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INTRODUCTION

Charles Darwin in his book "The Origin of Species, mentioned: " We will now discuss in a little more detail the struggle for existence". Humanity looks for development in many fields. Since the end of World War II, a great expansion in science, technology and business seems to have started and with its progress an international language was demanded. Due to the great economic power of The United States of America after the war, the English language was the one to be considered the language of the world where all kinds of enterprises and industries required and still require it for communication.

Technology increased amazingly and provided the world with unimaginable ways of living. Then, the world felt the strong necessity for making English the language everybody spoke and learnt to face all the challenges. However, people learning English knew exactly what they studied it for: to sell and buy products, to instruct and perform instructions, to catch up on the developments of each field of study, etc.
Concerning the field of technology, it can be said that it does not have to be apart from the English world. As they could be seen, both of these areas of human interaction are closely related to one another.

However, in our country, the use of the English language for communication is taking great importance even though it is not learnt as a Second Language, due to our Spanish speaking environment. It is mostly learnt as a foreign language. Moreover, the use of the English language by technical students is not taken much into consideration due to the environment where they work. Students who need the English language as part of their lives are Computing Science Students. They spend most of the time dealing with endless sources of written technical materials. Unfortunately, there is not enough help they can ask for when trying to comprehend such materials.

Actually, the standard way many students use to comprehend those materials is through translation, seen as the process of looking for the Spanish meaning of every single word found in the text. Many students think that using a dictionary is the most appropriate way to comprehend a text. Unfortunately, translation is not taken as it is and therefore, many misunderstandings emerge from there. Indeed, students encounter hundreds of problems when translating, instead of comprehending what is written. For instance: misinterpretations,

confusions, non comprehensible expressions, etc. The process of translating implies a deep knowledge of vocabulary, lexis and language itself. Whereas, comprehending is a process where people can understand the message from the content.

Regarding the field of Computing and bearing in mind that most of its information comes in English, I consider to great importance to emphasize the application of reading skills due to the amount of information Computing Science students deal with. The effective use of reading techniques will probably help them to comprehend what they learn and read instead of desperately trying to find the meaning of certain words that according to context can mean something different. Therefore, their reading achievements will be better and they indeed can acquire a useful tool to do their best at working. Implementing reading techniques and strategies for more effective studies in a Computing Science class is the main purpose of this dissertation.

CHAPTER ONE

COMPUTERS AND THE ENGLISH WORLD

At this point, it is important to emphasise that previous knowledge in the area of Computing Science is an advantage for the students as subjects of this observation, because they already know about the topics in Spanish due to their studies. What they are going to achieve is the ability to comprehend better similar kinds of material, but in English. This previous knowledge students have may help them to assimilate faster the message from the context. However, they need help to pass from tired hours of translation to a better way of understanding the meaning of the topic in the target language.

1.1 ESP: COMPUTING SCIENCE AND THE ENGLISH WORLD

1.1.1 HISTORY OF ENGLISH FOR SPECIFIC PURPOSES: ESP

"Tell me what you need English for and I will tell you the English you need", is a principle of ESP.

Traditionally, linguistics was aimed to teach a language in terms of its features and rules. However, it has changed and the attention now focuses on the use of the language for communication. As the situations vary the language does so. This reasoning brought about the view of the existence of differences among language in several content areas, say, commerce, business, engineering, and others. The idea of creating specific learners' courses started to emerge.

Important developments in the content areas as in educational psychology contributed a lot in the growth of English for Specific Purposes (ESP).

ESP has undergone different states of development since its beginnings in the 1960s. Nowadays, it is still in a fifth state and at different speed in many countries.

The first step in ESP development is as follows:

REGISTER ANALYSIS

First of all, it is important to mention that Peter Strevens (1964), Jack Ewer (1969) and John Swales (1971), worked on the basic principle that every field of study has its own register different one from another. They coincided in identifying the linguistic features of

each of the registers. The syllabus and its analysis revealed no relevant difference from General English; however, the aim was to provide students with material with important information relevant to their needs as subject matter students. The syllabus to be produced needed to give high priority to the language features students would encounter in their real Science studies, and low priority to the ones they hardly would meet.

The textbooks used at that time, had no specific difference and the need to create an ESP course which considered the linguistic and subject matter aspects was of real importance.

DISCOURSE OR RHETORICAL ANALYSIS

Secondly: After the attention given to the features of language in the fields, this was shifted to the discourse and rhetorical levels. Here, emphasis was on the identification of the organisational patterns in the contexts, and how to understand their meaning from those patterns.

Those patterns identified in the contexts or the ones expected to be encountered were considered as the syllabus of the ESP course. Assumptions of the existence of differences between discourse in general texts and in content areas texts were made. However, and unfortunately, those were not clearly stated.

TARGET SITUATION ANALYSIS

This step was suggested by Chambers (1980). Even though this did not contribute greatly to the development of ESP, it suggested the systematisation to the learner's needs. The aim was to establish a relationship between the analysis of the language and the reasons learners had for learning. Therefore, the first step in designing an ESP course meant to identify the target situation, and then carry out an analysis of the linguistic features required by students to operate adequately in such situations.

Indeed, Munby's (Communicative Syllabus Design, 1978) model established the learners' needs in function of communication purposes, communicative setting, means of communication, language skills, functions, structures, etc.

This is now known as "need analysis".

SKILLS AND STRATEGIES

All the above steps had focused attention on the surface level of the linguistic and target situation features. However, this approach focused beyond the surface features and went on to consider the thinking process that underlay language use. Francoise Grellet (1981), Christine Nuttall (1982), Charles Alderson and Sandy Urquhart (1984) made such a great contribution concerning reading skills which has been passed to ESP courses.

The skills-centred approach has as a basis the principle that underlying all language use there are common reasoning and interpreting and high thinking processes that enable us to extract the meaning from the contexts.

Therefore, what is important to study here is the strategies used by the learner to convey information.

A LEARNING-CENTRED APPROACH

This is the approach that now is available for teachers and learners. In all the above, the attention has been put on what learners can actually do with language. It means language use, but what this step refers to is that no matter which step the syllabus is in, the concern is to understand the process of language learning.

1.1.2 WHAT IS ESP?

Tom Hutchinson and Alan Waters (English for Specific Purposes, 1987) represent the relationships inside English Language Teaching (ELT). The roots are Communication and Learning which nourish the tree and make it survive. Going up, it is Language Teaching which holds the several branches of the division. For instance, ELT is one example of Language Teaching which has many divisions. The main branches of ELT are English as a Mother Tongue (EMT), English as a Foreign Language (EFL) and English as a Second Language (ESL). The branches concerning our study are EFL and ESL. These two both branches have similar divisions: General English (GE) and English and ESP. GE is usually studied for exam purposes at elementary, primary, secondary, tertiary and adult levels. We are concerned about ESP, which has the following division: English for Science and Technology (our most interest) (EST), English for Business and Economics (EBE) and English for Social Studies (ESS). The latter is not very common because its teaching is similar to the humanistic GE.

Each of the branches of ESP is divided into two major important branches, according to what the learner requires English for: English for Academic Purposes (EAP) or English for Vocational / Occupational Purposes (EOP). Out of these branches, there can be found several individual ESP courses.

(See Annex 1, Page 116)

According to Hutchinson and Waters, ESP can be defined by what it is not, rather than what it is. Therefore, the following remarks need to be pointed out:

ESP:

a. Does not mean teaching a specialised subject matter with its special vocabulary different form GE, but teaching a content area in English with certain "typical" features of that area, taking into consideration the target situation where learners may encounter those features of language.
b. Is not a matter of specialised grammar rules and vocabulary concerning the subject matter, but much more than communicating the surface information that is read or heard. "We need to distinguish, as Chomsky did with regard to grammar, between *performance* and *competence* that is between what people actually do with the language and the range of knowledge and abilities which enables them to do it". (Hutchinson and Waters, 1981)
c. Is not a different form of language teaching. What it is, is to rely on principles of effective and efficient learning techniques. There is not a special ESP methodology, what is used in an ESP course is the methodology used for any GE course.

ESP should not be considered as a product obtained after certain processes. It must be seen as an approach with a syllabus based on the learners' needs and reasons for learning, due to their future encounter with a target situation, related to their subject matter, which implies the use of effective strategies, content and methods for an effective learning.

1.1.3 APPROACHES TO COURSE DESIGN

Rudyard Kipling said:

" I keep six honest serving-men
(They taught me all I knew)
Their names are What, Why and When
And How, Where and Who"

This quotation is basically what teachers need to bear in mind when designing an ESP course. Planning is of substantial importance in the design where the answers to the previous word-questions are provided to create the syllabus.

Other important remarks concerning language descriptions and learning theory have to be clear enough in ESP course design. The first one refers to the way how language is divided into its parts and described. For instance: structures, functions, and notions are part of language descriptions. The latter refers to the methodologies available to help teachers understand how people learn any kind of knowledge, and not only a language.

The process of designing a course requires a deep study of the learners' needs and its interpretation to produce an integrated set of activities, which lead learners to acquire knowledge. It is also important to consider the reliability of materials and the correct methodology to be implemented in the syllabus. The interpretation of the needs analysis information leads teachers to adopt an approach to design a course. There is not one single ESP approach; there can be found as many as the courses offered. However, the three main approaches are the following:

1. LANGUAGE-CENTRED

This approach is quite simple and tends to be used widely in ESP. The aim is to establish as directly as possible a connection between the analysis of the target situation in terms of language, and the syllabus or content of the course.

It starts from the needs' analysis made in learners. Then, it establishes the target situation and selects the appropriate language. With all this information, the syllabus is created. Next, the selection and design of the material to be used in the course is performed. Finally, the process of evaluating the course through various kinds of assessment is done. However, not only learners are evaluated but the course itself, i.e. syllabus, materials, procedures and methodology, etc.

Even though this approach seems to be logically structured and easy to carry out, it has some failings, such as: it may be confused as a learner-centred approach due to the first step where learners are considered to provide the information concerning their needs. However, they are only the information providers. A restricted area of the English language is taught.

Another criticism is that this approach does not consider possible constraints that may appear concerning the learners' attitude, environment and human behaviour.

The approach implies a systematic process of presenting and teaching the language. However, it has not been proved yet how the human mind acquires the language. Therefore, it cannot be assumed that learners learn systematically, they have to adapt their system to have meaningful information for themselves. This process needs to be internal, and not external, as suggested here.

Another important aspect, is that more than the information interpreted to create the syllabus, the material going to be used should be interesting, even though the activities are not so.

Finally, the analysis of the target situation is very simple; therefore, it cannot fully reveal how it is in real life.

2. SKILLS-CENTRED

This approach has been widely applied in many countries, especially in Latin America, where students encounter lots of materials in English, and not in their mother tongue.

This approach has two fundamental pillars:

a. a theoretical hypothesis presupposes that underlying any language behaviour there are several skills and strategies that learners use and develop in order to comprehend discourse. Therefore, this approach aims to have applied the syllabus with learning objectives, which includes performance and competence.

b. Widdowson (1981) states a difference between goal-oriented and process-oriented courses. Goal-oriented courses refer to accomplish tasks in order to meet target situation necessities, which implies most students will fail the course due to the importance given to the accomplishment of the final goals. However, process-oriented courses refer to a continuously developing of the proficiency level, even though, at the end, students do not reach the proficiency level. But Holmes (1982) points out: "In ESP, the main problem is usually one of time available and student experience. First, the aims may be defined in terms of what is desirable, -i.e. to be able to read in the literature of the students' specialism, but there may be nowhere near enough time to reach this aim during the period of the course. Secondly, the students may be in their first year of studies with little experience of the literature of their specialism... Accordingly both these factors... may be constraints which say right from the start, "The aims cannot be achieved during the course.""

In ESP, the needs analysis provides the information learners need to face in a future target situation. However, the goal-oriented course contradicts this and makes students fail at the learning process. However, the process-oriented course bears in mind the relationship between the analysis and the target situation. Learners will learn progressively until they reach a level of proficiency in the language that makes them able to achieve their own goals, even in the middle of constraints.

The skills-centred approach sees ESP as the way to help learners to develop certain skills and strategies to use during and after the course. This approach takes more into consideration the role of the learners inside the classroom and outside as performers. Indeed, this is concerned with the process of using the language, not the process of learning it.

3. LEARNING-CENTRED

It is not considered learner-centred because the learner is not the only factor that participates in the process of learning. Learning is seen as the process that learners use in combination with their knowledge and skills to make sense and meaning of the new information they face. Therefore, this process is internal and mental, which depends on the learners themselves. They learn what they want due to the motivation they have. However, learning also implies a process of negotiation between society and humans. Society sets the target situations and humans need to do their best to survive in those target situations. More than acquiring the correct language and skills to perform in a target situation, this approach is concerned with what goes beyond competence, what really makes someone acquire it. Therefore, the learner is immersed in every step of the course design.

Two implications are described here:

a. this approach is a negotiated process because the target and learning situations influence the course itself: the materials, objectives, methodology, etc.
b. this approach is a dynamic process that varies with time. Therefore, needs analysis and resources need continuous feedback information to be updated.

One of the analyses of ESP has shown that learners learn English because they need to read texts in their subject area in this language, due to their non-availability in their native language. The language and skills approach concentrates on developing an ESP course based on reading texts. This could mean that instruction could be in their native language. No other skills are taken into consideration. However, the learning-centred approach wants learners to learn knowledge most effectively by combining other skills.

For instance, the Brazilian ESP project performed by several universities with the support of the British Council organised a national project on ESP. The aim was to provide specialised courses on different subject matters. The language of instruction was Portuguese, and not English. What was important was to teach the ability students from a certain subject area needed. For example, people working on the project classified the course areas according a national system for academic areas. Some course were oriented to reading basically, whilst others used lots of speaking.

Eventually, what matters is to simulate a real target situation where learners are able to perform their tasks according to their area of specialization.

1.1.4 NEEDS ANALYSIS

Considering that ESP is an approach which is based on the learners' needs for learning, it seems that GE and ESP have no difference at all. Indeed, every course, whatever the course it is, should start its planning by identifying the reasons or needs that learners have. However, in GE, learners have their needs for learning but, in ESP, learners not only have their needs, but are also aware of them. In addition, an ESP course is characterised by its specific content of a subject matter and the future target situation, where learners have to demonstrate their expertise in another language different from their native one. However, the main point is awareness of the needs learners have. This leads teachers to apply different analysis to the data collected prior to the course design. In GE, the true needs are not identified, whereas in ESP, they need to be clarified in order to establish a good syllabus.

John Munby worked deeply on the most thorough and widely known needs analysis called Communicative Syllabus Design, which involves a set of questions about key communication variables such as: topics, participants, medium, material, etc, which can help to identify the target language needs of a group of students in a field of study.

Nevertheless, the best idea is not to fall into a language-centred approach, where the aim is to be able to produce or comprehend the linguistic features in a target situation, but using the needs analysis to create an optimum syllabus. However, a distinction has to be mentioned here between target needs and learning needs. The first one refers to what the learners need to do in a target situation, whereas the second refers to what the learner needs to do in order to learn.

Target needs are no other than the necessities demanded from a target situation, i. e. what the learners need to know to communicate and interact effectively in a target situation. For instance, a Systems Engineer needs to be able to read the technical information he finds on the Internet, understand language programming code and instructions, read manuals and so on. He also has to know the linguistics features such as discourse, functional, structural language, lexis, syntax, etc.

However, this information is not enough. If ESP identifies the learners' needs of a group of learners, then information about what they already know is also important to gather. What for? Because identifying the gap between what they already know and what they need to know (their lacks) will help to lead to a good teaching / learning process, in order to match the level of proficiency against the level of the target situation itself.

Stressing the point that ESP bases its course design on the needs analysis, which is awareness of the learners' needs, does not mean that learners are set apart from the process. Their intrinsic motivation tells them what they think their needs are. Those are perceived

differently by everybody. Bearing this in mind, their wants cannot be confused or separated from the analysis.

It is also important to differentiate between needs and wants. Needs are considered as "what the learner has to know in order to function effectively in the target situation. Whereas wants are considered what the learners view as their necessities to overcome a target situation.

To gather the information about target needs, one may use different ways such as: interviews, queries, surveys, observation, texts, informal consultations, etc.

Once the needs have been identified, the route taken to reach the target situation is now the main point. How are learners going to go from the starting point (their present) to their destination (target situation requirements)? What happens if there are disputes (wants)?. These questions can be answered with the learning needs analysis. This conveys all the information regarding language features, skills, strategies, methods, materials, etc. ESP processes are concerned with the learning.

In the journey to reach the target situation, the route, vehicles and guides, the existing roads and motivation for traveling need to be chosen.

1.1.5 THE WORLD OF COMPUTERS

As Computing Science is a relatively new subject area, an explanation about the tight relationship that exists between English language and Computers will be made next. One must know how the world lives inside the interaction of these both areas.

The field of Science and Technology has grown so fast that today many other fields rely on it. For instance, medicine uses computers to carry out high-risk surgery, and expert systems provide the symptoms, treatment and suggestions for certain health problems. Industry relies for its manufacturing, controlling of processes, managing and administering resources on computers. Even home appliances are computerized. Fortunately, computers have not gone beyond human abilities to think and reason.

The influence of computers is so large that anyone who does not know how to operate a computer is nowadays considered illiterate. Many feel afraid of being in front of one, but others feel like masters who have tamed "the beast". A computers is not considered a luxury anymore, it is being considered a need. Many people do their work on computers, and students do their homework and research on them. There is no reason to think people are independent of them. They depend on the human capacity to create new models with more sophisticated and miniaturised components, and humans depend on them to carry out their works.

As English was considered the international language for Business, Commerce and Technology, most of the information regarding these fields was published in English. Even today, information available in the Internet is in English.
Schools, and university entry, or degree requirements, are to learn a second language. English is the most widely language studied. However, there are others in the list, but not with such an influence as English.

Studies and work opportunities in English speaking countries are available for those who have knowledge of the subject matter, in some cases, and of English. If someone knows a second language, the world opens its hidden doors to another world, which offers different opportunities and points of view of the world itself and humanity.

In our country where English is studied as a foreign language, no complete interaction in English can be performed in the environment outside the classroom. However, those students who are immersed in the field of computers, need to be in contact with the language more than others. The information they handle mostly comes in writing and, therefore, the reading skill needs to be enhanced in combination with others. Needless to say, the receptive skill in this case is fundamental, due to the activities they develop: reading manuals, instructions, latest news and advances, customer service letters, technical magazines, the Internet information, etc.

CHAPTER TWO

THE READING SKILL

2.1 READING: A RECEPTIVE SKILL

Reading is an activity which may provoke some reactions in people such as: moving his head as if he were following something, questioning, arguing as if he were discussing with somebody. However, this does not always happen. This factor presents a challenge to psychology who attempt to analyse the nature of this activity, and teachers who try to help learners perform it effectively.

Reading involves attention to pieces of information in written language. The graphic representations of the words are there and ready to be accessed any time the learner needs. Oral interaction is definitely absent and, of course, the medium of reading is different from the medium of other skills and sub skills.

Larger units of characters have to be decoded, identified, understood, and extracted to understand the nature of the knowledge and topic, as well as the author's meaning of the text.

2.1.1 READING IN THE NATIVE LANGUAGE

According to O'Malley, reading is seen as the process of making inferences and evaluating what has been read. Readers construct new knowledge from the interaction between texts and their previous knowledge.

In many situations, reading in the native language is taken for granted. At the primary level, learners are taught to read syllables, then words, then phrases. At the secondary level, learners read to study, to research and to have fun. However, they are not taught how to do it and how to get the best of it.

The abilities they may have in their native language may be really poor so they cannot transfer them into the foreign language, or they definitely do not have reading abilities in their native language.

2.1.2 READING IN THE FOREIGN LANGUAGE

As in the native language, readers use their previous knowledge to capture information, regarding the topic, through grammatical structures. What can be found here is that the reader may have different levels of proficiency in the foreign language.

Indeed, several differences in the application of reading skills in native language and foreign language can be established, as follows:

- Learners may not apply their native language reading abilities in the foreign language.
- Learners may not have native language reading abilities.
- Speed, accuracy, smooth performance, feedback, and success are different.

Reading is seen as a set of higher thinking level abilities and knowledge that cannot be broken down into particles. This skill should be analysed as a set of skilled operations.

2.1.3 THE RELATION OF CULTURE AND READING

It has been pointed out that learners from different cultural backgrounds have different background knowledge systems. The first American linguist who considered culture was Fries. He stated that comprehension of the entire meaning of a statement happens only when the linguistic meaning is fitted into a social and organised framework.

Some other points to bear in mind are: there will be a cultural interference at the affective level; learners need complete background information if a complete understanding of the text is required, and a complete mastery of the language depends on knowledge of the culture.

Several ways have been suggested to teach culture:

- provide background information, high frequency culture terms, supporting readings
- provide information through pictures, films, descriptions
- teaching literature in reading material. However, the reading of this may cause confusion and misunderstandings of the cultures involved. Some cross-cultural experiments were carried out to demonstrate this.

Reading comprehension, then, is seen as a function of cultural background knowledge. If readers have the linguistic and cultural schemata of the author, he will be able to state, infer and comprehend information from the text. On the other hand, if they do not have it, they will attempt to state meaning from the linguistic language of the texts and their own cultural knowledge, which leads to distortions.

Teachers, designers, publishers, and testers need to bear this in mind when producing their works and materials.

2.2 READING: COMPREHENSION AND LEARNING

Reading is considered as an activity that one does, while comprehension is understanding something that one does. Someone who understands what he reads can answer questions, and reproduce the gist of it in written or oral forms. At the moment of reading, one can demonstrate comprehension by supplying words as in cloze reading, mostly used for testing reading. Comprehension is not a process itself; it does imply a process that ends in achievement.

All of these procedures have been used for testing reading comprehension. Even though they are not perfect, they have some advantages. However, if a learner is not required to do all these things, it does not mean that he fails to understand what he reads. Comprehension is not the *doing* of these things, but has something to do with the ability to do it. It is not an action nor a process, because it cannot be assigned a fixed time.

As an analogy, it can be said that an athlete has only one activity, which is running (reading in this case), and the winning (comprehension) merely implies something about how the running was done (speed, other participants, etc).

While reading, an individual not only comprehends but thinks, and this conclusion makes the definition of comprehension as: the measure of the learners' ability and willingness to reflect on whatever he is reading.

However, Eric Lunzer and Terry Dolan[1] (Reading for Learning in the Secondary School) mention that there are some factors that influence the reading process, as follows:

- Reading style: which refers to the way an individual integrates his thinking and reading. A learner, who is reading a difficult text, needs to take some time to think and reflect on it several times. It also has been said that poor readers do not do this, whereas good readers are made aware of this and are taught deliberately how to use the thinking pauses to learn better and more efficiently. However, "it should not be assumed that slow reading, frequent pauses and regression or double reading are always a feature of effective reading"
- Readability: Efficient readers know when they need to stop and think, and when they do not. This factor is considered as a measure of the style of a piece of writing. It is not a sufficient measure of the level of difficulty of a text, but predicts well the judgments of teachers and learners objectively. Readability measures are based on two counts: the number of words per sentence (syntactic complexity), and the frequency of words (which are long or rare). Readability measures are useful when

[1] Eric Lunzer and Terry Dolan, LANGUAGE READING AND LEARNING, Basil Blackwell, 1979

teachers select books for their pupils who can respond better to texts, which are written in an easy style, rather than to texts, which are similar, but with a much more complex style.

- Content and structure: The difficulty of a text does not only refer to the style but to the content and structure used. When a text is new to a reader, he has more to learn and assimilate. However, if it is dense (number of features of text), he may need more study. The use of examples and illustrations has made some difficult texts more readable. On the other hand, abstractions, analogous instances, flashbacks in historical events, and complex logical structures can be confusing and, therefore, more difficult to be comprehended.

Suiting reading style to reading purpose: One important consideration is that the reader's style depends on the purpose he has for reading it. Different style refers to different purposes. For instance: reading for a test, for fun, for general interest, etc. What the reader does when finishing reading, will directly depends on the purpose he has. Indirect evidence drawn from some investigations says that good readers are efficient when reading, because they also have identified their purpose, but poor readers do not do this.

2.2.1 READING COMPREHENSION: A LANGUAGE OR A READING PROBLEM?

Very frequently, learners reading in a foreign language seem to read slower than in their native language and have less comprehension of what has been expected. One reason may be very simple: reading in another language from their native is very difficult, because there are elements such as the linguistic factors of that language that makes it difficult.

Some studies performed with bilingual learners reading in their native language and foreign language showed a considerable problem. Some learners had difficulties understanding texts despite the fact they already knew the vocabulary and grammar; on the other hand, interpretation of the combined vocabulary and structures seemed to be the main factor for poor reading performance in the foreign language.

Thus, the question to be answered is: is reading in a foreign language a language problem or a reading problem? Is it a problem of knowing the vocabulary and grammar of the language, or are there other problems?

Many teachers, especially in Latin America, have answered these questions by saying that their students cannot read adequately in English because they lack reading abilities in their native language. Therefore, they are not able to use and transfer them into the foreign language.

Jolly (1978) claimed that to be successful in reading in a foreign language, it is necessary to have reading abilities in the native language and be able to use them in the foreign language. Therefore, what is a matter of crucial importance is the skills learners have, rather than the linguistic knowledge of the language. Consequently, the reason why they fail to comprehend information in a foreign language is due to their lack of native language reading abilities.
Some linguists agree with this. Clarke (1979) summarises this and says: " If the reading process is basically the same in all languages we would logically expect good native language readers to be good second language readers. Furthermore, we would expect good readers to maintain their advantage over poor readers in the second language".

This has its contrary point of view. Yorio (1971), argues that the problem in reading is due to the lack of knowledge and proficiency of the foreign language linguistic factors learners have, as well as their native language interference. He mentions four factors present in the foreign learner, which make the reading process much more complex: knowledge of the language, ability to predict, ability to recall cues, and ability to associate cues among them. Summarising them: interference from their native language, and lack of knowledge of the foreign language:

"Two hypotheses have been suggested in reading in a foreign language:

1. Poor reading in a foreign language is due to poor reading ability in the first language. Poor first-language readers will read poorly in the foreign language and good first-language readers will read well in the foreign language.
2. Poor reading in a foreign language is due to inadequate knowledge of the target language

At least two modifications of these hypotheses are possible:

1a. Poor foreign language reading is due to incorrect strategies for reading that foreign language, strategies differ from the strategies for reading the native language.
2.a Poor foreign language reading is due to reading strategies in the first language not being employed in the foreign language, due to inadequate knowledge of the foreign

language. Good first-language readers will read well in the foreign language, once they have passed a threshold of foreign language ability.

The implications for them are.

- If poor first-language reading is the cause, we must improve first-language reading.
- If poor foreign language knowledge is the cause, we need to improve foreign language competence.
- If first-language reading ability is short-circuited by low foreign language competence, we need to improve foreign language competence first, and then improve the reading strategies of poor first-language readers.
- If processing is different for different languages, then we need to teach reading of the foreign language, regardless of the first-language ability.

If transfer of reading ability takes place across the native / non-native language divide, then we can teach reading in either first or foreign language to those readers who are poor in their first-language reading. Readers who are poor in foreign language reading but not in their first language are either logical impossibilities or merely in need of familiarization with the foreign language code. " [2]

2.2.2 THE ROLE OF READING

First of all, it is important to mention that some teachers want learners to read because they can:

- have further practise of language, more than just listening and speaking
- practise language in order to reuse it in other skills
- find enjoyment
- learn how to make sense of what they read
- use some time in useful activities while teachers relax a bit

It has been argued that speaking and writing are the most important skills which presuppose the other two. However, today integrated approaches are being used where all skills participate in the teaching and learning process.

When learners have identified their purpose for reading, they may assimilate better the meaning of the content. However, if the language instruction is very poor, no matter how much interest and motivation the learners have, ignorance of the linguistic code may be an

[2] J. Charles Alderson and A.H. Urquhart, READING IN A FOREIGN LANGUAGE, Longman, 1984

obstacle for understanding. What is important here, is that teachers provide learners with instructions in order to make them able to handle texts for themselves. Another important point is that learners want to read for whatever reason, and this should be exploited by teachers. However, they should bear in mind that each individual has different tastes and, as much as possible, they should adapt all the reading materials to satisfy everyone's likes.

Concerning objectives, teachers need to be very specific and even negotiate with learners about the aims of the reading programme for a general course. However, for more specific courses, future activities learners will perform, should be borne in mind at the setting of objectives.

2.2.2.1 STEPS TO SET OUT WHEN ORGANISING A READING PROGRAM

Objectives: Learners at the end of the course will be able to:

- read general topic texts with comprehension
- read flexibly and fluently
- learn language and content
- read with some degree of critical awareness.

Once the objectives have been set, materials, and methods need to be selected and even modified if necessary.

GUIDELINES OR SUGGESTIONS

When selecting and using different types of topics, it may help to develop a variety of reading styles, encourage reading for different purposes, familiarize learners with different texts, and require the application of different strategies.

One suggestion in the selection of reading topics is to have familiar texts and then move to less familiar ones each time.

The materials used for reading may come from different sources, for example:

- integrated course books
- supplementary reading material
- texts from real life sources: magazines, periodicals, newspapers.
- simulated authentic texts
- web

2.3 THE READING PROCESS

In this process, as well as in listening, learners are involved in the process of decoding the information they have, rather than encoding it. This skill also requires a visual element or sense, which is carried out in solitude. It means reading is a less social skill than others. Teachers do not actively participate when learners are practicing this skill. What teachers can do is help learners select appropriate readings according to their language knowledge, as well as apply several reading techniques to improve comprehension. Also, pre-reading (predicting, skimming), while-reading and follow-up activities may even benefit learners to take in the information they read.

Learners may feel at ease when reading because they can reread some pieces of information every time they do not concentrate, they do it in relative peace and calm, and they can also control the speed at which they process the information.

Reading in a second or foreign language requires the learners to process the content in that language, rather than trying to convert it into their native language. It is not expected that learners comprehend every single word they have in the texts, but understand the meaning the author is trying to convey, both in General English, as well as in ESP.

Goddman has described reading as "a psycholinguistic process by which the reader, a language user, reconstructs, as best as he can a message which has been encoded by a writer as a graphic display" (Goddman, 1971). This means that the act of reconstruction is a cyclical process of sampling, summarising, predicting and confirming information. The learner takes advantage of the redundant elements present in the text to process and comprehend its meaning. Previous information plays an important role here due the fact that a relationship between it and the new information is established to understand and learn a new topic. However, reading may also suggest to be a guessing game where readers will guess certain points when they encounter some unclear information or doubts. The effects of such a wrong guess may have some sort of influence on the reader. For instance: proficient readers may recover from them and accept them as natural constraints in their learning process. They may even learn from those wrong guesses. On the other hand, poor readers will not have a successful recovery, for they will fall into a cycle of misconceptions, and misunderstandings that lead them to wrong predictions all the time.

Models of reading play an important role in reading in a second language. For instance, there are two basic models:

a. Bottom-up models: which refer to the decoding of individual linguistic units given on printed material. It means, working the way up from smaller to larger units to obtain meaning and to modify prior knowledge (Carrel 1988).

b. Top-down models: start with the learner's hypotheses and predictions about the text and attempts to confirm them by working the way down to the smallest units of the printed text given.

   Top-down models use high thinking level skills such as: predicting, inferring, speculating (Bloom's Taxonomy).

