or less with the respondent, giving room for individual expression.
- It is more like ordinary conversation and therefore to some extent a more personal context for information exchange
- Comprehension checks, and assurances of confidentiality can be requested and given at any point during the interview in order to maximize the usefulness of the data.
- The form of the answer is not constrained to ticks and circles, but is ordinary language with all its freedom and sensitivity.
Therefore interviews may be used as the primary research tool, or alternatively in an ancillary role, perhaps as a checking mechanism to triangular data gathered from various sources.

The interviews could be in the form of question-answer or discussion.

Electronic media like tape – recorders and videos could be used in order to record the interview which will later help in analyzing the learner's needs.

2.5.3 OBSERVATION: ETHNOGRAPHY

It is an approach to describing and understanding a target language use situation from the perspective of language users in that situation. The technique has been defined as ‘a means for the researcher to understand an event by studying both its natural occurrence and the accounts and descriptions of it provided by its co participants’. Ethnography itself, is an approach to the study of behaviour from the differing view points of the participants, and has been around since 1960's.

2.5.4 DATA COLLECTION

In research methodology a distinction is made between primary data and secondary data.

Primary data: they make a case for the necessity of understanding the data from perspectives of the participants who created them.

Secondary data: is the commentary on the primary data. This includes commentaries by experts-also upon the primary data.
The information obtained beforehand from the learners are useful because

a) It gives a first hand information about the learners.
b) It does not waste students’ or clients’ time.
c) It appears to be more professional
d) It gives an idea as to how data can be analyzed.

A survey of literature on learners’ needs and needs analysis has been a guiding factor in designing the syllabus and materials for the ESP course. A detailed account of the learners and the methods adopted to survey their needs and their analysis are discussed in the next sections.

Thus in order to construct a profile of the communication needs of a particular participant or group of participants, the first set of parameters is concerned with the type of ESP required and the particular educational or occupational purpose in question; the physical and psycho social setting in which the language is used; the social relationship in which the participant will be involved; and the medium, mode and channel of communication required. All these can be seen as primary, non-linguistic constraints on the language user. The second set of parameters is concerned with linguistic data; target level required, the communicative event, i.e., ‘what’ the participant has to do, which will involve consideration of topics and skills; and the communication key, i.e., ‘how’ the participant performs, which will involve consideration of attitudinal devices.
The kind of information the course designer needs to gather from an analysis of target needs is summarized by Hutchinson & Waters (1989:59) as follows.

'why' is the language needed?
- for study
- for work
- for training
- for a combination of these

'How' will the language be used?
- medium: speaking, writing, reading etc.
- channel: eg. Telephone, face to face.
- types of text or discourse, eg: academic texts, technical manuals, catalogues.

'What' will be the content areas?
- subjects: eg: medicine, architecture, engineering and commerce.
- level: eg: technician, post graduate.

'Where' will the language be used?
- physical setting; eg: lecture hall, office.
- human contexts; eg: alone, meetings
- linguistic context; eg: in his own country, abroad.

'When' will the language be used?
- concurrently with the ESP course or subsequently
- frequently, seldom, in small amounts.
2.5.5 ENVIRONMENT IN WHICH THE COURSE HAS TO BE RUN

Discussions with the learners and the organization’s management has revealed that any ESP training course should be conducted in-house. They also expressed that the duration of each training should not exceed four hours. Their intention is that conducting the ESP course should not become an impediment for their hectic work schedules and targeted outputs.

What is important is that ESP teacher or course designer must be aware of the differences in different situations and consider them in designing materials and methodology.

Thus in analyzing the information collected about the needs of the learner, care has been taken to consider the necessities, lacks and wants. The needs of the learners are analyzed based on the above mentioned criteria and this is discussed in detail in the next section.

2.6 OBSERVATIONS OF NEEDS ANALYSIS

Needs analysis was conducted in two stages

Stage one - data collection from the personnel involved in implementing QMS ISO 9001-2000

Stage two - analysis of the text to find out the linguistic features and the problems the users would face in reading, understanding and interpreting the Standard
2.6.1 STAGE ONE – ADMINISTRATION OF QUESTIONNAIRES

Needs analysis is the basis of ESP and leads to a focused course. A survey of needs of the users of ISO 9001-2000 'Standard' was conducted in order to study their lacks, wants and needs of English language skills required in comprehending and implementing the Standard.

The personnel were chosen from different organizations like manufacturing, service, education etc. This enabled the researcher to understand their problems regarding reading and understanding of the Standard and writing documents necessary in implementing Quality Management System in their respective organizations and to be more specific about their problems.

The survey was conducted mainly by (i) administering the questionnaires prepared for the purpose (ii) oral discussions held with the people involved in the process.

The focus of the course depends on various factors. As the learners form one of the key factors in designing a course, the question 'what should be taught?' comes only after specifying our learners and have gathered a good deal of information about them.

Just as the use of authentic/relevant data is an essential component of any ESP course, specific purpose background knowledge and general language knowledge play significant role in planning the course. Therefore a detailed investigation into the needs of the 'target group' i.e., the users of the
'standard' was conducted through questionnaires, group discussions and study of the literature available.

2.6.1.1 ISSUES ADDRESSED IN THE QUESTIONNAIRE

The needs analysis encompassed the following details:

a) Job description: Personal information about the learners: the tasks and activities learners are/will be using English for - target situation analysis and objective needs.

b) Factors which may affect the way they learn such as, person's previous learning experiences, reasons for reading the 'standard' - wants, means and subjective needs.

c) English language information about the learners: what their current skills and language use are - present situation analysis.

d) The learners' lacks: i.e, the short fall between the actual and the expected which constitutes the 'gap'.

e) Language learning details: effective ways of learning the skills and language.

As has already been pointed out earlier, a good needs analysis covers various aspects of the learners like the learners' academic, professional and linguistic abilities.

The findings of the needs analysis have provided a useful input to the present course design. The findings are as follows
2.6.1.2 FINDINGS FROM QUESTIONNAIRE

2.6.1.2.1 JOB ANALYSIS (QUESTIONS FROM 1 TO 12)

(i) The first part of the questionnaire elicited information about the learner’s background. The nature of the organization whether manufacturing or services revealed that the personnel are employed in manufacturing industries and service industry.

(ii) They belonged to different departments in organizations like production, inspection, Quality Assurance, Design and development, manufacturing, purchase, testing.

(iii) An important observation was that these people involved in implementing the Quality Management System had different educational qualifications. They were graduate engineers (Instrumentation, mechanical, electrical, electronics and communication, metallurgy), Diploma in various disciplines, commerce graduates, [B com, M com] and science graduates.

(iv) Among them are those who have studied in Kannada medium at school level and English medium at college level.

(v) For a question on the occasions they use English language in their respective work places, the response was that they use English language to communicate with others, to transact official work like meetings etc., to prepare quality system documents, to write reports, letters etc. and also to train others.
It is very clear from the above response that they use English language for various purposes in the organizations. But they have clarified that it is not very essential to communicate with their colleagues only in English, other languages like Kannada and Tamil are also used for routine communication.

2.6.1.2.2 RESPONSES: READING (QUESTIONS FROM 13 TO 18)

(A) Q 13) Tick the appropriate box:
What is the need for reading the Standard ISO:9001:2000?
(a) To understand the standard for writing Quality System Documents
(b) To train other members of your organization in implementing the Standard
(c) To implement Quality Systems in your functional area
(d) To be an auditee during audits
(e) To co-ordinate implementation of Quality System as Management Representative (MR)
(f) Any other reason Please Specify

RESPONSE:

The respondents expressed the need for a thorough reading and understanding of the ‘Standard’ for fulfilling various objectives. They need English language (a) to read and understand the Standard for writing Quality System Documents (b) to train other members of the organization in implementing the Standard. (c) to be an auditee during audits (d) to co-ordinate implementation of Quality system as management representative.
The above mentioned activity is important for the people concerned since they have to perform one or sometimes more than one activity. This response stressed the role of the ‘Standard’ and need for them to read in order to implement the quality system in their organizations.

(B) Q 14) When you read the ISO 9001-2000 for the first time, you
(a) understood the ‘Standard’ completely to discharge the responsibilities pertaining to QMS
(b) understood the Standard partially/in parts
(c) didn’t understand at all

RESPONSE:

The most significant response was that all of them agreed with (b) i.e., they understood the ‘Standard’ in parts. There was hardly any one who said that he/she understood the ‘Standard’ completely to discharge the duties pertaining to Quality Management Systems.

(C) Q 15) Did you get any guidance/support to understand the Standard? Yes/No

Q 16) If Yes, the guidance/ support you got was:

a) through Awareness Programme
b) through conversation with an external expert
c) by reading the Standard in a group along with other personnel of your organization
d) through the guidance published by ISO

e) any other. Please specify

RESPONSE:

The answer is Yes. They all agreed that they got guidance to understand the 'Standard'. The personnel received the guidance through awareness programme, external experts, the guidance published by ISO.

(D) Q 17) The language used in the standard ISO 9001-2000 is specific to the context. What additional efforts did you have to put in to acquire language skills?

a) through repeated reading of the 'Standard'

b) through various Training Programmes

c) through internal and external Audits

d) through repeated interaction with the other personnel in the organization

e) any other sources. Please specify

RESPONSE:

The language used in the Standard is specific to the context. In order to acquire the required language skills, all the respondents agreed that they had to put in additional efforts through (a) various training programmes (b) repeated interaction with other personnel in the organization

(E) Q 18) The problems in understanding the Standard were in the following areas:
i. to understand words/expressions like
a) potential non-conformities, obsolete documents, continuing suitability, continual improvement, intangible, the acceptance criteria, generic, ongoing control, etc.

b) customer satisfaction, customer perception, customer requirements, supplier evaluation, etc.

Expressions like to comply with, conformity to, to outsource, in accordance with, etc. (Prepositional phrases).

ii. to understand sentences like: 'The organization shall conduct Internal Audits at planned intervals to determine whether the Quality Management Systems conforms to the planned arrangements, to the requirements of this standard and to the Quality Management System requirements established by the organization and is effectively implemented and maintained'.

iii. repeated use of 'Shall'

iv. use of 'Can', 'May', 'Should'

v. definitions like suitability adequacy, excellence models, continual improvement, special documents, work environment, etc.

vi. any other difficulty. Please specify.
The respondents cited various reasons for not being able to comprehend the 'Standard' and the following are the areas pointed out by them in the order of priority.

(a) long sentences: due to ambiguity and lack of clarity.

(b) Certain expressions like 'supplier evaluation', 'potential non-conformities', 'ongoing control', etc. along with phrases like to outsource, to comply with, also posed problem in comprehending and interpreting the Standard.

(c) The repeated use of 'shall': 'Shall' is repeated 134 times in the 'Standard' and the use of 'shall' has not been followed by many.

(d) The use of modals like 'may' and 'can': modals are one way of indicating the degree of certainty of a 'writer'. Commitment to a statement or claim. Not many have expressed any difficulty in the use of modals.

2.6.1.2.3 WRITING (QUESTIONS FROM 19 TO 24)

Q19) Are you involved in preparing quality system document of your organization to meet the requirements of ISO 9001-2000?

Yes/No

Q20) If yes, which of the following documents are you involved in preparing?

a) Quality manual

b) Quality System Procedures

c) Work instructions
d) Any other documents like Quality plans, etc.

Q21) Are you required to prepare and maintain records? Yes/No

**RESPONSE:**

The data also revealed that the personnel were involved in preparing Quality System documents of their respective organizations to meet the requirements of ISO 9001-2000.

The personnel have to prepare quality manual, work instructions, quality objectives etc. as per ISO 9001-2000 for purposes of certification. They are also required to prepare and maintain records.

Q22) Do you need assistance (of an expert) to prepare documents/records? Yes/No

Q23) If yes, what kind of support/guidance is presently available to you?

a) External Expert
b) Colleagues
c) Publications of ISO
d) Any other. Please Specify.

**RESPONSE:**

The answer was Yes. They also expressed their need for assistance of an expert to prepare documents/records and presently the support/guidance available to them was through colleagues, publications of ISO.
Q24) The English language used in preparing documents and records is specific. So which are the difficulties you face in preparing them?

a) use of simple and appropriate words/terminology

b) use of short and appropriate sentence constructions.

c) Logical arrangement of information/ideas

d) Clarity in communication

e) any other difficulty? Please Specify.

RESPONSE:
The areas of difficulty in understanding specific context are (a) the use of simple and appropriate words/terminology, (b) logical arrangement of information/ideas, (c) use of short and appropriate sentence constructions.

2.7 SUMMARY OF THE FINDINGS

(i) The learners stressed the need for a thorough reading and understanding of the Standard. It was found that they had understood the Standard only in parts and there was hardly any one who had understood the Standard completely to discharge the duties pertaining to Quality Management System. The analysis of the questionnaire revealed certain problem areas pointed out by the learners themselves. They are (a) use of long sentences: ambiguity and lack of clarity were the causes expressed by them, (b) use of certain special terms and concepts, (c) the repeated use of shall.

They also expressed the need for assistance from an external expert to solve the above issues.
(ii) Developing writing skills also involves other skills of planning, drafting, revising so that the end product is appropriate both to the purpose of writing and the intended readership. Writing is a special skill and writers have to be aware of the context clearly. The analysis of the needs expressed clearly that the respondents faced practical problems while writing the documents and they need some kind of support/guidance not only from the publications of ISO but also from external experts.

Hence choosing the right and simple/specific terminology using shorter and simpler sentences and the structure of the sentences to be made simpler are the needs of the learners.

The survey conducted strongly advocated the idea that communication skills are also required to communicate effectively within the organization and outside the organization. Effective communicative skills in English are necessary to the individuals involved in the implementation of the systems.

In conclusion, it can be said that the needs analysis has provided a very valuable input regarding their job description, linguistic abilities and insight into their necessities, lacks and wants. The outcome of this analysis revealed that the participants require an English language course that can upgrade their

(i) Reading skills

(ii) Writing skills
2.8 STAGE TWO - ANALYSIS OF THE STANDARD ISO 9001-2000

H.G. Widdowson (1984) points out that in order to proceed with the course design one way would be to carry out a linguistic analysis of the text. The learners have to study to establish the defining characteristics of this particular register. Such a characterization would essentially indicate which lexical items and syntactic structures occurred most frequently in the data. It would in this sense be a systematic description of aims, a representation of the linguistic forms that the students are most likely to encounter and be obliged to interpret in their reading.

The present project focuses on the ISO-9001-2000 Standard [here used as 'text'] used by the organizations implementing quality management system Standards. It is different from other technical or scientific texts. Details about the Standard have already been dealt with in the section ‘quality management system standard ISO 9001-2000’.

The analysis of the ‘Standard’ is based on (a) Lexis (b) Grammar and (c) Discourse analysis.

Attention is focused on the linguistic realization of what the learners already know and what they are expected to know. The majority of learners in ESP however, are pre-experienced or in-service learners, or post-experienced students with very limited or inadequate knowledge of English.
2.8.1 LEXICAL ANALYSIS OF THE STANDARD ISO 9001-2000

LEXIS

Knowing a language is often taken to mean having a knowledge of correct usage but this knowledge is of little utility on its own; it has to be completed by a knowledge of appropriate use. A knowledge of use must of necessity include a knowledge of usage but the reverse is not the case; it is possible for someone to have learned a large number of words which can fit into them without knowing how they are actually put to communicative use.

Both the manifestation of the language system as usage and its realization as use have meaning but the meaning is of different kind in each case. Words and sentences have meaning because they are part of the language system and the meaning is recorded in grammar and dictionaries.

According to Brumfit and Johnson (1979) what is needed in ESP is a different orientation to English study and to outline an approach which departs from that which is generally taken. Broadly, what is involved is a shift from the grammatical to the communicative properties of the language. It is taken for granted that the difficulties which the learners encounter arise not so much from a defective knowledge of the system of English, but from an unfamiliarity with English use. Consequently their needs cannot be met by a course which simply provides further practice in the composition of sentences, but only by one which develops a knowledge of how sentences are used in the performance of different communicative acts.
2.8.2 THE IMPORTANCE OF VOCABULARY IN ESP

Vocabulary is of important consideration in ESP. A word may be of relatively rare occurrence in the total use of English, but absolutely essential for an individual who wishes to read on his specialized field which is written in English. So we come to the idea of special kinds of vocabulary [words and expressions] which are relevant to special interests or fields of knowledge.

The serious problem for learners therefore, is probably not technical language as such, but the language framework in which the technical expressions are placed.

However important it may be for a learner eventually to master the grammatical system, it is even more important that he should be able to communicate with those people with whom his daily life brings him into contact.

Slightly different from this case is the learner who has no long term aims at all. He is not concerned whether he can ever have a wide grasp of grammatical structure. He may need language for a clearly limited set of situations, and possibly even may expect to use it only over a limited period of time.

In either of these cases it can't be accepted that vocabulary would be less important than grammar. Wilkins[1978:111] is of the opinion that while without grammar very little can be conveyed, without vocabulary 'nothing' can be conveyed. What we normally think of as 'vocabulary items' – nouns, verbs
and adjectives - do indeed contain more information than is carried by grammatical elements. Wilkins further suggests that a balance between grammar and lexis will be required and proper consideration will have to be given from the beginning to the appropriate vocabulary, and that appropriateness will in turn depend on the social needs of the learners.

The importance of the teaching of vocabulary in ESP is now widely accepted. In discussing the teaching of ESP it has often been said that priority should be given to the teaching of 'semi-technical' or 'core-vocabulary'.

In any ESP exercise which exploits a particular context, that context will use certain technical / specific vocabulary. It is important that both the teacher and the learners appreciate that this vocabulary is acting as 'carrier' content. However, students usually need to be able to understand the technical vocabulary in order to comprehend the text.

In most situations learners need help with technical vocabulary that is completely new for them. One way to prepare learners for such a situation is to prepare a glossary of new terms with straightforward explanation.

Most ESP literature agrees on the needs for teaching semi-technical vocabulary. They are:

(i) items which express notions general to all specialized disciplines;

(ii) general language items that have a specialized meaning in one or more disciplines;

(iii) specialized items that have different meanings in different disciplines;
(iv) general language items that have restricted meaning in different disciplines;

(v) general language items that are used to describe or comment on technical processes or functions in preference to other items with the same meaning, for ex. 'occur' rather than 'happen;

(vi) items used to signal the writers intentions or evaluation of material presented.

The above six categories overlap considerably and that there seem to be two broad areas; vocabulary that is used in general language but has a higher frequency of occurrence in scientific and technical description and discussion; and vocabulary that has specialized and restricted meanings in certain disciplines and which may vary in meaning across disciplines.

In terms of teaching ESP, the specialized uses of general vocabulary in specific disciplines is to be regarded as an aspect of technical vocabulary.

2.8.3 LEXICAL ANALYSIS

Lexical analysis throws light on general and specific vocabulary, word partnerships, phrases and expressions, collocations, derivations and acronyms. Compound words which are specific in context are categorized under different themes in the 'text'. This analysis provides an insight into the words and expressions that fall under a particular theme and the clauses that contain them.
The process of 'Derivation' is one of the common methods of word formation. It consists of taking an existing base — either free or bound — and adding to it affixes — that is, prefixes or suffixes or both. In addition to native affixes from Old English [Ex.: dom, in freedom, Kingdom or hood as in childhood, priesthood etc.] many English words are also made up of foreign elements that have come into the English Lexicon.

Some of the native 'suffixes' that are still in use are:

a. The adjectival suffix -ly [manly, godly, homely].

b. The suffix -y forms adjectives for nouns, as in thirsty, bloody, greedy, fishy etc.

c. The suffix -ish also converts nouns into adjectives [childish, girlish and foolish] with the idea of 'in the nature of'. When added to an adjective, this suffix gives the general idea of 'somewhat', as in smallish, longish, and reddish.

d. The suffix -ful forms adjectives, as in wonderful and sinful, as well as new nouns, as in spoonful, mouthful, and handful. Indeed this suffix is so productive that it is freely added to words of foreign origin, as in useful, peaceful, beautiful, grateful and many others.

e. The suffix -less also forms adjectives from nouns, as in careless, hopeless, speechless, homeless and childless.
f. The suffix -ship forms abstract nouns by denoting 'quality, condition, or state' (friendship, fellowship), 'rank or office' (governorship, chairmanship), 'status' (lordship, ladyship) and even 'ability or skill' (leadership, penmanship). The suffix completes with -ness, which is also used in new formations such as the recent coinage, 'brinkmanship' ('balancing on the brink of disaster').

g. The form -ness is one of the most productive suffixes for making abstract nouns from practically any adjective, as in coolness, illness, manliness etc.

h. The so-called noun-agency suffix -er, meaning 'one who does something, as in banker, fisher, learner and worker.

The French noun Suffix -age give rise to words like shortage, shrinkage, breakage and leakage; -ment (movement) gives such hybrid forms as atonement and fulfillment; -ess appears in shepherdess, goddess; the adjectival ending -ous (gracious) is extended to nature bases like wondrous and murderous; and, what has probably become one of the most productive suffixes in English, the suffix -able, which can be tacked on to thousands of verbs to make adjectives, as in 'laughable', answerable, eatable, drinkable, understandable, washable etc.

Another French derivative element that is worth mentioning because of its productiveness is the suffix -ee (also spelled -e). It conveys the idea in lessee, mortagagee (as opposed to lessor, and mortagagor), payee, trustee, consignee, nominee, employee, refugee, trainee.
There is another un- prefix which is used with verbs only, for instance, undo, undress, unbind, unfold, uncover and unlock. It expresses the contrary or reversal of action.

As stated earlier a great many derivational affixes used in modern English are not native. The widespread use of Latin prefixes such as, re - 'again, back', as in revert, resell, remodel, refurbish and reread are not only very common but have become fully naturalized.

2.8.3.2 COMPOSITION

Unlike derivation, the process of composition, or compounding, involves the joining of two or more words, generally free 'break + fast', sometimes new words are formed, not by adding a prefix or suffix to a base word [anti-war], but by putting two or more base words together so that they form one unit.

2.8.3.3 BACK - FORMATION

This process involves the creation of a new word from an existing one by cutting off a real or supposed suffix, as exemplified by the verb 'edit', derived from the noun 'editor'. In a sense, back-formation is a kind of derivation in reverse and, like derivation, it usually involves the change of one part of speech to another. The word 'editor' looks like a noun formed on the verb 'edit' to which the noun-agent suffix -or has been added.

Examples of back-formation are peddle (peddler), audit (auditor), cobble (cobbler), loaf (loafer) and swindle (swindler).
Other frequent back-formations include ‘donate’ from ‘donation’, orientate form ‘orientation’, and colloquial forms like emote form ‘emotion’, orate form ‘oration’, and buttie form ‘buttlter’.

2.8.3.4 ACRONYMS

Akin to the process of shortening is the use of initials as regular words, also called ACRONYMS, or ALPHABET WORDS. Such are V.P (Vice-president), N.A.T.O (North Atlantic Treaty Organization), S.H.A.P.E (Supreme Head Quarters Allied Powers Europe). These words are usually the name of organizations.

2.8.3.5 LEXICAL PHRASES

Individual words are stored as chunks of language. These chunks can be referred to as ‘Lexical Phrases’, short set phrases that are frequently used in certain situations. Phrases and expressions which are part of Lexis make language/content more powerful. When learners have a limited need for English in certain predictable situations, learning of key lexical phrases may provide a very quick road to the proficiency required of that situation.

2.8.3.6 COLLOCATIONS

A collocation is a group of words which are often used together to form a natural sounding combination. Very commonly the collocation of particular lexical items will point to a frame of reference, and generate expectations about what is to come. Thus for example, the words goods, invoice, shipment,
bill of loading are directed towards a commercial frame of reference. The collocations state relations holding between lexical items.

The study of collocations and the mutual selections of lexical items has been called 'Lexis'.

Collocation, as Dudley (1998:85) observes, is the company that a word keeps; from this we can examine 'lexical' sets, a family of words the members of which collocate with each other. For eg: strong and powerful which both collocate with argument. This leads to the notion of lexical phrases, certain phrases that always appear in the same form, such as pure coincidence.

Whether or not the meaning generated by the combination of two or more particular lexical items is straight forwardly derivable from the individual meaning of the words concerned, it is clear that the collocations into which a given word may enter and the meanings that attach to its various partnerships need to be seen as vital elements in that items lexical profile.

Thus, it is very clear that 'collocation is not simply a matter of association of ideas'. For although milk is white, we should not often use white milk, though the expression 'white paint' is common enough.

2.8.3.7 FREQUENCY

The incorporation of vocabulary into teaching materials depends on a number of criteria. The most important single criterion is that of 'frequency'. Presumably the most useful items are those that occur most frequently in our language use. If a corpus of material is taken and the relative frequency of the
vocabulary items is calculated it shall be discovered that some words occur with far greater frequency than others.

Whenever it is possible to predict the uses a language may have for the learner, it should be possible to limit the language taught to that which has the highest practical return for him. Not all the words have quite the same function. This would actually be revealed by a vocabulary count. Dominating any English frequency list would be things like the articles, auxiliary verbs, prepositions and negative and comparative particles. These are sometimes called grammatical or function words because we use them to establish grammatical relations.

2.9 LEXICAL ANALYSIS OF THE STANDARD ISO 9001:2000

As already mentioned earlier, the 'ISO 9001:2000 Standard' taken up for analysis is analyzed at three levels

(1) Lexis (2) Grammar (3) Discourse analysis

This section attempts to examine briefly the Lexical analysis of the 'Standard'.

LEXIS :- 'Lexis' the study of the lexical items, makes an interesting analysis of the Standard. The selection of lexical items is based on the responses by different personnel of various organizations using the 'Standard' for implementing 'quality management system'.

With the importance ESP vocabulary has gained in recent years, it is essential to study the different categories of vocabulary. They are,
(1) Acronyms (2) Word-partnership comprising of (a) Compound words (b) Collocations (c) Phrases and expressions and (3) Derivations comprising of Suffixes and Affixes.

2.9.1 ACRONYMS

Two Acronyms are found in the Standard and the knowledge of both is essential to the user of the 'management Standard'. The first letter of each word is used to form the acronym.

(i) PDCA : also occurs in the 'Introduction' of the Standard. PDCA is as a methodology while discussing the 'Process Approach' [0.2]. The item is described as

Plan – establish ........

Do – implement ........

Check – monitor/measure ........

Act – take actions to improve ........

(ii) IEC : International Electro technical Commission. ISO in collaboration with IEC works on matters of electro technical Standardization. [Clause 2]

2.9.2 WORD PARTNERSHIP

A very significant observation in the Standard is the abundant use of word-partnership, [combination of two or more words] and collocations.

2.9.2.1 THEMATIC CATEGORIZATION

This is based on the vocabulary items, words and expressions belonging to a particular theme. This kind of categorization enables the user of the
Standard to comprehend all the concepts, ideas and activities belonging to a particular group. The study of the partnership revealed the following facts:

They perform different functions

* There are both general and specific words

* They define concepts

* They describe various activities performed / to be performed connected with the organization

  Eg internal audit, management review

* They describe various documents related to the quality management system

  Eg quality policy, quality manual

* They relate certain requirements of the quality management system. Eg product requirements, customer requirements

* They are related to the personnel of the organization. Eg Management Representative

* They express relationship between customer and organization. Eg

Most of them collocate with each other appropriate data, work environment etc. Important expressions are categorized under twenty themes for our present study.

The following table provides an insight into the words and expressions that are grouped under a particular theme and the sub-sections (clauses) in the Standard where they occur.
### TABLE SHOWING THEMATIC CATEGORIZATION

<table>
<thead>
<tr>
<th>Sl. No.</th>
<th>Word/s</th>
<th>Clause in which the word/s occur</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>QUALITY REQUIREMENTS</td>
<td>0.1</td>
<td>Quality in simple terms is ‘fitness for use’ It is defined as ‘degree to which a set of inherent characteristics fulfils requirements’</td>
</tr>
<tr>
<td>(a)</td>
<td>Quality management system</td>
<td>0.3</td>
<td>‘QMS’ is repeated throughout the Standard. It is the key expression in the ‘Standard’</td>
</tr>
<tr>
<td></td>
<td></td>
<td>0.4</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>1.1. The International Standard specifies requirements for a QMS where</td>
<td></td>
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<td></td>
<td></td>
<td>4.1. The organization shall establish, document a QMS</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>4.1. (a) The organization shall identify the processes needed for the QMS.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Control of such outsourced processes shall be identified within the QMS.</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Note: Processes needed for the QMS</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>4.2.1. The QMS documentation shall include</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>Note 2. The extent of the QMS documentation</td>
<td></td>
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<td></td>
<td></td>
<td>4.2.2. a quality manual that includes a) the scope of the QMS, ..</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>b) the documented procedures established for the QMS, c) a description of the interaction between</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>the processes of the QMS</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>4.2.3. Documents required by the QMS shall be controlled</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>5.1, 5.4.2(a)(b), 5.5.2(b)</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>Note: 5.5.3, 5.6.2(f), 5.6.3(a), 7.1, 8.1(b)(c), 8.2.2(a), 8.2.3, 8.4, 8.5.1</td>
<td></td>
</tr>
</tbody>
</table>

-60-
| (d) Quality management principles | 0.1 The quality management principles stated in ISO 9000
| (c) Quality Manual | 4.2.1 The QMS documentation shall include (b) a quality manual
4.2.2 The organization shall establish and maintain a quality manual that includes (a)

| (d) Quality policy | 4.2.1(a) The QMS documentation shall include documented statements of a Quality policy and quality objectives.
5.3 Top management shall ensure that the quality policy is (a) appropriate......(b)......(c)......(d)........(e)............... 
5.4.1 The quality objectives shall be measurable and consistent with the quality policy.
5.6.1............., including the quality policy........
8.5.1..................through the use of quality policy,........... |
| (e) Product quality | 6.2.1 Personnel performing work affecting product quality shall be competent..
6.2.2 (a) The organization shall determine the necessary competence for personnel performing work affecting product quality. |
| (f) | Quality objectives | 4.2.1(a). The QMS document shall include document statements of a quality policy and quality objectives. 5.3 (c) Top management shall ensure that the quality policy provides a frame work for establishing and reviewing quality objectives. 5.4.1 Top management shall ensure that quality objectives... 5.4.2 (a) ....as well as the quality objectives. 5.6.1 including the quality policy and quality objectives. 6.2.2 (d) The organization shall ensure the achievement of the quality objectives. 7.1 (a) In planning product realization, the organization shall determine quality objectives and requirements for the product. |
| 2. | PRODUCT BASED PROCESSES | |
| (a) | Product information | 7.2.2 Note: Instead the review can cover relevant product information such as catalogues or advertising material 7.2.3 in relation to product information. |
| (b) | Product release | 8.2.4 Product release and service delivery shall not proceed by the customer. |
| (c) | Product acceptance criteria | 7.3.3(c) Design and development outputs shall contain or reference product acceptance criteria |
| (d) | Product realization | 7.1 The organization shall plan and develop needed for product realization. Planning of product realization shall be of QMS. |

*Product* is another term which has been used repeatedly in the Standard. ‘Product’ is important both to the customer and the organization.
<p>| (e) | Non-conforming product | 7.4.1 Affect of the purchased production product realization or the final product. |
| (f) | Product requirements | 8.3 Control of non-conforming product. The controls &amp; dealing with non-conforming product shall be. The organization shall deal with non-conforming product by one or more of the following ways. |
| (g) | Product conformity | 6.3 The organization shall determine to achieve conformity to product requirements. 7.2.2(a) ensure that product requirements are defined. 8.2.4 to verify that product requirements have been met. 8.3 which does not conform to product requirements is identified. 8.4(b) The analysis of data shall provide information relating to conformity to product requirements. |
| 3. (a) | CUSTOMER Customer focus | 5.2 (heading) |
| 3. (b) | Customer perception | 8.2 1 As one of the measurements of the performance of the quality management system, the organization shall |
|  |  | Customer is one of the key terms in the ‘Standard’ and all the expressions related to ‘customer’ are brought |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>(c)</td>
<td>Customer property</td>
<td>7.5.4 The organization shall exercise care with customer property while it is under the organization's control or being used by the organization. The organization shall records maintained. Note: Customer property can include intellectual property.</td>
</tr>
<tr>
<td>(d)</td>
<td>Customer requirements</td>
<td>5.2 Top management shall ensure that customer requirements are determined and are customer satisfaction. 5.5.2 (c) ensuring the promotion of awareness of customer requirements throughout the organization 6.1 (b) 8.2.1</td>
</tr>
<tr>
<td>(e)</td>
<td>Customer satisfaction</td>
<td>5.2 Top management shall ensure that the customer requirements are determined and are met with the aim of enhancing customer satisfaction. 6.1 (b) to enhance customer satisfaction by meeting customer requirements. 8.2.1 8.4.1 The analysis of data shall provide information relating to (a) 'customer satisfaction'.</td>
</tr>
<tr>
<td>(f)</td>
<td>Customer communication</td>
<td>7.2.3 (Heading) The organization shall determine and implement effective arrangements for communicating with customers in relation to (a) product information (b) enquires, contracts............</td>
</tr>
<tr>
<td>(g)</td>
<td>Customer feedback</td>
<td>7.2.3 (c) customer feedback 5.6.2 The input to management review shall include information on (b) customer feedback</td>
</tr>
<tr>
<td>(h)</td>
<td>Customer complaints</td>
<td>8.5.2 A documented procedure shall be established to define requirements for (a) Reviewing non-conformities. (including customer complaints.)</td>
</tr>
<tr>
<td>(i)</td>
<td>Customer-related processes</td>
<td>7.2 Customer-related processes (Heading)</td>
</tr>
<tr>
<td>4.</td>
<td>MANAGEMENT</td>
<td></td>
</tr>
<tr>
<td>(a)</td>
<td>Resource management</td>
<td>6. Resource management (Heading )</td>
</tr>
<tr>
<td>-----</td>
<td>---------------------</td>
<td>----------------------------------</td>
</tr>
<tr>
<td>(b)</td>
<td>Management Representative</td>
<td>5.5.2 Management Representative(Heading ) Note: The responsibility of a management representative can include liaison with external parties on matters relating to the quality management system.</td>
</tr>
<tr>
<td>(c)</td>
<td>Management Review</td>
<td>5.1(d)............by conducting management reviews. 5.6.1 Management Review(Heading ) 5.6.2 The input to management review shall include information on (a).......(b).....(c).....(d)......(e)...(f).......(g)....... 5.6.3 The output from the management review shall include any decisions .......... a).......(b)....(c)........ 8.5.1 The organization shall................. management review</td>
</tr>
<tr>
<td>(d)</td>
<td>Top management</td>
<td>5.4.2 Top management shall ensure that....... 5.5.1 Top management shall ensure that....... 5.5.2 Top management shall ensure that....... 5.5.3 Top management shall ensure that....... 5.6.1 Top management shall review.......</td>
</tr>
</tbody>
</table>