Interactive models (proposed for second language reading) suggest that fluent reading comprehension depends on mastering grammar and a large vocabulary. Eskey and Grabe (1988) suggest that poor readers can use the context but have not yet acquired automatic decoding skills.

The interactive process means: interaction between the reader, interplay between lower and higher-level reading processes (decoding and using prior knowledge) and, the relationship between form (text structure) and function (genre) in texts.

Reading skills should be taught in terms of a learner's prior knowledge and experience.

A proficient or fluent reader may comprehend meaning through the text and be able to establish predictions as he progresses in the reading of the text. He will be able to extract samples and build knowledge. His understanding and comprehension of the syntactic, orthographic and semantic clues help him to comprehend the content of the text. Whereas, a word-by-word reading may cause a very poor reader not to understand properly what has been read. He may also forget the text immediately because he is concentrated on converting the words into his native language.

In comprehending a written text, readers have an overall idea of the meaning, then they break the text into meaningful units with specific information and, finally, they reach a level of knowledge in the second or foreign language. For doing this, readers will have to learn the necessary linguistic knowledge of syntax, lexis and grammar.

Some reading techniques based on Françoise Grellet (which were used in this research) are:

a. Inference through the context

b. Understanding relations within the sentence

c. Linking sentences and ideas: reference

d. Skimming

e. Scanning

f. Main idea and supporting ideas

g. Descriptions

h. Comparing texts and pictures

i. Matching

j. Using illustrations

k. Completing paragraphs

l. Using the information in the text

m. Question-types

n. Study skills: summarising and note-taking

2.4 READING SKILL: A TOOL FOR COMPREHENSION FOR SEVERAL SUBJECT MATTERS

In many countries worldwide, reading in a foreign language is required for academic studies, professional and personal development. A lot of scientific, technical and commercial information is published in English. Unfortunately, statistics reveal that most students who read in a foreign language fail to understand the texts and do it slower than in their native language.

When reading material in a field of study such as Biology, Chemistry, Computing, etc. the reader must understand the vocabulary of the field , technical terms used which are familiar because they already have the experiential knowledge, and may have contact with those words. However, the problem arises when a precise meaning is required from them and others used in common everyday use. Therefore, teachers must address themselves in relation to foreign learners of English to correctly understand the lexis used in the field.

Most of the information in those fields of study comes in written form with language appropriate to the subjects matters. Basically, reading is a skill that is widely used to research, get information, collect data, etc. This skill cannot be separated from the others and from the process of comprehension.

The level of difficulty of the material also needs to be in accordance with the language level of the reader. However, in subject matter materials, what is important is that the learners need the background information as much as linguistic knowledge. However, this tends not to motivate students because they will encounter problems due to their lack of understanding. Indeed, learners may even feel frustrated because they know the scientific background in their native language, but they do not have the linguistic knowledge itself; they have lots of trouble understanding meaning. Therefore, what has been recommended is to instruct learners well enough in the foreign language with the correct abilities to grasp information, and then be able to use their abilities in the foreign language and get the meaning of the information more clearly.

CHAPTER THREE

METHODOLOGY APPLIED AND RESEARCH

3.1 TEACHING METHODOLOGY APPLIED

To have a livelier, more interesting and motivating, and therefore more efficient environment in the classroom, it is vital to know some techniques that can help. When planning a course teachers must consider the methods that will be used during the learning process. The effective selection and use of the techniques may help learners to acquire knowledge. However, there is not a "special" methodology or principles for ESP, but the same used in GE work perfectly.

It is important to mention that what a person does is what the person is going to understand. Therefore, the basic principles mentioned below are relevant when planning a course. The most appropriate methods to carry out the learning and teaching process should be selected in order to reach the objectives set at the beginning of the course.

It has been mentioned earlier that learning-centred methodology is the most appropriate for an ESP course. Some characteristics to bear in mind are the following:

It is important to comprehend that learners use their prior knowledge to make new knowledge comprehensible. This is very important for the success or failure of the learning process.

The learning process is active and learners need opportunities to use the language and knowledge, not just by knowing them.

Language learning is a decision-making process, where learners and teachers participate in the process and take and share decisions, not just the teachers, as in traditional approaches.

Language learning is not just a matter of linguistic knowledge. An ESP learner may have a high cognitive and proficiency level concerning his subject matter, but a very poor linguistic level. Teachers of ESP should be concerned about these two aspects.

Language learning is not the learners' first experience with language, for they already have contact with their native language. What they may not know is the linguistic features of the target language and how to use it to communicate. Therefore, their abilities to exploit it should be enhanced.

Learning is considered an emotional experience, where the positive aspects should take over the negative ones in order to establish good social relationships and success in the learning process. Language learning is considered incidental to some extent, where real problems must make learners use the language to solve them.

Language learning is not systematic, the learner has an internal process that makes the knowledge and information flow according to the necessity.

There is not a specific and new ESP methodology. The same methods used in GE can be used here, what is important is to make the courses livelier and as much enjoyable as possible. Feedback is also important in the process, too.

On the other hand, the type of methodology used when teaching is different to the methodology used for researching. For instance, how to select a research method and why, the use of a controlled group, schedule planning, hypothesis proposal, etc. can be done using research methods.

Therefore, the following analysis tries to clarify the use of the most adequate methods applied in this research.

3.2 RESEARCH METHODOLOGY

The main objective of this dissertation was to provide learners practice of several reading techniques so they can acquire them and therefore do better work in their career. This section shows the methods and their features considered for the development of this research. The reasons and explanations why pre experimental and quasi experimental research were selected, are also mentioned below.

Concerning how a research is performed, there are several methods to carry out the observation and analyses of the information.

To carry out research in the classroom atmosphere, the following methods have been proposed:

CLASSROOM RESEARCH: A COMBINATION OF PRE EXPERIMENTAL AND QUASI EXPERIMENTAL METHODS

3.2.1 EXPERIMENTAL RESEARCH

This research has its pros and cons:

PROS:

- Clear purpose to be proved
- Well defined procedures to carry out the research.
- Manipulate the treatment or situation
- Objective
- Learn from experience

CONS:

- Variables (external) cannot be controlled
- Artificial circumstances
- Loss of important aspects
- Limited in scope

This kind of research bases its study on a hypothesis. Data is collected to be analysed. The process is deductive. The experimental research can be of three types:

- true experimental
- pre-experimental
- quasi-experimental

In this type of research, there is an idea to prove which has clear objectives, procedures and results and it is generally short-term.

Both pre experimental and quasi-experimental research types have been chosen to develop this dissertation because of the nature of the course.

3.2.2 PRE EXPERIMENTAL AND QUASI EXPERIMENTAL RESEARCH

Quasi experimental research means that there is no random selection of subjects; pre experimental research means the entire group of subjects undergoes a treatment, with proposed material, methods and techniques; there is not a control group to take the course in normal circumstances.

Pretest research is done before the treatment is applied to the group. Post test is carried out after the process.

In this particular dissertation, quasi-experimental research was done because the subjects of investigation were students from level X at the Systems Engineering School at PUCESA. Moreover, pre experimental research was combined in this investigation because all subjects (15 students) received the treatment. Here, the treatment was the application and

enhancement of reading skills for efficient studies. Therefore, Pretest was carried out to learn about learners' conditions before the treatment (application of reading techniques), and Post test was also performed at the end of the treatment to learn about learners' conditions after the treatment.

Thus, it is necessary to mention that some aspects of ethnographic research have been taken and combined with the above types, because the dissertation wants to help ESP learners enhance their reading abilities to do better in their studies.

Aspects such as: context, duration, unobtrusiveness were taken into consideration. Context refers to a normal situation where subjects apply their knowledge. In the case of this dissertation, learner were in contact with real technical material they handle every day: instructions to set up a computer, a program, etc., articles in magazines, books, magnetic devices, etc., information on the Internet, etc.
Students were working with those materials inside the classroom as if they were doing an assignment in their jobs. There were no artificial circumstances at all, and they were avoided as much as possible.

The research was unobtrusive because the variables were not manipulated at any time. Learners underwent the treatment and all of them had a journal where they recorded their experiences and feelings about the work they just did. They used introspection and retrospection techniques to do this.
It was longitudinal, because the research took one academic semester.

This research also has the feature of being emic, in that it was carried out by a researcher with same cultural background as the students.

Data collection has been qualitative as well as the quantification. The qualitative results were turned into numbers and statistics, though.

3.3 NEEDS ANALYSIS

Basically, this chapter refers to the requirements prior to the implementation of an ESP course. Needs Analysis was carried out in order to determine the strengths and weaknesses in the individuals. It will also explain the procedure and information to be taken into

consideration for planning a needs analysis and its interpretation and presentation of results. It is a must to design the course "tailor-made", in other words, based on the learner's needs.

In our language environment, learners are not very much in contact with the English language as they would like to be. Most of the information comes on cable TV, magazines, the Internet, etc. The speaking skill is not practised a lot, because English is not considered a second language, but as a foreign one. Those who have the opportunity to travel overseas to English speaking countries, or have some English-speaking friends, may practise it quite often. However, the majority of learners do not have such opportunities.

In the case of ESP learners, the situation is much more complex. Those who need an ESP course may not find it because this subject is not well known yet in our country, and there are not many instructors who are skillful in both areas: the language, methodology and the subject matter itself. Most students at the tertiary level deal with information about their subject matter in written English. Some of them may have problems concerning language, maybe because they were taught GE, and to cope with the language of their specific subject matter; they need some training in the lexis, and the structure used in it.
The greatest need learners have is to grasp the subject matter information written in English. GE English does not use specific forms to express information concerning subject matter, rather it teaches everything for general purposes, since the focus of GE, as it means, deals with the language as a whole.

In the case of computing features such as: passive voice, participial adjectives, gerunds, and infinitives, are used to describe the processes of electronic manipulation of information. Learners may master this in their native language, but have difficulties in English.

For this dissertation, a survey was carried out to define the experience and needs learners have concerning the use of English in their field of study: Computing.

OUTCOMES FROM THE SURVEYS

Basically, the survey gave the following information in order of importance:

Learners need English to:

- read information
- do assignments
- write information
- work

- listen to information
- communicate with others

Their experiences are:

- doing homework
- designing web pages
- configuring networks
- installing devices and programmes

3.4 LEARNING STYLES, MULTIPLE INTELLIGENCES AND LEARNING PREFERENCES

3.4.1 LEARNING STYLES

Each individual on earth is unique, therefore he/she has his/her own particular ways to perform things. A definition for learning style can be: the way an individual uses particular or preferred approaches and methods to handle new information. This information is processed, understood and recalled by our brain.

According to Kate Kinsella (1995), people come to this world programmed somehow to learn certain things in a certain way, but the environment where people interact may alter this way of learning. Factors such as: the nature of knowledge, the people we interact with, our personality, personal factors, among others, may also influence the way we treat new knowledge.

An individual cannot fit into one type of style. Therefore, learning preferences should be talked about where a combination of features belongs to a learner. However, the orientation of the learner tends to have more weight to one style. Teachers need to understand this and not label learners as a certain specific learning type.

Learning preferences so far will be defined as the sensory channels (preferred ones, not unique) learners use in order to become aware of, analyse, store and retrieve new information.

The main learning preferences and their characteristics are:

a. Visual
    - Rarely speaks in class
    - Very verbal in the native language

- Tends to follow the teacher with his eyes as he moves around the classroom
- Very neat and tidy
- Underline and highlight information
- Works quickly and finishes early
- Visualizes text pages to remember information
- Responds to written information rather than oral

b. Auditory

- Always talks, whispers
- Likes narratives, jokes and stories
- Can repeat oral information with high accuracy
- Uses rhythm and sounds as memory aids
- Is a good leader because he listens to people
- Performs better in class than in tests
- Sees causes and effects of situations
- Their left hemisphere dominates

c. Tactile

- Needs concrete experiences to process new information
- Has problems when learning abstract information
- Has a short concentration span
- Sees and hear and physically does things
- Is very chummy with teachers and classmates
- Needs physical movement to release tension

d. Kinaesthetic

- Follows an observation-reflection-performance sequence to learn new information
- Likes to do things with his hands, fidget, fiddle
- Good at sports and physical activities
- Responds to feelings rather than words
- Analyses information very well
- Can not be still for long periods of time

Other factors that influence the learning styles are culture, sex, age, educational background, and preferred field of study.

In order to define the learning styles and strategies of the learners in this research, surveys were carried out.

The questionnaire made by David Kolb ( ) was applied to the learners, then a graphic where they had a representation of the values was made. Therefore, they were able to see more clearly their tendency towards a specific learning style.

A second questionnaire devised by Gabriel H. Díaz Maggioli (1993) was carried out too. Here, learners discovered the learning preference they had, according to some questions on their strengths for learning.

With these pieces of information, a clear schemata of the learners was obtained . Much of the material used in this observation and research processes was selected using this information.

3.4.2 MULTIPLE INTELLIGENCES

Howard Gardner's (1983) definitions are:

" The ability to solve problems that one encounters in real life "

" The ability to generate new problems to solve "

" The ability to make something or offer a service that is valued within one's culture "

He proposed seven main types of intelligences and their main characteristics:

1. Verbal-Linguistic
    - listens and responds to the rhythm of a language
    - imitates the sounds of other languages
    - learns through reading / writing / discussions
    - remembers easily
    - speaks and writes effectively
    - enhances his language usage
2. Logical-Mathematical
    - perceives objects and functions in the environment
    - understands abstract concepts
    - perceive patterns and relationships
    - analyses data
    - uses technology for problem-solving
    - represents information graphically

3. Visual-Spatial
    - observes carefully
    - recognises objects
    - uses imagery and visual cues
    - decodes graphs
    - learns by graphic information
    - enjoys doodling
4. Bodily-Kinaesthetic
    - explores environment through touch and movement
    - remembers what has been done
    - prefers physical activities
    - likes concrete experiences for learning
5. Musical
    - listens and responds to several sounds
    - organises patterns
    - likes different music patterns
    - singing ability
    - uses vocabulary from music
6. Interpersonal
    - copes with social relationships
    - perceives feelings, thoughts
    - participate in collaborative tasks
    - understands communication
    - influences on others
    - adapts to different situation
7. Intrapersonal
    - Is aware of emotions
    - Motivated to identify goals
    - Ethic value
    - Prefers to work alone
    - Concerns with personal growth
    - Empowers others

In this research, a multiple intelligence survey was done. The aim was to make learners aware of their preferences and abilities to learn.

3.4.3 LEARNING STRATEGIES

All those strategies or set of actions an individual uses to enhance any part of the learning-acquisition process.

Some characteristics of strategies are:

- contribute to the main goal of the communication competence
- allow learners to become more self-directed
- are problem-oriented
- are specific actions taken by the learner
- involve several aspects of the learner
- support learning both directly and indirectly
- are not always observable
- are often conscious
- are flexible
- can be taught

It has been concluded (General Conclusions from language 2 Strategy Research) that good language learners often (but not always) use effective strategies. They use a wide repertoire of strategies appropriate to the task.

Bad learners do use strategies but they have a limited repertoire and do not use strategies appropriate to the task at hand. The effectiveness of the strategy depends on many factors (cognitive, personal, attitude, etc.).

Good and bad language learners can improve their performance through appropriate strategies. In academic situations, even good learners will limit their use of strategies to those who maximise grades, or what is known as the backwash effect. Language teachers are often aware of their learners' strategies, and they learn to recognise, teach, improve and reinforce them.

Finally, the four basic skills require different strategies.

In this particular case, the questionnaire Strategy Inventory for Language Learning (SILL, version 7.0, ESL / EFL, Oxford 1989), was applied to learners to determine and make them aware of the way they use certain activities for learning. (See Annex 2, Page 131)

At the end, they had their own profile on the strategies they use better.

The research carried out in this dissertation used the above information concerning Multiple Intelligences and Learning Styles and Preferences as much as possible when designing the

course and materials. As the aim is to enhance reading abilities in learners so they can achieve better results in their future jobs, the materials were basically written with sporadic oral presentations and discussions depending on the topics. Interaction among learners was in the English language, however, from time to time it was in Spanish, due to the learners' lack of confidence to speak in the target language and practise it.

(See Annex 2, Pages 128, 129, 133,134)

3.5 READING TECHNIQUES, APPLICATION AND OBSERVATION

3.5.1 READING SKILLS DEVELOPMENT

In a reading class, all the activities should be aimed to develop useful reading skills. Oriented practice over an extended period of time is vital. At the beginning, learners may need help and reassurance from teachers. What is essential is to make learners stop reading word by word, but rather grasp the general ideas of the text. Learners also need to try to guess the probable meanings of unfamiliar words from their contexts, rather than looking them up in a dictionary. Comprehension questions also make learners reflect on the most important information.

Concerning reading speed, a procedure where teachers set time and comprehension exercises should be carried out. In this period, teachers explain the steps and ask them to reread the texts if they have not finished in the time set up at the beginning. This is a procedure that takes time and needs practice and the results are not seen right away.

Therefore, rapid comprehension exercises can be used. For doing this, learners will always need a lot of time to practice and encouragement from teachers.

3.5.2 A THREE PHASE APPROACH TO GENERAL READING CLASS

Concerning the strategies or techniques used in improving reading skills, it is important to mention that any reading course has to have in general the following three phases, even though they are not compulsory, depending on the nature of reading activity:

1. Pre-reading: Very important in the learners' motivation. This step is the key to course success. The aim is to introduce learners to the topic, give them a reason for reading and prepare them for the language immersed in the text. The idea is not to explain every single word unfamiliar to learners, but make them aware of their existence in the text. In order to prepare pre-reading activities, teachers may need to answer questions such as: What knowledge do learners already have about this topic? What can they draw from this new topic as a conclusion? How can they use this new

knowledge and relate it to their existing knowledge? Why should they want to read this topic? What motivates them to read it? And so on.

2. While-reading: This is the core of the lesson where teachers have themselves some aims:
   - to help to understand the writer's purpose
   - to help to understand the structure of the text
   - to clarify text content and vocabulary

   Some exercises such as comprehension questions, completion items, recognition of cataphoric and anaphoric devices, guessing meaning from content, inferring, scanning, skimming, sensitizing, descriptions, etc., are examples to use in this step. However, teachers need to be aware of the usefulness of those exercises and if, by them, learners achieve the teachers and their objectives.
   Some questions teachers may need to answer are: What is the function of the text? How are the texts organised? What information is relevant to be extracted? What does the reader need to infer or deduce from it? What sort of language do the learners learn from it? What reading styles are used? What reading strategies are required? What reading skills are improved? And others.

3. Post reading: Includes activities about the text but basically about students' reaction to the that text, for example, whether the learners liked it or not, found it useful or not. The organisation of the post-reading activities depends on the objectives of the course. These activities contribute to the development of the other skills in future practise. Some questions need to be answered in order to have an idea of what activities should be in the post-reading section: Do learners know about a similar situation to that presented in the text? Does the actual situation of the text provide recommendations? Does this situation require completion of information?

Some problems of motivation, language and reading itself may arise in any of the phases mentioned above. Therefore, motivation, help with language, and reasons for learning are a must in all phases.
The advantages of this three phase approach are: first, it respects and uses the learners' existing knowledge of the language and the world to make learners get involved, motivated and progress along the course. Second, this approach aims for an integration of the basic four skills allowing for their practice as a whole.

3.5.3 READING TECHNIQUES

Some of the following techniques are argued to be used in the learners' native language. However, in our country, they are hardly used in Spanish, but rather in the teaching of English as a foreign language. Françoise Grellet in the book Developing Reading Skills, A practical guide to reading comprehension exercises, mentions the following division and techniques:

1. SENSITIZING

The aim of this technique in general is to help learners cope with unfamiliar vocabulary and obscure statements. Learners should not need to be discouraged.

1.a. Inference: The use of syntactic, logical and cultural cues to discover the meanings of unfamiliar vocabulary within a text. Some features of derivation can be understood by this technique.

When teaching a reading class, learners do not need to be given all the meaning of the unfamiliar words present in the text. It is enough if they are introduced to the topic. What teachers need to do is to encourage learners to guess the meaning of the unknown words by relating them with the content and context where they appear. A dictionary should be avoided as much as possible. Dictionary definitions sometimes do not fit the meaning in the text and, on the contrary, may tend to create confusion and misinterpretations. If the task is really complex, then the use of a dictionary is justified. However, this technique of inference should be taught from the very beginning level so that learners get used to it and enhance it with practice.

Some inference exercises can be: inferring meaning from context, inferring meaning from unfamiliar or incomplete words, inferring author's ideas, reading between lines, stating what is not explicitly said, etc.

1.b Understanding sentence structure: The inability to infer may create a feeling of frustration in learners, as well as in understanding the sentence structures. Relative, embedded, complex clauses are the ones which cause the most problems in learners. Therefore, exercises where learners identify the main basic structure (Subject + Verb + Complement) are recommended. They can underline the structures they find and provide more examples for practice. It is also important thet learners recognize what elements are relevant in the structure and why.

1.c. Linking sentences and ideas: Another important aspect in reading is to teach learners how to recognize cataphoric and anaphoric devices, linking and reference words, synonyms, antonyms, homonyms, comparison structures, and others that permit sentences to be coherent.

It is important that learners understand that a text is not a set of independent statements, but they all together have reference and are linked somehow with special devices. The ideas are also related one to another in order to provide meaning from the text. A text has its introduction to the topic, development and conclusions, which are even mentioned with examples. These are what learners need to comprehend. If learners fail to recognize these elements, they may fail to comprehend the meaning beyond them, too, and may miss the communicative value of them. From the very beginning, learners need to be taught how to recognise them (...and use them later when writing) to understand what the text is trying to say: discussion of an argument, contrasting or adding information, etc.

Exercises such as sentences linking, completion of linking words, etc, may be helpful for learners to practise the use of the linking words.

2. IMPROVING READING SPEED

Learners who have a slow speed for reading may end up being discouraged with no reasons for reading, get stuck and frustrated when they come across unfamiliar words and, what is worse, they will not be able to grasp the general idea of the text.

One way to help students increase their reading speed is by giving them some text and timing the task. A conversion table which relates the length and the speed of the text may be used by teachers; therefore, the results would be more reliable. However, reading itself is not just that, learners need a set of comprehension exercises afterwards, since reading speed is not achieved at the expense of comprehension.

If learners keep a journal where they register their results, they will feel motivated and encouraged to compete with themselves and do their best each time.

The level of difficulty in the texts is to be considered too; beginning students to more advanced learners may practise timing themselves.

3. SKIMMING AND SCANNING

It has been mentioned that according to the reasons a reader has to learn, there might be several reading styles. To read effectively, a combination of reading speed and appropriate techniques may be the perfect one. Depending on the type of text, the technique is selected, not all texts can be read the same way at all. For instance, for some texts, what is important is to grasp the gist of it, for others, specific information , for others details, and so on.

3.a. Skimming: read quickly through a text noting only the gist of it. This technique requires an overall view of the text which requires very good competence in reading. This technique is used when readers want to know whether it would be interesting to read or not. This technique may be useful when training learners to comprehend that they can learn simply by looking at some relevant parts of a text, or by getting the general idea of a story, or that it is not necessary to read every single word to know what the text is about. This technique may help readers to decide what they want to learn.

3.b. Scanning: read quickly a text to get specific information. This technique does not require following the sequence of the text. The readers look at the text very quickly until they find what they are looking for. This is a limited technique because it only searches for information that is relevant to the reader's purpose and discharges the rest. However, there are some learners who spend time reading thoroughly a text, and when they find what they are looking for, feel exhausted and discouraged to read. Therefore, the application of both techniques can be combined in order for learners to achieve better, and still have energy to continue with the exercise.

3.c. Predicting: This is a skill that may be required by the other reading techniques. This makes use of logical, grammatical and even cultural cues for guessing the meaning of something. The aim is to anticipate or skim what is worthwhile from a text. For instance, completion exercises where learners need to complete the ending or following paragraph are useful.

3.d. Previewing: This is a very specific reading technique that involves the use of the table of contents, index, glossary, appendix, prologue, introduction sections of the text, etc, to find out where to find the information learners are looking for. By doing this, learners may find information more quickly. This is a very useful technique that is even practiced in real life without noting it.

3.e. Anticipation: Learners read because they have a purpose for doing so, and because they are motivated. The mere fact of selecting a book, for example, means that the learner is interested in it and that he / she expects or is prepared to find something. This expectation is a strong and tight relationship between the reader and the text, because this allows the reader to get into the reading process very deeply. The predictions readers have about the text may be corrected or confirmed at the end. However, in the classroom, this is very difficult to do, because most of the time, learners are given a text that they know nothing about, or are not

interested in; therefore, their motivation is so low that they are not going to learn to read better and achieve better. Therefore, teachers need to reach an agreement with learners and, in some cases, let them select the type of reading they are interested in, or select different types for everybody trying to meet everybody's likes.

Before reading a text, it is recommended, as mentioned earlier, that a pre reading activity is important to get students into the reading.

4. UNDERSTANDING MEANING

Understanding the organization of the text is important, but its content too. Exercises such as: comprehension questions, true/false, multiple choice, etc, may help this aim. However, the exercise may need to require learners to think, not just write down what is obvious in the text. It is important to make learners examine the text, infer answers and provide criteria too. Learners need to be trained to make decisions and be active in the reading process. The activities designed for doing so must be as natural as possible, i. e. that readers may find them in real situations they come across in life.

There are two types of activities for doing so:

4.a Non-linguistic response to a text: The idea is not to require any verbal response from learners. For instance: comparisons, transpositions and drawing graphs of information, finding solutions, making decisions, carrying out instructions, completing or labeling information, etc., are activities for this purpose.

4.b. Linguistic response to a text: A subdivision fits here:

- Reorganising information: Learners are required to organise information in such a different way that makes it clearer, easy to understand, establishes comparisons, draws conclusions, lists events, etc. Learners may notice that the same information may be presented in different ways.
- Comparing several texts: This is a daily activity people do when reading letters, magazines or newspapers. Comparisons exercises may make learners aware of the relevant information for their studies. Comparisons concerning the content, arguments, points of view, etc., are good examples.
- Completing information: As well as the above activities, this is also used in real life when people are asked to complete forms, fill information documents, leave messages, etc.
- Study skills: In particular, note-taking, where learners write down some important information that may be useful later. This activity may be difficult because it implies

understanding, the use of structures, and comprehension. However, it is not impossible; people need to remember that practice makes perfect. Another activity is summarising where irrelevant details need to be left out. Learners learn to use their own words to write down what they understood. They do not need to use the same structure of the text, but be as accurate and objective as possible.

- The role of a dictionary: Many teachers disagree with the use of dictionaries in the reading classroom, due to the fact that readers spend more time reading them that the actual reading text. Learners get used to looking into the dictionary for every single unfamiliar word they encounter. By the time they finish the reading assignment, it seems that years have passed since they started the activity. What is worse is that with all definitions taken from the dictionary, the message is not understandable, and the learner may get confused and exhausted. Learners should be encouraged to read for main ideas, note relations among ideas, make intelligent guesses from context, look for clues and other techniques.

  However, the big questions is how to make learners stop this habit of using the dictionary?. Teachers should encourage learners to keep reading even if they find unfamiliar words along the text. In the first reading, everything would seem incomprehensible. However, after reading most of the text, meaning starts to appear clear and comprehensible. Grasping the main ideas and purpose of the text may help learners to understand the meaning of unfamiliar words, or at least guess their meaning. After the second reading, they may even be clearer and more interesting for learners. Learners may realize that they can learn more if they do not use their dictionary all the time. A balanced use of dictionaries from time to time may help, indeed. Learners who study EFL should be aware that in many cases they are not going to find all the definitions they need in a dictionary. In General English, the language taught is social, so it enables learners to go shopping, to have conversations at formal or informal levels and even about trivial things, to go to or from school, etc. On the other hand, ESP is a more special language used for certain purposes (chemistry, business, computing, etc). It takes into consideration the learners' needs to be able to survive in a target situation related to the field of study. There are some activities such as: participating in seminars and conferences, taking notes, extracting themes from lectures, discussions, research information in libraries and books, etc., therefore, learners are going to be trained to performed these activities in the target language. Consequently, they need to be taught how to enhance their high level skills too.

If there are unknown words, they may need to guess the meaning form context, due to the variety of meaning and uses that many words have depending on their use within a context. The best way is by understanding from context. Eventually, teachers, also need to train learners in the use of dictionaries, otherwise, incorrect meanings may appear from texts.

3.6 READING TECHNIQUES: DATA COLLECTION

3.6.1 DESCRIPTION OF THE SAMPLE

The research was developed in the Systems Engineering School at the Catholic University of Ambato. Among the requirements the school asks students to meet, in order to graduate, there are two that were taken into consideration in this dissertation: The subject matter Computing and Level 5 of GE. The subject matter Computing is taught in the last semester of the career, which is level ten. However, the pre-requisite to study Computing is having approved level 5 of GE. Therefore, not all students were in their last semester of studies, but all of them already finished level 5 of GE.

The group registered for the second term 2003 (March - July) had 15 students, six male and 9 female students and the average age was 23.

The content in the curriculum concerning Computing requires de use of the English language as a means of communication and instruction. However, students, sometimes, felt shy or afraid of using the language in the classroom and preferred to use their native language.

The curriculum considers that:

1. The subject matter Computing covers important information related to what students have done in Spanish and the latest topics, and is taught 5 hours per week.
2. There are three evaluations: First and Second Partial (out of 15 points each) and Final Evaluation (out of 20 points)
3. Students fail the subject if they have 20 absences in the course or less than 30/50 points.

(See Annex 1, Pages 117 and 118)

In order to develop the research, five surveys were applied to the students. Besides this, several exercises on reading techniques were done by students all through the course.

The surveys as well as the exercises are presented below:

In order to avoid misunderstandings it is important to take into consideration the sample used for this research: 15 students. In some of the following surveys students provided more than one single answer or opinion, which means that the column "Number of students" refers to the students who actually provided that sort of information rather than the number of the sample.

3.6.2 NEEDS ANALYSIS SURVEY

The first survey was considered as a Needs Analysis survey. It covered some important information required for the designing of an ESP course in Computing. This survey has three sections:

- General information: which collects data concerning general aspects, such as: the time students have spent learning the language, their attitude toward it, etc.
- Language Knowledge: which collects information about their ability in the English language.
- Needs: which obtains information about the areas, time and tasks when they need to use the English language. (See Annex 2, Page 120)

SECTION A: covers an analysis of the language knowledge students have. It was divided into the following items:

General Information:

1. How long and where students have learnt the language. The average time is 3.16 years at the Catholic University in the Open Regular Courses.
2. What they have studied the most in the courses. The results were:

N.-	DESCRIPTION	STUDENTS
1	Grammar	14
2	Vocabulary	9
3	Conversation	5
4	Readings	4
5	Listening comprehension	2
6	Writing	6
7	Idioms	2
8	Other	-

3. Students are learning English at the moment. From 15 students who participated in the course, 14 of them answered No.
4. Students like the English language. From the 15 students, 11 answered Yes.