Resource Management encompasses four sub-clauses namely  
(a) Provision of resources  
(b) Human resources  
(c) Infrastructure  
(a) Work environment  
This clause explains the role of the management in appointing a member of management to represent the management. This clause also discusses the role of MR.  
M.R is a very responsible activity in implementing the quality management systems. It is a part of managements commitment. It includes review output and review input and is a part of continual improvement of the organization.
| (e)  | Configuration management | 7.5.3 Note: In some industry sectors, configuration management is a means by which identification and traceability are maintained. | Reference to ISO 14000 standard used to implement environment management |
| (f)  | Environmental Management | 0.4 This International Standard does not include requirements specific to other management systems, such as those particular to environmental management, .......... |

| 5.  | AUDIT |
| (a) | Internal audit | 8.2.2 Internal audit |
| (b) | Audit programme | 8.2.2 An audit programme shall be planned, taking into consideration |
| (c) | Audit criteria | 8.2.2 The audit criteria, scope, frequency and methods shall be defined. |
| (d) | Audit process | 8.2.2 Selection of auditors and conduct of audits shall ensure objectivity and impartiality of the audit process. |
| (e) | Audit results | 8.5.1 The organization shall continually improve the effectiveness of the QMS through the use of the quality policy, quality objectives, audit results. |
| (f) | Conduct of audits | 8.2.2 Selection of auditors and conduct of audits ......of the audit process. |

‘Audit’ is a part of the implementation process. The clauses titled internal audit explains audit programme, audit criteria, audit process, The results of the audits conducted within the organization give scope for continual improvement of the organization.
<table>
<thead>
<tr>
<th></th>
<th>MEASUREMENT STRATEGIES</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a)</td>
<td>Measurement Standards</td>
</tr>
<tr>
<td></td>
<td>7.6 (a) where necessary to ensure valid results, measuring equipment shall be calibrated or verified at specific intervals, or prior to use, against <strong>measurement standards</strong> traceable to international or.......</td>
</tr>
<tr>
<td>(b)</td>
<td>Measurement result.</td>
</tr>
<tr>
<td></td>
<td>7.6 (d) where necessary to ensure valid results, measuring equipment shall (d) be safeguarded from adjustments that would invalidate the <strong>measurement result</strong></td>
</tr>
<tr>
<td>(c)</td>
<td>Measurement requirements</td>
</tr>
<tr>
<td></td>
<td>7.6 The organization shall establish processes to ensure that monitoring and measurement can be carried out........and <strong>measurement requirements</strong>.</td>
</tr>
<tr>
<td>(d)</td>
<td>Measuring devices</td>
</tr>
<tr>
<td></td>
<td>7.5.1(d) Controlled conditions shall include, as applicable the availability and use of monitoring and <strong>measuring devices</strong>.</td>
</tr>
<tr>
<td>(f)</td>
<td>Objective measurement</td>
</tr>
<tr>
<td></td>
<td>0.2 ...........Continual improvement of processes based on <strong>objective measurement</strong></td>
</tr>
</tbody>
</table>

Gives details of the measuring equipment, monitoring of measuring instruments, measuring devices for the continual improvement of the organization while implementing the quality system.
<table>
<thead>
<tr>
<th>7.</th>
<th>RESOURCES</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a)</td>
<td><strong>Human Resources</strong></td>
</tr>
<tr>
<td>(b)</td>
<td><strong>Resource need</strong></td>
</tr>
</tbody>
</table>

| 6.2 | Human resources (Heading) |

| 5.6.3(c) | The output from the management review shall include any decisions and actions related to resource needs. |

<table>
<thead>
<tr>
<th>8.</th>
<th>MONITORING VARIOUS PROCESSES</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a)</td>
<td>Preventive action</td>
</tr>
<tr>
<td>(b)</td>
<td>Corrective action</td>
</tr>
<tr>
<td>(c)</td>
<td>Follow-up actions</td>
</tr>
</tbody>
</table>

| 8.5.1 | The organization shall continually improve the effectiveness of the quality management system through the use of corrective and preventive actions. |

| 8.5.3 | Preventive actions shall be appropriate to the effects of the potential problems. |

| 8.4 (c) | The analysis of data shall provide information relating to characteristics and trends of processes and products including opportunities for preventive action. |

| 8.5.2 | Corrective actions shall be appropriate to the effects of the non-conformities encountered. |

| 8.5.2 (f) | A documented procedure shall be established to define requirements for reviewing corrective action taken. |

| 5.6.2 (e) | The input to management review shall include information follow-up actions from previous management reviews. |

This expression discusses the facilities provided in the organization, the conditions for the personnel working, in the organization, the skills required by them and the environment provided for the personnel in the organization. All these play a major role in the organization.

In order to bring changes and improvement in the organization effective and timely action contribute in a large way.
<table>
<thead>
<tr>
<th>9.</th>
<th>REQUIREMENTS</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>(a)</td>
<td>Statutory requirements</td>
<td>7.2.1(c) <strong>Statutory and regulatory requirements</strong> related to</td>
</tr>
<tr>
<td></td>
<td></td>
<td>the product</td>
</tr>
<tr>
<td>(b)</td>
<td>Regulatory requirements</td>
<td>7.3.2(b) These inputs shall include applicable <strong>statutory</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>and <strong>regulatory requirements</strong>.</td>
</tr>
<tr>
<td>(c)</td>
<td>Input requirements</td>
<td>7.3.3 (a) Design and development outputs shall meet the</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>input requirements</strong> for ...........................................</td>
</tr>
<tr>
<td>(d)</td>
<td>Performance requirements</td>
<td>7.3.2 (a) These inputs shall include functional and</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>performance requirements</strong>.</td>
</tr>
<tr>
<td>(e)</td>
<td>Product Requirements</td>
<td>7.2.2 (a) ...........and shall ensure that <strong>product requirements</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td>are defined.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>7.2.2 (c) Where <strong>product requirements</strong> are changed............</td>
</tr>
<tr>
<td>(f)</td>
<td>Contract or order requirements</td>
<td>7.2.2(b) ...........and shall ensure that <strong>contract or order</strong></td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>requirements</strong></td>
</tr>
</tbody>
</table>

The organization implementing QMS has to meet various requirements both within and outside the organization. It can be noted that requirements related to documents, contract or order, product, performance, input etc. are all a part of fulfillment of quality management system, hence, an important ‘item’ in the vocabulary.
<p>| | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>(g)</strong></td>
<td>Defined requirements</td>
<td>7.2.2(c) shall ensure that the organization has the ability to meet the defined requirements.</td>
</tr>
<tr>
<td><strong>(h)</strong></td>
<td>Customer requirements</td>
<td>7.2.2 the customer requirements shall be confirmed by the organization before acceptance 0.2 to enhance customer satisfaction by meeting customer requirements</td>
</tr>
<tr>
<td><strong>(i)</strong></td>
<td>Changed requirements</td>
<td>7.2.2 the relevant personnel are made aware of the changed requirements.</td>
</tr>
<tr>
<td><strong>(j)</strong></td>
<td>Additional requirements</td>
<td>7.2.1(d) the organization shall determine any additional requirements determined by the organization</td>
</tr>
<tr>
<td><strong>(k)</strong></td>
<td>Determined requirements</td>
<td>7.6 conformity of product to determined requirements</td>
</tr>
<tr>
<td><strong>(l)</strong></td>
<td>Associated requirements</td>
<td>0.1 in clarifying the associated requirement</td>
</tr>
<tr>
<td><strong>(m)</strong></td>
<td>Documentation requirements</td>
<td>4.2 Documented requirements (Heading)</td>
</tr>
</tbody>
</table>

This clause includes details of documents required in QMS such as (a) quality manual (b) documented procedures (c) records required by ISO Standard (d) quality policy and quality objectives.
<table>
<thead>
<tr>
<th>(n)</th>
<th>Quality management system requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>10.</td>
<td>POTENTIAL non-conformities</td>
</tr>
<tr>
<td>(a)</td>
<td>Potential problems</td>
</tr>
<tr>
<td>(b)</td>
<td>Potential effects</td>
</tr>
</tbody>
</table>

8.5.3 The organization shall determine action to eliminate the causes of potential non-conformities in order to prevent their occurrence. Preventive actions shall be appropriate to the effects of the potential problems, 8.3 (c) .............. the organization shall take action appropriate to the effects, or potential effects, of the non-conformity.

<table>
<thead>
<tr>
<th>11.</th>
<th>REVIEW</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a)</td>
<td>Management review</td>
</tr>
<tr>
<td>(b)</td>
<td>Review input</td>
</tr>
<tr>
<td>(c)</td>
<td>Review output</td>
</tr>
</tbody>
</table>

5.6 Management review

5.6.2 ( Heading )
The input to management review shall include information on..........................

5.6.3 ( Heading )
The output from the management review shall include any decisions and actions related to .........................

<table>
<thead>
<tr>
<th>12.</th>
<th>PROPERTY</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a)</td>
<td>Customer property</td>
</tr>
<tr>
<td>(b)</td>
<td>Intellectual property</td>
</tr>
</tbody>
</table>

7.5.4 The organization shall exercise care with customer property .......... If any customer property is lost, ...........

7.5.4 Note: Customer property can include intellectual property

Potential used as adverb means not at present active or developed but able to become so. These terms deal with the non-conformities and problems which do not exist at present but might occur at any time.

Review by the management of the organizations quality management system. The clause explains what is included under ‘management review’. More details regarding the input to review and output from the M.R. are provided in these sub clauses.

The clause deals with the care that should be taken regarding customers property which includes
<table>
<thead>
<tr>
<th>13.</th>
<th>ASSESSMENT OF THE PERSONNEL</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a)</td>
<td>Appropriate data</td>
</tr>
<tr>
<td></td>
<td>8.4 The organization shall determine, collect and analyze appropriate data to....................</td>
</tr>
<tr>
<td>(b)</td>
<td>Appropriate education</td>
</tr>
<tr>
<td></td>
<td>6.2.1 G.............shall be competent on the basis of appropriate education, training.............</td>
</tr>
<tr>
<td>(c)</td>
<td>Appropriate records</td>
</tr>
<tr>
<td></td>
<td>6.2.2(e) The organization shall maintain appropriate records of education ...............</td>
</tr>
<tr>
<td>(d)</td>
<td>Appropriate information</td>
</tr>
<tr>
<td></td>
<td>7.3.3(b) provide appropriate information for ...........</td>
</tr>
<tr>
<td>(e)</td>
<td>Appropriate stages</td>
</tr>
<tr>
<td></td>
<td>8.2.4 This shall be carried out at appropriate stages.....</td>
</tr>
</tbody>
</table>

The term 'appropriate', will have to be comprehended in order to follow other expressions in the clauses. All these clauses refer to the activities within the organization.

'transport, components, machinery etc. documents, data and intellectual property includes technical know-how anything connected with the knowledge of the customer.'
| 14. (a) | USE Points of use | 4.2.3(d) a documented procedure shall be established to define the controls needed to ensure that relevant versions of applicable documentation are available at points of use. |
| 14. (b) | Unintended use | 4.2.3(g) to prevent the unintended use of obsolete documents. .......... |
| 14. (c) | Intended use | 7.2.1 (a) the organization shall determine requirements not stated by the customers, but necessary for specified or intended use, where known. |

| 15. | DEVELOPMENT | 7.3 Design & development (Heading) |

| 15. (a) | Development planning | 7.3.1 Design & development planning (Heading) |
| 15. (b) | Development inputs | 7.3.2 Design & development inputs (Heading) |
| 15. (c) | Development outputs | 7.3.3 Design & development outputs (Heading) |

| 15. (d) | Development review | 7.3.4 Design & development review (Heading) |
| 15. (e) | Development verification | 7.3.5 Design & development verification (Heading) |
| 15. (f) | Development validation | 7.3.6 Design & development validation (Heading) |
| 15. (g) | Development changes | 7.3.7 Design & development changes (Heading) |

These terms occur under 'control of documents'.

The expressions mentioned suggest different stages of design activities like planning, inputs, outputs, review, verification, validation and changes if necessary in planning and controlling the design and development of the product by the organization.
<table>
<thead>
<tr>
<th></th>
<th>ACTIVITIES</th>
<th>0.2 Fig 1 page (iii) of the Standard ISO 9001:2000.</th>
</tr>
</thead>
<tbody>
<tr>
<td>(a)</td>
<td>Value – adding activities</td>
<td>7.2.1 (a) The organization shall determine requirements specified by the customers, including the requirements for delivery and post-delivery activities. 7.5.1 (f) Controlled conditions shall include the implementation of release, delivery and post-delivery activities.</td>
</tr>
<tr>
<td>(b)</td>
<td>Post delivery activities</td>
<td>4.1 Note: Processes needed for the QMS referred to above should include processes for management activities.</td>
</tr>
<tr>
<td>(c)</td>
<td>Management activities</td>
<td>(Heading)</td>
</tr>
<tr>
<td>17.</td>
<td>PURCHASE</td>
<td>(Heading)</td>
</tr>
<tr>
<td>(a)</td>
<td>Purchasing process</td>
<td>7.4.1 Purchasing process</td>
</tr>
<tr>
<td>(b)</td>
<td>Purchase requirements</td>
<td>7.4.2 ..........specified purchase requirements prior to their communication to the supplier.</td>
</tr>
<tr>
<td>(c)</td>
<td>Purchased product</td>
<td>7.4.1 The organization shall ensure that purchased product conforms to specified purchased requirements. 7.4.3 ..........purchased product meets specified purchase requirements.</td>
</tr>
<tr>
<td>(d)</td>
<td>Purchasing information</td>
<td>7.4.3 ..........method of product release in the purchasing information</td>
</tr>
</tbody>
</table>

Relates to the obligations of the organization to the customer after the delivery of the product.
<table>
<thead>
<tr>
<th></th>
<th>PROCESSES</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>18</td>
<td>Process performance</td>
<td>5.6.2(c) The input to management review shall include information on process performance and product conformity</td>
</tr>
<tr>
<td>(a)</td>
<td>Outsourced processes</td>
<td>4.1(f) Control of such outsourced processes shall be identified within the QMS.</td>
</tr>
<tr>
<td>(b)</td>
<td>Process equipment</td>
<td>6.3(b) Infrastructure includes, as applicable process equipment (both hardware and software)</td>
</tr>
<tr>
<td>(c)</td>
<td>Product realization processes</td>
<td>7.1 Note 1: A document specifying the processes of the QMS (including product realization processes)</td>
</tr>
<tr>
<td>(d)</td>
<td></td>
<td>7.1 Note 2; The organization may also apply the requirement given in 7.3 to the development of product realization processes.</td>
</tr>
<tr>
<td>(e)</td>
<td>Customer related processes</td>
<td>7.2 Customer related processes (Heading)</td>
</tr>
<tr>
<td>(f)</td>
<td>Improvement processes</td>
<td>8.1 the organization shall plan and implement the monitoring, measurement, analysis and improvement processes needed.</td>
</tr>
<tr>
<td>(g)</td>
<td>Internal processing</td>
<td>7.5.5 The organization shall preserve the conformity of product during internal processing and delivery to the intended destination.</td>
</tr>
<tr>
<td>(h)</td>
<td>Process-approach</td>
<td>0.2 This international Standard promotes the adoption of a process approach when developing QMS. the application of can be referred to as “Process approach”. An advantage of ‘Process approach’ is</td>
</tr>
<tr>
<td>19. (a)</td>
<td><strong>SUPPLY</strong></td>
<td>Supply chain</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>(b)</td>
<td><strong>Supplier</strong></td>
<td>3. Supplier → organization → customer</td>
</tr>
<tr>
<td>20.</td>
<td><strong>DOCUMENTATIONAL NEEDS</strong></td>
<td>2. The following normative document contains recent edition of the normative document indicated below. For undated the latest edition of the normative document referred to applies.</td>
</tr>
<tr>
<td>(a)</td>
<td><strong>Normative document</strong></td>
<td>4.2.1(a) The QMS documentation shall include documented statements of a quality policy.</td>
</tr>
<tr>
<td>(b)</td>
<td><strong>Documented statements</strong></td>
<td>4.2.2(b) The organization shall establish that includes the documented procedures.</td>
</tr>
<tr>
<td>(c)</td>
<td><strong>Documented procedure</strong></td>
<td>4.2.3(a) A documented procedure shall be established to define the controls needed to.</td>
</tr>
</tbody>
</table>

8.3 The controls of related responsibilities and authorities shall be defined in a documented procedure.

8.2.2 The responsibilities & shall be defined in a documented procedure.
<table>
<thead>
<tr>
<th></th>
<th>Obsolete documents</th>
<th>Applicable documents</th>
</tr>
</thead>
<tbody>
<tr>
<td>8.5.2</td>
<td>A documented procedure shall be established to define requirements for reviewing non-conformities.</td>
<td></td>
</tr>
<tr>
<td>8.5.3</td>
<td>A documented procedure shall be established to define requirements for (a), (b), (c), (d), (e).</td>
<td></td>
</tr>
<tr>
<td>4.2.4</td>
<td>A documented procedure shall be established to define the controls needed to prevent the unintended use of obsolete documents.</td>
<td></td>
</tr>
<tr>
<td>4.2.3 (g)</td>
<td>A documented procedure shall be established to define the controls needed to ensure that relevant versions of applicable documents are available at points of use.</td>
<td></td>
</tr>
</tbody>
</table>
2.9.3 LEXICAL PHRASES

Phrases and expressions are a part of the Lexis in the 'Standard'. These are the individual words in chunks of language, part of the specific language used in the standard which contribute to the effectiveness of the meaning of the clauses, language and content. The observation made about these phrases was that no phrase can be deprived of its importance while reading the 'Standard'. Even though in some sentences they contribute to the length of the sentence, they are complementary to the meaning of that particular clause.

Among the most often occurring phrases are where applicable, and as appropriate and where appropriate. Other phrases which are prominent in the Standard that need to be paid attention are ‘to be applicable to’, ‘as applicable’, ‘in accordance with’, ‘to comply with’, ‘conformity to’, ‘in relation to’, ‘to outsource’, ‘are met with’ and must be read along with the main sentence for the right comprehension.

This was one of the areas of difficulty posed by the users of the Standard during needs analysis.