SECTION B

Language Knowledge

1. Concerning listening

N.-	DESCRIPTION	NUMBER OF STUDENTS
1	Understand the general idea being expressed	9
2	Try to understand every single word	6
3	Do not understand anything	-
4	Other	-

2. Concerning oral performance

N.-	DESCRIPTION	NUMBER OF STUDENTS
1	Can keep a conversation	2
2	Can express simple phrases	13
3	Can say isolated words only	-
4	Can not express any word at all	-

3. Concerning reading

N.-	DESCRIPTION	NUMBER OF STUDENTS
1	Understand the general idea or translate the text	6
2	Understand part of the text	9
3	Do not understand anything	-
4	Other	-

4. Concerning writing

N.-	DESCRIPTION	NUMBER OF STUDENTS
1	Write in Spanish and then translate into	4

	English	
2	Write few phrases	11
3	Can write isolated words only	-
4	Can not write anything at all	-

5. According to your criteria, which skill have you improved the most?

N.-	SKILL	100%	80%	60%	50%	Less
1	Listening	2	2	8	3	-
2	Speaking	-	2	9	4	-
3	Reading	-	10	3	2	-
4	Writing	-	2	8	5	-

SECTION C

Needs:

1. Need of the English language

DESCRIPTION	A LOT	AVERAGE	A LITTLE
N.- STUDENTS	11	2	2

2. How often?

DESCRIPTION	OFTEN	SOMETIMES	SELDOM	NEVER
N.- STUDENTS	2	8	5	-

3. Need to listen in English

DESCRIPTION	OFTEN	SOMETIMES	SELDOM	NEVER
N.- STUDENTS	11	2	2	-

4. Need to listen to

N.-	DESCRIPTION	N.- STUDENTS
1	Co-workers	3
2	Classmates	9
3	Telephone conversations	3
4	Conferences	
5	Interactive programs in CDROM	10
6	documentaries	8
7	Interviews	3

8	Technology television programs	8
9	Other	To practice

5. Need to participate in

N.-	DESCRIPTION	N.- STUDENTS
1	Conferences	2
2	Forums	2
3	Programs presentations	6
4	Discussions	4
5	Interviews	1
6	Technology forums	1
7	Technical assistantship	10
8	Customer service	3
9	Other	

6. Need to speak

DESCRIPTION	OFTEN	SOMETIMES	SELDOM	NEVER
N.- STUDENTS	4	6	4	1

7. Need to read

DESCRIPTION	OFTEN	SOMETIMES	SELDOM	NEVER
N.- STUDENTS	7	6	2	-

8. What to read

N.-	DESCRIPTION	N.- STUDENTS
1	E-mails	6
2	Instructions about setting up devices and software	8
3	Letters	2
4	Invoices	2
5	Technical magazines	7
6	Manuals	11
7	Technical books	6
8	Other	-

9. Need to write in English

DESCRIPTION	OFTEN	SOMETIMES	SELDOM	NEVER
N.- STUDENTS	-	7	5	-

10. What to write

N.-	DESCRIPTION	N.- STUDENTS
1	Formal letters	2
2	Services and products invoices	
3	Instructions about setting up devices and software	5
4	Manuals	2
5	Summaries	2
6	Personal documents	2
7	Reports	
8	Flow charts	2
9	Data bases comments and	6
10	Other	Emails, Homework

11. Availability to attend the course

N.-	DESCRIPTION	N.- STUDENTS
1	1 hour daily	11
2	1 hour weekly	
3	2-3 hours weekly	4

3.6.3. COMPUTING SUBJECT SURVEY

This survey intended to learn how much students know about the subject matter, Computing, and their personal experience with handling daily work and reading in the English language. It was also divided into the following sections:

(See Annex 2, Page 125)

SECTION A: General Information

5. What was the idea you had when you heard about the subject matter COMPUTING?

N.-	COMMENT	N.- STUDENTS
1	A subject matter based on computers	10

2	Technical English	8
3	Application of the English language to the field of computers	8

6. What have you heard about the subject matter COMPUTING?

N.-	COMMENT	N.- STUDENTS
1	Maybe it is not difficult	8
2	Helps to know more technical vocabulary	4
3	One can learn new things	3
4	An interesting and necessary subject matter	9
5	It is an interesting and easy subject	10
6	Practical and clear classes	4

7. What is COMPUTING for you?

N.-	COMMENT	N.- STUDENTS
1	One can learn English for computers	11
2	Knowledge of computers using the English language	12
3	Learning a lot of technical vocabulary	10
4	Learning a technical level of the English language	12
5	Hardware and software in English	8
6	More general English without grammar and with new vocabulary	7

8. What topics do you think you will study in COMPUTING?

N.-	COMMENT	N.- STUDENTS
1	Parts of the computer	5
2	Speaking, reading and writing	4
3	Vocabulary and topics concerning computers	12
4	Technology and computers	12
5	Networks	6

9. How long will you study COMPUTING weekly?

N.-	COMMENT	N.- STUDENTS
1	5 hours weekly	15

10. What is your opinion about ENGLISH-COMPUTING relationship?

N.-	COMMENT	N.- STUDENTS
1	It is important and useful due to its frequent use	8
2	They are similar	9
3	Most texts about computers come out in English	10
4	Most of the software comes out in English	10
5	They are good and necessary because they complement each other	8
6	Manuals come out in English	10
7	One can learn both things at the same time	8

11. How would you behave in COMPUTING classes?

N.-	COMMENT	N.- STUDENTS
1	Paying attention	9
2	Participating in all activities	12
3	Being responsible and doing all tasks	15
4	Working hard and doing tasks	15
5	Doing my best	11
6	Asking questions about all doubts	8
7	Helping with my knowledge	7

12. What is the most difficult issue about technical material in English?

N.-	COMMENT	N.- STUDENTS
1	Unknown vocabulary	11
2	Pronunciation	4
3	Technical terminology	11
4	Lack of comprehension	8

5	Names of devices	6

13. Which do you think is your best skill in English?

N.-	COMMENT	N.- STUDENTS
1	Reading and speaking	6
2	Writing and listening	4
3	Grammar	6

14. What experience do you have in the field of Systems Engineering?

N.-	COMMENT	N.- STUDENTS
1	Drawing logos	6
2	Transcriptions	11
3	Small software systems	8
4	Working with software in English	14
5	Web pages design	7
6	Data registers	4
7	Maintenance and selling computers	5

15. Explain a particular situation where you encountered the relationship ENGLISH-COMPUTING

N.-	COMMENT	N.- STUDENTS
1	Manuals in English	11
2	Software and hardware instructions	12

SECTION B Reading

1. How often do you use the English language in your studies, job?

DESCRIPTION	OFTEN	SOMETIMES	SELDOM	NEVER
N.- STUDENTS	8	5	2	-

2. What type of text do you read?

N.-	DESCRIPTION	N.- STUDENTS
1	Emails	6

2	Information in the Internet	11
3	Instructions	5
4	Letters	2
5	Invoices	1
6	Reports	
7	Technical magazines	2
8	Manuals	7
9	Technical books	1
10	Technical documents	4

3. When reading in English, you

N.-	DESCRIPTION	N.- STUDENTS
1	Understand the general idea	4
2	Understand part of the text	10
3	Translate the text in order to understand	1
4	Do not comprehend at all	-
5	Other	-

4. When reading in English, it is difficult to:

N.-	DESCRIPTION	N.- STUDENTS
1	Understand new vocabulary	7
2	Understand technical vocabulary	8
3	Understand the general idea of the content	2
4	Understand phrases and idioms	7
5	Summarise the text	3
6	Other	-

5. When reading in English, you

N.-	DESCRIPTION	N.- STUDENTS
1	Try to understand the general idea	8
2	Translate every single word of the text	4
3	Use a dictionary to look for unknown words	5
4	Use a computer translator	-
5	Other	-

6. Need to comprehend

DESCRIPTION	GENERAL IDEA	ALL TEXT	EVERY WORD
N.- STUDENTS	8	3	1

7. Need to read in English for

N.-	DESCRIPTION	N.- STUDENTS
1	Improving studies	6
2	Improving job	-
3	Comprehending the information better	11
4	Improving reading comprehension skills	4
5	Improving communication skills	5
6	Other	-

The above survey was done in Spanish in order to help students to fully understand the questions and to obtain more reliable information.

3.6.4 LEARNING PREFERENCES SURVEY

This questionnaire developed by Gabriel H. Díaz tends to help to identify what kind of learning preference students have and, it is at the same time, a tool for teachers, because they can improve their classes bearing in mind this information. (See Annex 2, Pages 128,129,133,134)

N.-	LERNING PREFERENCE	N.- STUDENTS
1	Visual	7
2	Tactile	3
3	Visual-Auditory	3
4	Visual - Kinaesthetic	1
5	Visual - Tactile - Auditory - Kinaesthetic	1

3.6.5 STRATEGY INVENTORY FOR LANGUAGE LEARNING

This survey intended to learn how all students use their skills in order to learn a second or foreign language. (See Annex 2, Page 130)

The analysis of this survey shows the following categories and average score according to this scale:

1. never or almost never true of me
2. usually not true of me
3. somewhat true of me
4. usually true of me
5. always or almost always true of me:

N.-	DESCRIPTION	N.- STUDENTS	SCORE
1	Remembering more effectively	4	4.50
2	Using all your mental processes	3	3.33
3	Compensating for missing knowledge	9	3.55
4	Organizing and evaluating your learning	7	4.14
5	Managing your emotions	5	3.40
6	Learning with others	7	3.71

3.6.6 "COMPUTING" FINAL COURSE SURVEY

This survey was developed in order to learn how useful the course was for students, as well as their feelings concerning contents and atmosphere.

This survey was developed in Spanish in order to make students feel comfortable and sure of what they were going to answer. Another reason is that it was expected to provide reliable information. (See Annex 2, Page 138).

The survey had the following sections with the corresponding answers:

SECTION A: General Information

1. How did you feel during the course? Why?

N.-	COMMENT	N.- STUDENTS
1	At the beginning, the classes were fine but later boring	6
2	Classes were fine even though laboratory work was tiring	8
3	Some classes were interesting	9

4	Classes were dynamic	5
5	At the beginning, classes were not interesting but later they improved	8
6	Pleasant atmosphere	10
7	I really liked the course because I learnt a lot	9
8	I felt fine even though I did not understand some things	4

2. Do you consider enough time was assigned for the subject matter itself?

N.-	COMMENT	N.- STUDENTS
1	No, time needs to be increased	2
2	Yes it was enough	9
3	No I believe we need more time	2
4	No. It is not enough to learn the language for the career	2
5	It is not enough because I think that more subject matters should be taught in English	2
6	No. I believe this subject matter should be taught in 2 levels	4
7	No because there is a lot to learn	3

3. How do you feel now that the course has finished?

N.-	COMMENT	N.- STUDENTS
1	Nothing special	2
2	A little sad because another step in my life ends	2
3	Fine because I have learnt more	6
4	More relaxed and calmed	9
5	I feel satisfied because I have learnt more	8
6	Fine, because I have acquired more knowledge	8
7	Fine even though I have not learnt a lot	4
8	Happy	3

4. What have you learnt through the course?

N.-	COMMENT	N.- STUDENTS
1	A little bit more of English	5

2	New vocabulary	9
3	Understanding of the general content in a context in the Internet	9
4	A lot	11
5	I have learnt to research better	11
6	New information about technologies and applications	12
7	Searching and surfing on the Internet	10
8	New topics related to Engineering	12
9	New topics such as Robotics, Expert Systems	13
10	Learned how to use the Internet	10
11	To concentrate more on readings and presentations	9
12	Understanding readings	10

SECTION B: Concerning the topics

1. Which topic called your attention the most? Why?

N.-	COMMENT	N.- STUDENTS
1	Artificial Intelligence and Expert Systems, how they work and what areas use them	13
2	Multimedia, creating software is very interesting	10
3	Laboratory classes in general, practice a lot	14
4	Robotics, robots will be useful in the near future and are applicable in different areas	14
5	Free topic, one can present own ideas on a personal style	10
6	Windows 2000	11
7	Reading, because information on the Internet is in English	10

2. Which topic will help you in your career?

N.-	COMMENT	N.- STUDENTS
1	All of them	10
2	Networks	11
3	Artificial Intelligence	9
4	Multimedia	13
5	Expert Systems	9

6	Projects	14
7	Operating Systems Windows 2000	13
8	Software	15

3. Which topic was new or reinforced your existing knowledge?

N.-	COMMENT	N.- STUDENTS
1	Windows 2000	15
2	All of them	15
3	Expert Systems	10
4	Speaking	9
5	Robotics	12
6	Searching better on the Internet	11
7	Hardware	11
8	Artificial Intelligence	14

4. Which topic would you have wanted to learn during the course?

N.-	COMMENT	N.- STUDENTS
1	Hardware in depth	3
2	Networks in NT or Windows 2000	10
3	Web Pages design	8
4	More emphasis in English use and current computers topics	4
5	Internet	10
6	Multimedia and its application on Education	6
7	Networks	10
8	English Grammar	8
9	Programming Languages	4
10	Operating Systems	6
11	Computer assembling	2
12	Browsers and antivirus	2

SECTION C: About the activities and tasks

1. Which activity made you feel more comfortable? Why?

N.-	COMMENT	N.- STUDENTS
1	Translating, using the dictionary	8

2	Searching on the Internet is an interactive practice	12
3	Oral presentation, in order to develop better oral performance	10
4	Reading and completion items, they are very interesting	11
5	Reading and follow-up activities, very useful	11
6	Free topics, jokes	14
7	Class work	8
8	Workshops and follow-up activities	10
9	Multimedia projects	15
10	Group work	10

2. Which activity made you learn more?

N.-	COMMENT	N.- STUDENTS
1	Readings	12
2	Presentations	10
3	Games and group work	10
4	Searching on the Internet	13

3. How did you apply your previous knowledge to the tasks?

N.-	COMMENT	N.- STUDENTS
1	Following instructions	10
2	Searching	14
3	Understanding and relating information	12
4	Remembering vocabulary	11
5	Using inference	8

4. Which one is your best learning strategy now? Why?

N.-	COMMENT	N.- STUDENTS
1	Listening to instructions	14
2	Reading and searching information	13
3	Understanding the general idea	12
4	Understanding content not translating	10
5	Comparing new and previous knowledge	11
6	Reading in English better	12

7	Using the dictionary when necessary	10

SECTION D: About the techniques

1. Which technique do you consider more interesting?

N.-	COMMENT	N.- STUDENTS
1	Reading for specific information	7
2	Reading for general information	8
3	Reading for main and supporting ideas	3
4	Reading speed	11
5	Suggestions and predictions	2
6	Guessing vocabulary from context	8
7	Writing information based on pictures	12
8	Matching titles and paragraphs	4
9	Matching pictures and descriptions	6
10	Summarizing and reporting	11
11	Completion items	5
12	Matching vocabulary and definitions	7
13	Finding words from descriptions	7
14	Looking for references in texts	3
15	Oral presentations	8
16	Searching in the Internet	12

2. Which of the above technique will you apply in your professional life?

N.-	COMMENT	N.- STUDENTS
1	Reading speed	8
2	Oral presentations	4
3	Searching on the Internet	15
4	Reading for specific and general information	15
5	Main and supporting ideas	15
6	Guessing vocabulary	11

3. Which of the following techniques do you consider more difficult? Why?

N.-	COMMENT	N.- STUDENTS
1	Completion items, unknown words very difficult and confusing	8
2	Oral presentations, difficulty to speak in	4

	English	
3	Searching on the Internet and summaries, too much time, a lot of new vocabulary	11
4	Finding vocabulary from descriptions	5
5	Guessing vocabulary from context, different meaning according to the content	6
6	Looking for references in texts, difficulty to understand	6

4. Which of the following techniques do you consider easier? Why?

N.-	COMMENT	N.- STUDENTS
1	Matching vocabulary and definitions	11
2	Matching pictures and descriptions, easy to see what the picture is about	14
3	Searching on the Internet, fast and easy	14
4	Matching titles and paragraphs, easy to identify the general idea after reading the complete text.	14
5	Reading for specific information, understanding all details	12
6	Writing information based on pictures, easy to identify, lots of imagination implication	15
7	Reading speed, understand general idea, then details with a second reading	10
8	Oral presentations, easy to speak in English	6

SECTION E: About assignments and tasks

1. Do you consider there were enough assignments and tasks?

N.-	COMMENT	N.- STUDENTS
1	Yes, we were working all the time	13
2	Not at all	2

2. Which would be your suggestions concerning assignments?

N.-	COMMENT	N.- STUDENTS
1	More grammar exercises	2
2	Nothing, because it was fine	8

3	More research	2
4	Working in groups	8
5	Keep on working the same way	10
6	Practice dialogues	4
7	More explanations	3
8	More time to do difficult assignments	11

3. What kind of assignments would you suggest to be included?

N.-	COMMENT	N.- STUDENTS
1	Summaries	9
2	Technical investigations	13
3	More readings and follow-up exercises	10

4. What is your opinion about group and individual work?

N.-	COMMENT	N.- STUDENTS
1	Very good technique because students can help each other	8
2	Sharing, discussing knowledge and information	6
3	Knowing classmates	4

SECTION F: About laboratory work

1. How did you feel working in the laboratory?

N.-	COMMENT	N.- STUDENTS
1	It was fine because the topics were interesting, we were busy	13
2	I would have preferred to work in the classroom	1
3	It was a dynamic class	10

2. Did you have enough time to carry out tasks?

N.-	COMMENT	N.- STUDENTS
1	Yes, most of the classes the time was enough	9
2	Yes, even though there were some problems with the Internet connection	15
3	Not at all. I could not finish all the assignments	4
4	Sometimes only.	6

3. What kind of problems did you encounter when working?

N.-	COMMENT	N.- STUDENTS
1	Sometimes it was difficult to find information required	8
2	New vocabulary difficult to comprehend	10
3	The Internet service was very slow	15
4	It was difficult to understand many things	8
5	Oral presentations	6
6	Very difficult topics	4
7	Too many assignments from other subject matters	3

4. Which activity did you like the most?

N.-	COMMENT	N.- STUDENTS
1	Searching on the Internet	15
2	Each person presents an activity and everybody participates	12
3	Summaries on specific topics	13
4	Oral presentations	7
5	Readings	11
6	Making up a poem about computers	14
7	Games	15

5. Suggestions

N.-	COMMENT	N.- STUDENTS
1	Students should include personal opinions and criteria in the assignments	10
2	Everything was fine	3
3	Continue using the laboratory	15
4	Assign more time to work on the Internet due to the difficulty of the topics	15
5	More dynamic classes	4
6	Debates on technological topics	7
7	Change schedule	3
8	More new technical vocabulary	9

3.6.7 CHECKLIST

This survey was aimed at collecting information about specific features of Reading Comprehension, Attitudes, and Strategies, students may think they have acquired at the end of the course. (See Annex 2, Page 136)

CHECKLIST

	OUSTANDING	VERY GOOD	GOOD	POOR
READING COMPREHENSION				
Understanding of main ideas and details		10	5	
STRATEGIES				
Use of prior knowledge		8	6	1
Skimming		7	7	
Scanning		6	8	
Summarising		5	7	
Self-correct words and phrases		8	6	
Rereads		6	7	1
Makes predictions		5	10	
Forms opinions		7	8	
Paraphrases		7	7	1
Adds ideas	1	6	8	
Reads between lines		7	8	
Can locate words in texts		10	5	
Locates details		6	9	
Recognizes logical order		5	10	
Draws inferences		4	11	
Draws conclusions		4	11	
Predicts outcomes		3	12	
Other				

RESPONSE TO READING				
Attitude		4	11	
Enjoyment		5	10	
Behaviour		6	9	
PERFORMANCE OBSERVED				
Identifies environment print		6	8	1
Exhibits pretend reading		5	9	1
Listens with interest to read-alouds		2	12	1
Participates in discussions		5	9	1
Reads from left to right	1	3	10	1
Identifies letters and words		4	9	2
Reads during free time		3	11	1
Reads different topics		3	12	
Reads the assigned pages		8	7	
Uses higher level thinking skills		8	6	1
Elicits responses form others		5	9	1
Uses alternatives points of view		4	11	
Refers to text elements, plot, traits, effects, causes		7	8	
Brought materials and assignments	1	5	9	

3.6.8 JOURNALS CATEGORIES

Students were required to keep journals during the course so they could write their introspective and retrospective thoughts about the course. (See Annex 4, Page 180)

The following categories were found after studying each of the fifteen journals:

1. Introduction: This refers to the first classes where students were introduced among themselves and the teacher. They also filled up the surveys on Needs Analysis, Learning Preferences and Techniques to use for learning a foreign or second language.
2. Exercises: Concerning several types
   - 2.1 Laboratory
   - 2.2 Class work
   - 2.3 Oral Presentations
   - 2.4 Readings

3. Attitude: Refers to students' feelings, behaviour and reaction to all activities in the course.

3.1 To language

3.2 To class

3.3 To environment

4. Topics: The topics selected for this course were taken from the School Curriculum. Many of them were authentic materials, such as: articles from newspapers, magazines, manuals, and the Internet. They actually used those materials in their studies.

5. Abilities: How well students performed their tasks.

6. Future development: What students would use in the future, taken from their experience in the course.

3.6.9 ANECDOTAL RECORD

STUDENT:		
READING:		
TYPE:		
N.-	DESCRIPTION	STRATEGY
1	Reading comprehension	Understanding general ideas Understanding details Understanding words from content Relating information and graphs
2	Strategies	Add information Summarize Infer and predict Scanning and skimming Complete missing information based on a text Study skills Understanding meaning Providing opinions Brainstorming
3	Behaviour	Tiredness Boredness Quite atmosphere

		Laboratory work: more enthusiastic Some classes: more interested and relaxed

(See Annex 2, Page 135)

Concerning the exercises, a detailed description of each of them is presented below:

3.6.10 EXERCISES

(See Annex 3, Pages 142 - 179)

Charts with the information recorded in the exercises; they are presented as follows:

TASK 1	**Read the passage and match the unknown words from the text with the corresponding definition**			
PRE-TASK	In groups of three talk about computer applications and write down brief notes			
TECHNIQUE	Reading for understanding			
RESPONSE	Non-linguistic			
POST-TASK	Check in groups			
TIME	20 min approx.			
	SCORING /10			
SCORE	10	9	8	7
n.- students	14	-	-	1

TASK 2	**Read the passage and complete the sentences in order to describe what computers can do**			
PRE-TASK	Brainstorming on what computers can do			
TECHNIQUE	Reading for understanding			
RESPONSE	Non-linguistic			
POST-TASK	Check in groups			
TIME	30 min approx.			
	SCORING /8			
SCORE	8	7	6	5
n.- students	10	3	2	-

TASK 3	**Read the passage, fill in the diagram and match words with definitions**			
PRE-TASK	Individually, label the elements of the computer			
TECHNIQUE	Reading for understanding			
RESPONSE	Non-linguistic			
POST-TASK	Check in groups			
TIME	20 min approx.			
	SCORING /10			
SCORE	10	9	8	7
n.- students	9	4	2	-

TASK 4 A	**Read the passage, time your reading and write down unfamiliar words**			
PRE-TASK	Brainstorming: What's inside of a microcomputer?			
TECHNIQUE	Improve reading speed			
RESPONSE	Linguistic: Opinions about the topic			
POST-TASK	Check in groups			
TIME	20 min approx.			
	SCORING / 10			
TIME	20mins	15mins	10 mins	5 mins
n.- students	-	7	5	2
SCORE	4	6	8	10
UNKNOWN WORDS	20	15	10	5
n.- students	-	4	4	7

TASK 4 B	**Read the passage, time your reading and write down unfamiliar words**
PRE-TASK	Discussion: units of memory
TECHNIQUE	Improve reading speed
RESPONSE	Linguistic: Defining unknown words from context
POST-TASK	Check in groups
TIME	15 min approx.
	SCORING / 10

TIME	15mins	10mins	5mins	
n.- students		9	6	
SCORE	6	8	10	
UNKNOWN WORDS	20	15	10	5
n.- students	-	2	2	11

TASK 5 A	**Complete the following paragraph with the words below**					
PRE-TASK	Group work: provide information about the elements of the processor and its function					
TECHNIQUE	Completing information					
RESPONSE	Non-linguistic					
POST-TASK	Check in groups					
TIME	15 min approx.					
	SCORING / 9					
SCORE	9	8	7	6	5	4
n.- students	-	4	2	4	2	3

TASK 5 B	**Look at the diagram and match each word with the correct definition**					
PRE-TASK	Describe the diagram orally					
TECHNIQUE	Graphic relationship - Understanding meaning					
RESPONSE	Non-linguistic					
POST-TASK	Check in groups					
TIME	15 min approx.					
	SCORING / 9					
SCORE	9	8	7	6	5	4
n.- students	-	3	2	5	2	3

TASK 7A	**Look at the pictures and write what you think the speakers are talking about**
PRE-TASK	Brainstorming: portable computers: characteristics, advantages , disadvantages
TECHNIQUE	Picture association

RESPONSE	Linguistic: present ideas and compare with others			
POST-TASK	Answer follow-up questions			
TIME	15 min approx.			
	SCORING / 10			
SCORE	10	9	8	7
n.- students	15	-	-	-

TASK 7B	**Read a text and choose the best title**			
PRE-TASK	Task 7A			
TECHNIQUE	Scanning, understanding meaning			
RESPONSE	Non-linguistic: label information			
POST-TASK	Checking comprehension of unfamiliar words			
TIME	20 min approx.			
	SCORING /12			
SCORE	Correct title		Incorrect title	
n.- students	12		3	
UNKNOWN WORDS	20	15	10	5
n.- students	-	-	7	7

TASK 7C	**Answer questions about the text read before**			
PRE-TASK	Task 7B			
TECHNIQUE	Scanning:			
RESPONSE	Linguistic: answer questions			
POST-TASK	Check in groups			
TIME	15 min approx.			
	SCORING / 7			
SCORE	7	6	5	4
n.- students	10	5	-	-

TASK 7D	**Find words in the text using a reference**
PRE-TASK	Task 7C
TECHNIQUE	Use of cataphoric devices, linking sentences and ideas
RESPONSE	Linguistic: write down the information found

POST-TASK	Check
TIME	10 min approx.
	SCORING / 8

SCORE	8	7	6	5
n.- students	3	5	5	2

TASK 7E	**Find similar meaning to the words given by using a reference**
PRE-TASK	Task 7D
TECHNIQUE	Understanding meaning, inferring
RESPONSE	Linguistic: comparing information
POST-TASK	Check
TIME	15 min approx.
	SCORING / 9

SCORE	9	8	7	6	5	4
n.- students	2	6	2	1	1	3

TASK 8	**Look at the pictures and briefly describe what happens**
PRE-TASK	Discussion: what kind of networks they know
TECHNIQUE	Picture association
RESPONSE	Linguistic: present ideas
POST-TASK	Answer follow-up questions
TIME	10 min approx.
	SCORING / 10

SCORE	10	9	8	7
n.- students	12	2	1	-

TASK 8B	**Match words with the most appropriate definition**
PRE-TASK	Task 8A
TECHNIQUE	Understanding meaning, inferring
RESPONSE	Non-linguistic
POST-TASK	Check
TIME	10 min approx.
	SCORING /10

SCORE	10	9	8	7
n.- students	8	5	1	1

TASK 8C	**Read the text and time yourself. Make a list of unfamiliar words**			
PRE-TASK	Task 8B			
TECHNIQUE	Scanning and understanding meaning, inferring			
RESPONSE	Linguistic: understand new vocabulary from context. If it is very difficult use a dictionary to help you			
POST-TASK	Check in groups			
TIME	30 min approx.			
	SCORING /10			
TIME	15mins	10mins	5misn	
n.- students	2	15	2	
SCORE	5	7	10	
UNKNOWN WORDS	20	15	10	5
n.- students	2	2	6	5

TASK 8D	**Match each paragraph of the text with the appropriate summary**			
PRE-TASK	Task 8C			
TECHNIQUE	Skimming			
RESPONSE	Non- linguistic			
POST-TASK	Check			
TIME	15 min approx.			
	SCORING / 5			
SCORE	5	4	3	2
n.- students	12	2	-	3

TASK 8E	**Identify the main idea, major and minor details**
PRE-TASK	Task 8D
TECHNIQUE	Understanding meaning
RESPONSE	Non - linguistic
POST-TASK	Check
TIME	15 min approx.

	SCORING / 10			
CATEGORY	Correct main idea	Correct major details	Correct minor details	
n.- students	13	8	8	
SCORE	10	8	6	
TASK 8F	**Fill the gaps using the words below**			
PRE-TASK	Task 8E			
TECHNIQUE	Scanning			
RESPONSE	Non- linguistic			
POST-TASK	Check			
TIME	15 min approx.			
	SCORING /11			
SCORE	11	10	9	8
n.- students	9	2	3	1

TASK 9	**Wordpuzzle. Find hidden words in the square**
PRE-TASK	Brainstorming: topics studied so far
TECHNIQUE	Predicting
RESPONSE	Non -linguistic
POST-TASK	Check
TIME	10 min approx.
	SCORING / 9
SCORE	9
n.- students	15

TASK 10 A	**Chose the correct word to complete the sentences. You may need to change the words slightly**			
PRE-TASK	Brainstorming topics studied so far			
TECHNIQUE	Completion			
RESPONSE	Linguistic: fill in the blanks			
POST-TASK	Check in groups			
TIME	20 min approx.			
	SCORING / 10			
SCORE	10	9	8	7
n.- students	3	5	5	2

TASK 10B	**Fill in the blanks with the correct prefix to complete the words**			
PRE-TASK	Task 10A			
TECHNIQUE	Inferring, predicting			
RESPONSE	Linguistic: fill the blanks			
POST-TASK	Check and discuss about the meaning of the prefixes.			
TIME	15 min approx.			
	SCORING / 8			
SCORE	8	7	6	5
n.- students	5	8	2	-

TASK 11	**Read the paragraphs and recognise the main idea in each of them**
PRE-TASK	Brainstorming: new software programs they have learnt about
TECHNIQUE	Understanding meaning, scanning
RESPONSE	Non -linguistic
POST-TASK	Discuss about the technologies mentioned in the paragraphs
TIME	25 min approx.
	SCORING / 10
SCORE	General idea 10
n.- students	15

TASK 12	**Choose the correct word to complete, changing some of them slightly.**					
PRE-TASK	Brainstorming about compilers and their function					
TECHNIQUE	Understanding meaning, study skills					
RESPONSE	Non - linguistic					
POST-TASK	Check					
TIME	15 min approx.					
	SCORING / 11					
SCORE	11	10	9	8	7	6
n.- students	3	4	3	2	1	2

TASK 13	**Search for information about WorkGroups and Domains in Windows 2000. Write a summary in Spanish.**		
PRE-TASK	Navigating on an interactive software Microsoft MSDN Library		
TECHNIQUE	Understanding meaning, summarising, study skills		
RESPONSE	Linguistic		
POST-TASK	Check		
TIME	40 min approx.		
	SCORING / 15		
SCORE	15	14	13
n.- students	9	4	2

TASK 14	**Match the picture to the corespondent description**
PRE-TASK	Dramatization: Presenting a network project to the managerial department in a company
TECHNIQUE	Skimming
RESPONSE	Non - linguistic
POST-TASK	Check
TIME	15 min approx.
	SCORING / 4
SCORE	4
n.- students	15

TASK 15A	**Write ideas about the pictures**
PRE-TASK	Scanning magazines, newspapers and articles about latest technology issues
TECHNIQUE	Picture association, predicting, inferring
RESPONSE	Linguistic
POST-TASK	Check
TIME	10 min approx.
	SCORING / 4
SCORE	4
n.- students	15

TASK 15 B	**Read and time yourself. Make a list of unfamiliar words**		
PRE-TASK	Task 15A		
TECHNIQUE	Understanding meaning, inferring, predicting.		
RESPONSE	Linguistic: comparing information		
POST-TASK	Check		
TIME	40 min approx.		
	SCORING / 10		
TIME (mins)	15	10	5
n.- students	7	6	2
SCORE	6	8	10
UNKNOWN WORDS	15	10	5
n.- students	4	10	1

TASK 15C	**Make a summary of the main points of the previous article**
PRE-TASK	15 B
TECHNIQUE	Understanding meaning, inferring, summarising
RESPONSE	Linguistic
POST-TASK	Check
TIME	20 min approx.
	SCORING / 5
SCORE	5
n.- students	15

TASK 15D	**Recognise general ideas and topic sentences**
PRE-TASK	15 C
TECHNIQUE	Understanding meaning, summarising
RESPONSE	Linguistic
POST-TASK	Check
TIME	10 min approx.
	SCORING / 4
SCORE	4
n.- students	15

INTERNET WAS ALSO INCLUDED IN SOME TASKS:

TASK 16	**Search on a MSDN Library about Microsoft Security Framework and write a summary in English, taking into consideration: main and supporting ideas**
PRE-TASK	Brainstorming: What would you do if you were president of the Microsoft Corporation?
TECHNIQUE	Predicting, study skills, inferring, understanding meaning
RESPONSE	Linguistic
POST-TASK	Check
TIME	1 hour approx.
	SCORING / 10
NOTE	Students searched for several topics and selected one they were interested in.