2.9.4 COMPOUND WORDS

There are not many compound words in the Standard. It has already pointed out this combination of two or more words compounded to give a particular meaning. They are feed back, post delivery, input, output and order-handling, follow up action.
2.9.5 COLLOCATIONS

One of the observations about collocation in the Standard is that there are many expressions that co-occur and they are listed under ‘thematic categorization’ of words. But expressions like valid results, intended destination, undated references, strategic decision and unique identification are not classified under any heading.

2.9.6 DERIVATION:

Derivation is one of the important aspects of vocabulary. It has already been pointed out that an affix [suffix or prefix] added to a base word results in formation of a new word. The analysis of the text revealed that a large number of affixes contribute to the specificity of certain words. The most frequent usage is that of suffix – ‘ation’. The notable feature in all these words framed with – ‘ation’ added, the base word is the ‘verb’. The following list from the Standard ISO 9001-2000 provides us with the formation of nouns in such cases.

<table>
<thead>
<tr>
<th>Noun</th>
<th>v +ation</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. identification</td>
<td>identify +</td>
</tr>
<tr>
<td>2. evaluation</td>
<td>evaluate +</td>
</tr>
<tr>
<td>3. realization</td>
<td>realize +</td>
</tr>
<tr>
<td>4. operation</td>
<td>operate +</td>
</tr>
<tr>
<td>5. communication</td>
<td>communicate +</td>
</tr>
<tr>
<td>6. application</td>
<td>apply +</td>
</tr>
</tbody>
</table>
The above words formed with suffix -ation enrich the vocabulary item due to their association with important activities connected with the organization. For eg: validation, preservation, configuration.
'Hybrid' forms of words are formed with -ment added to the base word. This suffix also like the previous One -ation results in the formation of a noun. [verb + ment = noun]. The following is the list of such word formations.

<table>
<thead>
<tr>
<th>Noun</th>
<th>verb + affix</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. requirement</td>
<td>require + ment</td>
</tr>
<tr>
<td>2. management</td>
<td>manage + ment</td>
</tr>
<tr>
<td>3. commitment</td>
<td>commit +</td>
</tr>
<tr>
<td>4. measurement</td>
<td>measure +</td>
</tr>
<tr>
<td>5. equipment</td>
<td>equip +</td>
</tr>
<tr>
<td>6. amendment</td>
<td>amend +</td>
</tr>
<tr>
<td>7. development</td>
<td>develop +</td>
</tr>
<tr>
<td>8. arrangement</td>
<td>arrange +</td>
</tr>
<tr>
<td>9. assignment</td>
<td>assign +</td>
</tr>
<tr>
<td>10. improvement</td>
<td>improve +</td>
</tr>
<tr>
<td>11. adjustment</td>
<td>adjust +</td>
</tr>
<tr>
<td>12. agreement</td>
<td>agree +</td>
</tr>
</tbody>
</table>

3. words formed with -ity

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1. conformity</td>
<td>conform +</td>
</tr>
<tr>
<td>2. uniformity</td>
<td>uniform +</td>
</tr>
<tr>
<td>3. complexity</td>
<td>complex +</td>
</tr>
<tr>
<td>4. objectivity</td>
<td>objective +</td>
</tr>
</tbody>
</table>
5. ability
6. responsibility
7. compatibility
8. suitability
9. availability
10. traceability
11. impartiality

4. Certain words with the addition of -ble (hybrids) also are used in the 'standard'. They are

1. applicable
2. identifiable
3. suitable
4. retrievable
5. measurable
6. practicable
7. traceable

The above words are associated with products, documents, measurements, processes. They are the adjectives formed with -able as suffix, one of the most productive suffixes in English.

5. The suffix -ness with base word forms words which denote quality, condition or 'state'. The words with -ness in the 'text' are,

1. effectiveness
2. awareness

The above words denote the state of being effective and state of being aware respectively.

6. -age is a noun suffix. Not many such words with -age suffix are present in the 'standard'.

1. linkage

2. storage

and 'storage' with storing documents......

7. Other important words formed with suffix -ory include.

1. regulatory

2. statutory

The above mentioned words occur repeatedly in the standard as 'regulatory and statutory requirements'.

8. The so called noun-agency suffix -er, meaning 'one who does something' also finds its place in the standard.

Supplier - supply + suffix

One who 'supplies' materials or 'provides a product'. It could also be an organization. In the 'standard' this is one of the most significant changes brought out in 1991:2000 version the word 'supplier' is replaced by the term 'organization'. Clause 3 explains that the term 'supplier' in the new standard replaces the term 'subcontractor'. Hence this term supplier is an important term to be noticed in the vocabulary.
PREFIXES:

(a) - un is a negative prefix which means 'not'. 'Standard' does contain such prefixes.

For eg:
1. undated references
2. unintended use
3. unambiguous
4. undue delay
5. unsuitable

(b) Prefixes such as re- meaning 'again, back'. These prefixes can be replaced by 'again' or 'back'.

For eg:
1. re confirmed
2. re validation
3. re verification
4. re evaluation
5. re approve
6. re adjusted

(c) The prefix non- is also a negative prefix that appears in the 'standard'.

Non-conformity

(d) ir- & im- are other variants of negative prefix

eg: impractical
impartiality
irrespective

2.9.7 COMPOUND WORDS

The compound words that are used in the Standard are (i) feed-back, (ii) post-delivery activities, (iii) on-going control

2.9.8 COLLOCATIONS

Apart from collocations that are already listed under word partnership i.e., thematic categorization there are other words that collocate which are not brought under any heading. They are,

(i) valid results
(ii) intended destination
(iii) undated references
(iv) strategic decision
(v) unique identification

Other examples of very significant word partnership that occur in the Standard are:

ongoing control
outsource
undertaken
interaction
interface
update
2.10 FINDINGS OF LEXICAL ANALYSIS OF THE STANDARD ISO 9001-2000:

The study of the Standard revealed the use of many lexical items which are the essential tools for reading and interpreting the Standard.

First of all, it is interesting to note the use of the expressions 'Top management' and 'The organization'.

Among the five operative sections of the 'Standard', only one section i.e., section 5 uses the expression 'Top management'. All the clauses in this section begin with 'Top management shall................

This defines the specific role with regard to its management's vision, mission, commitment, support and guidance in implementing the QMS. The repeated use of the term reinforces the concept in the reader.

Hence the repeated occurrence of the expression has a definite purpose.

Another significant term 'The organization' is mostly used in all other sub-sections [4, 6, 7 & 8]. These subsections begin with 'The organization shall......

The inference that is drawn out of these usages is that while the management's responsibilities are to evolve its policies, objectives, commitment, providing support and guidance, the 'organization' as a whole is responsible for the implementation of the Quality Management System and realization of the objectives set by the management through the effective implementation of the Quality Management System.
The frequent use of expressions like customer, process, control, product draws our attention. Such usage throws light on the very purpose of the whole ‘Standard’, which focuses the attention of the organization to address the prime needs pertaining to (a) Customer (b) Process (c) Control (d) Product (e) Monitoring (f) Effectiveness (h) requirements

They are considered core vocabulary not only because they occur frequently but also they have a high potential occurrence as instances of use of relevance to the learners’ purpose in learning.

Some of the phrases from the ‘Standard’ that are pointed out are ‘where appropriate’ [7.5.5], ‘at suitable stages’ [7.3], ‘where necessary’ [7.6].

Even though at the outset these expressions used appear vague, they are used with a definite purpose. They provide discretionary options to the organizations implementing the Standard.

An important point communicated through these phrases is that while exercising these discretionary options, the organization should not underscore any of the (a) the customers’ requirements (b) organizations’ requirements (c) statutory and regulatory requirements.

For ex: - The phrase ‘where appropriate’. If any organization declares a particular action as not appropriate, it has to justify as to why it is not appropriate and under such circumstances how it is not undermining the above mentioned requirement.
Wherever the term 'requirements' is used in the standard it is to be understood that the above term is comprehensive to include (a) the customers' requirements (b) organizations' requirements (c) statutory and regulatory requirements.

Effectiveness is another key expression that is repeatedly used in the standard 9001-2000. The standard ISO 9000-2000 [Fundamentals & Vocabulary] defines 'effectiveness' as 'extent to which planned activities are realized and planned results are achieved'.

An interesting feature of this expression is that effectiveness measurable in terms of either 'achievement of requirements' in absolute terms or shortfall in terms of the gap between plan' and 'results'. Hence the term 'effectiveness' repeatedly used here must be considered as a significant usage.

Certain conceptual elements / collocations specific to the context are found in the Standard. Due to their specificity they should not be substituted by other expressions and it is imperative to use only these expressions in the implementation of the Quality Management System Standard.

For ex:- Quality manual, quality objectives, acceptance criteria etc. The term 'quality manual' can't be called by any other name. It is a document specified in the standard and is also specific to the individual organization.

The needs analysis conducted on the users of the 'Standard' has clearly indicated that certain lexical items that occur are not comprehensible by them because of their conceptual meaning and specificity. It is also important for
them to understand the communicative value of linguistic elements in context. The Standard ISO 9001-2000 presents difficulties of usage which would prevent the learner from comprehending to the extent necessary to read the Standard effectively.

The ESP course designer has to design the tasks keeping in view the observations of the above identified specific terms and usages.
2.11 ROLE OF GRAMMAR IN ESP

According to Dudley, Evans and John [1998], there are many misconceptions about the role of grammar in ESP teaching and indeed, it is often said that ESP teaching is not concerned with grammar while much of the skills-oriented work in English for business purposes does not concentrate on grammar in itself, it is incorrect to consider grammar teaching as outside the remit of ESP. Where students have grammatical difficulties that interfere with the essentially product skills of speaking and writing, or the essentially receptive skills of listening and reading, or the essential receptive skills of listening and reading, it is necessary to pay some attention to those difficulties. How much priority is paid to grammatical weakness depends on the learners' level in English and whether priority needs to be given to grammatical accuracy or to fluency in using the language. If priority is given to accuracy, then direct teaching of grammatical forms to express particular meanings will be required.

Christopher Candlin in his essay 'The status of pedagogical grammar' (1979:74) states 'A grammar describes and attempts to account for the ability of the speaker to understand an arbitrary sentence of his language and to produce an appropriate sentence on a given occasion. If a pedagogic grammar it attempts to provide a student with this ability, if a linguistic grammar it aims to discover and exhibit the mechanisms that make this achievement possible.'
One difference between elementary and advanced courses lies in the fact that students at an advanced level have had a good deal of instruction in grammar and as already suggested, are likely to possess considerable dormant competence in English. It follows that one of the principal aims of advanced language teaching should be to activate this competence, and to extend it, by leading the learner to relate his previously acquired linguistic knowledge to meaningful realizations of the language system in passages of immediate relevance to his professional interests or specialized field of studies.

Allen and Widdowson (1979) suggest that information in a pedagogic grammar must be relevant to a learners’ needs. A linguistic grammar is concerned with a specialization of the formal properties of a language, while the purpose of a pedagogic grammar is to help a learner acquire a practical mastery of a language.

As already stated, it is assumed that the learners have some knowledge of how the language works, which derives from the pedagogic grammar. It is also assumed that this knowledge will be consolidated as the students experience language used in meaningful contexts. For these reasons it is not necessary to provide a detailed review of English grammar. Instead, the items of grammar are designed to focus on points which are particularly important and useful in ESP, especially those which may represent continuing ‘trouble spots’ for many learners. For ex: (a) Definitions in scientific discourse (b) the
impersonal passive. (c) time expressions (when, before) (as soon as, while) (until, when)

It can be concluded that the difference between ESP and others lies not in the basic components of its language but it is the 'statistical properties' of the mixture in which they occur, and the intention, the purpose behind their selection and use. Thus in the technical / scientific prose, it can be noted that among other features, a higher frequency of occurrence compared with non-scientific prose of: (i) rather long sentences containing many clauses, often in complex degrees of dependency and with much embedding (ii) long nominal groups containing strings of adjectives or nouns acting as adjectives (iii) frequent passives which have the effect of putting important ideas in initial position wherein English they carry salience of meaning.

2.11.1 MODALITY

They are the utterances in which the truth-value of the prepositional content is modified in some way. Modals, especially may, might, could, would are one way of indicating the degree of certainty of a writer's commitment to a statement or claim. If a writer states that 'the discrepancy in the results 'may' be due to incorrect calibration of the instruments', s/he is making a cautious statement. If however, s/he states that 'the discrepancy in the results 'could' be due to incorrect calibration of the instruments', the statement is even more cautious. The writer is distancing him/herself from the statement rather more with 'could' than with 'may'.
The modal verbs, as already pointed out are the utterances in which the truth value of the prepositional content is modified in someway:

(a) Certainty
(b) Necessity
(c) Conviction
(d) Volition
(e) Obligation incurred
(f) Obligation imposed (command)
(g) Tolerance
(h) Prohibition
(i) Permission

Within modality, conviction covers the whole range from absolute certainty about the truth of a proposition, expressed in the form of an unmodalized statement, through varying degrees of conviction and doubt, expressed through modal auxiliaries, lexical verb constructions and other devices, to complete lack of certainty.

F.R. Palmer (1988:153) discussing about ‘modality’, says English has ways of expressing degrees and kinds of commitment by the speaker, most obviously in the use of ‘modal verbs’ will, shall, can, may, must and ought to. He distinguishes in their use several kinds of modality. First, he refers to what has been called EPISTEMIC modality which expresses the degree of commitment of the speaker to the truth of what is being said. Thus we can
distinguish between he may/must/will be in his office. these may be roughly paraphrases: ‘it is possible that ..........’, ‘the only possible conclusion is that ..........’. Secondly, the modal verbs are used for ‘deontic’ modality which has much in common with the imperative. the speaker can give permission, lay an obligation or give an understanding, in relation to possible future events with e.g. you may (or can) / shall / must come tomorrow. thus, while epistemic modality is concerned with his active relation to events.

Indeed, some uses of the modal verbs, e.g. ‘can’ to express ability (he can run a mile in four minutes) or ‘will’ for willingness (he wont do as I ask), are not really expressions of modality at all. Nevertheless, there are two points to note. First, it is normally with epistemic modality that the modals occur with have – to express judgments about the past, he may/must/will have been in his office. Secondly, alongside ‘may’ and ‘can’, English has ‘be able to, and alongside ‘must’ it has ‘have’ (got) to’, one clear difference is that the other verbs do not normally express either type of modality. It can even be argued that the essential difference between ‘will’ and ‘be going to’ is that one expresses a modal, the other a non-modal future.

Dave Willis (1999:P93) considers that the modals are usually taught lexically alongside concepts like ability:

E.g: I ‘can’ speak a little Spanish

Possibility:
E.g: you 'can’ learn Spanish at evening school and function like asking and giving permission.

'Can' I go early please?

Yes. You 'can' go as soon as you have finished. In addition to this, certain verbs forms are taught within a particular structural context, such as 'would':

You 'would’ soon learn Spanish if you went to evening classes.

Modality Dudley points out [1998:103] is understood in its broadest sense as the speaker / writer's stance towards the message communicated, in a all pervasive feature of most discourses. Modality relates to the functions of certainty, doubt, commitment, detachment, necessity, obligatoriness, etc. He also refers to the kinds of items that are included under the general umbrella of modality: lexical modals such as the various forms of words such as ‘possible, probable, likely, certain’, and soon, along with certain discourse markers (sort of, like, etc.) should take their place alongside the modal verbs in performing the functions of modality.

2.11.1.1 THE USE OF MODALS

**Shall:**

'Shall': As a principal verb it suggests command determination / compulsion and order or obligation.

E.g: You shall obey me.

In the above sentence 'shall' denotes obligation i.e., you will be obliged to obey me.
'Shall': is also used as an auxiliary verb.

E.g.: I shall come tomorrow.

The verb 'shall' in the above sentence helps another verb to form the future tense.

(a) Thus 'shall' is used in the first person to express simple future time.
(b) When 'shall' is used in the second or third person, it usually expresses

(i) a command; as
You shall not steal.

(ii) a promise, as
You shall have my book next week.
You shall have a holiday tomorrow.

(iii) a threat; as
You shall be punished for this.

(iv) determination; as
You shall obey me.

He shall leave the house instantly.

You shall apologize for that.

(v) Certainty or inevitability as regards the future; as
And if I go, no man shall pity me.

[When 'shall' is thus used in the second or third person, it is a principal verb, because it then expresses a meaning of its own.]
**May:**

The verb 'may' is a principal verb when it expresses a meaning of its own, such as that of:

(i) possibility; as

It may rain [It is possible that it will rain]
You may be right
He may miss the train

(ii) permission; as

You may go [you are permitted to go]
May I go?

'May' is an auxiliary verb when it helps to form the subjunctive mood expressing:

(iii) A wish; as

May God bless you!
May you return in safety!

(iv) A purpose; as

We eat that we may live
He flatters that he may win favour

The past tense 'might' is either a part indicative or more commonly a past subjunctive; as

I might not trespass upon his hospitality (past indicative)
Might I live to see that day [past subjunctive]
**Can:**

'Can' is always a principal verb, never an auxiliary. It expresses –

(i) power or ability; as

I can read [= I am able to read]

(ii) permission; as

You can go now [= you are permitted to go now.] Here can = may.

**Could:**

The verb 'could' is a principal verb when it is used to express its own meaning.

Eg. He did all that he **could**.

'Could' is an auxiliary verb when it helps another verb to form the subjunctive mood.

Eg. If I **could** help you I would.

**Should:**

'Should', the past form of 'shall' is a principal verb when it expresses a meaning of its own, namely that of 'duty' or 'obligation'.

We should obey the laws.

You should not say.

He should have known better.

'Should' expressing 'obligation' is used in all persons.

Should' is an auxiliary of the indicative mood when it expresses 'futurity' form the standpoint of the past time. [Future in the past]

I told him I should start tomorrow.
‘Should’ is an auxiliary of the subjunctive mood when it is used to express a ‘supposition’ that may or may not be true. If it should rain, they will not come.

I should go if I were you.

2.11.2 LOGICAL CONNECTORS

Logical connectors, such as moreover, however, therefore have always had a high profile. They are seen as a key to understanding the logical relationships in texts and therefore relevant to the teaching of reading, listening and writing.

2.11.3 TENSES AND VOICE

The use of active or passive voice depends on what the speaker/writer wishes to give importance to. A message or a thought can be expressed in different sentence structures with a change in emphasis or without change in the meaning.

In the ESP context, the problem often are that learners have a command of the lexis of the specialized field but lack knowledge of the ‘rules of the game’ of academic writing.

The tenses are used to suit the requirements of the context. While using the tenses the intention and purpose behind it is taken into consideration.

Dudley and Maggie (1998: P:76) consider the idea that scientific writing uses the passive voice more frequently than the active is a myth; what is true is that such writing uses the passive voice more frequently than some other types of writing. The choice of active or passive is constrained by functional considerations; writers tend to use the we-form active when they describe
their own procedural choices but the passive when standard procedures are being described. Similarly, where writers contrast their own work with previous work in the field, they tend to use the we-form active for their own research, but the passive for the previous research.

Peter Strevens (1978:193) argues in his ‘special purpose language learning’ that ESP does not use different rules of grammar for speaking or writing about his field. They are the rules for the language as a whole - there are no tenses, for example, peculiar to science; it is not the basic components of his language that differ, it is the statistical properties of the mixture in which they occur, and the intention, the purpose, behind their selection and use. Thus, according to him in scientific prose one can point to, among other features, a higher frequency of occurrence compared with non-scientific prose of (i) long sentences containing many clauses, often in complex degrees of dependency and with much embedding; (ii) long nominal groups containing strings of adjectives or nouns acting as adjectives, each providing the greater specificity that comes from modification after modification, and (iii) frequent passives which have the effect of putting important ideas in initial positions where in English they carry salience of meaning.

2.11.4 NOMINALIZATION

Nominalization is the use of verbal nouns usually ending in suffixes such as _-ation, _-ition, _-ity, _-ment or _-ness. It is a major feature of the abstract language favoured by academic writers Dudley and Maggie
[1998:77] referring to Nominalization suggest that it enables complex information to be packed into a phrase that is simple from a grammatical point of view.

<table>
<thead>
<tr>
<th>Noun</th>
<th>V +ation</th>
</tr>
</thead>
<tbody>
<tr>
<td>Identification</td>
<td>identify + ation</td>
</tr>
<tr>
<td>Evaluation</td>
<td>evaluate +</td>
</tr>
<tr>
<td>Realization</td>
<td>realize +</td>
</tr>
<tr>
<td>Communication</td>
<td>communicate +</td>
</tr>
<tr>
<td>Certification</td>
<td>certify +</td>
</tr>
<tr>
<td>Calibration</td>
<td>calibrate +</td>
</tr>
<tr>
<td>Consideration</td>
<td>consider +</td>
</tr>
<tr>
<td>Implementation</td>
<td>implement +</td>
</tr>
<tr>
<td>Combination</td>
<td>combine +</td>
</tr>
<tr>
<td>Configuration</td>
<td>Configurate +</td>
</tr>
<tr>
<td>Disposition</td>
<td>dispose + ition</td>
</tr>
<tr>
<td>Distribution</td>
<td>distribute +</td>
</tr>
<tr>
<td>Conformity</td>
<td>Conform + ity</td>
</tr>
<tr>
<td>Ability</td>
<td>able +</td>
</tr>
<tr>
<td>Awareness</td>
<td>aware + ness</td>
</tr>
<tr>
<td>Requirement Management Commitment Equipment Amendment Development Arrangement Assignment Improvement Adjustment Agreement</td>
<td></td>
</tr>
<tr>
<td>-------------------------------------------------</td>
<td>-------------------------------------------------</td>
</tr>
<tr>
<td>require +</td>
<td>manage +</td>
</tr>
</tbody>
</table>
### Table Showing Grammatical Analysis of the Standard ISO 9001-2000

<table>
<thead>
<tr>
<th>Modal</th>
<th>Clause</th>
<th>Description</th>
<th>Function / Purpose</th>
</tr>
</thead>
<tbody>
<tr>
<td>Can</td>
<td>1.2</td>
<td>Where any requirement(s) of this Standard cannot be applied due to the nature of an organization and its product, this can be considered for exclusion.</td>
<td>Expresses: ‘ability’</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td>Throughout the text of this International Standard wherever the term 'product' occurs, it can also mean 'service'</td>
<td>'permission' (possibility)</td>
</tr>
<tr>
<td></td>
<td>4.2.1</td>
<td>Note 2: The documentation can be in any form or type of medium.</td>
<td>has the usage of ‘may’</td>
</tr>
<tr>
<td></td>
<td>4.2.1</td>
<td>Note 3: The extent of the quality management system documentation can differ from one organization to another.</td>
<td>has the usage of ‘may’ &amp; ‘possibility’ ‘permission’</td>
</tr>
<tr>
<td></td>
<td>5.5.2</td>
<td>The responsibility of a management representative can include liaison with external parties on matters relating to the QMS.</td>
<td>'permission'</td>
</tr>
<tr>
<td></td>
<td>7.1</td>
<td>Note 1: A document specifying the processes of quality management system and the reason to be applied to a specific product, project or contract can be referred to as a quality plan.</td>
<td>'possibility' (permission)</td>
</tr>
<tr>
<td></td>
<td>7.2.2</td>
<td>Note: In some situations such as internet sales, a formal review is impractical for each order. Instead the review can cover relevant product information such as catalogues or advertising material.</td>
<td>'permission’</td>
</tr>
<tr>
<td></td>
<td>7.5.4</td>
<td>Note: Customer property can include intellectual property.</td>
<td>'permission’</td>
</tr>
<tr>
<td></td>
<td>1</td>
<td>The international Standard can be used by internal and external parties.</td>
<td>'permission’</td>
</tr>
<tr>
<td></td>
<td>7.1</td>
<td>Note 2: The organization may also apply the requirements given in 7.3 to the development of product realization processes.</td>
<td>'permission’</td>
</tr>
<tr>
<td>May</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Could</td>
<td>5.6.2</td>
<td>The input to management review shall include information on changes that could affect the quality management system.</td>
<td>‘caution’</td>
</tr>
</tbody>
</table>

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<table>
<thead>
<tr>
<th>Should</th>
<th>4.1</th>
<th>Note: Processes needed for the quality management system referred to above should include processes for management activities, provision of resources, product realization and measurement.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Can</td>
<td>0.3</td>
<td>The present editions of ISO 9001 and ISO 9004 have been developed as a consistent pair of quality management system Standards which have been designed to complement each other, but can also be used independently. ISO 9001 specifies requirements for a quality management system that can be used for internal application by organizations.</td>
</tr>
<tr>
<td>Can</td>
<td>8.4</td>
<td>The organization shall determine, collect and analyse appropriate data to demonstrate the suitability and effectiveness of the quality management system and to evaluate where continual improvement of the effectiveness of the quality management system can be made.</td>
</tr>
</tbody>
</table>

'obligation' ('must')

'permission'

'permission'

'permission'
<table>
<thead>
<tr>
<th>Section</th>
<th>Text</th>
<th>Note</th>
<th>Relationship</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.3</td>
<td>However, it is not intended for certification or for contractual purpose.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.4</td>
<td>However, this International Standard enables an organization to align or integrate its own quality management system with related management system requirements.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent edition. ..........</td>
<td></td>
<td>'concession'</td>
</tr>
<tr>
<td>6.3</td>
<td>The organization shall determine, provide and maintain the infrastructure needed to achieve conformity to product requirements. Infrastructure includes, as applicable supporting devices (such as transport and communication)</td>
<td></td>
<td>'Exemplification and reinforcement'</td>
</tr>
<tr>
<td>7.2.2</td>
<td>Note: Instead, the review can cover relevant product information such as catalogues or advertising material.</td>
<td></td>
<td>'Exemplification'</td>
</tr>
<tr>
<td>7.2.2</td>
<td>Note: In some situations, such as internet sales, a formal review is impractical for each order.</td>
<td></td>
<td>'Exemplification'</td>
</tr>
<tr>
<td>7.3.6</td>
<td>Wherever practicable, validation shall be completed prior to the delivery or implementation of the product.</td>
<td></td>
<td>'Particularization'</td>
</tr>
<tr>
<td>7.4.1</td>
<td>The type and extent of control applied to the supplier and the purchased product shall be dependent upon the effect of the purchased product on subsequent product realization or the final product.</td>
<td></td>
<td>'Exemplification' (Particularization)</td>
</tr>
<tr>
<td>7.5.2</td>
<td>The organization shall validate any processes for production and service provision where the resulting output cannot be verified by subsequent monitoring or measurement.</td>
<td></td>
<td>'Reinforcement' (Particularization)</td>
</tr>
<tr>
<td>8.3</td>
<td>When non conforming product is detected after delivery or use has started, the organization shall take action appropriate to the effects, or potential effects, of the non conformation.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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<table>
<thead>
<tr>
<th>Due to</th>
<th>4.2.1</th>
<th>Note 2: The extent of the quality management system documentation can differ from one organization to another <em>due to</em> (a) the size of the organization and type of activities.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Also</td>
<td>7.5.5</td>
<td>Preservation shall <em>also</em> apply to the constituent parts of a product.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Acts as intra-sentence connective (cause – effect)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Addition to what has been previously indicated; also reinforcement.</td>
</tr>
</tbody>
</table>
2.11.6 CONSTRUCTION OF SENTENCES IN THE STANDARD

The following are some of the examples from the Standard ISO 9001-2000.

A documented procedure shall be established to define the controls needed to prevent the unintended use of obsolete documents, and to apply suitable identification to them if they are retained for any purpose. [4.2.3]

The difficulties in understanding the above sentence lie in vocabulary, [unintended use, obsolete documents, suitable identification] and the conditional used (if). The sentence can be further simplified to make the readers comprehend easily.

Top management shall provide evidence of its commitment to the development and implementation of the quality management system and continually improving its effectiveness by (a) communicating to the organization the importance of meeting customer as well as statutory and regulatory requirements. [5.1]

Using too many expressions which can create ambiguity among the readers. Eg: as well as, statutory and regulatory requirements. Readers may find these expressions difficult. Hence the explanation of these is required.

Top management shall appoint a member of management who, irrespective of other responsibilities, shall have responsibility and authority that includes (a)
ensuring that processes needed for the quality management system are established, implemented and maintained. [5.5.2]

A detailed explanation regarding the clauses used is necessary to understand the sentence.

In planning product realization, the organization shall determine the following, as appropriate: (a) required verification, validation, monitoring, inspection and test activities specific to the product and the criteria for product acceptance. [7.1]

This review shall be conducted prior to the organization's commitment to supply a product to the customer (e.g: submission of tenders, acceptance of contracts or orders, acceptance of changes to contracts or orders) and shall ensure that (b) contract or order requirements differing from those previously expressed are resolved [7.2.2]

Inputs relating to product requirements shall be determined and records maintained (see 4.2.4). [7.3.2]

Verification shall be performed in accordance with planned arrangements to ensure that the design and development outputs have met the design and development input requirements. [7.3.5]

Design and development validation shall be performed in accordance with the planned arrangements to ensure that the resulting product is capable of meeting the requirements for the specified application or intended use, where known [7.3.6]
The type and extent of control applied to the supplier and the purchased product shall be dependent upon the effect of the purchased product on subsequent product realization or the final product. [7.4.1]

Too many expressions are used in the above sentence Eg: extent of control, purchased product, subsequent product realization.

Where the organization or its customer intends to perform verification at the suppliers premises, the organization shall state the intended verification arrangements and method of product release in the purchasing information. [7.4.4]

The organization shall determine the monitoring and measurement to be undertaken and the monitoring and measurement devices needed to provide evidence of conformity of product to determine requirements. [7.6]

The organization shall establish processes to ensure that monitoring and measurement can be carried out and are carried out in a manner that is consistent with the monitoring and measurement requirements.

Where necessary to ensure valid results, measuring equipment shall be calibrated or verified at specified intervals, or prior to use, against measurement standards; where no such standards exist, the basis used for calibration or verification shall be recorded. [7.6]

Product release and service delivery shall not proceed until the planned arrangements have been satisfactorily completed, unless otherwise approved by a relevant authority and, where applicable, by the customer. [8.2.4]
The organization shall determine, collect and analyze appropriate data to demonstrate the suitability and effectiveness of the quality management system and to evaluate where continual improvement of the effectiveness of the quality management system can be made. [8.4]

[All the above sentences can be further divided and made simpler to understand].

2.11.7 FINDINGS [OBSERVATIONS] OF THE GRAMMATICAL ANALYSIS OF THE STANDARD

The analysis of the Standard is based on grammatical items such as (1) Modals (2) Tenses and Voice (3) Nominalization (4) Connectives (5) Length of the sentences.

The modal verbs in the ‘Standard’ perform different functions. As already pointed out it relates to the functions of certainty, doubt, commitment, obligation etc. The Standard uses modals such as can, could, may, should and shall.

The most striking feature one notices about the Standard is the use of ‘Shall’ 136 times. This frequent repetition has a very significant role in comprehending and interpreting the standard. It is the intention of the ‘Standard’ to fix up onus and responsibility on individuals who manage various activities in the organization. It is also a clue to the Quality Management System auditors to find out these mandatory requirements are fulfilled.
It is imperative on the part of the personnel to meet these mandatory requirements.

The use of 'Shall' leaves no room for choice or ambiguity. Unless 'the use of shall' is clear to the users of the Standard ISO 9001-2000, it is difficult for them to comprehend it systematically. 'Shall' is used both in sentences that are active and passive. For eg:

(i) The organization shall establish and maintain a quality manual that includes
   a) the scope of the quality management system, including details of and justification for any exclusions (see 1.2)
   b) the documented procedures established for the quality management system, or reference to them, and
   c) a description of the interaction between the processes of the quality management system.

(ii) Records shall be established and maintained to provide evidence of conformity to requirements and effective operation of the quality management system.

However, in all these cases, 'shall' denotes compulsion/order or obligation. Thus whatever requirements convey are mandatory and they should be adhered to and no deviation is allowed under any circumstances.

The course designer should design tasks based on the repeated use of 'shall' in order to consolidate its importance while reading and understanding the standard ISO 9001.
Eg. One exercise can be: (a) Identify how many times the word 'shall' is found in the standard (b) Identify the sub clause of the standard where the word 'shall' is used maximum number of times (c) Identify the sub clause of the standard where the word 'shall' is used minimum number of times

The conclusion that can be drawn after this exercise could be:

(a) Any organization complying with ISO 9001 : 2000 should meet 136 mandatory Requirements.

(b) The sub clause _____ of ISO 9001 : 2000 has the maximum number of mandatory Requirements.

(c) The sub clause _____ of ISO 9001 : 2000 has the minimum number of mandatory Requirements.

The learners should be made aware of the fact that the use of 'shall' while writing the quality system documents is to be avoided (refer 2.11.1.1)

Use of 'can' and 'may':

As mentioned earlier, all the clauses in the Standard irrespective of their requirements use 'shall'. Therefore use of 'can' and 'may' have very limited scope. 'Can' denotes 'ability', or permission, possibility.

For eg: customer property can also mean intellectual property.

The documentation can be in any form or type of medium.

The 'notes' that appear in 4.1, 4.2, 5.5.2, 7.1, 7.2.2, 7.5.3, 7.6 and 8.2.3 are only suggestive in nature which for guidance for understanding or for clarifying the associated requirement. 'Can' also in the following sentence
implies the meaning of ‘may’. For eg: The responsibility of a management representative can include liaison with external parties on matters relating to the quality management system.

‘May’ is used only once in the Standard. It expresses permission [7.1 Note 2] The organization may also apply the requirements given in 7.3 to the development of product realization processes.

The main clauses in the Standard make use of only ‘shall’ and note given below a particular clause in the standard only makes use of ‘can’ and ‘may’.

It is important for the learner to know that the ‘Standard’ does not specify any one medium for the documentation of the QMS. There are choices with regard to the type of medium like electronic media (computer), paper.

The other modals in the Standard are ‘should’ and ‘could’.

‘Should’ also expresses obligation in this context.

For eg. : processes needed for the quality management system referred to above should include processes for management activities, provision of resources, product realization and measurement. [4.1]

‘Could’ is used only once in the Standard. It expresses ‘caution’, ‘possibility’ in this case.

Eg. The input to management review shall include information on changes that could affect the QMS (CL.5.6.2 f)
The learners should be made aware of the fact that the use of 'can', 'may' and 'could' are to be avoided while writing the quality management system documents (refer 2.11.1)

**TENSES & VOICE**

The striking feature of the Standard is the use of Simple present tense. Simple present tense is used in the introductory as well as the operative portion of the Standard. The important aspect regarding the tenses to be noted in the Standard is the total absence of verbs in the past and future tense.

Eg: 1.1 This international Standard specifies requirements for a quality management system where an organization

(a) needs to demonstrate its ability to consistently provide product that meets customer and applicable regulatory requirements, and

(b) aims to enhance customer satisfaction through the effective application of the system, including processes for continual improvement of the system and the assurance of conformity to customer and applicable regulatory requirements.

All verbs in the first 2 clauses scope[1] and normative reference[2] are simple present where they convey certain important facts about the Standard and application.

2. The following normative document contains provisions which, through reference in this text, constitute provisions of this International Standard.
The sentences in this part of the standard are general statements regarding QMS and its requirements.

The use of passive voice in the ‘Standard’ is deliberate. Most of the sentences in the clauses are ‘passive’ in the sense that the elements to be stressed and given importance take the position of the nouns in the beginning of the sentence. To make the idea clear and effective the passive voice is used throughout the standard.