TASK 17	**Search on the Internet about security: wallet, cryptography, authentic code, secure payment. Write a summary in English for each topic**
PRE-TASK	Brainstorming: Task 16
TECHNIQUE	Predicting, study skills, inferring, understanding meaning
RESPONSE	Linguistic
POST-TASK	Check
TIME	1 hour approx.
	SCORING /10
NOTE	Students searched on Spanish and English web sites. Spanish ones were easier to understand.

TASK 18	**Search on the Internet about artificial intelligence, fields of application, examples. Write a summary in English.**
PRE-TASK	Brainstorming: Explain what kind of programs they use to program and what they have done so far.
TECHNIQUE	Comparing, predicting, summarising, understanding meaning
RESPONSE	Linguistic
POST-TASK	Check
TIME	30 mins approx.
	SCORING /10

NOTE	Students searched on Spanish and English web sites. Spanish ones were easier to understand.

TASK 20	**Search on the Internet about a topic of their own interest. It could be either about technology or science and present it orally.**
PRE-TASK	Brainstorming: Discussing in Spanish about the latest news on technology and science. Talking about IEEE organization
TECHNIQUE	Comparing, summarising, understanding meaning, reorganising information
RESPONSE	Linguistic
POST-TASK	Follow-up questions about each presentation
TIME	1 hour approx.
	SCORING /10
NOTE	Students wrote the summaries and present their works either in English or Spanish.

TASK 21	**Search on the Internet about some interesting jokes, sayings, funny graphics related to computers. Make up your own and present.**
PRE-TASK	Brainstorming: Discussing funny things about computers
TECHNIQUE	Comparing, summarising, understanding meaning, reorganising information
RESPONSE	Linguistic
POST-TASK	Follow-up questions and comments
TIME	1 hour approx.
	SCORING /10
NOTE	Students searched for the information on Spanish or English web sites. They also present their works in either language

TASK 25	**Listen to your classmates presentations and take notes.**
PRE-TASK	Correct a flow chart which does not run properly
TECHNIQUE	Comparing, summarising, understanding meaning, reorganising information, taking notes.
RESPONSE	Linguistic
POST-TASK	Follow-up questions and comments, practice

TIME	2 hours approx.
	SCORING /10
NOTE	Students took notes in English as much as they could.

ORAL PRESENTATIONS

TASK 6	**Free oral presentation. Select a topic and prepare a presentation**			
PRE-TASK	Talk about own likes and dislikes			
TECHNIQUE	Scanning, understanding meaning			
RESPONSE	Linguistic: present the topic			
POST-TASK	Discussion: ideas about topics			
TIME	60 min approx.			
	SCORING /10			
SCORE	10	9	8	7
n.- students	2	5	5	3

Other tasks performed by students included practice work such as: explaining how a piece of hardware worked, how to use a software program, word games:

TASK 19	**Search in the Internet about a topic of their own interest. Not necessarily about technology. Write a summary and present it orally.**
PRE-TASK	Brainstorming: Discussing in Spanish what they do, likes and dislikes, hobbies, etc.
TECHNIQUE	Comparing, summarising, understanding meaning, reorganising information
RESPONSE	Linguistic
POST-TASK	Follow-up questions about each presentation
TIME	1 hour approx.
	SCORING /10
NOTE	Students wrote the summaries and present their works either in English or Spanish.

TASK 22	**Prepare a practice lesson where you show us how to install and set up a piece of hardware. Make one of the students do it.**
PRE-TASK	Discussing: what experience they had in maintenance of computers

TECHNIQUE	Comparing, summarising, understanding meaning, reorganising information, study skills, use of a dictionary.
RESPONSE	Linguistic
POST-TASK	Follow-up questions and comments, practice
TIME	2 hours approx.
	SCORING /10
NOTE	Students prepared the lesson in English

TASK 23	**Prepare a practice lesson where you show us how to install a software program and how to use it. Make one student do it.**
PRE-TASK	Discussing: what experience they had with working with different software programs
TECHNIQUE	Comparing, summarising, understanding meaning, reorganising information, study skills, use of a dictionary.
RESPONSE	Linguistic
POST-TASK	Follow-up questions and comments, practice and write instructions similar to a manual.
TIME	2 hours approx.
	SCORING /10
NOTE	Students prepared the lesson in English

TASK 24	**Prepare an exercise similar to the ones we have done in class or one of your own and develop follow-up exercises.**
PRE-TASK	Analysis of all the exercises done in class
TECHNIQUE	Comparing, summarising, understanding meaning, reorganising information, study skills, use of a dictionary.
RESPONSE	Linguistic
POST-TASK	Follow-up questions and comments, practice
TIME	2 hours approx.
	SCORING /10
NOTE	Students prepared the lesson in English. They develop different exercises such as: word puzzles, crosswords, filling gaps, matching pictures and descriptions, giving definitions, completing charts, selecting the main idea, selecting the best option, matching vocabulary and definitions.

CHAPTER FOUR

ANALYSIS

4.1 RESULTS REPORT

First of all, the surveys will be analyzed in order to establish background information about the students' familiarity with the English language and Computing subject matter.

After this, each of the exercises will be explained. Some entries from the teacher's journal will be included at this point.

4.1.1 NEEDS ANALYSIS

According to the information collected in this survey, the average time students have learnt the English language is 3,16 years. In this time, students have been to produce enough language to make themselves understood. The main objective in this research was to apply reading techniques; therefore, a special requirement in speaking ability took second place.

14 students also mentioned what they had studied the most in the General English courses was grammar, and 9 of them vocabulary. Few mentioned other skills such as: conversation, reading, listening, writing, idioms, and others. (see Fig 1 Page 81 and Fig 2 Page 82)

It is important to consider that those students who have studied 5 levels of English (considering an academic semester each level, approximately 5 months) can speak the English with acceptable fluency. Therefore, the students in the research were worried about speaking in class.

It is worth mentioning that one of the students used to work as an English teacher, and he had a very good command of the language. Indeed, he showed a lot of interest in using the language even with other students. He also asked questions concerning grammar points implied in exercises. There was another student who was taking an advanced course at the Catholic University, and who also had a very good level of English.

In section B, 9 students answered that they understand at least the general idea of what has been said. This is quite good because it is not expected that students comprehend every single word of the conversation.

Concerning speaking, 13 students mentioned that they were only able to express simple phrases when trying to communicate. Actually, as the course was not aimed at testing

speaking ability, this point is not relevant for the research but important for class interaction, even though it was sometimes in Spanish.

9 students answered that when reading texts in English, they understand part of it while 6 of them said they understand the general idea or even translate the text, in order to understand its content.

Writing was also a supplement for any skill for the course and, indeed, 11 students mentioned they were able to write a few phrases.

Their personal criteria about what they thought their skills were ranged from 60 to 80%, which can be considered average for a group of students who are not in contact with the English language.

Section C was about the need they had for learning or using the English language in their daily work or studies. 11 students said they needed English because they work in the Internet or with written materials such as: manuals, magazines, emails and, therefore, they need it in order to comprehend the contents. However, 8 students said they sometimes need the language. However, listening skill was very important for them; 11 students mentioned they listen to the English language very often. It is because they inferred that because it was an English course based on English, that they had to interact among themselves, and therefore, were able to communicate. Also, they work with computing programs most of the time due to their work or studies or even interests. The software they handle is usually in English and has some multimedia elements there. In some cable channels, technological information is in English and, therefore, they mentioned they needed the language.

According to their professional activities, 10 students mentioned that they had some work in assisting people with program installation, software setup, etc. The manuals they use are in English. They also showed the need to read them as well as e-mails, instructions, technical books and magazines.

Finally, concerning writing, 7 students mentioned that they sometimes write e-mails, homework, and programming codes in English.

(see Fig. 8 , Pag. 101)

4.1.2 COMPUTING SUBJECT SURVEY

In order to learn how familiar students are with the subject matter object of research, this survey was developed.

Section A tries to gather general information about the subject. Most of the students agreed that computing is a technical subject matter based on English, and studies computers and their elements.

They also mentioned that it is considered an easy and interesting subject which teaches practical classes about technical vocabulary and topics related to computers.

However, when reaching the question where they had to provide personal criteria, a variety of ideas came out, such as: learning technical vocabulary, learning specific computers elements, and using English to learn about computers.

They also provided their opinions about the relationship between English language and Computing subject matter. Most of them agreed on the idea that it is very important to learn the language because all the information about computers comes out in this language.

An important and relevant question was asked of students. It was their personal attitude and commitment for the class. Fortunately, they agreed and proposed to work hard and achieve all the objectives they had set, as well as doing their best and sharing what they already know to have better professional instruction.

What students found difficult when handling technical material in English was unknown vocabulary, which led to misunderstandings.

Students considered they know a little of each of the four skills. However, they mentioned that they can handle mostly written material such as manuals, software and hardware instructions, which usually come in written form.

Section B certainly covered all the information about reading skills. Students mentioned that 8 of them often have to read in English information from the Internet, manuals, and e-mails. Also, when reading, most of them understand just part of the text, because it is difficult to understand the content due to the amount of unfamiliar technical vocabulary and phrases. However, they try to do their best at trying to understand the general idea and using the dictionary to understand new vocabulary. They also mentioned that they need to read in English to comprehend better and learn more.

4.1.3 LEARNING PREFERENCES

This questionnaire developed by Gabriel H. Díaz helps to identify what kind of learning preference students have and it is at the same time, a tool for teachers, because they can improve their classes, bearing in mind this information.

From the 15 students:

- Visual Learner: 7 students who have a high score and whose tendency is to learn by concepts and reflection. This means, learning taking into consideration

personal experiences, reflecting not rushing, concepts and theories, frameworks or guidelines, ideas, etc.

- Tactile Learner: 3 students who have a high score and whose tendency is concepts, reflection and a little of experimenting. Similar ideas as above, including testing out rules and principles, looking for new ideas and solutions, learning by trial and error.
- Visual - Auditory Learner: 3 students who have a slight difference between these two types of learning preferences. Their tendency is balanced among all the features: concepts, experience, reflection, and experimenting. Similar as above, including involvement in the things going on around, learning by being part of what is happening.
- Visual - Kinaesthetic: 1 who has a slightly difference between these two types. Her tendency is however a little balanced. It means with similar features as above.
- Visual - Tactile - Auditory - Kinaesthetic: 1 student whose scores are equal in Visual and Kinaesthetic preferences and a slightly difference between the others. Her tendency is almost balanced at all with same features as above.

The following graph shows the above results:

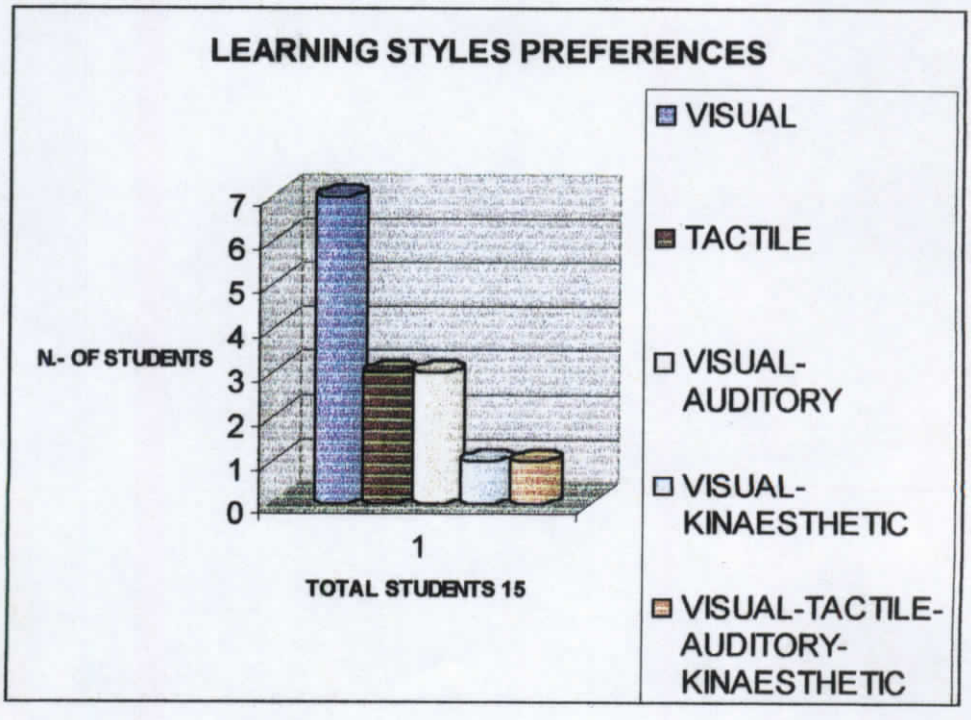

Fig. 1

4.1.4 STRATEGY INVENTORY FOR LANGUAGE LEARNING

This report shows that the categories Remembering more effectively and Compensating for missing knowledge have higher scores. With this information it can be inferred that students think of several relationships between what they know and the new knowledge. They also use different ways to remember the language. For instance, using visual aids or sounds to relate information help students.

Besides this, compensation is very clear. Students try to understand contents but if they are difficult they make guesses. Also, they make up words when they can not find the right ones. This a very common technique learners in all languages use. (But not very common in Ecuador)

The following graphs show the scores learners obtained in SILL

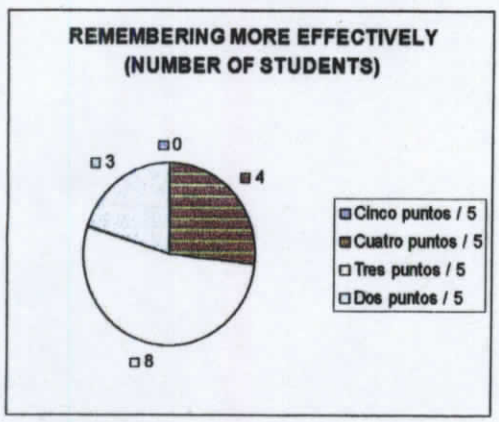

Fig. 2

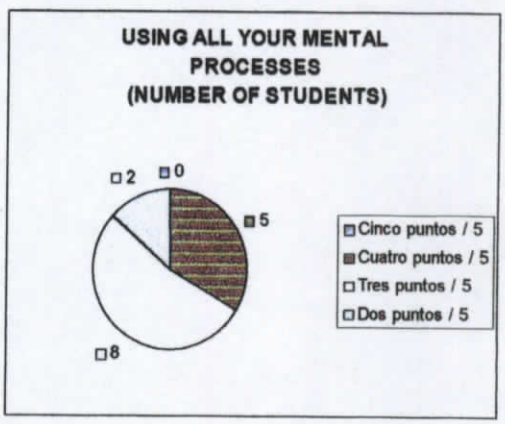

Fig. 3

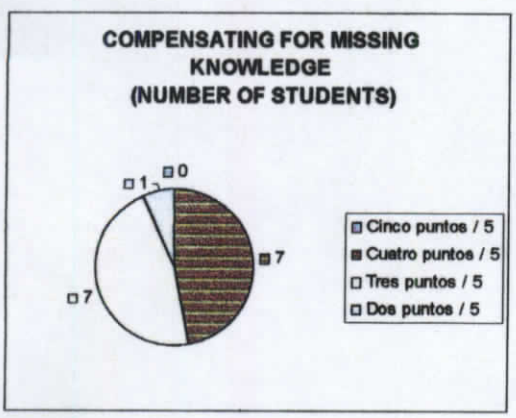

Fig. 4

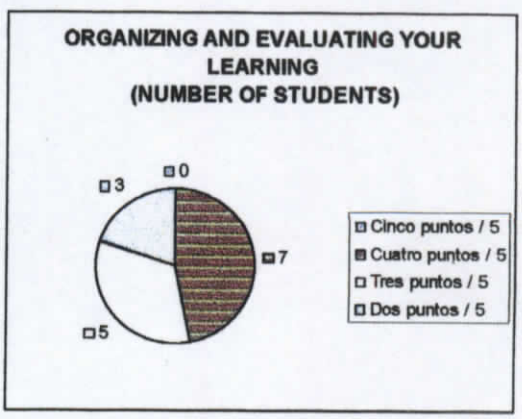

Fig. 5

4.1.5 FINAL COURSE SURVEY ANALYSIS

This survey intended to learn from students how well they performed during the course in application of the reading techniques. This survey also aimed to verify that they certainly acquired reading techniques which will be useful for their professional life.

It was divided into 6 sections to carefully analyze the information required to support the objective of the research.

Section A has general information about students' feelings, assignments, and time. Many of them mentioned that the classes were sometimes interesting and, in other cases, boring. However, laboratory classes were definitely more interesting, even though they were very long. They also considered it important that they had learnt new things through the course.

The question concerning if the time assigned for the study of Computing was enough, threw up unpredictable answers. Indeed, most of them said that 5 hours a week is not enough time for this subject. They suggested increasing the number of hours and levels of this subject matter. They are aware of the importance of learning more about their career using the English language as a means of instruction.

Their feeling when finishing the course was personal satisfaction because they had learnt a lot, even although they themselves thought there is still more to be learned. They considered that what they had learnt not only was English features related to computers (vocabulary, names of hardware), but new topics too.

Section B was about the topics studied throughout the course. Most of them really liked innovative topics such as: Artificial Intelligence, Expert Systems, Multimedia, Windows 2000, because they are update at the moment.

The same topics were considered important and relevant for their career as they were new, or reinforced their previous knowledge. Besides these, software, networks and the design, and creation of projects were also in the list.

Moreover, students provided information about what they would have liked to study during the course. Unfortunately, some of them were not included in the Curriculum. However, they can be considered for future courses.

Section C tried to discover information about tasks, assignments, knowledge and strategies students had.

The first question related to their feelings toward a particular activity or task. The following tasks made them feel more comfortable:

1. Translating and using the dictionary because they were familiar with the information and, what is more, they were able to understand most of it. Indeed, it is important to

mention that most students were required to use a monolingual dictionary in order to improve their level of comprehension and avoid direct translation. Sometimes, when the unfamiliar words were not really difficult to understand, this dictionary really worked and students felt comfortable with what they understood and, in most cases, they guessed the correct word in Spanish. However, in other cases, they had to use a bilingual dictionary, because neither from the dictionary nor from context could they infer the meaning of the unknown words due to the complexity of the explanations.

2. Searching in the Internet because it is considered an interactive practice.
3. Reading and follow-up activities, because they allow students to maintain interest in the topic and learn more.
4. Free topics because they feel relaxed and select the activity they wanted to do.
5. At this point, it is important to mention that students had several oral presentations where they chose a topic of their own interest. They also had the opportunity to choose between English or Spanish to do their presentations.

Actually, considering that the course was on reading the interaction among themselves and the use of native language for oral performance was not really a key factor that affected the development of the course.

A project developed in Brazil[3] considered Portuguese or English as the language of instruction in a course where the aim was to enhance reading abilities in an heterogeneous class. As far as the aim of the project was accomplished, the native language was not considered an obstacle. Indeed, students had reported they had understood better when using their native language, and were able to transfer the skills into their native language, which is considered good.

Based on this argument, students were free to choose the language which they felt more comfortable about, when doing their oral presentations. Some of them did not agree with this because they claimed it was an English class, and they had to use the target language.

Students also considered that searching in the Internet, readings, group work and oral presentations helped them to learn more about the topics and the language itself.

One technique which is useful when learning new things is applying previous knowledge and constructing a new form for it.

In order to gather information about what they leared the most about the techniques, students were asked what strategy they considered they had acquired. It was very surprising and pleasant to learn that they had improved reading and searching for information,

[3] M.A.A, Homes J.L., Ramos C.G., Scott M.R., THE BRAZILIAN ESP PROJECT AN EVALUATION, Editora Da Puc-Sp, 1988

understanding the general idea. However, it is of a great importance to notice that in manuals, the general idea is not sufficient, so when they developed their final projects, they were aware of this and tried to use the correct grammatical structures (commands) and simple sentences to be understood. Another important aspect is the awareness the students developed to recognise that learning a new language is comprehension, and being able to communicate in another language rather than translating literally from their native to the target language. Unfortunately, this is what many students think they do when learning a second or foreign language.

The use of the dictionary is discriminated; however, students learnt that they had to use it when necessary, not all the time.

Finally, **Section D** aimed at verifying what students have certainly acquired in the course. Most of them mentioned that they have improved their reading speed, which means that they read and not translate, that they comprehend in the text.

Reading for specific and detailed information was also good because students were aware that the general idea gives them the opportunity to infer information, as well as reading carefully may help them to notice specific details.

Writing information from pictures is also important, due to the nature of their career. They were able to analyze flow charts, diagrams, configurations, etc.

Summarizing and reporting also had a high score. Finally, searching in the Internet was their favourite activity. All of them had at least some experience surfing the net.

The rest of techniques were carried out satisfactorily by some students too, as it is shown in Chart 1, Section D, page 57.

Depending on their personal work experience, students used different reading techniques such as: reading for specific and detailed information, searching in the Internet, summarising, main and supporting ideas, and guessing vocabulary from content.

Despite the fact that they did very well in the course, they considered that completion items were a difficult exercise, as they were not familiarized with new vocabulary. They were afraid of oral presentations due to their lack of confidence in their speaking ability, as well as searching the net, because external factors affected the laboratory work such as: slow connection service, short-circuits, and no electricity. Guessing vocabulary from content was also very difficult, because they were not familiar with this technique, but with literal translation.

On the other hand, they thought that matching vocabulary with definitions, matching descriptions and pictures were easy exercises, because the information was there and they just had to relate it.

Reading for specific information and writing summaries because they could understand everything. For two of them, oral presentations were easy because they liked English very much and had not much trouble.

Section E, concerning assignments and tasks. They certainly considered that the amount of assignments was fine. Nevertheless, they suggested that more grammar, practice dialogues and explanations should be included in the curriculum.

Surprisingly, they also suggested that more completion and follow - up exercises should be assigned, as well as technical investigations.

They also mentioned that working in groups was very good, because this gave them the opportunity to help each other and shared ideas and information they know.

Finally, **Section F,** it was about laboratory work. Here there were some opposing criteria. 80% of the students thought working in the laboratory was more interesting and dynamic, but 20 % mentioned they would have preferred the classroom.

The amount of time assigned for the Internet work was not enough, according to 60% of them. However, 30 % thought it was average, and the rest that it was definitely not enough. It is worth mentioning that as the Internet provides hundreds of sites for the same pieces of information, it may have been the cause why students spent too much time searching to complete the assignment.

Basically, the main constraints students had when working in the lab were the Internet service, which was very slow, too much information. They were not able to understand, and a lack of certain topic information.

Students liked searching on the net, doing their oral presentations, games and jokes, and summaries on interesting topics too. Finally, their suggestions included more personal criteria and discussion exercises where they could provide opinions and examples. 60% suggested having more exercises on technical vocabulary, debates, more dynamic classes, and more time for difficult activities.30% suggested changing the time schedule, which actually is not of the concern of the present research.

4.1.6 CHECKLIST

The checklist used in this research was a student self-assessment checklist with categories which ranged from reading comprehension, reading strategies, attitude toward reading and

performance observed. This checklist was applied at the beginning, middle and end of the course.

The results at the beginning were very disappointing because students did not have a clear idea of the strategies and techniques. Most of them fell in the Acceptable and Poor categories. However, two students who were very familiar with the language had quite acceptable scores.

The same checklist was applied in the middle of the course. Unfortunately, the results were not satisfactory, however a few of them had made progress, especially in summarizing, drawing conclusions, and making predictions.

At the end of the course, many of them showed really good progress in the majority of the categories. They noticed they had improved in the use of several reading strategies and performance during the course. However, their attitude was the same during the complete course. They were quiet and did not show too much interest after all.

What can be concluded from this checklist is that students made some progress, even though they had to work hard during the course.

Unfortunately, students are not taught how to read in their native language, therefore, they can not use the strategies when learning a foreign or second language because they do not have those strategies.

Finally, the teacher used an "Anecdotal Record" for each student from the beginning of the course. At the beginning, every student was assessed as not having any idea of the strategies. Each lesson resumed, the anecdotal sheet was changed because students made some progress and were performing better. The final summary of the anecdotal records showed that progress in some students was high while, in others, was just insignificant. Therefore, it can be mentioned that with the students' as well as teacher's information, it can be concluded that once the course finished, students had made improvements in reading comprehension by using and applying the reading strategies appropriately.

Finally, it can also be mentioned that the use of authentic materials contributed greatly to students' improvement because of the importance of those materials in their career. Although, students were not fully enthusiastic about the course due to several factors such as schedule, tiredness, lack of good computer service, they tried to behave appropriately and did their best. However, what matters is that they were able to acquire new strategies for them and to use them in order to learn better.

4.1.7 JOURNALS ANALYSIS

From the very beginning of the course, students were asked to maintain journals where they were going to write their introspective and retrospective ideas when working in class. Indeed, they had their journals and every time they had something to write about, they did so.

After a deep analysis of everything they wrote, six categories of information were found. Each of them will be explained in detail below.

1. Introduction: This refers to the first classes where students were introduced to each other and the teacher. They also filled up the surveys on Needs Analysis, Learning Preferences and Techniques to use for learning a foreign or second language. Some students mention that "…..I was nervous because I did not know what the initial tests meant"[4]. Students were nervous the first couple of classes, but then they started to feel more relaxed and at ease. In addition, they found the survey rather interesting, because they noticed and realized their skills and strengths for learning the English language.
2. Exercises: Concerning several types
    a. Laboratory: Students thought that some exercises were difficult because they could not find enough information about them. For instance, new topics on technology and advances were complicated. The service was also a big problem, due to its slowness.
    b. Class work: Students mentioned " ….some exercises were boring but if the topic was interesting the exercise turned out interesting too"[5]. Indeed, due to their nature, some of the exercises were tiring and long. However, students were asked to share ideas and work in groups in order to make the atmosphere more dynamic.
    c. Oral Presentations: Students were worried about this kind of exercise because they felt embarrassed about their lack of confidence in pronunciation. However, it was explained to them that as far as they could make themselves understood, the presentation was fine. It is important to mention at this point that the course and objective of this dissertation was to provide students with appropriate reading skills in order to improve their learning and do better in their careers. The use of oral presentations was intended to make students understand that life is not only one isolated skill, and maybe they would have to use all of

[4] Taken from student's journal, Mercedes Masaquiza

them, but in small quantities. Although, the course was reading in English, students were given the opportunity to choose between English and Spanish to do their oral presentations. The aim was not to make students feel uncomfortable, but confident about what they knew. Some of them did their presentations in Spanish even when they had their information written in English. Some other, preferred to use the English language because "...one can practice the speaking ability and learn the pronunciation better. Besides this, this is Computing class in English, isn't it?"[6]

d. Readings: According to their information, some readings were very interesting, but others not so much. However, they enjoyed readings with follow-up activities and group work where they shared ideas and helped each other.

3. Attitude: Refers to students feelings, behaviour and reaction to all activities in the course.
   a. To language: Students felt uncomfortable because they thought that English was very difficult, and they found lots of problems understanding new vocabulary.
   b. To class: They encountered classes in the classroom a little boring. However, they enjoyed more classes in the laboratory where they worked in pairs and had plenty of time to do the assignments. They even did other activities while working on the Internet.
   c. To environment: Most of them knew each other. Therefore, the atmosphere was not hostile. They helped each other, even when they were absent. It was considered a nice group.
4. Topics: The topics selected for this course were taken from the School Curriculum. Many of them were authentic materials such as: articles from newspapers, magazines, manuals, the Internet. They actually used those materials in their studies.
5. Abilities: At the beginning, students were worried about the material they were handling. However, as the course continued, they realized that they could cope with all the information they read, but using appropriate strategies. The use of the dictionary was considerably high at the beginning. But in the end, they got

[5] Taken from student's journal, Fernando Recalde
[6] Taken from student's journal, Juan José Ramos

used to searching for the main idea, rather than understanding every single word from the text.

6. Future development: Some students were working in the field of computers and they mentioned that they had encountered some situations where they really had to use the knowledge they had acquired. Some of them mentioned that "... it is very important for my career because most of the information comes out in English, and we have to know how to handle it"[7]

4.1.8 ANECDOTAL RECORD

This work sheet was prepared for each student to record information during normal lesson resumed, after partial examinations. The aim was to check progress on students. Basically, of 15 students, 9 made great progress concerning reading comprehension and skills. One student made little progress only because she had a poor background in English, therefore it was very hard for her to understand English. It was very hard for her to comprehend general ideas and infer vocabulary from content. Five students had low progress, because they were not very friendly and their only concerned was to pass the course.

From this "Anecdotal Record", it can be mentioned that students were able to use the strategies and recognize them at the end of the course. This also helped the instructor to verify what students had accomplished during the course.

Most of them had friendly and collaborative attitude. Sometimes, they were very tired and, therefore, the atmosphere was heavy, but in general, everything went smoothly and students even enjoyed some classes. For instance, the oral presentations on free topics and workshops.

4.1.9 EXERCISES ANALYSIS

WARM-UPS

Most of the warm ups were brainstorming of ideas. By doing this, students were introduced to the topic. Other exercises had pictures and were sources of ideas, designing flowcharts, which were very easy but students could not get the idea, because they were in English. Some other exercises were skimming magazines, personal experiences in their jobs, where they had to report what they had done.

Finally, dramatizations were included. Students were very collaborative and helped each other doing this.

TASK 1

As a warm up, students were asked to provide a few ideas about the computer applications. They did some brainstorming according to their experience in the use of computers.

Concerning the exercise, from time to time, they asked some questions about unknown words, expressions and phrases they needed to complete the task itself.

During the reading section, they checked their dictionaries or asked questions among themselves in Spanish. Afterwards, all of them together checked the exercises and corrected mistakes they had made.

TASK 2

Another brainstorming exercise was to provide ideas on what computers can do. They wrote on the board and explained their ideas. Then, in the reading exercise, they worked individually and were asked to complete an exercise using the passive voice structure. They found problems when doing this exercise, due to the verbs they did not know. It was necessary to stop the exercise to make them remember about this structure, and then they were able to do it.

Besides this, they had trouble with comprehending the meaning of unfamiliar words from context, so they used their dictionaries to clarify them.

Giving them synonyms or easy examples and explanations, it was a hard time for them trying to understand.

Unfortunately, they seemed not to have comprehended the reading because they had several misunderstandings and, according to their diaries, they were tired and bored that same day.

At the end, they finished the exercise without much trouble and disturbances after all.

TASK 3

As a warm-up, students presented parts of the computer on the board, and provided a brief explanation of each of them.

The task was to label the parts of the computer. Most of them did perfectly, but others had trouble with their names in English; the rest of the students helped them.

When reading the text , students found it quite hard to understand the meaning of unfamiliar words. They were asked to keep reading and not to look in the dictionary for individual words, but to try to read several times until they got the idea and inferred the meaning. Work experience is an important factor here, because it can helps them to have opportunities to

[7] Taken from students' journals, Juan José Ramos, Sandra Altamirano, Robin Beltrán, Catalina Morales

face this kind of material. Those who were actually working had no trouble, but others did. They recognized their situation of not working at all.

After finishing reading, they worked together to check the meaning inferring from context.

TASK 4

This exercise was to read two passages and record starting and finishing times as well as a list of unfamiliar words. After finishing reading, they had to guess the meaning of the words from context and, if that was very difficult, they were allowed to check in their dictionaries. Due to the nature of the exercise, students felt bored and uneasy. Therefore, they only did this exercise and had no energy for others.

TASK 5

Students looked at a picture and completed a paragraph with some vocabulary given. They worked in pairs at the beginning, then they were grouped in fours and then in sixes. It was an interesting work group and students realized they all worked and participated in the exercise. This exercise had another one connected to the previous one. Students had to match words and their corresponding definitions. They were grouped the same way and were laughing and joking. They had the opportunity to share ideas and correct the exercises themselves.

(Task 6 will be explained later on page 96 because it belongs to "Oral Presentations")

TASK 7

This exercise was divided into several sections.

For Section A, students looked at a picture and guessed what the people in it were talking about. They wrote similar ideas. However, one of them was almost close to the answer because she carefully examined the pictures and realized the physical connection of the computers and what the problem was. She explained to them in English the real message and all of them laughed and gave her an applause, because of her good job. They also provided their personal opinions about the size and usefulness of computers. They did it in English. Ungrammatical structures were not taken rigorously due to the nature of the course. They were students in a reading course. However, they were asked to use the target language as much as possible in order to get used to it.

Even though they had a lot of problems concerning pronunciation, grammar structures, and literal translation, the message they tried to communicate was understood.

In Section B, they had to read a long text about new technology and select the best title for it according to what they had understood. Most of them had it correct because they knew about this technology beforehand. They were also allowed to check the meaning of unfamiliar words in their dictionaries or among themselves.

In the rest of the Sections C,D and E, they had to answer questions related to the previous exercise and work with anaphoric and cataphoric devices. The latter was a little complicated because it was difficult for them to identify what the text and these devices related to. The exercise was to work individually, but they asked among themselves very often or even copied their friend's work. Despite this, the atmosphere was relaxed and they worked smoothly. It was not tiring.

TASK 8

This topic was very interesting for them because it was about networks. First of all, they were asked to dramatize a particular situation such as: explaining to a child, a youngster, an engineer what a network is. It was very funny and they had a good time giving ideas to support the task.

When they finished this, they started to work on a picture where they had to write about the idea behind the picture. Then they had to answer some questions about the several types of networks that they knew there are in the market.

The following exercise they did was to read about the world of computer networks, write starting and finishing times, and a list of unfamiliar words. If the words were very difficult, they were allowed to look for them in the dictionary, otherwise, guessing meaning from context was compulsory. Afterwards, they had to complete a summary from the text with some vocabulary words provided. Then they were asked to fill in a chart about the reading with the main idea, major and minor details. These exercises were checked carefully because students took a long time to do them. The last exercise on networking was to match a title with the paragraph. Because students had the original text they did it very well.

They felt very exhausted after this class. However, they shared many ideas about their experiences working with networks. They also gave suggestions and recommended materials and connection patterns to set up a network.

TASK 9

An exercise to change the mood was this one. It was a game about the new vocabulary students had learnt so far.

TASK 10

The purpose of this exercise was to complete a paragraph with vocabulary that can be changed slightly. For instance, the words can be nouns, verbs, and adjectives. Most of them achieved an average performance. They found verb conjugations to be a big problem. They also had trouble identifying adjectives and nouns.

This same exercise had a second part which was to complete a paragraph with the suffixes provided. This was easier because they already knew the words.

TASK 11

In this exercise, it seemed they had less time but more unfamiliar words than in the rest of the exercises.

Afterwards, they had a discussion where they provided information and supporting ideas for their opinions about Software. To develop this exercise in class was too long. Afterwards, there was a complete discussions and ideas. They provided examples about programs and commands in English that they are used to.

TASK 12

This exercise was very similar to number 10. However, the topic was different and other parts of the sentence were included such as adverbs.

TASK 13

This exercise was done in the laboratory. Students had to select a topic from a Library of Topics about Windows 2000. They all selected the topic Domains and Workgroups. They had to read the article and summarize it in Spanish. The main idea and detailed information was easy for most of them. However, some of them still had problems with the supporting ideas.

TASK 14

This task was a small project, similar to task 8, where students had to act out a situation which they could encounter in real life. They were supposed to be network technicians specialized in network configuration who were hired by a company to set up a network there. They had to develop ideas about the type of network, materials and equipment to be used, and transfer communication system. They presented that and the rest of the class acted as the managerial department that was in charge of accepting, asking questions about or refusing the project.

They laughed all the time because they were asking questions about all the configuration and the answers were very original to escape from being rejected. By doing so, they learnt a lot.

TASK 15

Students were given some pictures about the latest technology. They had to write some ideas about them and share with classmates. However, as a previous exercise, students were searching in magazines, newspapers, and articles. They brought all the material in class first, everybody shared them, and then they were given the pictures to relate to the information they had searched for before.

This same exercise had a follow-up which intended to measure students' reading speed. They also had to make a list of unfamiliar words and comprehend them from content. If it was not possible, the use of dictionaries was recommended.

Finally, in order to verify how well students understood, they had to write a short summary of the article. Then they exchanged it among themselves to see if they had similar ideas.

EXERCISES DONE IN THE LABORATORY USING THE INTERNET WILL BE DESCRIBED AS FOLLOWS:

TASK 16

Students were asked to search on the MSDN Library a topic about Microsoft Security Framework, prepare posters with main ideas, major and minor details about it. They worked in pairs and interacted in Spanish. According to their personal opinions, they found it easier to speak in Spanish when they had to do it by themselves.

Actually the presentation they had was in English.

TASK 17

Students were searching on the net for the latest topics on security wallet, cryptography, and authentic payment. At the beginning, it was very difficult because they could not find information. However, they tried using different search methods and found everything. They had to hand in a short summary of what they understood. In next class, everybody read their summaries and compared information.

TASK 18

The Internet was very much used in the laboratory. Students thought it was interesting and also practiced searching using different methods. This time, the topic was about artificial intelligence, and its application. As above, they wrote summaries and exchanged them among themselves to be read and checked, if necessary.

(Task 19 will be explained later on page 96 because it belongs to "Oral Presentations")

TASK 20

Similar to the above, but this time the topic had to be about technology or science. They also prepared a PowerPoint presentation and shared it with others.

TASK 21

An exercise which was interesting and funny was searching on the net for jokes, sayings, and funny graphics about computers. They found some in English. However, it was a little difficult to comprehend English humor. After analyzing them and trying to find similar ones in Spanish, they had to create their own. They came up with very funny similes that everybody laughed at.

(Tasks 22-24 will be explained later on page 97 because they belong to "Oral Presentations")

TASK 25

This exercise was intended to help students take notes. For topics on robotics, virtual reality, and expert systems, students prepared oral presentations. The rest of the class was supposed to pay attention and take notes on the topics presented. Then, they checked their notes among themselves.

ORAL PRESENTATIONS

TASK 6

In order to make students feel more relaxed and not so immersed in the world of computers students were asked to prepare a topic beforehand to present orally in the class, which was not necessarily about technology and science. It actually was about their hobbies, nature, animals, traditions, etc Students were very content and afraid at the same time, because they had to do it in English. It was suggested that they do it in English but if they felt more comfortable doing it in Spanish, that was fine too. According to their information in their diaries, few of them said they preferred to use English in the class, and in all the exercises, in order to practice and learn more. However, the others mentioned that they were afraid of making mistakes and being made fun of by the class. They were encouraged to take risks and achieved their goals. Some of them did that, others preferred to do it in their native language: Spanish.

TASK 19

Similar to task 6, students were asked to present a topic of their own interest, but not necessarily technology or science. They searched on the Net, prepared a powerpoint

presentation with the most important ideas, and then presented them in class. As all students were working on the network, all of them could see the presentation and ask questions after that.

In order to make them feel more confident, they were allowed to choose from English or Spanish to give their presentations.

TASK 22

Practical work was also an important activity because, according to the information provided by students themselves, they might work in technical assistantships. Therefore, they were asked to prepare a demonstration class on how to install and set up a piece of hardware. Students read manuals, instructions, and shared ideas in order to develop this.

TASK 23

A similar exercise as above, but this time, it was about software. This also included an activity where students had to practice the use of it. Students read manuals, instructions, shared ideas and helped each other in order to develop this exercise.

TASK 24

Students were asked to prepare an activity similar to one they had done or a new one. They came up with interesting ideas such as games, programming languages, creating manuals and projects. They prepared a set of follow-up exercises. For instance, some of them were completion items, organizing paragraphs, word games, matching, etc.

4.2 ANALYSIS OF THE DATA

After the techniques and exercises were used by the students, the results obtained from the surveys show that most of the techniques were effective and helped students to improve their ability to read and gather the information they really need, and not wasting time trying to understand every single word from a text.

At the beginning of the course, students were afraid of what they were going to do. However, after it was explained, they felt more comfortable and relaxed.

Section A of the initial survey about NEEDS ANALYSIS shows that students mostly studied Grammar and Vocabulary when they studied General English. (see Fig 8, Page 101).

Section B: Concerning Listening, 60% of the students mentioned that they understood the general idea, which could be considered very good because many students tend to translate what they read, and this could lead to misunderstandings. Concerning Oral Performance, 87% mentioned that they could express only simple phrases. Unfortunately, they were not really good at speaking; therefore, they were afraid of some of the activities.

Concerning Reading, 60% mentioned that they were able to understand part of the text. It is not as good as it should be because Computer students need to understand more, since their daily work in many cases implies the use of the English language quite often. For instance, if they search on the Internet most of the updated information is in English. Manuals and software are also in English. (see Fig 9, Page 101). Reading was considered at a general level, because it was taught only for the understanding of general ideas.

Concerning Writing, 73% mentioned that they can only write a few phrases.

Section C: it dealt with the needs of the English language they had:

73% mentioned that they needed a lot of the language. However, 54% agreed that they needed it only sometimes. 73% needed to listen to English for some reasons: music, when others speak, interactive software, TV programs, documentaries.

More than 50% mentioned that they needed to participate in technical assistantships with clients. However, 39 % showed that they needed to speak only sometimes, when presenting homework or research.

47% needed to read in English often, 39% sometimes. What they needed to read was: e-mail messages, instructions to set up software and hardware, manuals, and technical books.

Concerning writing, 47% mentioned that they had to write in English only sometimes. Indeed, what they had to write was: instructions for setting up software and hardware, database configurations, formal letters, and flow charts.

At the beginning of the course, they were not aware of the techniques used for improving reading ability. Concerning Reading, 60% said they were able to understand part of the text, whereas the rest understood the general idea or translated the text. (see Fig 9, Page 101). However, at the end, the final survey showed the following results:

47% consider Reading for specific information, 53% consider Reading for general information, 73% Reading speed, 53% guessing vocabulary from context, 86% writing information from pictures, 73% summarising and reporting, 47% matching vocabulary and finding words from descriptions, and 53% oral presentations, as the most interesting and useful techniques to gather information.

As can be seen from the initial survey, where students were familiar only with the understanding of part or translation of the text, (see Fig 8 and 9, Pages 101), they ended up improving the skill by the use and practice of strategies for reading. They finished the course with more knowledge on how to use the techniques effectively to accomplish their aims in reading, than those they had at the beginning of the course.

The checklist also shows that students improved their abilities with the following percentages

	OUSTANDING	VERY GOOD	GOOD	POOR
READING COMPREHENSION				
Understanding of main ideas and details		60%	40	
STRATEGIES				
Use of prior knowledge		53,33%	40%	6,67%
Skimming		53,33%	46,67%	
Scanning		46,67%	53,33%	
Summarising		33,33%	46,67%	20%
Self-correct words and phrases		60%	40%	
Rereads		40%	46,67%	6,67%
Makes predictions		33,33%	66,67%	
Forms opinions		46,67%	53,33%	
Paraphrases		46,66%	46,67%	6,67%
Adds ideas	6,67%	40%	53,33%	
Reads between lines		46,67%	53,33%	
Can locate words in texts		66,67%	33,33%	
Locates details		40%	60%	
Recognizes logical order		33,33%	66,6%	
Draws inferences		26,67%	73,33%	
Draws conclusions		26,67%	73,33%	
Predicts outcomes		20%	80%	
Other				
RESPONSE TO READING				

Attitude		26,67%	73,33%	
Enjoyment		33,33%	66,67%	
Behaviour		40%	60%	
PERFORMANCE OBSERVED				
Identifies environment print		40%	53,33%	6,67%
Exhibits pretend reading		33,33%	60%	6,67%
Listens with interest to read-alouds		13,33%	80%	6,67%
Participates in discussions		33,33%	60%	6,67%
Reads from left to right	6,67%	20%	66,67%	6,67%
Identifies letters and words		426,67%	60%	13,33%
Reads during free time		20%	73,33%	6,67%
Reads different topics		20%	80%	
Read the assigned pages		53,33%	46,67%	
Use higher level thinking skills		53,33%	40%	6,67%
Elicit responses form others		33,33%	60%	6,67%
Uses alternatives points of view		26,67%	73,33%	
Refers to text elements, plot, traits, effects, causes		46,67%	53,33%	
Brought materials and assignments	6,67%	33,33%	60%	

NEEDS ANALYSIS SURVEY: GRAPH 1

The following chart shows what students mentioned they had studied in the English General Courses. As can be seen, only 10% of the whole class mentioned that they studied reading using only two strategies: understanding the general idea or part of the text. There are other skills included here which have higher percentages such as: Grammar and Vocabulary. Students mentioned they studied both these areas most in the courses.

SECTION A:

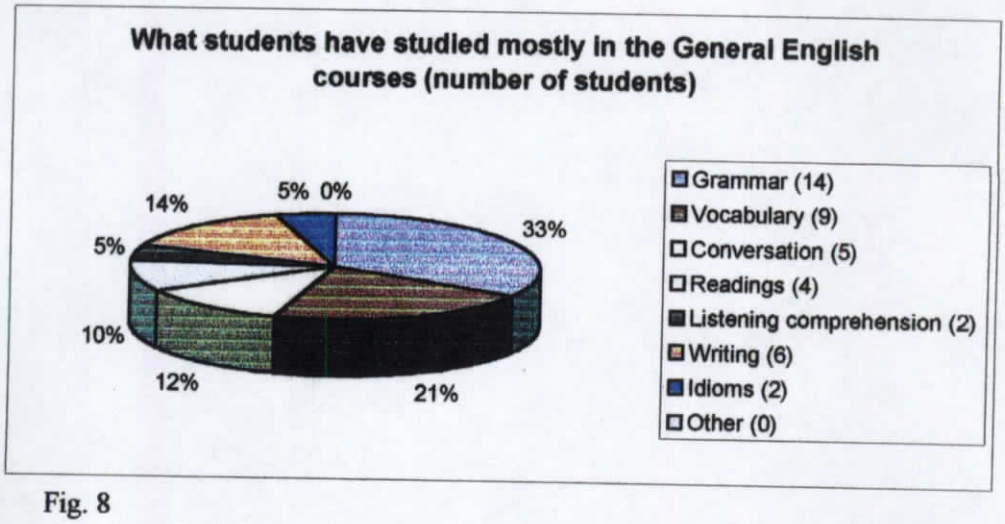

Fig. 8

SECTION B: LANGUAGE KNOWLEDGE

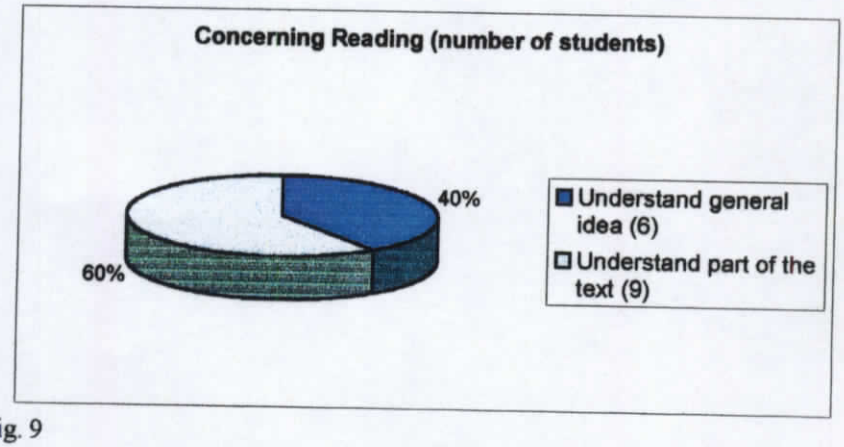

Fig. 9

CHECKLIST SURVEY: GRAPHS 10-27

The following charts show the different strategies used during the course and the percentage of students who acquired them. It can be drawn that from the initial survey (see: Fig. 9 above) where students had no idea of several reading techniques, but only two, they ended up acquiring others that can be useful in their future lives.

As follows:

READING COMPREHENSION

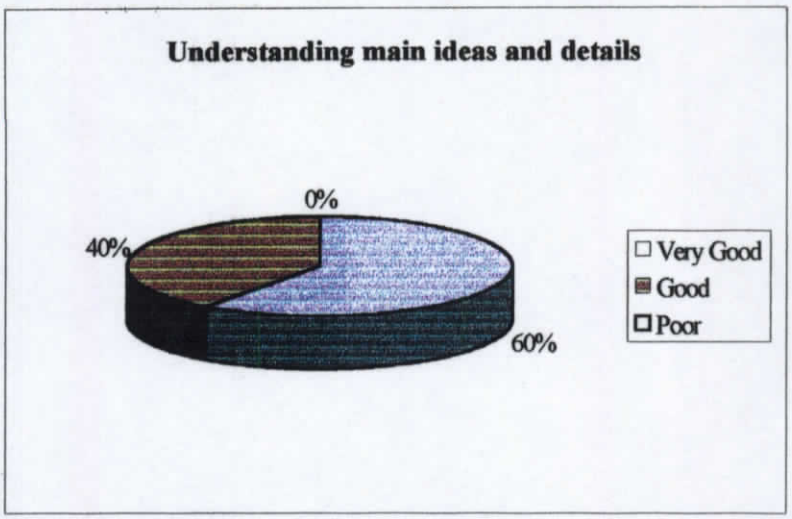

Fig. 10

READING STRATEGIES

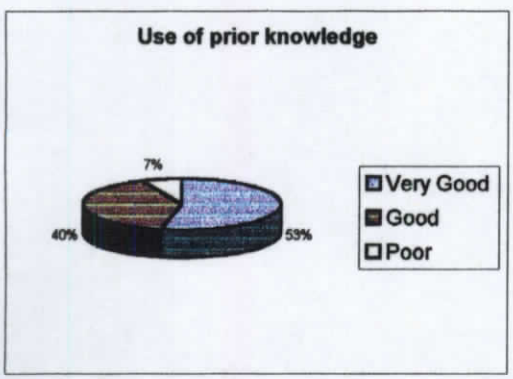

Fig.11

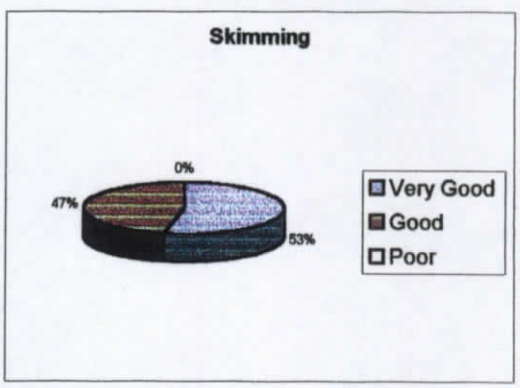

Fig. 12

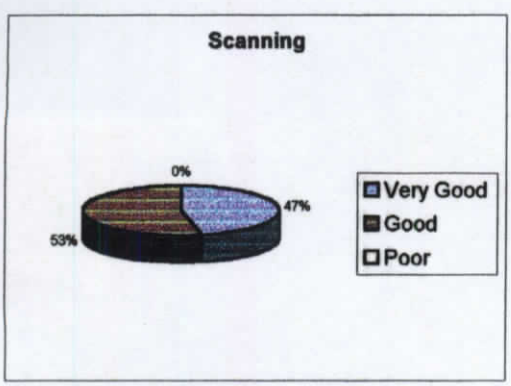

Fig. 13

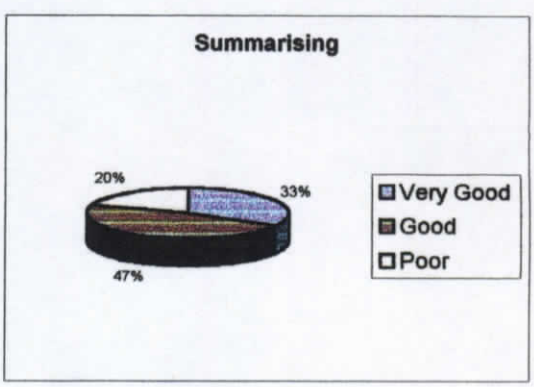

Fig. 14

SECTION A:

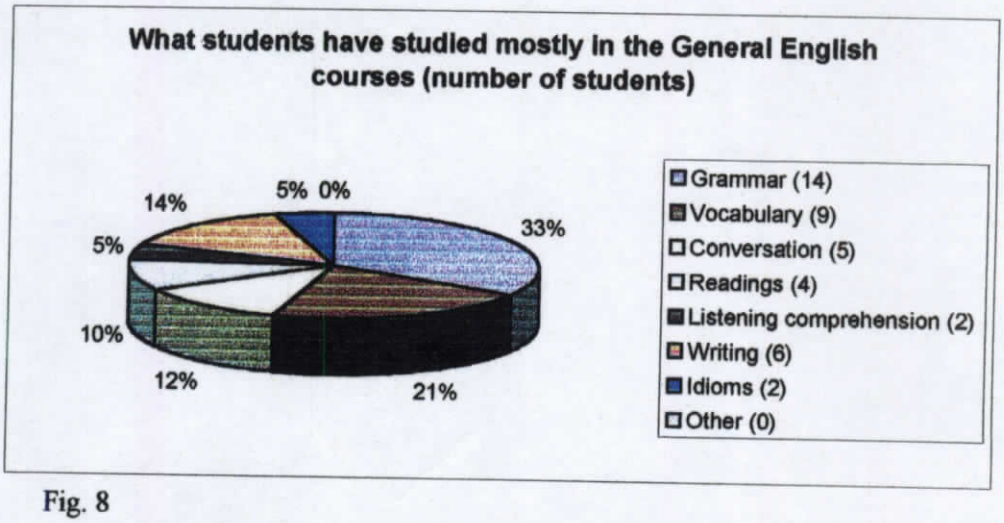

Fig. 8

SECTION B: LANGUAGE KNOWLEDGE

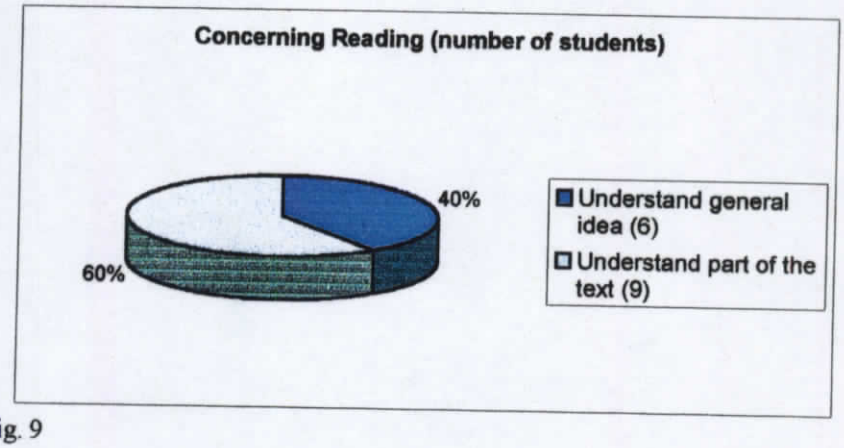

Fig. 9

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As follows:

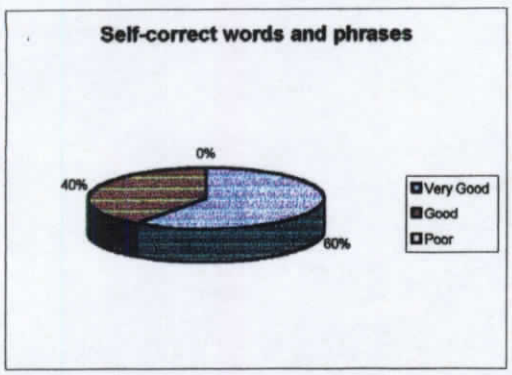

Fig. 15

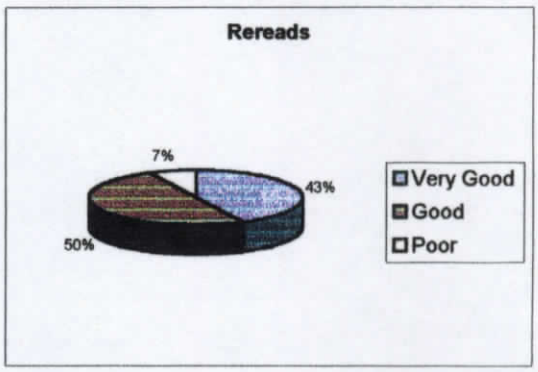

Fig. 16

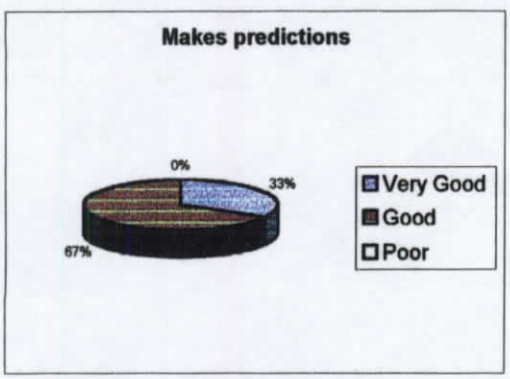

Fig. 17

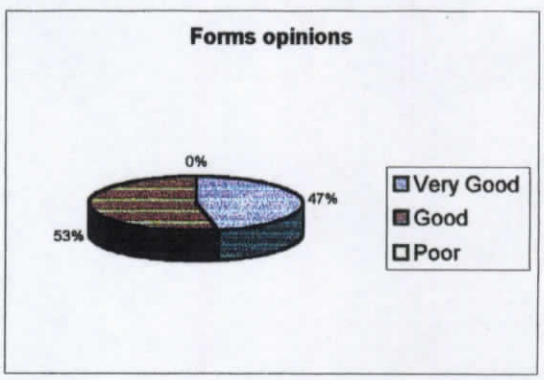

Fig. 18

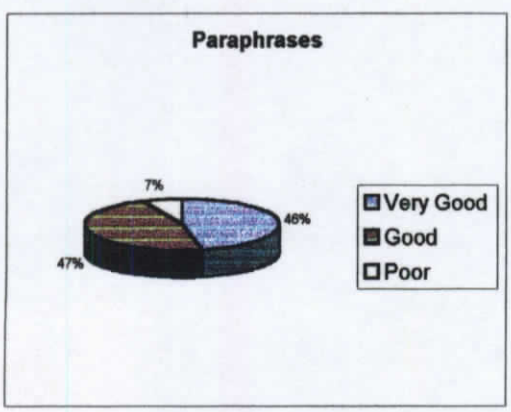

Fig. 19

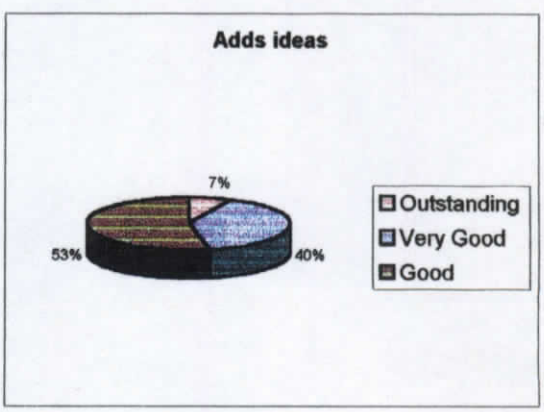

Fig. 20

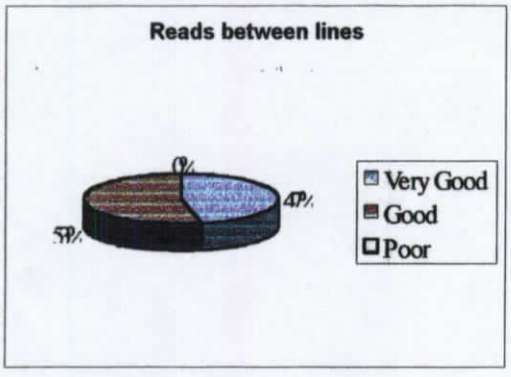

Fig. 21

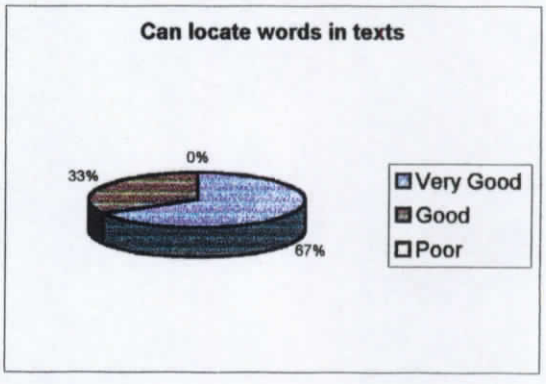

Fig. 22

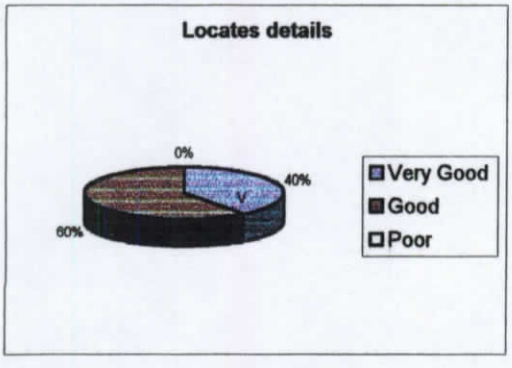

Fig. 23

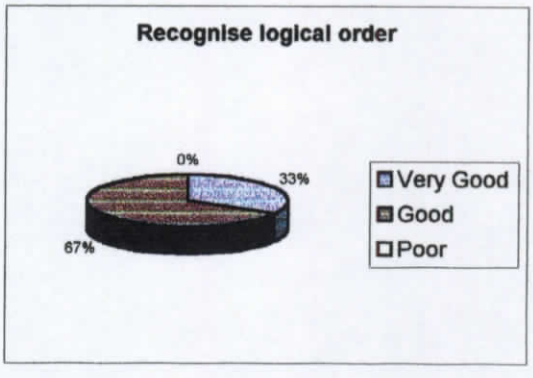

Fig. 24

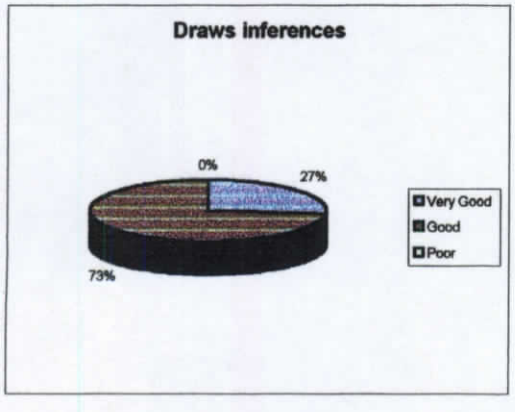

Fig. 25

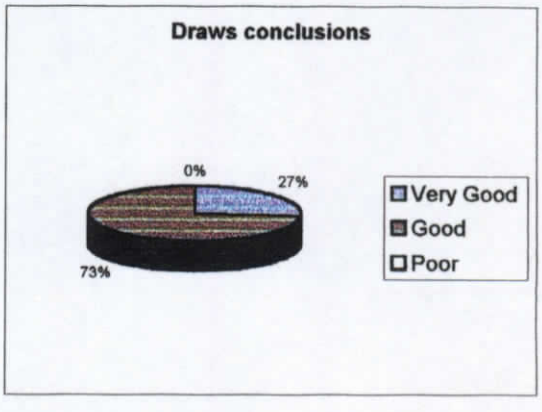

Fig. 26

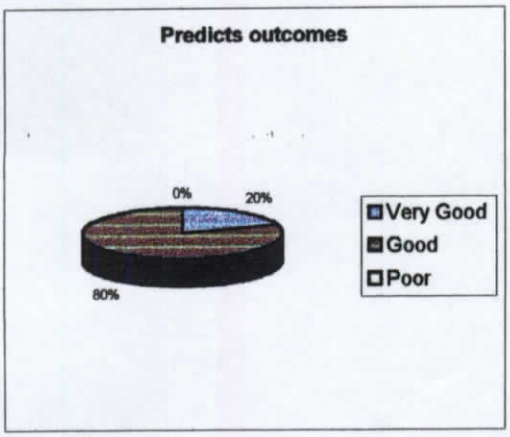

Fig.27

CHAPTER FIVE

CONCLUSIONS

As can be observed from the above analysis, students started the course with the basic knowledge of reading techniques (see Fig. 9, Page 101), which as they mentioned, had been learnt in the General English courses they had taken before. After the course, where some of the most useful and used techniques for reading were applied, taking into consideration their needs analysis, students ended up acquiring them and improving the ones they already knew. (See Figs. 10 - 27, Pages 102 - 105)

However, it is true that not all the techniques applied were successfully acquired. It can be concluded that some activities and techniques worked better than others and that some external and internal factors affected the course itself and, therefore, students attitudes too. What is remarkable is that the objectives were achieved in terms of the application, practice and acquisition of the most useful reading techniques.
The following summary explains the positive and negative aspects of the techniques applied:

- WARM-UPS

Positive aspects: For instance, the use of short activities as warm-ups or icebreakers helped a lot to introduce the topic of the class and to make students feel comfortable and less nervous. Indeed, the most useful one was the development of flow charts and providing descriptions from pictures. Students really felt at ease doing these activities.