Eg: **Documents required** by the quality management system shall be controlled. (4.2.3)

**Design and development changes** shall be identified and records maintained. (7.3.7)

**Planning output** shall be updated, as appropriate, as the design and development progresses. (7.3.1)

Hence, it is very important for the learner to understand the idea behind using passive voice in the sentences, specifically while writing quality management system documentation.

**NOMINALIZATION**

Nominalization - the verbal nouns have already been pointed out in the previous section dealing with word partnerships. The nouns with suffix -ation form the major part of the nominalization. They are both general and specific in nature. The Standard is full of such terms. It is important to make a study of such nominalizations as it focuses on the specific usage. They can’t be
replaced by words meaning close to them i.e., substitute words cannot be used. The personnel implementing the Standard are bound to use only these vocabulary items while writing the documents.

For eg: configuration, calibration, validation etc. Other verbal nouns are conformity, with -ity suffix, awareness with -ness suffix, expressions with suffix -ation. For eg: management, requirement, adjustment, amendment etc.

**CONSTRUCTION OF SENTENCES**

Language is structured, and the sentence is not necessarily revealed by the way in which the actual sentences of our speech are organized. The study of the rules governing relations between items of language is the study of Syntax.

The reason for attaching importance to sentences is, it stems not from the structural nature of language, but from the communicative function. People want to acquire language because language is a meaningful activity.

The sentence is the best candidate for that unit of language structure which carries enough information within it to be conceivable as a complete utterance. As a unit of communication it is far more meaningful than the word or phrase and its structure is far better understood than anything larger, such as the paragraph. It is perhaps this feeling that the sentence has a particular communicative status that underlay the traditional attempts to define it as the unit for expressing complete thoughts.
Variation of the sentence length is a stylistic feature that has been identified. Variation is done skillfully and is often used to emphasize a certain point effectively.

ISO 9001-2000 'Standard' consists of varieties of sentences and long sentences are found in abundance. These sentences because of their length, contribute to the ambiguity in interpreting the meaning of the text. Examples of the sentences have been pointed out in the previous section. [2.11.6].

Sentence is the basic unit of meaningful expression. One of the problems faced by the reader in the 'Standard' is the length of the sentences. Most of the clauses used to explain a particular detail are long and as a result the comprehension of these sentences is a problem. Adverbial phrases, terminology, the punctuations and the divisions contribute to the ambiguity and misreading of the sentences. Hence, the study of these sentences is an interesting and a significant one. The analysis of these sentences enables better communication among the personnel within and outside the organization.

The analysis has clearly indicated the problems the learners face are in the areas of modals, tense, voice & sentences (both in terms of length & complexity. The course designer while designing the tasks should consider all the aspects of grammar discussed above. These tasks should provide the learner with the opportunity to improve the reading skills required in understanding and interpreting the Standard and writing skills to write the QMS documents.
DISCOURSE ANALYSIS

2.12 DISCOURSE ANALYSIS IN ESP

2.12.1 INTRODUCTION

In the first stage of its development, ESP had focused on language at the sentence level. The second phase of development shifted its attention to the level above the sentence, as ESP became closely involved with the emerging field of discourse. The leading lights in this movement were Henry Widdowson in Britain and the so called Washington school of Larry Selinker, Louis Trimble and others in the U.S.

The basic hypothesis of this stage is succinctly expressed by Allen & Widdowson (1979:124) “We take the view that the difficulties which the students encounter arise not so much from a defective knowledge of the system of English, but from an unfamiliarity with English use, and that consequently their needs cannot be met by a course which simply provides further practice in the composition of sentences, but only one by one which develops a knowledge of how sentences are used in the performance of different communicative acts.”

The emphasis shifted to understand how sentences were combined in discourse to produce meaning or looking at how meaning is generated ‘between’ sentences, which means there is more to meaning than just the words in the sentence. Hutchinson & Alan Waters (1989) feel that the context is also important in creating the meaning. They identify two key ways in which
the results of studies into the nature of discourse have been used in ESP teaching materials.

a) Learners are made aware of the stages in certain set-piece transactions associated with particular specialist fields.

b) The second use of discourse analysis in ESP has been through materials which aim to express how meaning is created by relative positions of the sentences in a written text. This has become the central feature of a large number of ESP text books aimed at developing a knowledge of how sentences are combined in texts in order to produce a particular meaning. The aim of this approach is to make the learners more efficient readers, by making them aware of the underlying structure of a text and the way in which language has been organized to create this structure.

2.12.2 DISCOURSE

Widdowson (1979) considers discourse as a communicative process by means of interaction. Its situational outcome is a change in a state of affairs, information is conveyed, intentions made clear and its linguistic product is the text. 'Discourse', he adds 'is the process where by language users negotiate a 'reciprocity of perspectives' for the conveyance of information and intention.' To do this, they draw on a knowledge of language and the conventions associated with its use in social contexts.
To Guy Cook (1989:7), "Discourse is that which is used to communicate something and is felt to be coherent". He adds that discourse may be composed of one or more well formed grammatical sentences and indeed it often is but it does not have to be. It can be anything from a grunt or single expletive, through short conversations and scribbled notes right up to a novel. What matters is not its conformity to rules, but the fact that it communicates and is recognized by its receivers as coherent. This, Cook concludes as a lead to the fact that there is a degree of subjectivity in identifying a stretch of language as discourse—it may be meaningful and thus communicate to one person in a way which another person does not have the necessary knowledge to make sense.

Paul Werth (1999) defines discourse as a deliberate and joint effort on the part of a producer and recipients to build up a 'world' within which the propositions advanced are coherent and make complete sense. It is 'deliberate' in the sense that discourses, whether of the face-to-face variety or in the case of a writer writing for an unknown audience, are consciously engaged in. It is 'joint' because, even in those cases where the production of the discourse is done alone, the audience's contribution is crucial. Propositions are 'coherent' if they fit their context; finally these propositions must make 'complete sense' within the discourse. Thus, discourses are initiated 'purposefully'.

Widdowson in his paper 'Directions in the teaching of discourse' (1979:50) has referred to discourse as "the use of sentences in combination."
He adds that this is a vague definition which conveniently straddles two different, if complementary, ways of looking at language, beyond the sentence. Focusing attention on the second part of his definition: ‘sentences in combination’, is one way and the other is to focus on the first part: ‘the use of sentences’, he says it is important to keep these two approaches distinct.

2.12.3 DISCOURSE ANALYSIS

The concern of discourse analysis is the identification and description of supra-sentential linguistic structure in written and spoken texts. The analytic concern is supra-sentential in that it focuses on the way in which ‘sentences’ combine into larger units to form coherent texts, although this does not exclude some consideration of the structure of individual sentences in order to discover firstly how given grammatical structures come to have given meanings in given contexts, and secondly how larger textual or topical constraints affect deletion possibilities, the choice of lexical, exophoric or anaphoric items and so on within a given clause. The analytic concern is linguistic in that it concentrates on the ‘textual surface’, the actual sentential forms that constitute a text.

Malcolm Coulthard (1977) expresses his opinion on discourse as that which does not consist simply of a string of grammatically well formed utterances or sentences. He refers to Labov’s emphasis on the first and most important step of distinguishing ‘what is said’ from ‘what is done’, i.e., discourse analysis must be concerned with the functional use of language.
Thus, as Coulthard points out for all discourse analysts the unit of analysis is not the grammatically defined ‘clause’ or ‘sentence’.

Any study of language or more specifically, text at a level above that of the sentence is a discourse study. This involves the study of cohesive links between sentences, of paragraph structure, or the structure of the whole text. Paul Werth (1999) considers three principles of discourse. They are

i) **Communicativeness [informativeness]**: discourses should normally be assumed to be ‘purposive’, and to e efficient in prosecuting their purposes, unless there is evidence to the contrary.

ii) **Coherence**: the propositions cohere (are relevant) and they are also marked by one of the large number of disjunctive elements [however, moreover, on the other hand etc.]

iii) **Co-operativeness**: [responsibility, authoritativeness and reliability.]

### 2.12.4 DIFFERENT APPROACHES TO DISCOURSE ANALYSIS

Tony Dudley (1988:87)selects two areas of particular interest to ESP in discourse analysis; firstly, certain text patterns that may be used at any time and in any text; secondly, turn-taking and topic change within dialogue. He points out that the “problem-solution” pattern is a universal discourse pattern which can be pinned down linguistically, it is also a strategy that is widely used to present ideas in both academic and business contexts.

The three other discourse patterns that occur frequently in both spoken and written text are the hypothetical real, claim-justification and the general-
particular pattern. The hypothetical-real pattern is widely used in academic lectures, to contrast what the 'theory' predicts (the hypothetical) and what, happens in 'practice' (the real). Similarly, the hypothetical-real pattern may be used to evaluate previous work in the field; the previous work is set up as the 'hypothetical', whereas the writer's own results are the 'real'. The 'claim-justification' pattern is widely used where a 'claim' needs to be supported by 'evidence'. The 'general-particular' pattern is widely used to provide detail after a generalization. The reader needs the writer or speaker to provide a framework or situation statement before specific points.

Widdowson also refers to 'problem and solution', underlying discourse structure together with 'situation', which provides the setting for the problem, and an 'evaluation' which provides an assessment of the effects of the solution. Therefore, four part sequence illustrated by Winter.

Situation
Problem
Solution
Evaluation

Christopher N. Candlin (1979:75) in his paper on 'the status of pedagogic grammars' refers to the views expressed by Widdowson, Candlin, Wilkins, Searle on discourse functions such as asking questions, giving and responding to commands, greeting, advice, warning etc. He groups discourse function under explain, enquire, describe, instruct, hypothesize, plan, analyze,
compare, deduce, test, choose, guess, deduct, infer, invite, refuse, accept, appreciate, praise, persuade, conciliate, encourage, discourage, recruit, dissuade, criticize, express opinions, reservations, contradictions, contrasts, insult, antagonize, threaten, lie, cheat.

Discussing the discourse functions, Cook (1989:27) refers to macro-functions and micro-functions.

Macro-functions, he refers to are,

a) the emotive function: Communicating the inner states and emotions of the writer.

b) the directive functions: seeking to affect the behaviour of the reader (Please help me!, Shut up!, I'm warning you)

c) the phatic function: opening the channel or checking that is working either for social reasons('Hello', 'Lovely weather').

d) the poetic function: in which the particular form chosen is the essence of the message. (The advertising slogan BEANZ MEANS HEINZ would lose its point if it were paraphrased as 'If you are buying beans, you will naturally buy Heinz)

e) the referential function: carrying information

f) the metalinguistic function: focusing attention upon the code itself, to clarify it or renegotiate it. ('What does this word here mean?' 'This bone is known as the femur')
g) **the contextual function**: creating a particular kind of communication

(Right, let's start the lecture, 'it's just the game')

The micro functions, Cook refers to, as the subdivision of each function and specific categories. Ex:-

```
Directive function
  \_ questions
  |   \_ orders
  |     \_ requests for action
  |         \_ requests for information
  \_ pleas
  |   \_ requests for help
  |     \_ requests for sympathy
```

A similar division and re-division of any of the other macro-functions, or any of the resulting sub-categories can be considered.

The views expressed by Widdowson have reference to what Harris has exemplified in his work i.e., the study of discourse in terms of 'the combination or interconnection of sentences'. 'Language', he observes 'does not occur in stray words or sentences, but in connected discourse'. His concern is not to characterize discourse as communication but to use it to exemplify the operation of the language code in stretches of text larger than the sentence.

Widdowson in his essay "directions in the teaching of discourse "

(1979: 52) refers to Labov's significant views on discourse analysis.

"Commands and refusals are actions; declaratives, interrogatives, imperatives and linguistic categories-things that are said, rather than things that are done with words and how one interprets these utterances as actions; in other words,
relating what is done to what is done. This area of linguistics can be called ‘discourse analysis’, but it is not well known or developed”.

Discourse analysis can be referred to the investigation into the way sentences are put to communicative use in the performing social actions, discourse being roughly defined therefore ‘as the use of sentences’. He advocates shifting our attention from sentences in isolation to the manner in which they combine in text on the one hand, and to the manner in which they are used to perform communicative acts in discourse on the other.

Thus discourse analysis is both the global (umbrella) term for text analysis and, at the applied level, an actual and specific method of analysis.

2.12.5 HALLIDAY’S FUNCTIONAL GRAMMAR

After a study of various approaches to discourse analysis, the analysis of the Standard ISO 9001-2000 i.e., the text of the present study was based on Halliday’s functional grammar.

The conceptual framework on which it is based is a functional one rather than a formal one. Halliday’s approach is functional in its interpretation of the text. This approach is more relevant because it discusses as to how the language is used in the text and can be explained.

Each element in a language is explained by reference to its function. Therefore, according to Halliday (1990:14), “functional grammar is one that constructs all the units of a language – its clauses, phrases and so on. It starts with the general features and proceeds step by step so as to become even
more specific with the emphasis being on a comprehensive coverage. But it does not make explicit all the steps leading from one feature to another”.

Halliday expresses the idea of constructing a grammar for purposes of text analysis: one that would make it possible to say sensible and useful things about any text, spoken or written.

Halliday further points out that among the particular tasks for which he has used grammar includes analysis of the language of text books also. According to him, in any piece of discourse analysis, there are always two possible levels of achievement to aim at. One is a contribution to the understanding of the text; the linguistic analysis enables one to show how, and why, the text means what it does. In the process, there are likely to be revealed multiple meanings, alternatives, ambiguities and so on.

The higher level of achievement is a contribution to the ‘evaluation’ of the text: the linguistic analysis may enable one to say why the text is, or is not, an effective text for its own purposes. It assumes an interpretation not only of the environment of the text, its ‘context of situation’ and ‘context of culture’, but also of how the linguistic features of a text relate systematically to the features of its environment, including the intentions of those involved in its production. To Halliday, a discourse analysis that is not based on grammar is not an analysis at all. He considers text a semantic unit, not a grammatical one. But meanings are realized through wordings; and without grammar, there is no way of making explicit one’s interpretation of the meaning of a text.
Halliday also points out that in order to provide insights into the meaning & effectiveness of a text, a discourse grammar needs to be functional and semantic in its orientation, with the grammatical categories explained as the realization of semantic patterns. If differences of meaning are taken into account, then any set of clauses or phrases could be classified in all kinds of different ways. The ‘functional’ grammar means that it is based on meaning but the fact that is a grammar means it is an interpretation of linguistic forms.

Grammatically, the action is there in the sentence, and within that, the fundamental unit of organization is the clause. It should be remembered that in functional grammar, a clause is the same unit whether it is functioning alone (as a simple sentence) or as part of a clause complex (a compound/complex sentence).

The ISO 9001-2000 Standard [the text of the present study] is a text specific to a particular set of learners i.e., personnel who are involved in the implementation of quality management system in their organizations. The text is divided broadly into eight sections and each section again sub divided into smaller units. Each section generally has two to three paragraphs and some of them enumerated. The standard does not pose any problem, make any claim, and hence the approaches mentioned in the last section namely problem-solution, claim-justification, hypothetic-real do not apply to the analysis of this standard.
As Halliday points out, when we look at a passage of writing in English, we can see clearly that it consists of larger units made up of smaller units. These smaller units in turn are made up of units that are smaller still. They are sentences, words and letters. A sentence consists of clauses, which consist of groups (or phrases). The three functions of clauses are defined by Halliday as follows:

i) **Clause as a message**: - It corresponds to the 'Theme' as its function: the message is concerned with the point of departure for what the speaker is going to say.

ii) **Clause as an exchange**: - the function here lies with the subject.

iii) **Clause as a representation**: - The function here lies with the actor: the one that does the deed.

These three headings refer to the three principal 'kinds of meaning' that are embodied in the structure of a clause.

ISO 9001-2000 Standard as already mentioned consists of small paragraphs of two or three sentences. The notion of a subsection as a unit in which meanings of three different kinds are combined fits into the analysis of the 'standard'.

A detailed analysis of the standard is based on Halliday's functional grammar i.e.,

i) clause as message

ii) clause as exchange
2.12.5.1 CLAUSE AS A MESSAGE

Clause in all languages has the character of a message. Halliday considers clause as the unit organized as a message by having a special status assigned to one part of it. One element is the theme; it combines with the remainder of the sentence to communicate a message. In English, theme is indicated by its position in the clause i.e., by putting it first.

The 'theme' is the element which serves as the point of departure of the message; it is that with which the clause is concerned. 'Rheme' is the remaining part of the message, the part in which the theme is developed. Therefore, a clause as a message consists of a Theme and a Rheme, and the structure is expressed by the order – whatever is chosen as the theme is put first. But the definition of theme is functional, as it is with all the elements in this interpretation of grammatical structure. The theme is one element in a particular structural configuration which, taken as a whole, organizes the clause as a message: Theme+Rheme is the configuration.

Message = Theme + Rheme.

Within that configuration, the theme is the starting point for the message and it is what the clause is going to be.

Halliday mentions 'clause complex' which will be discussed later in this chapter. Examples with the comma separating Theme and Rheme, he feels,
pose no great problem for analysis, but the point to be noted is that there will still be a thematic structure in each of the two constituent clauses.

2.12.5.2 CLAUSE COMPLEX

There is the same kind of relationship between sentence and clause as there is between group and word: the sentence has evolved by expansions outwards from the clause. The notion of ‘clause complex’ enables us to account in full for the functional organization of the sentences. A sentence will be defined, in fact, as a ‘clause complex’. A sentence is a constituent of writing, while a clause complex is a constituent of grammar. In the analysis of a written text, each sentence can be treated as one clause complex.

Two fundamental relationships in a clause complex are based on

1) Expansion
2) Projection

Within the general categories of expansion and projection, three sub-types of expansion and two sub types of projection are recognized.