Negative aspects: Some of the activities were brainstorming and learners did not like this very much because they had to speak in English, and they felt shy and uncomfortable about making mistakes.

- READING TECHNIQUES

Learners had to use high-level thinking skills when they were provided with exercises such as: inference through the context, understanding relations within a paragraph, linking sentences using references. It was very hard for students due to the fact that they were not familiar with the vocabulary and when trying to guess, they misinterpreted the meanings. Furthermore, they had difficulties when recognizing adjectives, verbs or nouns.

The challenge of reading faster than others helped a lot in "Improving reading speed". Learners that understanding the general idea was more important than trying to understand every single word of the text. Trying to get the main idea allowed them to finish reading early. At the same time, they were able to underline or write down unfamiliar vocabulary which could be checked afterwards. On the other hand, learners had to read twice in order to extract the main idea. However, after practice, they got used to it. They also found many unfamiliar words and, therefore, sometimes the ideas they came out with were different from one another.

In the case of : predicting, anticipating, skimming and scanning, it is important to mention that these exercises helped learners to have an idea of what the context was about and use their creativity and imagination. However, the exercises were difficult at the beginning, because students tried to provide more information than required. They also tried to read everything and understand everything. Students were not able to differentiate between specific information and general ideas.

When working with "understanding the main and supporting ideas" exercises students felt that if they understood the general idea, that was fine, even though they did not understand every single word. For instance, they were able to summarize, report, and present information. On the other hand, it was difficult at the beginning, because learners tried to understand every single word and provide more information than the main idea.

Almost 50% of students did "Drawing conclusions" well. One activity that really worked was re- reading, because by doing this, students comprehended better and even reinforced or corrected their previous ideas. Drawing conclusions and inferences was not really outstanding but good. This was very difficult for learners because they tried to provide opinions rather than a brief conclusion from the author's point of view.

Other activities that students liked and mentioned in their journals were the completion exercises where they had to fill in charts, complete sentences with vocabulary from the original text, and complete information in pictures. This helped them to understand better and gain experience with language usage. On the other hand Completion items concerning parts of speech (nouns, verbs, adverbs), where students were required to change the word provided, was difficult too. Most of them had trouble identifying nouns, verbs, adverbs and how to use them in sentences.

Most of the exercises contained information which was familiar to students and, therefore, they found some of the exercises easy to perform. For instance, matching words and definitions, completion items, providing extra information and adding ideas. However, not

everybody knew all topics and, therefore, it was sometimes difficult to perform activities using this technique.

This also helped them to be able to "provide opinions and add ideas", which is important because they learnt to be critical.

- JOKES AND PHRASES

Jokes and phrases about computers were very interesting because they made students feel comfortable and not worried about the course. Their attitude and behaviour changed a lot. They laughed and shared information among themselves. However, when students searched for jokes and phrases on the Internet, most of them were difficult to comprehend. Cultural aspects played an important role here.

- ORAL PRESENTATIONS

When using the target language , learners were able to reinforce their personality and be able to express in their own words what they understood. On the other hand they felt shy and nervous at the beginning. Their oral performance was poor due to their lack of practice and inaccurate pronunciation. However, when using their native language, they felt more confident because they knew what to say and how to say it.

- USE OF DICTIONARIES

When using a monolingual dictionary students were in contact with a lot of the target language. However, they chose the first word they could and this led to misunderstandings because of lack of training in the use of dictionaries. On the other hand, the use of a bilingual dictionary gave them a clearer idea of the meaning and how to understand the content.

Finally, as a brief conclusion, the following techniques can be seen as the most effective:

1. Warm-ups
2. Linking sentences and ideas
3. Forming opinions
4. Improving reading speed
5. Skimming
6. Scanning
7. Understanding main ideas
8. Using prior knowledge
9. Completing exercises

10. Jokes and phrases

To summarise, students mentioned that they used their previous knowledge in the language and computers to follow instructions, learn and relate information, and use inference. It would be excellent if students used them in their native language or, furthermore, if they continue using them when working in their field of study. (See Figs. 10-27, Pgs 102 - 105). It is relevant to point out that students are now aware that what matters is the understanding and comprehension of the idea, and not every single word of a text. However, students should take care when "following instructions" as this requires greater understanding of specific words, which help them to identify what needs to be done.

CHAPTER SIX

RECOMMENDATIONS

6.1 EFFECTIVE TECHNIQUES

From this research the most useful techniques that should be recommended maybe applied from now on in the following course for when assigned reading comprehension material are:

- Understanding main ideas and details. Students need to understand in general terms the idea of a text and when required to provide specific information.
- Use of prior knowledge. It is very important learners build on their own knowledge by relating the new to prior information they know.
- Scanning and skimming. It is important that learners can locate the information they need from a text and the gist of it.
- Forming opinions. This crucial point is very important because learners' criteria help them to reinforce knowledge and participate actively in the classroom.
- Improving reading speed. Students may get the main idea faster.
- Linking sentences and ideas. Therefore, learners can relate information within a text.
- Completion exercises: This may help them to summarize, report and add information , too.
- Jokes and phrases: In order to make the atmosphere more comfortable and make students' attitudes more positive.

6.2 USE OF MATERIALS

It is very important to mention that most of the materials used for teaching reading skills must be as authentic as possible. In this particular case, learners belonged to an ESP course which dealt with English for Computing. Therefore, the material used was related to the world of computers. It was not possible to make up material on this subject matter, but only exercises, so that learners could apply the different techniques and improve their reading ability.

Materials used for this course were readings from magazines or articles downloaded from the Internet, information in manuals and letters, instructions from Help Files in software, articles

from TV documentaries, student summaries, books, and newspapers. The language used there was real English for technical purposes.

6.3 FURTHER RESEARCH

As can be seen, Foreign Language Reading Skills is very useful in many aspects for the life of a person. By reading, one can improve culture, history and general knowledge. Moreover, reading in another language may make people feel at another level where they can communicate with other people from other language and culture backgrounds.

In the case of students, reading has become a daily tool for performing investigations and doing assignments. However, it is important to mention not to take students to a world full of technology where they only have to push buttons and everything is done. The mere act of reading is useless if there is no purpose nor strategy to understand what has been written.
If it is true that nowadays most information comes out in CDs or in the Internet, it is a must for teachers to give support to their students. Teachers need to help them to acquire at least the basic techniques they may need to do a good job when reading. This is even more important in the case of students whose career depends on what technology and science decide to publish, and even more in another language rather than their native language.
The purpose of an ESP course is to provide learners with "useful tools" (reading techniques) to be successful readers of material in English in specific fields, without translating but with an effective level of reading comprehension.

This research had been done in the subject matter Computing. However, an ESP course can be developed for other subject matters too. The techniques applied in this research may be used and improved in further research in other fields.

Therefore, in order to provide a wider vision of the use and effectiveness of Reading Techniques, further investigations, observations and application are recommended. ESP is a wide field that can be exploited considerably in benefit of our learners whom we serve as teachers.

BIBLIOGRAPHY

- Alderson, J., Charles and Urguhart A. H., READING IN A FOREIGN LANGUAGE, Longman, NY, 1984
- Barkman, Bruce; Jordan, R. R; Mackay, Ronald, READING IN A SECOND LANGUAGE, HYPOTHESES, ORGANIZATION AND PRACTICE, Newbury House Publishers, 1979.
- Boeckner, Keith, and Brown Charles P., ENGLISH FOR COMPUTING, Oxford University Press, 1993
- Bowers, Roger, THE INDIVIDUAL LEARNER IN THE GENERAL CLASS, English Language Consultancies Department, British Council, London, UK.
- Cashdan, Asher, LANGUAGE READING AND LEARNING: LUNZER, ERIC; DOLAN, TERRY, READING FOR LEARNING IN THE SECONDARY SCHOOL, Basil Blackwell, 1979
- Celani, M.A.A; Holmes, J.L; Ramos, R.C.G; Scott, M.R, THE BRAZILIAN ESP PROJECT AN EVALUATION, Editora Da Puc-Sp, 1988
- Chastain, Kenneth, DEVELOPING SECOND-LANGUAGE SKILLS: THEORY TO PRACTICE, Rand McNally College Pub. Co. 1976
- Díaz Maggioli, Gabriel H, LEARNING STYLES, 1993
- Grellet, Francoise, DEVELOPING READING SILLS, A PRACTICAL GUIDE TO READING COMPREHENSION EXERCISES, Cambridge University Press, 1981
- Heaton, TESTING READING COMPREHENSION.
- Holden, Susan, ENGLISH FOR SPECIFIC PURPOSES, Modern English Publications Limited, 1977.
- Hutchinson, Tom, and Waters, Alan, ENGLISH FOR SPECIFIC PURPOSES, Cambridge University Press, 1987
- Maingay, Susa, MAKING SENSE OF READING, Thomas nelson Ltd, 1983.
- McDonough Steve H, STRATEGY AND SKILL IN LEARNING A FOREIGN LANGUAGE, Hodder Headline Group, 1995
- O'Mally, Valdez Pierce, AUTHENTIC ASSESSMENT FOR ENGLISH LANGUAGE LEARNER, READING ASSESSMENT, Addison-Wesley.
- Oxford, Rebecca L, GENDER DIFFERENCES IN LANGUAGE LEARNING STYLES: WHAT DO THEY MEAN?.

- Remacha Esteras, Santiago, INFOTECH: ENGLISH FOR COMPUTERS USERS, Cambridge University Press, 1996
- Saslow, Joan M., and Mongillo John F., ENGLISH IN CONTEXT 2: READING COMPREHENSION FOR SCIENCE AND TECHNOLOGY, Prentice Hall Inc, NJ, 1985
- Smoak, Rebeca, WHAT IS ENGLISH FOR SPECIFIC PURPOSES, English Teaching Forum, April 2003.Microsoft Corporation, MCSE TRAINING KIT: MICROSOFT WINDOWS PROFESSIONAL 2000, Microsoft, 2000
- STUDENTS JOURNALS.

INTERNET ADDRESSES

- http://www.alanturing.net/turing-archive/pages/reference%20Articles/What%20is%20AI07.html
- http://www.formal.standford.edu/jmc/whatisai/node3.html#SECTION000300000000000000000
- http://www.higrade.com.cy/nqcontent.cfm?a-id=355

ANNEXES

Annex 1

- The tree of ELT
- Annual Plan: Computing Subject Matter

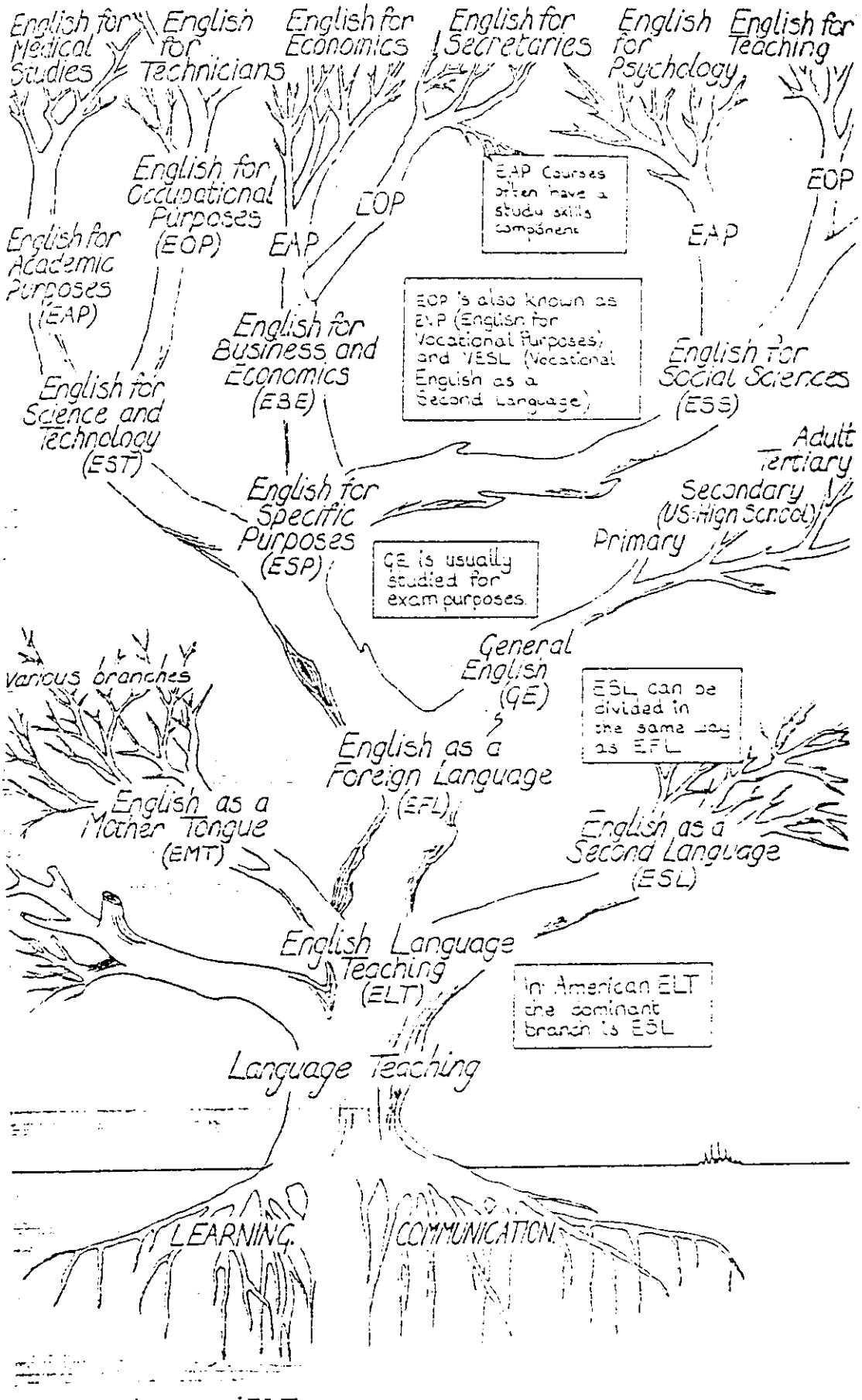

Figure 3: The tree of ELT

PONTIFICIA UNIVERSIDAD CATÓLICA DEL ECUADOR
SEDE AMBATO

ESCUELA DE INGENIERÍA DE SISTEMAS
FICHA DE PROGRAMACIÓN

DATOS GENERALES

ÁREA: Sistemas

ASIGNATURA: Computing

NIVEL: X

PRE-REQUISITO: Aprobar los 5 niveles de ingles

HORAS CLASE SEMANAL: 5

PROFESOR: Ing. Nadia Jaramillo

SEMESTRE: Marzo 2003/Julio 2003

OBJETIVOS DE LA ASIGNATURA

- The aim of this course is to make students ready to use the English skills in order to deal with technical and computing situations. They may be able to use technical terminology and organize writing reports and reading guides, manuals or other kind of oral or written material.

RECURSOS DIDACTICOS

- Computers
- Technical English books
- Internet
- Computing documents

SISTEMAS DE EVALUACIÓN

- Classwork: Readings and writings about technical topics
- Assigments: Search on the internet about a topic
- Quizzes: Every term students will be tested on the topic covered during that term.

BIBLIOGRAFÍA

- Boeckner, K., and Brown, P. C., Oxford English for Computing, Oxford University Press
- L Johnson and E T Keravnou, Expert Systems ArchitecturesKogan page Ltd
- Terry Rowan, Managing with Computers, Pan
- Denley peter, Fogelvik Stefan and Harvey Charles, History and Computing II, Manchester University Press
- Microsoft, MSDN Library
- Internet

CONTENIDO DE LA ASIGNATURA	Horas/Clase
PRIMER BIMESTRE:	27

PERSONAL COMPUTERS: The procesor, contextual reference

ONLINE SERVICES: Data transmission, prefixes and suffixes

COMPUTER SOFTWARE: Comparing software packages

CLASSWORK: Students will develop exercises in class

SEGUNDO BIMESTRE:	27

COMPUTER NETWORKS: Network configurations

COMPUTER VIRUSES

COMPUTER SECURITY

INTERNET SECURITY

HACKERS

CLASSWORK: Students will develop exercises in class

TERCER BIMESTRE:	27

MULTIMEDIA

ROBOTICS

VIRTUAL REALITY

MACHINE TRANSLATION

AI AND EXPERT SYSTEMS

CLASSWORK: Students will develop exercises in class

TOTAL:	81

FECHAS DE EVALUACIÓN

First Partial Examination

Second Partial Examination

Final Examination

Annex 2
(Surveys)

CUESTIONARIO ANALISIS DE NECESIDADES PARA EL DISEÑO DEL CURSO DE "COMPUTING"
ESCUELA DE SISTEMAS-PUCESA

Este cuestionario ha sido elaborado para sobre esta base diseñar un Curso de Inglés Específico en su rama profesional que mejor responda a sus necesidades.

1. SECCIÓN A: GENERAL

1.1 Por cuánto tiempo ha estudiado inglés? Dónde?

.....

1.2 Qué es lo que más ha estudiado en Inglés?:

a. Gramática ☐
b. Vocabulario ☐
c. Conversación ☐
d. Lecturas ☐
e. Comprensión auditiva ☐
f. escritura ☐
g. Frases idiomáticas ☐
h.

Otros:.....

...

1.3 Estudia inglés actualmente?

SI ☐ NO ☐

1.4 Le gusta el idioma inglés?

SI ☐ NO ☐

1.5 Si su respuesta es NO, por q··é toma este curso?

.....

.....

2. SECCION B: CONOCIMIENTO DEL IDIOMA

2.1 Cuando escucha inglés:

a. Entiende la idea general de lo que expresan ☐
b. trata de entender cada palabra ☐

c. No comprende nada ☐

d.

Otro:.....

2.2 Cuando habla en inglés:

a. Puede mantener una conversación ☐

b. Puede decir frases sueltas ☐

c. Solo puede decir palabras ☐

d. No puede decir ni una palabra. ☐

2.3 Cuando lee en inglés:

a. Entiende la idea general o traduce el texto ☐

b. Entiende parte del texto ☐

c. No comprende en absoluto ☐

d.

Otro:.....

.....

2.4 Cuando escribe en inglés:

a. Escribe en español y luego traduce al inglés ☐

b. Escribe pocas frases ☐

c. Solo puede escribir palabras sueltas ☐

d. No puede escribir una sola palabra ☐

2.5 En su criterio que es lo que más sabe? Califique 1 lo menos, 4 lo más:

DESTREZA	100%	80%	60%	50%	MENOS
Escuchar					
Hablar			☐		
Lectura					
Escritura					

3. SECCION C: NECESIDADES

3.1 Necesita inglés

Mucho ☐

No mucho ☐

Poco ☐

3.2 Con qué frecuencia utiliza inglés?

Frecuentemente ☐

A veces ☐

Pocas veces ☐

Nunca ☐

3.3 Necesita escuchar en inglés

Con frecuencia ☐

A veces ☐

Pocas veces ☐

Nunca ☐

3.4 Si necesita escuchar en inglés es para poder entender

a. A sus colegas del trabajo ☐

b. A sus compañeros de estudio ☐

c. Conversaciones telefónicas ☐

d. Conferencias ☐

e. Programas interactivos en CDROM ☐

f. Reportajes ☐

g. Entrevistas ☐

h. Programas televisivos técnicos ☐

i.

Otro:.....

.....

3.5 Necesita comprender en inglés para participar en:

a. Conferencias ☐

b. Foros ☐

c. Presentaciones de programas ☐

d. Discusiones ☐

e. Entrevistas ☐

f. Foros técnicos ☐

g. Asistencia técnica ☐

h. Servicio al cliente ☐

i.

Otro:.....

.....

3.6 Necesita hablar en inglés

Con frecuencia ☐

A veces ☐

Pocas veces ☐

Nunca ☐

3.7 Necesita leer en inglés

Con frecuencia ☐

A veces ☐

Pocas veces ☐

Nunca ☐

3.8 Que necesita leer en ingles

a. Mensajes electrónicos ☐

b. Instrucciones ☐

c. Cartas ☐

d. Proformas ☐

e. Revistas técnicas ☐

f. Manuales ☐

g. Libros técnicos ☐

h.

Otro:.....

.....

3.9 Con qué frecuencia necesita escribir r en inglés

Con frecuencia ☐

A veces ☐

Pocas veces ☐

Nunca ☐

3.10Cuando escribe en inglés, son

a. Cartas formales ☐

b. Proformas de servicios y productos ☐

c. Instrucciones ☐

d. Manuales ☐

e. Resúmenes ☐

f. Documentos personales ☐

g. Reportes ☐

h. Diagramas de datos ☐

i. Bases de datos ☐

j. .

Otro:.....

.....

3.11 Cuanto tiempo dispone para asistir al curso? (Marque con una X)

HORAS	
1H DIARIA	
1H A LA SEMANA	
2-3 H A LA SEMANA	

Cuando finalice este cuestionario, por favor entregarlo al instructor.

GRACIAS

CUESTIONARIO DE LA MATERIA COMPUTING

ESCUELA DE SISTEMAS-PUCESA

By Nadia Jaramillo © 2003

Este cuestionario ha sido elaborado para determinar su conocimiento acerca de la materia "Computing", su experiencia de trabajo con material técnico en inglés y su habilidad de lectura y comprensión de textos escritos relacionados con computación.

1. GENERAL

1.1 Cuál fue la idea que tuvo cuando escuchó acerca de la materia "Computing"?

1.2 Qué ha escuchado sobre la materia "Computing"?

1.3 Qué es Computing para usted?

1.4 Qué temas cree que se estudiarán en Computing?

1.5 Cuántas horas de Computing recibirá?

1.6 Cuál es su opinión de la relación Inglés-Infomática?

1.7 Cómo colaborará durante clases de Computing?

1.8 Qué es lo más difícil que ha encontrado cuando ha trabajado con material técnico en Inglés?

1.9 Cuál cree usted que es su destreza más desarrollada en el lenguaje Inglés?

1.10 Cuál es su experiencia de trabajo en el área de Sistemas?

1.11 Explique algún caso en particular que usted haya tenido que enfrentar con relación a Informática - Inglés

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2. LECTURA

2.1 Con qué frecuencia utiliza inglés en su carrera?

Frecuentemente ☐

A veces ☐

Pocas veces ☐

Nunca ☐

2.2 Qué tipo de textos en Inglés lee?

Mensajes electrónicos ☐
Información de internet ☐
Instrucciones ☐
Cartas ☐
Proformas ☐
Reportes ☐
Revistas técnicas ☐
Manuales ☐
Libros técnicos ☐
Documentos técnicos ☐

2.3 Necesita leer en inglés:

Frecuentemente ☐
A veces ☐
Pocas veces ☐
Nunca ☐

2.4 Cuando lee en inglés:

Entiende la idea general ☐
Entiende parte del texto ☐
Traduce el texto para entender ☐
No comprende en absoluto ☐
Otro:----------

2.5 Cuando lee en inglés encuentra difícil:

Entender nuevo vocabulario ☐
Entender vocabulario técnico ☐
Entender la idea del contenido ☐
Entender frases y expresiones ☐
Resumir el texto ☐
Otro: ----------

2.6 Cuando lee en inglés:

Trata de entender la idea general ☐
Traduce cada palabra del texto ☐
Utiliza un diccionario para el vocabulario nuevo ☐

Utiliza un traductor computarizado ☐

3. NECESIDADES

3.1 Necesita leer in inglés:

Frecuentemente ☐

A veces ☐

Pocas veces ☐

Nunca ☐

3.2 Necesita comprender en inglés:

La idea general ☐

Todo el texto ☐

Cada palabra nueva del texto ☐

3.3 Necesita leer en inglés para:

Mejorar sus estudios ☐

Mejorar su trabajo ☐

Comprender mejor la información ☐

Mejorar su habilidad de comprensión de lectura ☐

Mejorar su habilidad de comunicación ☐

Otro: ----------

DISCOVERING YOUR LEARNING STRENGTHS

A questionnaire on Learning Preferences

By Gabriel H. Díaz Maggioli © 1993

INSTRUCTIONS: Mark each of the following statements about you as a learner using the following scale:

5-Always true, 4-Generally true, 3-Sometimes true, 2-Seldom true, 1-Never true

1. I like to keep my study materials handy and in order	1	2	3	4	5
2. My friewnds say I am very talkative	1	2	3	4	5
3. I cannot understand complex graphs or diagrams easily	1	2	3	4	5
4. Many people think I am always nervous	1	2	3	4	5
5. I am good at working with my hands	1	2	3	4	5
6. I like sports	1	2	3	4	5
7. I move too much in class	1	2	3	4	5
8. I don't feel comfortable when I am too close to other people	1	2	3	4	5
9. I work quickly in class and finish early	1	2	3	4	5
10. I don't like to speak loud in class	1	2	3	4	5
11. I like to tell jokes and stories	1	2	3	4	5
12. I can memorize easily	1	2	3	4	5
13. When they ask me to remember something, I try to "see" the page where it was written	1	2	3	4	5
14. I like working in groups	1	2	3	4	5
15. I like working on my own	1	2	3	4	5
16. My teacher thinks I am disrespectful	1	2	3	4	5
17. My classmates think I am a good leader	1	2	3	4	5
18. I like the teacher to show me what I have to do	1	2	3	4	5
19. I like the teacher to show and tell me what I have to do	1	2	3	4	5
20. I find it hard to concentrate for a long period of time	1	2	3	4	5
21. I am good at physical activities	1	2	3	4	5
22. I need to write things down many times	1	2	3	4	5

SCORE:

VISUAL: 1 + 9 + 10 + 13 + 15 + 18

AUDITORY: 2 + 11 + 12 + 14 + 17 + 19

TACTILE: 3 + 5 + 7 + 16 + 20 + 21

KINAESTHETIC: 4 + 6 + 7 + 8 + 22 + 23

DISCOVERING YOUR INTELLIGENCE TYPE

A questionnaire on Multiple Intelligences

By Nadia Jaramillo © 2003

INSTRUCTIONS: Mark each of the following statements about you as a learner using the following scale:

5-Always true, 4-Generally true, 3-Sometimes true, 2-Seldom true, 1-Never true

1. I like to immitate other people's accents	1	2	3	4	5
2. I like working with numbers and formulas	1	2	3	4	5
3. I don't like sitting all the time	1	2	3	4	5
4. I like to draw	1	2	3	4	5
5. I enjoy listening to music	1	2	3	4	5
6. I like to work in groups	1	2	3	4	5
7. I am very emotional	1	2	3	4	5
8. I easily remeber what my teacher said	1	2	3	4	5
9. I like algebra	1	2	3	4	5
10. I enjoy games	1	2	3	4	5
11. I can easily remeber faces	1	2	3	4	5
12. I buy music a lot	1	2	3	4	5
13. I am concerned about my classmates' problems	1	2	3	4	5
14. I like to follow rules	1	2	3	4	5
15. I like to wotk by my own	1	2	3	4	5
16. I like to show my point of view	1	2	3	4	5
17. I like to hum	1	2	3	4	5
18. I can imagine pictures in my head	1	2	3	4	5
19. I like to construct things	1	2	3	4	5
20. I like to work with computers	1	2	3	4	5
21. I enjoy writing stories	1	2	3	4	5
22. I can remember what I have read	1	2	3	4	5
23. I use graphics to understand information	1	2	3	4	5
24. I am good at physical activities	1	2	3	4	5
25. I learn by using charts, graphs, maps	1	2	3	4	5
26. I listen to music when I study	1	2	3	4	5
27. I don't have problems when getting used to new environments	1	2	3	4	5
28. I never stop learning	1	2	3	4	5

SCORE:

VERBAL - LINGUISTIC:	1+ 8 + 21 + 22
LOGICAL - MATHEMATICAL:	2 + 9 + 20 + 23
KINAESTHETIC:	3 + 10 + 19 + 24
VISUAL - SPATIAL:	4 + 11 + 18 + 25
MUSICAL:	5 + 12 + 17 + 26
INTERPERSONAL:	6 + 13 + 16 + 27
INTRAPERSONAL:	7 + 14 + 15+ 28

STRATEGY INVENTORY FOR LANGUAGE LEARNING (SILL)
VERSION FOR SPEAKERS OF OTHER LANGUAGES LEARNING ENGLISH

Version 7.0 (ESL/EFL)
R. Oxford, 1989

INSTRUCTIONS
Please read each statement. On the worksheet write the response 1,2,3,4,5, that tells you HOW TRUE OF YOU THE STATEMENT IS.