They are

1) Expansion:
   a) Elaboration: One clause expands another by elaborating on it (or some portion of it): restating in other words, specifying in greater detail, commenting or exemplifying) [i.e.,]
b) **Extension:** One clause expands another by extending beyond it: adding some new element, giving an exception to it, or offering an alternative.

[and]

c) **Enhancement:** One clause expands another by embellishing around it: qualifying it with some circumstantial feature of time, place, cause or condition [so, yet, then].

**Extension:** In extension, one clause extends the meaning of another by adding something new to it. What is added may be just an addition, or a replacement, or a alternative. The principal categories of extension are addition and variation.

d) **Addition:** Here one process is simply adjoined to another; there is no implication of any casual or temporal relationship between them. [and, not, but].

e) **Variation:** Here one clause is presented as being in total or partial replacement of another [instead, on the contrary].

2) **Enhancement:** In 'Enhancement', one clause enhances the meaning of another by qualifying it in one of a number of possible ways: by reference to time, place, manner, cause or condition. It is typically expressed

a) by the conjunctions then, so, for, but, yet, still;
b) by a conjunction group with 'and'; and then, and there, and thus, and so, and yet; or

c) by 'and'.

2.12.5.3  CLAUSE AS EXCHANGE

Clause as exchange is another important aspect of its meaning. Simultaneously with its organization as a message, the clause is also organized as an interactive event involving speaker, or writer, and audience.

The most fundamental types of speech role/writer's role which lie behind all the more specific types of that we may eventually be able to recognize, are just two:

1) giving and 2) demanding.

Either the speaker/writer is giving something to the listener (a piece of information, for eg) or he is demanding something from him. Halliday points out that the speaker/writer is not only doing something himself; he is also requiring something of the listener. These two variables giving and demanding. When taken together, define its functions of offer, command, statement and question. These, in turn, are matched by a set of desired responses. accepting an offer, carrying out a command, acknowledging a statement and answering a question.

In statements and questions, language itself is the commodity that is being exchanged.
When language is used to exchange information, the clause takes on the form of *proposition*. By interpreting the structure of statements and questions we can gain a general understanding of the clause and its exchange function 'proposal'. Halliday uses a parallel term to refer to commands and offers.

### 2.12.5.4 CLAUSE AS REPRESENTATION

In this case, the clause is concerned with the clause in its ideational function, its role as a means of representing patterns of experience. In this case also, the clause is the most significant grammatical unit, because it is the clause that functions as the representation of processes.

Halliday referring to relational processes distinguishes two modes.

1. attributive and 2. identifying

In the attributive mode, an attribute is ascribed to some entity; either as a quality, as a circumstance- of time, place etc. (circumstantial) or as a possession (possessive). In the identifying mode, one entity is used to identify another: the relationship between them is one of token and value (intensive), of phenomenon and circumstance of time, place etc.(circumstantial), or of owner and possession(possessive).

Halliday points out the fundamental difference between the two is the fact that identifying clauses are reversible where as attributes are not. In other words, an identifying clause has passive. An attributive clause has no passive. The principal types of circumstantial element are extent and location in time
and space; manner (means, quality, comparison); cause 9 reason, purpose
and behalf).

2.13 COHERENCE AND COHESION

Most scholars in the field of discourse agree that the basic constitutive
principle of discourse is 'coherence'. There is an argument that coherence is
not a property of the discourse, but is constructed by the participants.

Coherence is measured by the extent to which a particular instance of
language use corresponds to a shared knowledge of conventions as to how
discourse functions are related to form larger units of discourse of different
kinds.

Generally speaking if a piece of information is incorporated into a
separate sentence, then it is intended to be taken as having independent
significance. If, for example, two events are described in two different
sentences, then each event is represented as being significant, in some sense,
in its own right. When sentences are combined by subordination the
proposition expressed in one necessarily becomes dependent on the
proposition expressed in the other one becomes prominent at the expense of
the other.

It is important to realize that although formal links reinforce the unity of
discourse, they cannot on their own create it.

What is important is that we should recognize the limitations of a
particular approach to analysis, and not be too easily persuaded that it
provides us with the only valid characterization of language in use. The applied linguist may follow his own path towards pedagogic application once the theorist has given a hint of the general direction. Widdowson strongly feels that he may even, on the way discover a direction or two.

It is important to note that there is no rigid framework to discourse analysis, but the study of coherence and cohesion in the discourse enables the analyst to device suitable framework for designing the course.

‘Cohesion’ is an area which is of relevance to all discourse, spoken and written.

The notion of cohesion refers to the way sentence and parts of the sentences combine so as to ensure that there is proposition development. Usually sentences used communicatively in discourse do not in themselves express independently propositions: they take on value in relation to other propositions expressed through other sentences. If we can recognize this relationship and so are able to associate a sentence, or part of a sentence, with an appropriate value, then we recognize a sequence of sentences or sentence parts as constituting cohesive discourse.

A discourse is said to be cohesive to the extent that it allows for effective prepositional development and that sentences are appropriate in form to the extent that they allow for this development.

Meanings do not exist ready made, in the language itself: they are worked out. We are given linguistic clues to what is expressed and what
discourse acts are performed and on the basis of these clues we make sense of the sentences.

Formal links between sentences and between clauses are known as 'cohesive devices'. They are dealt with under the headings Reference, Substitution, Ellipses, Conjunction and lexical cohesion in the next section.

Apart from the way in which information within sentences is organized according to the demands of a text, text syntax is also about the ways in which sentences are linked together into a cohesive whole. Five kinds of cohesion have been identified. They are

i) reference ii) substitution iii) ellipses iv) conjunction v) lexical cohesion

i) REFERENCE

Halliday and Hasan consider ‘Reference’ as a semantic relation that ensures the continuity of meaning in a ‘text’. It involves items that cannot be interpreted in their own right, but which make reference to something else for their interpretation.

Reference in general may be of two kinds.

Exophoric reference is reference outside the text to the situation, eg. ‘it needs a coat paint’ pointing some object, then it has exophoric reference.

Endophoric reference is reference to items within the text. It may be either Catophoric, i.e., forward pointing (eg. This in This is how I do things) or Anophoric i.e., backward pointing.
Only Endophoric reference is cohesive, and in the majority cases it will be anaphoric.

Cohesive reference may be of three different kinds; Personal, demonstrative and comparative.

**Personal reference** is by means of personal pronouns, possessive pronouns, (mine, yours etc.) and possessive identifiers (my, your etc.). The third person pronouns are nearly always cohesive, but the first and second person pronouns may often have exophoric reference. Sometimes a pronoun, especially 'it' will refer back not to a noun or noun phrase, but to a longer stretch,

**Demonstrative reference** involves the demonstratives (this, that), the definite article (the) and the adverbs (here, there, now and then: All these are a form of verbal pointing and indicate proximity in text to the sentence in which they occur. In the case of demonstratives, there is a tendency to use 'this' to refer to something the speaker has said and 'that' to what the other person has said. 'this' and 'that' may also be used like 'it' to refer to extended text

**Comparative reference** may be either general, expressing the identity, similarity or difference between things, or particular, expressing a qualitative or quantitative comparison.

ii) **SUBSTITUTION** is defined as a grammatical relation, where one linguistic item substitutes for a longer one? The substitute item is therefore interpretable
only by reference to the original longer item. There are three kinds of substitution: nominal, verbal and clausal.

**Nominal Substitution** involves the substitution of a noun as head of a noun phrase by one or ones, or the substitution of a whole noun phrase by 'the same'.

**Verbal Substitution** is by means of do (to be distinguished from the auxiliary do), and it substitutes for the lexical verb; eg. 'Did you see Jim last week?'-'I did on Thursday' / 'I might have done'.

**Clausal substitution** is by means of so, for a positive clause and not, for a negative one. Here an entire clause is presupposed: eg 'Is there going to be a snow fall?' 'They say so/not'; are you going to the conference? If so, we could travel together.

iii) **ELLIPSES** are similar to substitution, except that in the case of ellipses, the substitution is by nothing. An obvious structural gap occurs, which can only be filled by reference to a previous sentence. As with substitution, ellipses may be nominal, verbal or clausal.

**VERBAL ELLIPSES** involves the omission of the lexical verb from a verb phrase, and possibly an auxiliary or two, recoverable from a previous verb phrase. For example, if one were to hear the snippet of a conversation, it may or it may not, one would know that it was elliptical, since there is no lexical verb. That would be recoverable from a previous utterance such as, is it going
to rain today? Another kind of verbal ellipses omits everything except the
lexical verb; 'Has she been crying?'-'No laughing'.

**NOMINAL ELLIPSES** involves the omission of the head of a noun
phrase, sometimes together with some modifiers; eg. Four other oysters
followed them. And yet another four; 'Which hat will you wear?'- 'This is the
nicest'.

Unlike clausal substitution, clausal ellipses is not concerned with the
ellipses of whole clauses but with the ellipses of large parts of clauses, whole
phrases and upwards; eg 'who was playing the piano?'-'Peter was'. The whole
verb phrase is not often left out in ellipses across sentence boundaries, but it
may be within sentences. Eg: - 'Joan bought some roses, and Bill, some
carnations. And it may be in conversation. Eg: - 'Where has Jim planted the
roses?' -In the front border.

iv) **CONJUNCTION** refers to specific devices (conjunctions) for linking one
sentence to another. There are a number of words-conjunctions and adverbs –
which fulfill this function. They may be divided into four groups: additive,
adversative, causal and temporal.

**ADDITIVE CONJUNCTIONS** simply add on a sentence as if it were
additional information or an after thought. Eg: - and, furthermore, besides,
incidentally, for instance, by contrast etc.

**ADVERSATIVE CONJUNCTIONS** draw a contrast between the
sentence they introduce or are contained in and the preceding sentence with
which they form a cohesive relationship. Eg: - yet, however, nevertheless, on the other hand, on the contrary, in any case etc.

**CAUSAL CONJUNCTIONS** make a causal link between two sentences.
Eg. hence, therefore, consequently, as a result etc.

**TEMPORAL CONJUNCTIONS** make a time link, usually of sequential nature, between one sentence and another eg: then, previously finally, etc.

v) **LEXICAL COHESION** refers to the use of the same, similar or related words in successive sentences, so that later occurrences of such words refer back to and link up with previous occurrences. There are two broad types of lexical cohesion.

The other kind of lexical cohesion is ‘collocation’. This refers to the habitual company which words keep. For ex:, the word book implies other words like page, title, read, turn over, shelf, library etc.

**Some of the linking words and phrases used are**

1. **TIME**
   At first, Next, Later, In the end, Eventually

2. **COMPARISON**
   In comparison, In contrast, Similarly

3. **CONTRAST**
   But, Still, However, Yet, Nevertheless, On the other hand, On the contrary, In spite of this
4. **ADDITION**

Moreover, Furthermore, In addition, ..........also........., Nor, Not only.........but also

5. **REASON**

For this reason, ......therefore........, Owing to this

6. **RESULT**

As a result, Consequently, So, Therefore, Thus, Accordingly

7. **ORDER**

Firstly, To begin with, Lastly, Finally

8. **EXAMPLE**

For example, For instance, Thus

9. **EXPLANATION**

In other words, That is to say

10. **SUMMARY**

Finally, In conclusion, In short, To sum up
ANALYSIS OF THE STANDARD ISO 9001-2000 USING HALLIDAY'S FUNCTIONAL GRAMMAR

CLAUSE AS A MESSAGE

STATEMENTS

4.2.3 Documents required by the quality management system shall be controlled.

4.2.4 Records shall be established and maintained to provide evidence of conformity of requirements and of the effective operation of the quality management system.

2 The following normative documents contains provisions which, through reference in this text, constitute provisions of this International Standard.

3 For the purposes of this International Standard, the terms and definitions given in ISO 9000 apply.

4.1 The organization shall establish, document, implement and maintain a quality management system and continually improve its effectiveness in accordance with the requirements of this International Standard.

5.2 Top management shall ensure that customer requirements are determined and are met with the aim of enhancing customer satisfaction.
5.4.1 Top management shall ensure that quality objectives, including those needed to meet requirements for product [see 7.1a], are established at relevant functions and levels within the organization.

5.5.1 Top management shall ensure that responsibilities and authorities are defined and communicated within the organization.

5.5.3 Top management shall ensure that appropriate communication processes are established within the organization and that communication takes place regarding the effectiveness of the quality management system.

5.6.1 Top management shall review the organization’s quality management system, at planned intervals, to ensure its continuing suitability, adequacy and effectiveness.

6.3 The organization shall determine, provide and maintain the infrastructure needed to achieve conformity to product requirements.

6.4 The organization shall determine and manage the work environment needed to achieve conformity to product requirements.

7.1 The organization shall plan and develop the processes needed for product realization.

7.2.2 The organization shall review the requirements related to the product.

7.3.1 The organization shall plan and control the design and development of product.

Planning output shall be updated, as appropriate, as the design and development progresses.
7.3.2 Inputs relating to product requirements shall be determined and records maintained. These inputs shall be reviewed for adequacy.

7.3.4 Records of the results of the reviews and any necessary actions shall be maintained.

7.3.5 Records of the results of the verification and any necessary actions shall be maintained.

7.3.6 Records of the results of validation and any necessary actions shall be maintained.

7.3.7 Design and development changes shall be identified and records maintained.

7.4.1 The organization shall ensure that purchased product conforms to specified purchase requirements.

7.5.1 The organization shall plan and carry out production and service provision under controlled conditions.

7.5.2 Validation shall demonstrate the ability of these processes to achieve planned results.

7.5.4 The organization shall exercise care with customer property while it is under the organization's control or being used by the organization.

7.5.5 The organization shall preserve the conformity of product during internal processing and delivery to the intended destination.
7.6 The organization shall determine the monitoring and measurement to be undertaken and the monitoring and measuring devices needed to provide evidence of conformity of product to determined requirements.

8.2.1 The methods for obtaining and using this information shall be determined.

8.2.3 The organization shall apply suitable methods for monitoring and, where applicable, measurement of the quality management system processes.

8.3 The organization shall ensure that product which does not conform to product requirements is identified and controlled to prevent its unintended use or delivery.

Records of the nature of nonconformities and any subsequent actions taken, including concessions obtained, shall be maintained.

8.3 When nonconforming product is detected after delivery or use has started, the organization shall take action appropriate to the effects, or potential effects, of the nonconformity.

8.5.2 The organization shall take action to eliminate the cause of nonconformities in order to prevent recurrence.

8.5.3 The organization shall determine action to eliminate the causes of potential nonconformities in order to prevent their occurrence.

The following are some examples of elaboration (clause complex)

1) The organization shall identify the product status with respect to monitoring and measurement requirements. (7.5.3)
2) Controlled conditions shall include as applicable the availability of information that describes the characteristics of the product. (7.5.1)

3) This includes any processes where deficiencies become apparent only after the product is in use or the service has been delivered. (7.5.2)

4) These inputs shall include a) functional and performance requirements. (7.3.2)

5) The outputs of design and development shall be provided in a form that enables verification against the design and development input and shall be approved prior to release. (7.3.3)

6) Participants in such reviews shall include representatives of functions concerned with the design and development stage(s) being reviewed (7.3.4)

7) Infrastructure includes, as applicable (a) buildings, workspace and associated utilities. (6.3)

8) Personnel performing work affecting product quality shall be competent on the basis of appropriate education, training, skills and experience (6.2.1)

9) Top management shall appoint a member of management who, irrespective of other responsibilities, shall have responsibility and authority that includes (a) ensuring that processes needed for the quality management system are established, implemented and maintained. (5.5.2)

10) Records shall be established and maintained to provide evidence of conformity to requirements and of the effective operation of the quality management system. (4.2.4)
11) Where an organization chooses to outsource any process that affects product conformity with requirements, the organization shall ensure control over such processes. (4.1)

12) Where the term “documented procedure” appears within this International Standard, this means that the procedure is established, documented, implemented and maintained. (4.2.1 Note)

13) During the design and development planning, the organization shall determine
   (a) the design and development stages,
   (b) the review, verification and validation that are appropriate to each design and development stage (7.3.1)

14) The outputs of design and development shall be provided in a form that enables verification against the design and development input and shall be approved prior to release. (7.3.3)

15) Design and development outputs shall
   (d) specify the characteristics of the product that are essential for its safe and proper use. (7.3.3)

16) Design & development validation shall be performed in accordance with planned arrangements (see 7.3.1) to ensure that the resulting product is capable of meeting the requirements for the specified application or intended use, where known (7.3.6)
17) Wherever practicable, validation shall be completed prior to the delivery or implementation of the product. (7.3.6)

19) The organization shall ensure that purchased product conforms to specified purchase requirements. (7.4.1)

20) The organization shall establish and implement the inspection or other activities necessary for ensuring that purchased product meets specified purchase requirements (7.4.3)

21) Where the organization or its customer intends to perform verification at the supplier’s premises, the organization shall state the intended verification arrangements and method of product release in the purchasing information. (7.4.3)

22) The organization shall validate any processes for production and service provision where the resulting output cannot be verified by subsequent monitoring and measurement. This includes any processes where deficiencies become apparent only after the product is in use or the service has been delivered. (7.5.2)

23) Where appropriate, the organization shall identify the product by suitable means throughout product realization. Where traceability is a requirement, the organization shall control and record the unique identification of the product (7.5.3)
The following are some examples of Extension

1) Top management shall ensure that customer requirements are determined and are met with the aim of enhancing customer satisfaction. (5.2)

2) Instead, the review can cover relevant product information such as catalogues or advertising material (variation). (7.2.2)

3) In addition, the organization shall assess and record the validity of the previous measuring results when the equipment is found not to requirements. (7.6)

4) Top management shall provide evidence of its commitment to the development and implementation of the quality management system and continually improving its effectiveness by
   (a) communicating to the organization the importance of meeting customer as well as statutory and regulatory requirements. (5.1)

5) This International Standard can be used by internal and external parties, including certification bodies, to assess the organization’s ability to meet customer, regulatory and the organization’s own requirements (0.1)

6) An advantage of the process approach is the ongoing control that it provides over the linkage between the individual processes within the system of processes, as well as over their combination and interaction. (0.2)

7) The model shown in Fig 1 covers all the requirements of this International Standard, but does not show processes at a detailed level. (0.2)
8) In addition, the methodology known as "Plan-Do-Check-Act" (PDCA) can be applied to all processes. (0.2)

9) The present editions of ISO 9001 and ISO 9004 have been developed as a consistent pair of quality management system standards which have been designed to complement each other, but can also be used independently. (0.3)

10) ISO 9001 specifies requirements for a quality management system that can be used for internal application by organizations, or for certification, or for contractual purposes. (0.3)

11) However, it is not intended for certification or for contractual purposes. (0.3)

12) This International Standard specifies requirements for a quality management system where an organization

a) needs to demonstrate its ability to consistently provide product that meets customer and applicable regulatory requirements and

b) aims to enhance customer satisfaction through the effective application of the system, including processes for continual improvement of the system and the assurance of conformity to customer and applicable regulatory requirements. (1.1)

13) In this International Standard, the term "product" applies only to the product intended for, or required by, a customer (1.1 Note)

14) Where exclusions are made, claims of conformity to this International Standard are not acceptable unless these exclusions are limited to
requirements within clause 7, and such exclusion do not affect the organization's ability, or responsibility, to provide product that meets customer and applicable regulatory requirements. (1.2)

15) Also, the term “supplier” now replaces the term “subcontractor”. (3)

16) Throughout the text of this International Standard, wherever the term “product” occurs, it can also mean “service”. (3)

17) The organization shall establish, document, implement and maintain a quality management system and continually improve it effectiveness in accordance with the requirements of this International Standard. (4.1)

18) The organization shall

c) determine criteria and methods needed to ensure that both the operation and control of these processes are effective

d) ensure the availability of resources and information necessary to support the operation and monitoring of these processes,

e) monitor, measure and analyse these processes, and

f) implement actions necessary to achieve planned results and continual improvement of these processes.

19) The organization shall establish and maintain a quality manual that includes

b) the documented procedures established for the quality management system, or reference to them, and (4.2.2)
20) Records shall be established and maintained to provide evidence of conformity to requirements and of the effective operation of the quality management system. (4.2.4)

21) A documented procedure shall be established to define the controls needed (b) to review and update as necessary and re-approve documents (c) to ensure that changes and the current revision status of documents are identified. (d) to ensure that relevant versions of applicable documents are available at points of use, use of ‘and’ (4.2.3)

22) Records shall be established and maintained to provide evidence of conformity to requirements and of the effective operation of the quality management system (4.2.4) too many ‘and’ s used in this

23) Top management shall provide evidence of its commitment to the development and implementation of the quality management system and continually improving its effectiveness by (a) communicating to the organization the importance of meeting customer as well as statutory and regulatory requirements, (b) conducting management reviews, and (e) ensuring the availability of resources. (5.1)
24) Top management shall ensure that customer requirements are determined and are met with the aim of enhancing customer satisfaction (5.2)

25) Top management shall ensure that the quality policy
(a) is appropriate to the purpose of the organization,
(d) is communicated and understood within the organization, and
(e) is reviewed for continuing suitability (5.3)

26) The quality objectives shall be measurable and consistent with the quality policy (5.4.1)

27) Top management shall ensure that
(a) the planning of the quality management system is carried out in order to meet the requirements given in 4.1, as well as the quality objectives, and
(b) the integrity of the quality management system is maintained when changes to the quality management system are planned and implemented. (5.4.2)

28) Top management shall ensure that responsibilities and authorities are defined and communicated within the organization (5.5.1)

29) Top management shall ensure that appropriate communication processes are established within the organization and that communication takes place regarding the effectiveness of the quality management system

30) The organization shall
(a) determine the necessary competence for personnel performing work affecting product quality.
(d) ensure that its personnel are aware of the relevance and importance of their activities and how they contribute to the achievement of the quality objectives, and
(e) maintain appropriate records of education, training, skills and experience,
31) The organization shall plan and develop the processes needed for product realization (7.1)
32) b) the need to establish processes, documents, and provide resources specific to the product.
c) required verification, validation, monitoring, inspection and test activities specific to the product and the criteria for product acceptance,
d) records needed to provide evidence that the realization processes and resulting product meet requirements. (7.1)
33) The organization shall determine
(b) requirements not stated by the customer but necessary for specified or intended use, where known (7.2.1)
34) (b) contract or order requirements differing from those previously expressed are resolved, and (7.2.2)
35) The organization shall determine and implement effective arrangements for communicating with customers in relation to
c) enquiries, contracts or order handling, including amendments, and (7.2.3)
36) The outputs of design and development shall be provided in a form that enables verification against the design and development input and shall be approved prior to release. (7.3.3)

37) (b) provide appropriate information for purchasing, production and for service provision (7.3.3)

38) At suitable stages, systematic reviews of design and development shall be performed in accordance with planned arrangements (7.3.4)

39) Design & development validation shall be performed in accordance with planned arrangements (see 7.3.1) to ensure that the resulting product is capable of meeting the requirements for the specified application or intended use, where known. Wherever practicable, validation shall be completed prior to the delivery or implementation of the product. (7.3.6)

40) Design and development changes shall be identified and records maintained. (7.3.7)

41) The type and extent of control applied to the supplier and the purchased product shall be dependent upon the effect of the purchased product on subsequent product realization or the final product. (7.4.1)

42) The organization shall establish and implement the inspection or other activities necessary for ensuring that purchased product meets specified purchase requirements (7.4.3)

3) The organization shall plan and carry out production and service provision under controlled conditions. (7.5.1)
44) The organization shall validate any processes for production and service provision where the resulting output cannot be verified by subsequent monitoring and measurement. (7.5.2)

45) The organization shall exercise care with customer property while it is under the organization’s control or being used by the organization. The organization shall identify, verify, protect and safeguard customer property provided for use or incorporation into the product. (7.5.4)

**Attributive (clause as representation)**

1) For the purposes of this International Standard, the terms and definitions given in ISO apply. (3)

2) The following normative document contains provisions which, through reference in this text, constitute provisions of this International Standard. (2)

4) When used within a quality management system, such an approach emphasizes the importance of continual improvement of processes based on objective measurement. (0.2)

5) The quality management system requirements specified in this International Standard, are complementary to requirements for products. (0.1)

6) Information marked ‘Note’ is for guidance in understanding or clarifying the associated requirement. (0.1)

7) The application of a system of processes within an organization, together with the identification and interactions of these processes, and their management, can be referred to as the “process approach” (0.2)
8) Monitoring of customer satisfaction requires the evaluation of information relating to customer perception as to whether the organization has met the customer requirements. (0.2)

9) Records shall remain legible, readily identifiable and retrievable. (4.2.4)

10) The quality objectives shall be measurable and consistent with the Quality policy (5.4.1)

11) The responsibility of a management representative can include liaison with external parties on matters relating to the quality management system (5.5.2 note)

12) Personnel performing work affecting product quality shall be competent on the basis of appropriate education, skills and experience. (6.2.1)

13) Infrastructure includes as applicable

(a) buildings, workspace and associated utilities. (6.3)

14) The output of this panning shall be in form suitable for the organization’s method of operations. (7.1)

15) This review shall be conducted prior to the organization’s commitment to supply a product to the customer (e.g. submission of tenders, acceptance of contracts or orders, acceptance of changes to contracts or orders) and shall ensure that (7.2.2)

16) Requirements shall be complete, unambiguous and not in conflict with each other. (7.3.2)
17) In some situations, such as internet sales, a formal review is impractical for each order. (7.2.2 Note)

18) Customer property can include intellectual property (7.5.4 Note)

19) Preservation shall also apply to the constituent parts of a product. (7.5.5).

Circumstantial

1) The extent of the quality management system documentation can differ from one organization to another due to the competence of personnel (4.2.1).

2) A documented procedure shall be established to define the controls needed for the identification, storage and protection, retrieval, retention time and disposal of records (4.2.4) (cause)

3) Top management shall provide evidence of its commitment to the development and implementation of the quality management system and continually improving its effectiveness by

(a) communicating to the organization the importance of meeting customer as well as statutory and regulatory requirements

(b) establishing a quality policy. (5.1) (means) (manner)

4) Top management shall ensure that customer requirements are determined and are met with the aim of enhancing customer satisfaction. (5.2) (purpose, reason)
5) Top management shall ensure that quality objectives, including those needed to meet requirements for product, are established at relevant functions and levels within the organization. (5.4.1) (purpose, reason)

6) Top management shall ensure that appropriate communication processes are established within the organization and that communication takes place regarding the effectiveness of the quality management system (5.5.3) (location)

7) Top management shall review the organization’s quality management system, at planned intervals, to ensure its continuing suitability, adequacy and effectiveness. (5.6.1) (extension, cause)

8) Personnel performing work affecting product quality shall be competent on the basis of appropriate education, skills and experience. (6.2.1) (manner)

9) The organization shall determine, provide and maintain the infrastructure needed to achieve conformity to product requirements. (6.3) (purpose, reason)

10) The organization shall and manage the work environment needed to achieve conformity to product requirements. (6.4) (purpose, reason)

11) This review shall be conducted prior to the organization’s commitment to supply a product to the customer (e.g. submission of tenders, acceptance of contracts or orders, acceptance of changes to contracts or orders) (7.2.2) (extension)
12) The organization shall manage the interfaces between different groups involved in design and development to ensure effective communication and clear assignment of responsibility (7.3.1) (purpose, reason)

13) Planning output shall be updated, as appropriate, as the design and development progresses. (7.3.1) (manner)

14) These inputs shall be reviewed for adequacy. (7.3.2) (reason)

15) The outputs of design and development shall be provided in a form that enables verification against the design and development input and shall be approved prior to release. (7.3.3) (manner) (extension)

16) Design and development outputs shall specify the characteristics of the product that are essential for its safe and proper use. (7.3.3) (reason)

17) At suitable stages, systematic reviews of design and development shall be performed in accordance with planned arrangements (a) to evaluate the ability of the results of design and development to meet requirements. (7.3.4) (extension, manner, reason) - (long sentence)

18) Verification shall be performed in accordance with planned arrangements to ensure that the design and development outputs have met the design and development input requirements. (7.3.5) (manner, reason)

19) Design and development validation shall be performed in accordance with planned arrangements to ensure that the resulting product is capable of meeting the requirements for specified application or intended use where known. (7.3.6) (manner, reason)
20) Wherever practicable, validation shall be completed prior to the delivery or implementation of the product. (7.3.6) (extension)

21) The changes shall be reviewed, verified and validated, as appropriate, and approved before implementation. (7.3.7) (extension)

22) The organization shall evaluate and select suppliers based on their ability to supply product in accordance with the organization's requirements. (7.4.1) (manner)

23) The organization shall ensure the adequacy of specified purchase requirements prior to their communication to the supplier. (7.4.2) (extension)

24) The organization shall establish and implement the inspection or other activities necessary for ensuring that purchased product meets specified purchase requirements. (7.4.3) (purpose, reason)

25) The organization shall preserve the conformity of product during internal processing and delivery to the intended destination. (7.5.5) (extension, location)

26) The organization shall establish processes to ensure that monitoring and measurement can be carried out and are carried out in a manner that is consistent with the monitoring and measurement requirements. (7.6) (reason/purpose), (manner)

27) Where necessary to ensure valid results, measuring equipment shall be calibrated or verified at specified intervals, prior to use. (7.6) (reason/extension)
Reference:

Demonstrative reference

Ex:

Inputs relating to product requirements shall be determined and records maintained (see 4.2.4). These inputs shall include (a) functional and performance requirements (7.3.2).

The organization shall validate any processes for production and service provision where the resulting output cannot be verified by subsequent monitoring or measurement. This includes any processes where deficiencies become apparent only after the product is in use or the service has been delivered. (7.5.2)

The organization shall determine, collect and analyse appropriate data to demonstrate the suitability and effectiveness of the quality management system and to evaluate where continual improvement of the effectiveness of the quality management system can be made. This shall include data generated as a result of monitoring and measurement and from other relevant sources. (8.4)

Top management shall review the organization's quality management system, at planned intervals, to ensure its continuing suitability, adequacy and effectiveness. This review shall include assessing opportunities for improvement and the need for changes to the quality management system, including the quality policy and quality objectives. (5.6.1)
ADVERSATIVE CONJUNCTIONS

1. However

Reiteration

...However, it is not intended for certification or for contractual purposes (0.3 )

ADDITION

In addition...

In addition, the organization shall assess and record the validity of the previous measuring results when the equipment is found not to conform to requirement. [7.6]

2.14 FINDINGS OF DISCOURSE ANALYSIS

Analysis of the discourse leads to distinguish main points from supporting details, understand relations within sentences.

The ISO 9001-2000 Standard follows a particular pattern. It is divided into eight sections (referred to as 'clauses'). All these clauses deal with the requirements to be fulfilled in implementing QMS in an organization.

The Standard begins with a comprehensive introduction highlighting the essence of the whole Standard [4.1] and then proceeds to the guidelines to be followed while implementing the QMS.

Only five clauses [4 to 8] are operative sections as far as the implementation of QMS is concerned.

These clauses are further divided into sub clauses. They are in the form of paragraphs. Each sub clause is generally divided into three parts. The first part
answers the question what that particular clause is about. It is followed by the
prescription as to what more needs to be done to implement the requirements
of the 'standard' i.e, the clause first of all states, later elaborates and if
necessary enhances the idea already stated.

Another striking feature of the division of the Standard into various clauses is
that each clause is given a heading. The clause begins with a Topic sentence
which makes general statement and proceeds step by step to become more
specific. Whatever message that is to be communicated either regarding
activities/instructions, the pattern is from Generic to specific. It follows a
systematic development of theme and related activities to be performed in the
organization.

Relationship among the sub clauses is established in Section 4. The topics are
depicted in bold. It begins with the purpose of the organization [4.1]. This is
followed by

(a) processes that are identified
(b) criteria and methods for effective operation & control
(c) documentation

This kind of a systematic presentation of the topics enables the user of
the Standard to get to the topic he wants to refer and more detailed
explanation that follows.
(i) under 4.2 ‘Documentation requirements’, the user will be able to know about the requirements in general and about particular documents like ‘Quality Manual’, ‘Quality Objectives’ etc. in the following paragraphs.

(ii) 5. Management Responsibility:

5.1 Management commitment
5.2 Customer focus
5.3 Quality policy
5.4 Planning
5.5 Responsibility, authority and communication
5.6 Management review

This kind of categorization done with the purpose of ‘presenting the topic first’ and ‘talking about it’ under each heading provides the package of the items related. The title of the section ‘influences’ the interpretation of the text that follows.

On the whole, the thematic categorization done under lexical analysis and discourse analysis are helpful in

(a) identification of the topic

(b) the organization of the Structure – i.e., it provides a structural framework for the entire ‘Standard’

Further, the study of how sentences convey the message and what functions they perform in the Standard, revealed the following factors.
A detailed analysis of clause as message, clause as representation and clause as exchange besides examples from the Standard is already presented in the previous section. It is observed that certain clauses are made more meaningful by adding expressions which extend the meaning of the clause without which the information provided in the sentence becomes incomplete.

For ex:-

Purchasing information shall describe the product to be purchased, including where appropriate

(a) requirements for approval of product, procedures, processes and equipment,

(b) requirements for qualification of personnel, and

(c) quality management system requirements. [7.4.2]

Where necessary to ensure valid results, measuring equipment shall

(a) be calibrated or verified at specified intervals, or prior to use, against measurement Standards traceable to international or national Standards; where no such standards exist, the basis used for calibration or verification shall be recorded;

(b) be adjusted or re-adjusted as necessary;

(c) be identified to enable the calibration status to be determined;

(d) be safeguarded from adjustments that would invalidate the measurement result;
(e) be protected from damage and deterioration during handling, maintenance and storage.

In addition, the organization shall assess and record the validity of the previous measuring results when the equipment is found not to conform to requirements. [7.6]

This shall include determination of applicable methods including statistical techniques, and the extent of their use. [8.1]

In the above sentence, extension ‘including’ not only clarifies the statement but also suggests one of the methods that is applicable viz. Statistical techniques.

Thus analysis of the sentences clearly shows the presence of a theme in all sentences and these sentences are constructed with a clear purpose and message.

Communication is the most important function of a sentence, and it is clearly fulfilled in the Standard. The message/information to be communicated to the readers is very systematically provided using the ‘extension’ of clauses.

For ex:- 8.6.2 The organization shall take action to eliminate the cause of non-conformities in order to prevent recurrence.

The latter part of the sentence clears the question as to why action should be taken......
Clarification of expression like 'product' [1.1] is provided in the 'Note' part of the section. 'Note' under various sections clarifies the questions that arise in the reader.

Note: In this International Standard, the term 'product' applies only to the product intended for, or required by the customer.

Note 3: the documentation can be in any form or type of medium.

There are many clauses used in the 'Standard' with care taken to convey their exact meaning. The examples of this pattern are provided in the previous section [0.1,0.2]

It is important to note that although formal links reinforce the unity of discourse, not many cohesive devices are used in the Standard. The reader should understand the relationship between sentences through devices like expansion, extension, reference etc. and comprehend the coherence in various sections.

The skills of Reading and interpreting the guidelines communicated in the Standard are a part of the skills to be improved by the learners. The Discourse Analysis throws light on how the sentences function in the given context and this in turn enables the course designers to look into the different aspects presented in the text and design tasks accordingly.