1. never or almost true of me
2. usually not true of me
3. somewhat true of me
4. usually true of me
5. always or almost always true of me

PART A

6. I think of relationships between what I already know and new things I learn in English
7. I use new English words in a sentence so I can remember them
8. I connect the sound of a new English word and an image or picture of the words to help me remember the word
9. I remember a new English word by making a mental picture of a situation I which the word might be used
10. I use rhymes to remember new English words
11. I use flashcards to remember new English words
12. Y physically act out new English words
13. I review English lessons often
14. I remember new English words or phrases by remembering their location on the page, on the board, or on a street sign.

PART B

15. I say or write new English words several times
16. I try to talk like native English speakers
17. I practice the sounds of English
18. I use the English words I know in different ways
19. I start conversations in English
20. I watch English language TCV shows spoken in English or go to movies spoken in English
21. I read for pleasure in English
22. I write notes, messages, letters or reports in English.
23. I first skim an English passage (read over the passage quickly) then go back and read carefully.
24. I look for words in my own language that are similar to new words in English.
25. I try to find patterns in English.
26. I find the meaning of an English word by dividing it into parts that I understand.
27. I try not to translate word for word.
28. I make summaries of information that I hear or read in English.

PART C

29. To understand unfamiliar words, I make guesses.
30. When I can't think of a word during a conversation in English, I use gestures.
31. I make up new words if I do not know the right ones in English.
32. I read English without looking up every new word.
33. I try to guess what the other person will say next in English.
34. If I can't think of an English word, I use a word or phrase that means the same thing.

PART D

35. I try to find as many ways as I can to use my English
36. I notice my English mistakes and use that information to help me do better
37. I pay attention when someone is speaking in English
38. I try to find out how to be a better learner of English
39. I plan my schedule so I will have enough time to study English
40. I look for people I can talk to in English.
41. I look for opportunities to read as much as possible in English.
42. I have clear goals for improving my English skills
43. I think about my progress in learning English.

PART E

44. I try to relax whenever I feel afraid of using English.
45. I encourage myself to speak English even when I am afraid of making mistakes.
46. I give myself a reward or treat when I do well in English.
47. I notice if I am tense or nervous when I am studying or using English.
48. I write down my feelings in a language learning diary.
49. I talk to someone else about how I feel when I am learning English.

PART F

50. If I do not understand something in English, I ask the other person to slow down or say it again.
51. I ask English speakers to correct me when I talk.
52. I practice English with other students.
53. I ask for help from English speakers.
54. I ask questions in English
55. I try to learn about the culture of English speakers.

PART A	PART B	PART C	PART D	PART E	PART F
1.....	10.....	24.....	30.....	39.....	45.....
2.....	11.....	25.....	31.....	40.....	46.....
3.....	12.....	26.....	32.....	41.....	47.....
4.....	13.....	27.....	33.....	42.....	48.....
5.....	14.....	28.....	34.....	43.....	49.....
6.....	15.....	29.....	35.....	44.....	50.....
7.....	16.....		36.....		
8.....	17.....		37.....		
9.....	18.....		38.....		
	19.....				
	20.....				
	21.....				
	22..... ..				
	23.....				
TOT:	.....	.....	.....	.....	.....

SUM A / 9
SUM B / 14
SUM C / 6
SUM D / 9
SUM E / 6
SUM F / 6

SUMTOT / 50

A. REMEMBERING MORE EFFECTIVELY .....
B. USING ALL YOUR MENTAL PROCESSES .....
C. COMPENSATING FOR MISSING KNOWLEDGE .....
D. ORGANISING AND EVALUATING YOUR LEARNING .....
E. MANAGING YOUR EMOTIONS .....
F. LEARNMING WITH OTHERS .....

LEARNING STYLES

LINGUA FRANCA

LANGUAGE TRAINING PROGRAMS

INSTRUCTIONS

There are six sets of four words listed below. Working across the page, rank each word 1-4. The word ranked will be the one which best describes the way you learn. The word ranked 1 will least characterize it.

1.....involved	.....observes	.....logical	.....testing
2 .....enthusiastic	.....thoughtful	.....analytical	.....practical
3 .....intuitive	.....reflective	.....systematic	.....tries out
4 .....feelings	.....listening	.....clarity	.....new ideas
5 ....challenging	.....gathers data	.....explanation	.....takes risks

total A..... B..... C..... D.....

A. EXPERIENCE: this suggests involvement in the things going on around you and the enjoyment of experience. It indicates being concerned with the present, being open-minded and emotionally expressive. Learning by being part of what is happening.

B. REFLECTION: This implies thinking about your experience. Standing back, taking time out to reflect, and not rushing into conclusions. Ruminating. Learning by reflecting about what has happened.

C. CONCEPTS: This involves drawing conclusions from having reflected upon your experiences, it is the analysis of what has happened and gathering together of ideas, concepts, theories, frameworks or guidelines for action.

D. EXPERIMENTING: This means testing out the rules and principles in action. Seeing if they work. Looking for new ideas and solutions. Taking nothing for granted. Seeing what happens if you do it differently. Learning by trial and error.

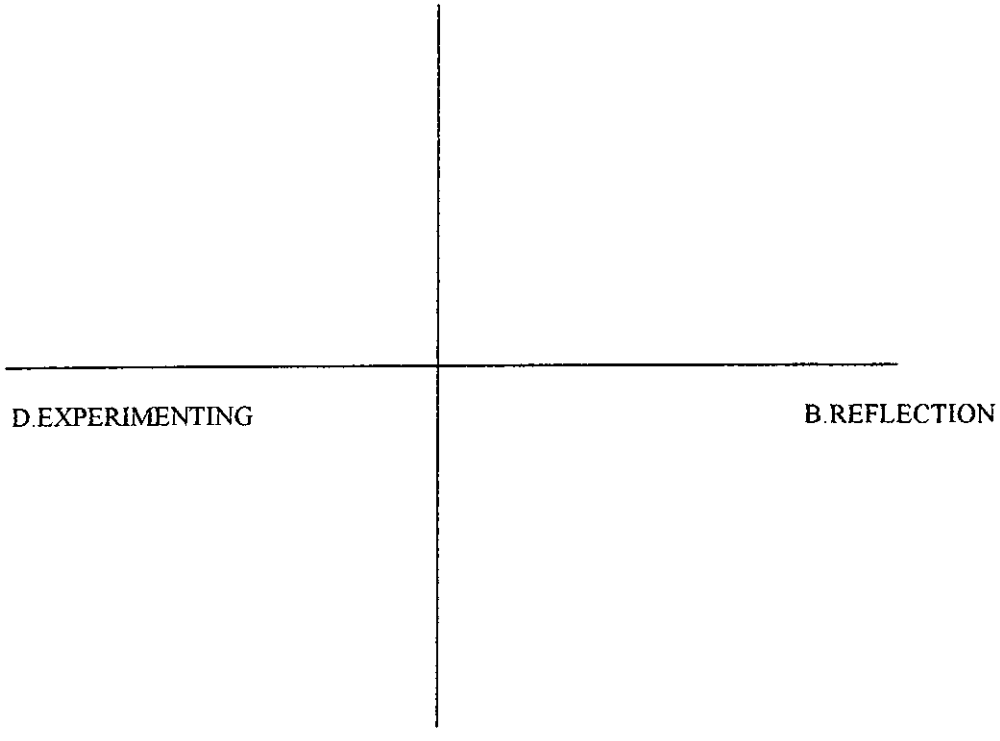
YOUR LEARNING STYLE PREFERENCE PROFILE

LINGUA FRANCA

LANGUAGE TRAINING PROGRAMS

The four lines below are marked A; B, C and D, and correspond to your questionnaires scores. By marking in your scores and connecting the points you will have a representation of your learning style preferences

A.EXPERIENCE



D.EXPERIMENTING

B.REFLECTION

C. CONCEPTS

ANECDOTAL RECORD

STUDENT:		
READING:		
TYPE:		
N.-	DESCRIPTION	STRATEGY
1	Reading comprehension	Understanding general ideas Understanding details Understanding words from content Relating information and graphs
2	Strategies	Add information Summarize Infer and predict Scanning and skimming Complete missing information based on a text Study skills Understanding meaning Providing opinions Brainstorming
3	Behaviour	Tiredness Boredness Quite atmosphere Laboratory work: more enthusiastic Some classes: more interested and relaxed

CHECKLIST

	Outstanding	Very Good	Good	Poor
READING COMPREHENSION				
Understanding of main ideas and details				
STRATEGIES				
Use of prior knowledge				
Skimming				
Scanning				
Summarising				
Self-correct words and phrases				
Rereads				
Makes predictions				
Forms opinions				
Paraphrases				
Adds ideas				
Read between lines				
Can locate words in texts				
Locates details				
Recognizes logical order				
Draws inferences				
Draws conclusions				
Predicts outcomes				
Other				
RESPOND TO READING				
Attitude				
Enjoyment				
Behaviour				
PERFORMANCE OBSERVED				
Identifies environment print				
Exhibits pretend reading				
Listen with interest to read-alouds				
Participates in discussions				
Reads from left to right				
Identifies letters and words				
Reads during free time				
Reads different topics				
Reads the assigned pages				

Uses higher level thinking skills				
Elicits responses from others				
Uses alternatives points of view				
Refers to text elements, plot, traits, effects, causes				
Brought materials and assignments				

CUESTIONARIO ANALISIS FINAL DE RESULTADOS DEL CURSO "COMPUTING"

Una vez que usted ha finalizado el curso de Computing, responda a las siguientes preguntas.

GENERAL

1. ¿Cómo se sintió durante el curso?

.....

2. ¿Considera suficiente el tiempo de clase asignado a la materia de Computing?

.....

3. ¿Cómo se siento ahora que ha finalizado el curso?

.....

4. ¿Qué considera haber aprendido en este curso?

.....

DE LOS TEMAS

1. ¿Qué tema le interesó más? Por qué?

.....

2. ¿Qué tema le ayuda más en su carrera?

.....

3. ¿Qué tema aprendió o reforzó su conocimiento?

.....

4. ¿¿Qué tema le hubiera gustado tratar durante el curso?

.....

DE LAS ACTIVIDADES

1. ¿Con qué actividad se sintió más a gusto? Por qué?

.....

2. ¿Cual actividad le permitió aprender más?

.....

3. ¿Cómo aplicó su conocimiento previo para la realización de las actividades?

.....

4. ¿Cuál es su mejor estrategia de aprendizaje ahora?

.....

DE LAS TÉCNICAS

1. ¿Qué técnica le pareció más interesante?
   a. Read for specific information ☐
   b. Read for general information ☐
   c. Main and supporting ideas ☐
   d. Reading speed ☐

e. Suggestions and predictions ☐

f. Guessing vocabulary from context ☐

g. Writing information based on pictures ☐

h. Matching titles and paragraphs ☐

i. Matching pictures and descriptions ☐

j. Summarising and reporting ☐

k. Completion items ☐

l. Matching vocabulary and definitions ☐

m. Finding words from descriptions ☐

n. Looking for references in texts ☐

o. Oral presentations ☐

p. Searching on Internet ☐

2. ¿Cuál de las técnicas anteriores aplicará en su vida profesional? Por qué?

.....

3. ¿ Cuál de las técnicas anteriores le pareció más difícil? Por qué?

.....

4. ¿ Cuál de las técnicas anteriores le pareció más fácil? Por qué?

.....

DE LOS TRABAJOS Y DEBERES

1. ¿Considera que los trabajos asignados fueron suficientes?

.....

2. ¿Cuál sería su sugerencia respecto a asignación de trabajos?

.....

3. ¿Qué tipo de trabajos sugeriría que se envíen?

.....

4. ¿Qué le parece el trabajo en grupos o parejas?

.....

DEL TRABAJO EN LABORATORIO

1. ¿Cómo se sintió al trabajar en el laboratorio?

.....

2. ¿Tuvo tiempo suficiente para realizar los trabajos?

.....

3. ¿Qué problemas se presentaron durante la realización de los trabajos?

.....

4. ¿Qué actividad le gustó más?

.....

SUGERENCIAS

Escriba sus sugerencias con respecto a los temas, metodología, deberes, trabajos en clase, materiales, horario, etc.

.....

.....

.....

.....

.....

.....

.....

Annex 3
(Exercises)

(taken from the books:

- Oxford for Computing
- Infortech: English for computers users
- Computer magazine, Issue february 2003
- MCSE, Training Kit)

TASK 1: READ THE PASSAGE AND MATCH THE UNKNOWN WORDS FROM THE TEXT WITH THE CORRESPONDING DEFINITIONS.

TECHNIQUE: Understanding of main ideas.

PART A: Discussion: In groups of three talk about computer applications and write down your ideas.

TIME: 15 mins.

PART B: Read the following paragraphs and write the main idea of each.

1 Computers can help students perform mathematical operations and solve difficult questions. They can be used to teach courses such as computer-aided design, language learning, programming, mathematics, etc.

PCs (personal computers) are also used for administrative purposes: for example, schools use databases and word processors to keep records of students, teachers and materials.

2 Race organizers and journalists rely on computers to provide them with the current positions of riders and teams in both the particular stages of the race and in the overall competition.

Workstations in the race buses provide the timing system and give up-to-the-minute timing information to TV stations. In the press room several PCs give real-time information on the state of the race. Computer databases are also used in the drug-detecting tests for competitors.

3 Computers store information about the amount of money held by each client and enable staff to access large databases and to carry out financial transactions at high speed. They also control the automatic cash dispensers which, by the use of a personal coded card, dispense money to clients.

4 Airline pilots use computers to help them control the plane. For example, monitors display data about fuel consumption and weather conditions.

In airport control towers, computers are used to manage radar systems and regulate air traffic.

On the ground, airlines are connected to travel agencies by computer. Travel agents use computers to find out about the availability of flights, prices, times, stopovers and many other details.

PART C: Find and match: find the following words in the text and match with meanings below.

1 workstation 2 data 3 perform 4 automatic 5 monitor
6 financial 7 store 8 connected 9 word processor 10 large

Now find these words in Texts 1–4, and match them with the meanings below:

a) information
b) execute (do)
c) connected with money
d) keep (save)
e) massive
f) linked
g) self-acting, mechanical
h) screen
i) powerful computer usually connected to a network
j) program used for text manipulation

TASK 2: READ THE PASSAGE AND COMPLETE THE SENTENCES IN ORDER TO DESCRIBE WHAT COMPUTERS CAN DO

TECHNIQUE: Understanding of main ideas and completion of sentences.

PART A: Read the text and write the main idea.

What can computers do?

Computers and microchips have become part of our everyday lives: we visit shops and offices which have been designed with the help of computers, we read magazines which have been produced on computer, we pay bills prepared by computers. Just picking up a telephone and dialling a number involves the use of a sophisticated computer system, as does making a flight reservation or bank transaction.

We encounter daily many computers that spring to life the instant they're switched on (e.g. calculators, the car's electronic ignition, the timer in the microwave, or the programmer inside the TV set), all of which use chip technology.

What makes your computer such a miraculous device? Each time you turn it on, it is a tabula rasa that, with appropriate hardware and software, is capable of doing anything you ask. It is a calculating machine that speeds up financial calculations. It is an electronic filing cabinet which manages large collections of data such as customers' lists, accounts, or inventories. It is a magical typewriter that allows you to type and print any kind of document – letters, memos or legal documents. It is a personal communicator that enables you to interact with other computers and with people around the world. If you like gadgets and electronic entertainment, you can even use your PC to relax with computer games.

PART B: Complete the following sentences.

Example: Houses (design) ..... with the help of computers.
Houses are designed with the help of computers.

1 Various terminals (connect) .....
to this workstation.

2 Microcomputers (know) ..... as
'PCs'.

3 Magazines (typeset) ..... by
computers.

4 When a particular program is run, the data (process)
..... by the computer very rapidly.

5 Hard disks (use) ..... for the
permanent storage of information.

6 The drug-detecting test in the Tour de France (support) .....
by computers.

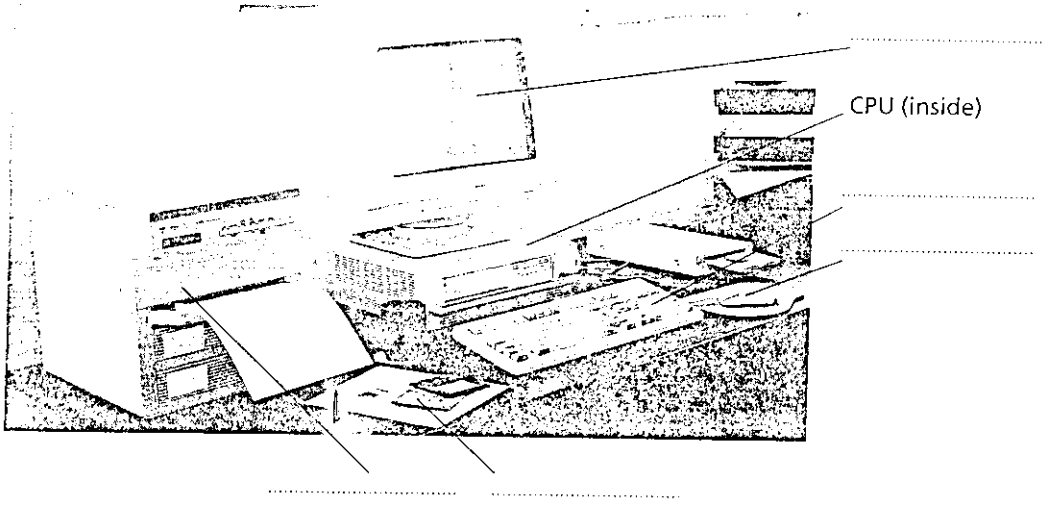
7 All the activities of the computer system (coordinate) ..... by
the Central Processing Unit.

8 In some modern systems information (hold) ..... in optical
disks.

TASK 3: READ THE PASSAGE, FILL THE DIAGRAM AND MATCH THE WORDS WITH THEIR DEFINITIONS

TECHNIQUE: Reading for specific information.

PART A: label the names of elements of this computer.



PART B: Read the text and fill in the boxes the name of the fundamental phases of the process of information.

What is a computer?

Computers are electronic machines which can accept data in a certain form, process the data and give the results of the processing in a specified format as information.

Three basic steps are involved in the process: *First*, data is fed into the computer's memory. *Then*, when the program is run, the computer performs a set of instructions and processes the data. *Finally*, we can see the results (the output) on the screen or in printed form (see Fig. 1 on p. 8).

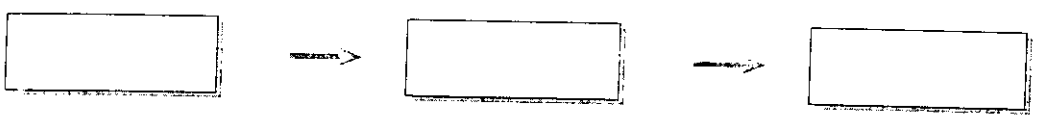
Information in the form of data and programs is known as **software**, and the electronic and mechanical parts that make up a computer system are called **hardware**. A standard computer system consists of three main sections: the Central Processing Unit (CPU), the main memory and the peripherals.

Perhaps the most influential component is the **Central Processing Unit.** Its function is to execute program instructions and coordinate the activities of all the other units. In a way, it is the 'brain' of the computer. The **main memory** holds the instructions and data which are currently being processed by the CPU. The **peripherals** are the physical units attached to the computer. They include storage devices and input/output devices.

Storage devices (floppy or hard disks) provide a permanent storage of both data and programs. **Disk drives** are used to handle one or more floppy disks. **Input devices** enable data to go into the computer's memory. The most common input devices are the **mouse** and the **keyboard**. **Output devices** enable us to extract the finished product from the system. For example, the computer shows the output on the **monitor** or prints the results onto paper by means of a **printer**.

On the rear panel of the computer there are several ports into which we can plug a wide range of peripherals - modems, fax machines, optical drives and scanners.

These are the main physical units of a computer system, generally known as the **configuration**.



PART C: Matching: Match the definitions with the correspondent words.

SOFTWARE

INPUT DEVICE

HARDWARE

CONFIGURATION

CPU

This allows computers to enter data

Programs that users use to work

Devices computers can accept

Computer's mechanical parts

Permits the execution of programs and instructions

TASK 4 A: READ THE PASSAGE, TIME YOUR READING AND WRITE DOWN UNFAMILIAR WORDS.

TECHNIQUE: Improving reading speed.

PART A: Read the following text, write the Starting and Finishing Time of the reading and write down unfamiliar words.

What's inside a microcomputer?

The nerve centre of a microcomputer is the Central Processing Unit, or CPU. This unit is built into a single microprocessor chip – an integrated circuit – which executes program instructions and supervises the computer's overall operation. The unit consists of three main parts:

i) the **Control Unit,** which examines the instructions in the user's program, interprets each instruction and causes the circuits and the rest of the components - disk drives, monitor, etc. – to be activated to execute the functions specified;

ii) the **Arithmetic Logic Unit** (ALU), which performs mathematical calculations (+, –, etc.) and logical operations (and, or, etc.);

iii) the **registers**, which are high-speed units of memory used to store and control information. One of these registers is the Program Counter (PC) which keeps track of the next instruction to be performed in the main memory. Another is the Instruction Register (IR) which holds the instruction that is currently being executed. (See Fig. 1.)

One area where microprocessors differ is in the amount of data – the number of bits – they can work with at a time. There are 8, 16, 32 and 64-bit processors. The computer's internal architecture is evolving so quickly that the new 64-bit processors are able to address 4 billion times more information than a 32-bit system. (See Fig. 2.)

The programs and data which pass through the central processor must be loaded into the **main memory** (also called the **internal memory**) in order to be processed. Thus, when the user runs an application, the microprocessor looks for it on secondary memory devices (disks) and transfers a copy of the application into the RAM area. RAM (Random Access Memory) is temporary, i.e. its information is lost when the computer is turned off. However, the ROM section (Read Only Memory) is permanent and contains instructions needed by the processor.

Most of today's computers have internal **expansion slots** that allow users to install acceleration cards or co-processors. As the word implies, an **acceleration card** is a board that increases the processor speed. A **co-processor** is a silicon chip that performs precise tasks and mathematical operations at a very high speed.

The power and performance of a computer is partly determined by the speed of its microprocessor. A **clock** provides pulses at fixed intervals to measure and synchronize circuits and units. The clock speed is measured in MHz (megahertz) and refers to the frequency at which pulses are emitted. For example, a CPU running at 50 MHz (50 million cycles per second) is likely to provide a very fast processing rate and will enable the computer to handle the most demanding applications.

STARTING TIME:

FINISHING TIME:

UNFAMILIAR WORDS

PART B: Read the following text, write the Starting and Finishing Time of the reading and write down unfamiliar words.

Units of memory

Bits – basic units of memory

Information is processed and stored in computers as electrical signals. A computer contains thousands of electronic circuits connected by switches that can only be in one of two possible states: ON (the current is flowing through the wire) or OFF (the current is not flowing through the wire). To represent these two conditions we use **binary notation** in which 1 means ON and 0 means OFF. This is the only way a computer can 'understand' anything. Everything about computers is based upon this binary process. Each 1 or 0 is called a **binary digit**, or **bit**.

Bytes and characters

1s and 0s are grouped into eight-digit codes that typically represent characters (letters, numbers and symbols). Eight bits together are called a **byte**. Thus, each character in a keyboard has its own arrangement of eight bits. For example, 01000001 for the letter A, 01000010 for B and 01000011 for C.

The ASCII code

The majority of computers use a standard system for the binary representation of characters. This is the American Standard Code for Information Interchange, known popularly as 'ASCII' (pronounced 'ask-key'). There are 256 different ways of combining 0 and 1 bits in a byte. So they can give us 256 different signals. However, the ASCII code only uses 128 bytes to represent characters. The rest of the bytes are used for other purposes.

The first 32 codes are reserved for characters such as the Return key, Tab, Escape, etc. Each letter of the alphabet, and many symbols (such as punctuation marks), as well as the ten numbers, have ASCII representations. What makes this system powerful is that these codes are standard.

Kilobytes, megabytes and gigabytes

In order to avoid astronomical figures and sums in the calculation of bytes we use units such as kilobytes, megabytes and gigabytes. One kilobyte is 1,024 bytes (2^{10}) and it is represented as KB, or more informally as K. One megabyte is equivalent to 1,024 kilobytes, and one gigabyte is 1,024 MB.

We use these units (KB, MB, GB) to describe the RAM memory, the storage capacity of disks and the size of any application or document. For instance, the text of this book contains roughly 1 MB of information.

STARTING TIME:

FINISHING TIME:

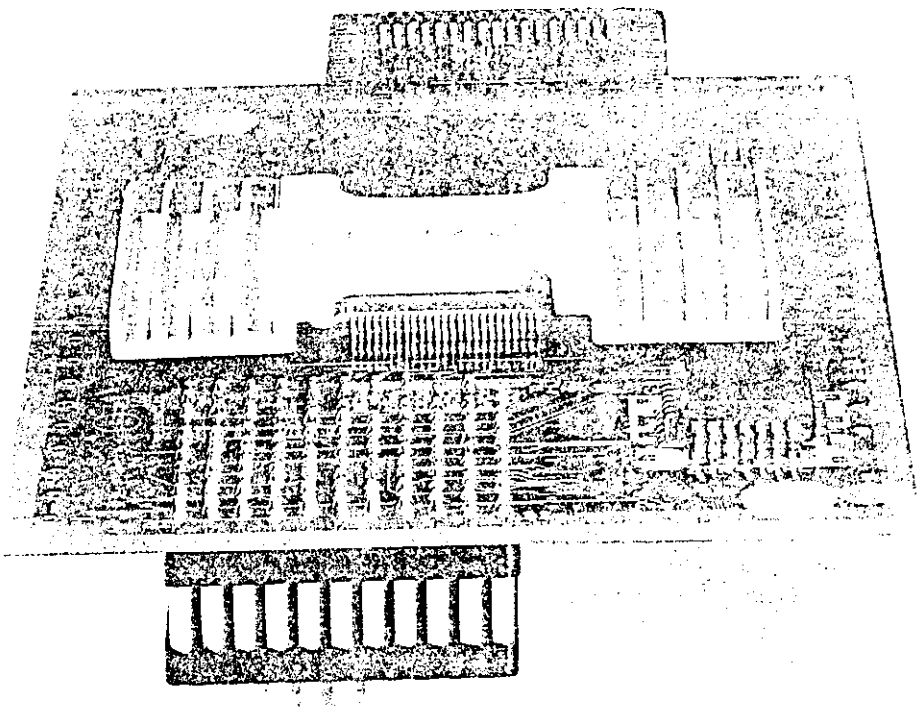
UNFAMILIAR WORDS

TASK 5: COMPLETION AND MATCHING

TECHNIQUE: Completion of sentences.

PART A: Look at the picture, read the paragraph and try to complete with it with the words below.

The processor



Reading

Read this passage about the structure of the processor and fill in the gaps using the words below.

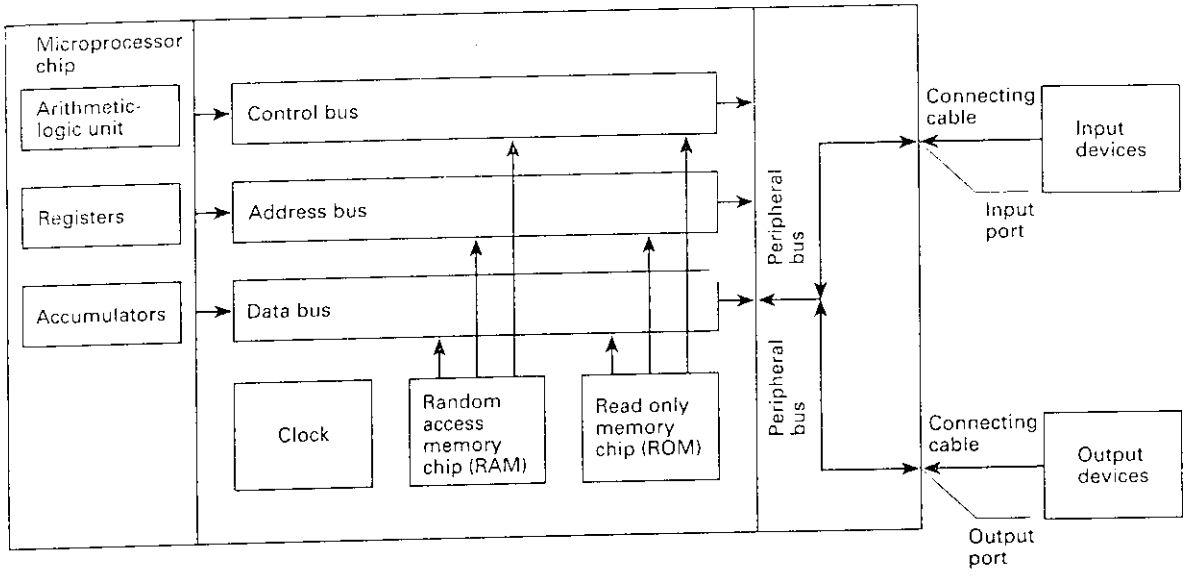
Structure of the processor

The processor consists of a [1]_____, which is a circuit board on which are mounted [2]_____ chips, memory chips, and other components linked together by [3]_____ lines or channels in the form of control, address, and data [4]_____. In addition, a processor has [5]_____, which are electronic circuits providing specialized functions such as graphics, or which connect a system board to [6]_____. The system board also consists of electronic devices, such as an electronic [7]_____ for controlling the speed of operation; [8]_____, which store numeric data during the course of processing; and various [9]_____, including sequence control register, address register, and function register.

adaptor boards	*registers*	*microprocessor*
clock	*conductive*	*buses*
system board	*accumulators*	*input or output devices*

TECHNIQUE: Matching vocabulary and definitions.

PART B: : Look at the diagram and match the words with the correct definitions.

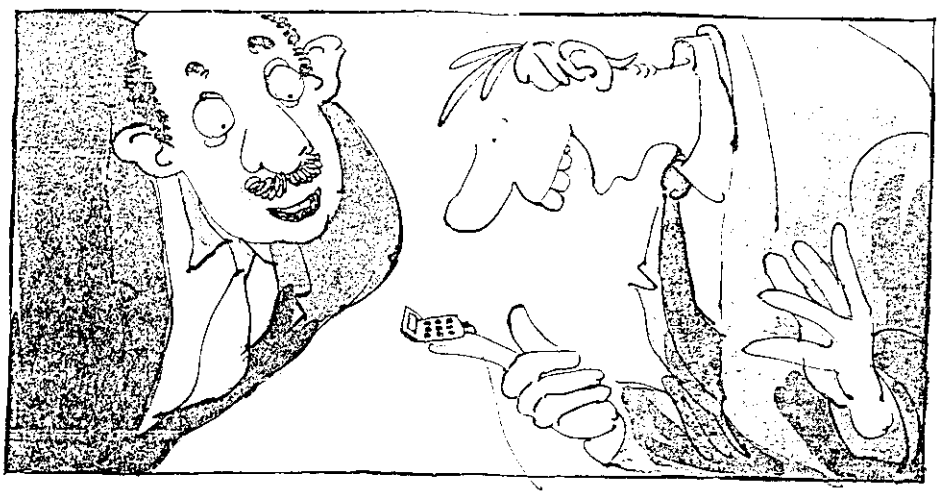


1	microprocessor chip	**a**	used to send address details between the memory and the address register
2	registers	**b**	consists of an arithmetic-logic unit, one or more working registers to store data being processed, and accumulators for storing the results of calculations
3	accumulators	**c**	a group of signal lines used to transmit data in parallel from one element of a computer to another
4	control bus	**d**	groups of bistable devices used to store information in a computer system for high-speed access
5	address bus	**e**	an electronic circuit, usually a quartz crystal, that generates electronic pulses at fixed time intervals to control the timing of all operations in the processor
6	data bus	**f**	used for storing part of the operating system and application software known as 'firmware'; can only be read; cannot be written to or altered in any way
7	clock	**g**	used to store numeric data during processing
8	RAM	**h**	a group of signal lines dedicated to the passing of control signals
9	ROM	**i**	used for the temporary storage of application programs and data; can be written to and read from

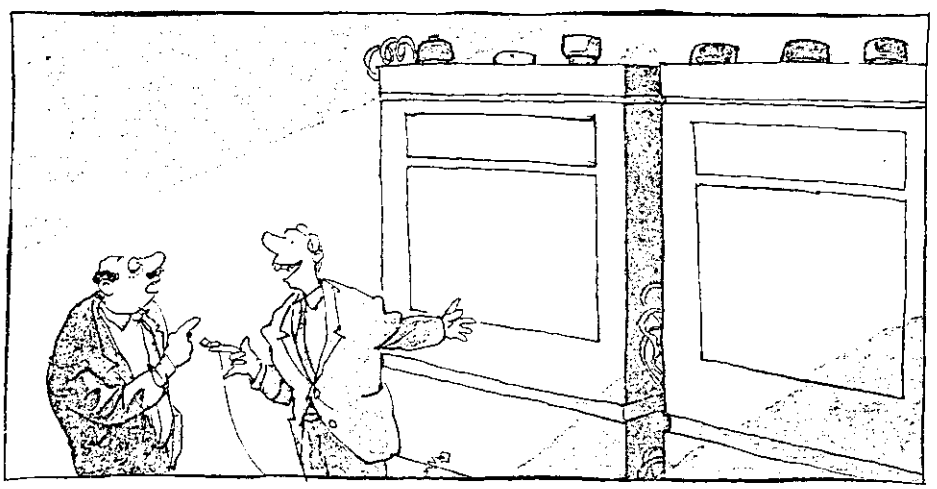
TASK 7: LOOK AT THE PICTURES AND WRITE WHAT YOU THINK THE SPEAKERS ARE TALKING ABOUT.

TECHNIQUE: Predicting.

PART A: Look at the picture and describe what is happening. What is the next topic?



'This is the smallest, most powerful computer in the world.'



1 How small do you think computers can usefully become?
2 To what extent does the size of a computer influence what it can be used for? Think of examples to illustrate your answer.

FOR THE LAST GENERATION, Silicon Valley and Tokyo have been working to design computers that are ever easier to use. There is one thing, however, that has prevented the machines from becoming their user-friendliest: you still have to input data with a keyboard, and that can require you to do a lot of typing and to memorize a lot of elaborate commands.

Enter the clipboard computer, a technology that has been in development for the last 20 years but took hold in the mass market only this year. Clipboard PCs – which, as their name suggests, are not much bigger than an actual clipboard – replace the keyboard with a liquid crystal display (LCD) screen and an electronic stylus. Users input data by printing individual letters directly on the screen.

There are two technologies at work in a clipboard PC: one allows raw data to get into the computer and the other allows the computer to figure out what that data means. The first technology relies principally on hardware and varies depending on the particular computer. In one system, marketed under the name GRIDPad, the computer's LCD screen is covered by a sheet of glass with a transparent conductive coating. Voltage is sent across the glass in horizontal and vertical lines forming a fine grid; at any point on the grid, the voltage is slightly different. When the stylus – which is essentially a voltmeter – touches the screen, it informs the computer of the voltage at that point. The computer uses this information to determine where the stylus is and causes a liquid crystal pixel to appear at those coordinates. The position of the stylus is monitored several hundred times a second, so as the stylus moves across the glass, whole strings of pixels are activated.

'What we do is sort of connect the dots,' says Jeff Hawkins, the creator of GRIDPad. 'Users can then write whatever they want on the screen with a kind of electronic ink.'

Making that writing comprehensible to the computer, however, requires the help of some powerful software. When the stylus is being used, the computer is programmed to look for moments when the tip does not touch the screen for a third of a second or more. Every time this happens – and it happens a lot when somebody is printing – the software assumes that one letter or number has been written. The pixel positions of this fresh character are then passed on to the computer's pattern recognition software, which instantly identifies the letter or number written.

The software does this by first cleaning up the character – smoothing out crooked lines and removing errant dots. The remaining lines and curves are then compared with a series of templates in the computer's memory that represent hundreds of thousands of different versions of every letter in the English alphabet and all ten numerals. When the computer finds the closest match, it encodes the character in memory and displays it on the screen as if it had been typed. The entire process takes just a fraction of a second. To delete a word, you simply draw a line through it. To move to the next page, you flick the stylus at the bottom of the screen as if you're flicking the page of a book.

There are a handful of clipboard computers now on the market, including GRIDPad, which is sold in the US; Penvision, manufactured by NCR and sold around the world; and Sony's Palmtop and Canon's A1 Note, both sold only in Japan. IBM and Apple are also pouring millions of dollars into the technology.

In addition to this hardware, a variety of software is also making its way to the market. Depending on the power of the computer and the sophistication of the software, clipboard systems can be programmed to understand the particular quirks of a particular user's printing; this is an especially useful feature in Japan, where elaborate kanji characters make up most of the written language. Improvements in software may soon allow machines sold in the US to understand not only printing but continuous script as well.

Given such flexibility, the designers of clipboard computers are predicting big things – and a big market – for their products. 'There's no doubt about it,' says an optimistic Hawkins. 'You're going to own one of these things in the not-too-distant future.' ☐

CLIPBOARD TECHNOLOGY

DELETE KEYS

POWERFUL PEN

AVOIDING KEYBOA

PC: NEW GENERATION

NEW WORDPROCESSING SYSTEMS

PART C: Answer questions about the text you read before.

TECHNIQUE: reading for specific information. Answering questions.

A How big is a clipboard PC?

B _____

A Does it have a keyboard?

B _____

A How does the stylus work?

B _____

A How does the computer know when one letter or number is complete?

B _____

A And how does the computer recognize different letters?

B _____

A Can you delete a word after you have written it?

B Yes. _____

A Are these systems capable of recognizing joined writing?

B _____

TECHNIQUE: Identifying relations in the text, scanning.

PART D: Find what the words in italics refer to in the text by using the given references

1 from becoming ***their*** user-friendliest (line 7)

2 ***one*** allows raw data to get (line 27)

3 ***it*** informs the computer (line 45)

4 Every time ***this*** happens (line 72)

5 ***which*** instantly identifies (line 79)

6 ***it*** encodes the character in memory (line 93)

7 ***this*** is an especially (line 122)

8 for ***their*** products (line 134)

TECHNIQUE: Scanning.

PART E: Using the given references find the words and phrases with similar meaning to:

1 Understand (lines 25-30)

2 sold (lines 30-35)

3 covering (lines 35-40)

4 points (lines 50-55)

5 join (lines 55-60)

6 making even (lines 80-85)

7 not straight (lines 80-85)

8 made by mistake (lines 85-90)

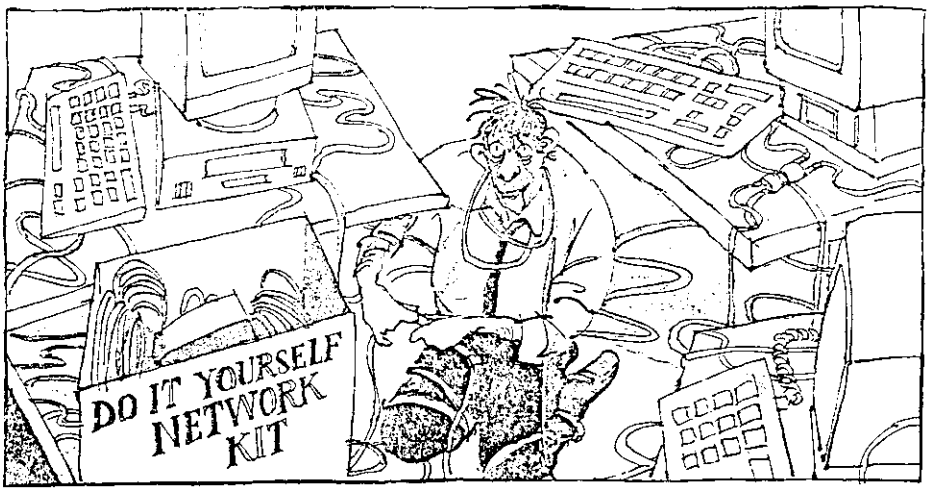
9 move quickly and sharply (lines 95-100)

10 unique features (lines 115-120)

TASK 8: LOOK AT THE PICTURES AND BRIEFLY DESCRIBE WHAT HAPPENS

TECHNIQUE: Prediction.

PART A: Look at the picture and describe what is happening. What is the next topic?



TECHNIQUE: General ideas, Inferring meaning of unfamiliar words.

PART B: Answer the following questions and match words and phrases with their definitions

Try to answer these questions.

1 What is a LAN?
2 What is a WAN?
3 What is a distributed system?

Reading

Before reading the text opposite, match these words and phrases with their definitions.

1	protocol	**a**	analyse the syntax of a string of input symbols
2	bulletin board	**b**	a teleconferencing system allowing users to read messages left by other users
3	user interface	**c**	agreement governing the procedures used to exchange information between co-operating computers
4	make a query	**d**	means of communication between a human user and a computer system
5	parse	**e**	taking place at exactly the same time as something else
6	synchronous	**f**	request a search

Computer networks

Computer networks link computers by communication lines and software protocols, allowing data to be exchanged rapidly and reliably. Traditionally, networks have been split between wide area networks (WANs) and local area networks (LANs). A WAN is a network connected over long-distance telephone lines, and a LAN is a localized network usually in one building or a group of buildings close together. The distinction, however, is becoming blurred. It is now possible to connect up LANs remotely over telephone links so that they look as though they are a single LAN.

Originally, networks were used to provide terminal access to another computer and to transfer files between computers. Today, networks carry e-mail, provide access to public databases and bulletin boards, and are beginning to be used for distributed systems. Networks also allow users in one locality to share expensive resources, such as printers and disk-systems.

Distributed computer systems are built using networked computers that co-operate to perform tasks. In this environment each part of the networked system does what it is best at. The high-quality bit-mapped graphics screen of a personal computer or workstation provides a good user interface. The mainframe, on the other hand, can handle large numbers of queries and return the results to the users. In a distributed environment, a user might use his PC to make a query against a central database. The PC passes the query, written in a special language (e.g. Structured Query Language – SQL), to the mainframe, which then parses the query, returning to the user only the data requested. The user might then use his PC to draw graphs based on the data. By passing back to the user's PC only the specific information requested, network traffic is reduced. If the whole file were transmitted, the PC would then have to perform the query itself, reducing the efficiency of both network and PC.

In the 1980s, at least 100,000 LANs were set up in laboratories and offices around the world. During the early part of this decade, synchronous orbit satellites lowered the price of long-distance telephone calls, enabling computer data and television signals to be distributed more cheaply around the world. Since then, fibre-optic cable has been installed on a large scale, enabling vast amounts of data to be transmitted at a very high speed using light signals.

The impact of fibre optics will be considerably to reduce the price of network access. Global communication and computer networks will become more and more a part of professional and personal lives as the price of microcomputers and network access drops. At the same time, distributed computer networks should improve our work environments and technical abilities.

TECHNIQUE: Understanding of main ideas

PART D: Match each paragraph of the text with the appropriate title.

Read quickly through the text, then match each paragraph with the appropriate summary.

A ☐ Network uses, past and present

B ☐ How distributed systems work

C ☐ Networks and the future

D ☐ What networks are and how they operate

E ☐ The growth of networks, past and present

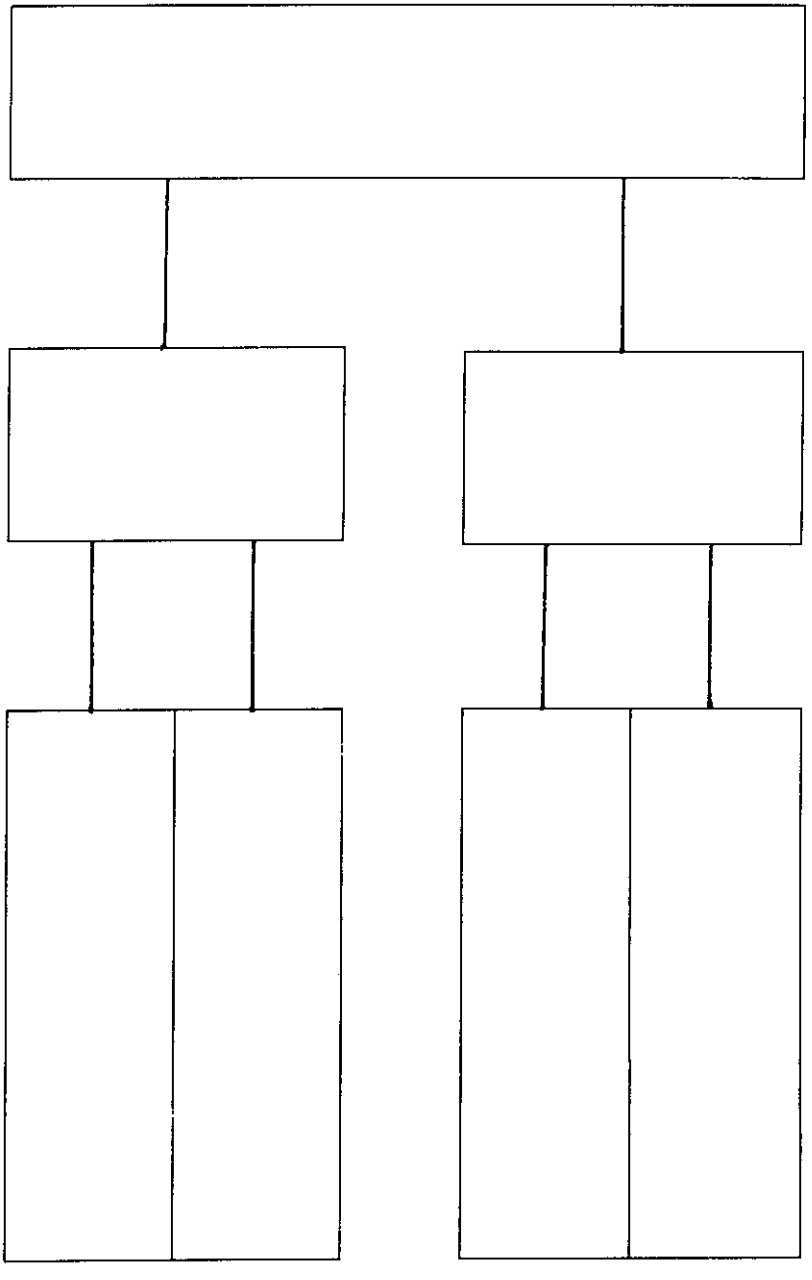
TECHNIQUE: Identifying main ideas, specific information

PART E Identify the main idea, major and minor details.

Main idea

Major details

Minor details



Read this summary of the text and fill in the gaps using the list of words below.

Computer networks link computers locally or by external communication lines and software [1]_____, allowing data to be exchanged rapidly and reliably. The [2]_____ between local area and wide area networks is, however, becoming unclear. Networks are being used to perform increasingly diverse tasks, such as carrying e-mail, providing access to public databases, and for [3]_____. Networks also allow users in one locality to share resources.

Distributed systems use networked computers. PCs or [4]_____ provide the user [5]_____. Mainframes process [6]_____ and return the results to the users. A user at his PC might make a query against a central database. The PC passes the query, written in a special language, to the mainframe, which then [7]_____ the query, returning to the user only the data requested. This allows both the network and the individual PC to operate efficiently.

In the 1980s, at least 100,000 [8]_____ were set up world-wide. As [9]_____ orbit satellites have lowered the price of long-distance telephone calls, data can be transmitted more cheaply. In addition, [10]_____ cable has been installed on a large scale, enabling vast amounts of data to be transmitted at a very high speed using light signals. This will considerably reduce the price of network access, making global networks more and more a part of our professional and personal lives. Networks should also improve our work [11]_____ and technical abilities.

distinction	*fibre-optic*	*protocols*	*synchronous*
distributed systems	*LANs*	*queries*	*workstations*
environments	*parses*	*screen handling*	

TASK 9: WORDPUZZLE: FIND HIDDEN WORDS IN THE SQUARE

TECHNIQUE: Inferring

PART A: Complete this word puzzle and find the word hidden in the square

Find the hidden words in this square. Some appear vertically, some horizontally, and some diagonally. They may be upside-down or back to front. Use the clues below to help you. The number of letters in each word and the first letter of the word appear in brackets after the clue. The first one has been done for you.

C	T	A	A	R	I	T	P	L	R
L	P	N	T	P	I	D	A	E	E
I	U	E	A	E	E	B	L	X	T
P	R	T	D	L	A	F	M	I	E
B	R	E	E	S	N	O	T	P	M
O	E	T	G	R	I	D	O	T	P
A	E	C	V	K	L	M	P	Y	L
R	N	D	S	T	Y	L	U	S	A
D	E	L	V	E	I	Y	S	T	T
T	P	U	R	R	E	T	N	I	E

Find words which mean:

1 a computer that is small enough to hold in the hand. (7, P)
2 an electronic pen. (6, S)
3 to erase or omit. (6, D)
4 one type of portable computer which operates with an electronic pen. (9, C)
5 the information that the computer processes. (4, D)
6 a network of lines crossing at right angles. (4, G)
7 a signal to a processor to suspend temporarily the current sequence of instructions. (9, I)
8 a pattern used as a guide for creating letters or characters. (8, T)
9 an individual dot on a computer screen. (5, P)

TASK 10: CHOOSE THE CORRECT WORDS TO COMPLETE THE SENTENCES.

TECHNIQUE: Completion of words categories.

PART A: Choose the correct words to complete the sentences. If you need, you can change some of them

1 *electron, electronic, electronics, electronically*

a An _____ pen is one example of an input device.

b A computer solves problems _____ .

c Many _____ students go on to work as engineers.

2 *technology, technological, technologically, technologist*

a The computer is the greatest _____ invention of the twentieth century.

b There are two _____ involved in a clipboard PC.

c Today's computers are _____ far superior to those used a few years ago.

3 *identify, identifying, identifiable, identity*

a The clipboard's pattern recognition software immediately _____ the letters and numbers written by the stylus.

b Most computer companies will not allow people without an _____ card to enter their premises.

c A password is a mechanism for _____ the computer-user and allowing access.

4 *compute, computing, computation, computerize, computerization*

a The _____ of the manufacturing division will be expensive in the short term, but cost-effective in the long term.

b We should be able to _____ our profit for next year fairly accurately with the new program.

c I could tell from all the _____ on the board that a maths lesson was in progress.

TECHNIQUE: Guessing the vocabulary formation

PART B: Vocabulary : fill the blanks with the correct prefix from the following list.

Fill in the gaps with the correct prefix from the following list.

auto	de	dec	inter
maxi	mega	micro	mini
mono	multi	semi	sub

1 Most people prefer a colour screen to a _____chrome screen.

2 _____script is a character or symbol written below and to the right of a number or letter, often used in science.

3 A _____byte equals approximately one million bytes.

4 Once you finish your program, you will have to test it and _____bug it to remove all the mistakes.

5 The introduction of _____conductor technology revolutionized the computer industry.

6 If a computer system has two or more central processors which are under common control, it is called a _____processor system.

7 The ___ _imal system is a number system with a base of 10.

8 When the user and the computer are in active communication on a graphics system, we refer to this as _____active graphics.

TASK 11: READ THE PARAGRAPH AND RECOGNISE THE MAIN IDEA IN EACH OF THEM.

TECHNIQUE: Understanding of main ideas

PART A: Read the following texts and write down the general idea of each of them.

Nvidia Extends Cg Programming Environment

Cg Compiler 1.0 is a collection of software modules for generating real-time shaders from Nvidia's high-level shading language syntax. The Cg Compiler generates code for both DirectX and OpenGL platforms.

The Cg language, a C-like high-level graphics programming language, is a companion to Nvidia's recently announced GeForce FX family of graphics processors. These products help 3D content developers render cinematic-caliber, real-time worlds and characters. Nvidia has published the Cg language specification so that other vendors can implement products based on it. The company made the Cg Compiler technology open source under a free, nonrestrictive license.

The Cg language specification is compatible with Microsoft's High Level Shading Language. The Cg shaders follow the standard set by Microsoft's latest D3DX Effects format and are also fully compatible with Microsoft's HLSL.

The Nvidia Cg Compiler and other elements of the Cg programming environment, including the open source code, are available for free at http://developer.nvidia.com.

Perforce Software Enhances SCM System

Perforce 2002.2, the latest version of the software configuration management system from Perforce Software, includes a new proxy (P4P) for remote server access and upgrades to the system server (P4D). P4D is a stand-alone, connection-based program at the core of the SCM system. It manages access to a central file repository, or "depot," on the server machine. Users access the P4D through client programs, invoked locally on workstations located anywhere on a short- or long-haul network.

P4D consists of three main subcomponents: a request handler, a data manager, and a file librarian. The system request handler acts as an executive, sequencing actions to carry out client requests and managing communication with the client. The data manager implements database services optimized for multiuser operations. The librarian stores repository files on disks local to the server.

P4P caches file revisions sent from the central server and delivers subsequent requests for that same revision. This technique is designed to reduce network traffic across the WAN and also reduce CPU load on the central server. The software provides remote developers as well as the central manager with a real-time view of project changes across the entire team.

End-user licenses, including one year of support and maintenance, start at $750 per seat; www.perforce.com.

TASK 12: CHOOSE THE CORRECT WORD TO COMPLETE, CHANGING SOME OF THEM SLIGHTLY.

TECHNIQUE: Completion of items

PART A: Choose the correct words to complete the sentences. If you need, you can change some of them

1 *electron, electronic, electronics, electronically*

a An _____ pen is one example of an input device.

b A computer solves problems _____ .

c Many _____ students go on to work as engineers.

2 *technology, technological, technologically, technologist*

a The computer is the greatest _____ invention of the twentieth century.

b There are two _____ involved in a clipboard PC.

c Today's computers are _____ far superior to those used a few years ago.

3 *identify, identifying, identifiable, identity*

a The clipboard's pattern recognition software immediately _____ the letters and numbers written by the stylus.

b Most computer companies will not allow people without an _____ card to enter their premises.

c A password is a mechanism for _____ the computer-user and allowing access.

4 *compute, computing, computation, computerize, computerization*

a The _____ of the manufacturing division will be expensive in the short term, but cost-effective in the long term.

b We should be able to _____ our profit for next year fairly accurately with the new program.

c I could tell from all the _____ on the board that a maths lesson was in progress.

TASK 13: SEARCH FOR INFORMATION ABOUT WORKWROUPS AND DOMAINS IN WINDOWS 2000. WRITE A SUMMARY.

TECHNIQUE: Understanding of main ideas and supporting ideas

PART A One students is in charge of researching about Windows 2000 Workgroups and Domains in order to do a presentation. To help him, here you have some information about it and you are going to summarise, (write with your own words in Spanish), the main points and explain the examples concerning this topic. (Use the back of the sheet if necessary).

LESSON 3: WINDOWS 2000 WORKGROUPS AND DOMAINS

Windows 2000 supports secure network environments in which users are able to share common resources, regardless of network size. The two types of networks that Windows 2000 supports are workgroups and domains.

After this lesson, you will be able to

- Identify the key characteristics of workgroups and domains

Estimated lesson time: 10 minutes

Windows 2000 Workgroups

A Windows 2000 *workgroup* is a logical grouping of networked computers that share resources, such as files and printers. A workgroup is referred to as a *peer-to-peer network* because all computers in the workgroup can share resources as equals, or as peers, without a dedicated server. Each computer in the workgroup, running either Windows 2000 Professional or Windows 2000 Server, maintains a local security database, as shown in Figure 1.1. A *local security database* is a list of user accounts and resource security information for the computer the database is on. Therefore, the administration of user accounts and resource security in a workgroup is decentralized.

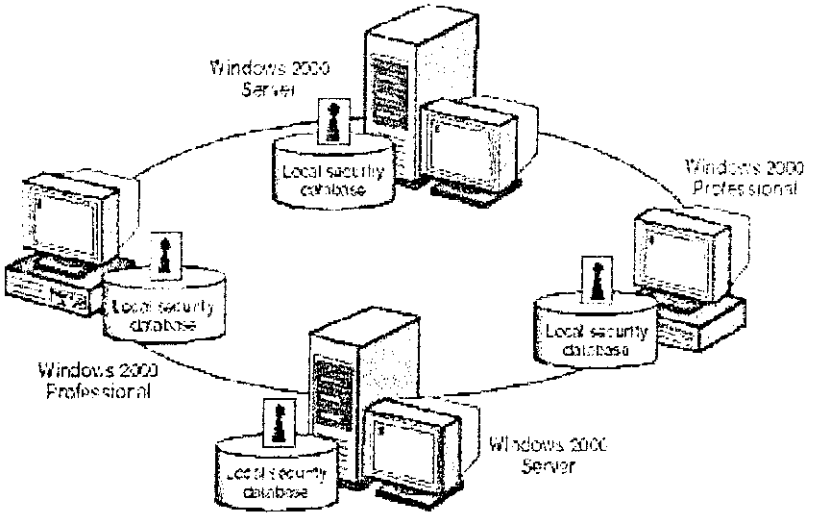


Figure 1.1 *An example of a Windows 2000 workgroup*

Because workgroups have decentralized administration and security:

- A user must have a user account on *each* computer to which he or she wants to gain access.
- You must make any changes to user accounts, such as changing a user's password or adding a new user account, on *each* computer in the workgroup. If you forget to add a new user account to one of the computers in your workgroup, the new user won't be able to log on to that computer and will be unable to access resources on it.

A Windows 2000 workgroup provides the following advantages:

- It doesn't require a computer running Windows 2000 Server to hold centralized security information.
- It's simple to design and implement. A workgroup doesn't require the extensive planning and administration that a domain requires.
- It's convenient for a limited number of computers in close proximity. A workgroup becomes impractical in environments with more than 10 computers.

NOTE

In a workgroup, a computer running Windows 2000 Server is called a *stand-alone server*.

Windows 2000 Domains

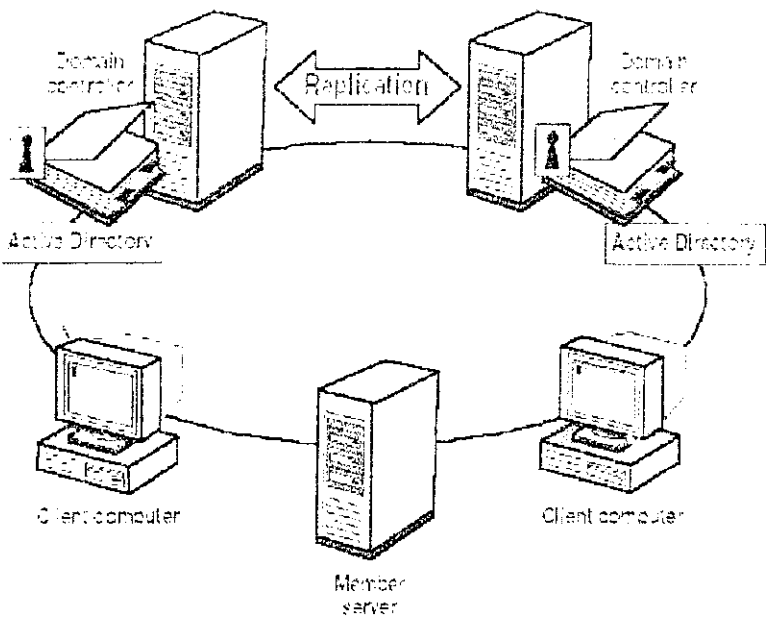
A Windows 2000 *domain* is a logical grouping of network computers that share a central directory database. (See Figure 1.2.) A *directory database* contains user accounts and security information for the domain. This directory database is known as the Directory and is the database portion of Active Directory directory services, which is the Windows 2000 directory service.

In a domain, the Directory resides on computers that are configured as domain controllers. A *domain controller* is a server that manages all security-related aspects of user-domain interactions. Security and administration are centralized.

NOTE

You can designate only a computer running Windows 2000 Server, Windows 2000 Advanced Server, or Windows 2000 Datacenter as a domain controller. If all computers on the network are running Windows 2000 Professional, the only type of network available is a workgroup.

A domain doesn't refer to a single location or specific type of network configuration. The computers in a domain can share physical proximity on a small local area network (LAN) or can be located in different corners of the world, communicating over any number of physical connections, including dial-up lines, Integrated Services Digital Network (ISDN) lines, fiber lines, Ethernet lines, token ring connections, frame relay connections, satellite connections, and leased lines.



¡Error!Marcador no definido.Figure 1.2 *A Windows 2000 domain*

The benefits of a domain are as follows:

- Provides centralized administration because all user information is stored centrally.
- Provides a single logon process for users to gain access to network resources, such as file, print, and application resources for which they have permissions. In other words, a user can log on to one computer and use resources on another computer in the network as long as he or she has appropriate privileges to the resource.
- Provides scalability so that you can create large networks.

A typical Windows 2000 domain has the following types of computers:

- **Domain controllers running Windows 2000 Server.** Each domain controller stores and maintains a copy of the Directory. In a domain, you create a user account once, which Windows 2000 records in the Directory. When a user logs on to a computer in the domain, a domain controller checks the Directory for the user name, password, and logon restrictions to authenticate the user. When a domain has multiple domain controllers, they periodically replicate their Directory information.
- **Member servers running Windows 2000 Server.** A member server is a server that isn't configured as a domain controller. A member server doesn't store Directory information and can't authenticate users. Member servers provide shared resources such as shared folders or printers.
- **Client computers running Windows 2000 Professional.** Client computers run a user's desktop environment and allow the user to gain access to resources in the domain.

TASK 14: MATCH THE PICTURE TO THE CORRESPONDENT DESCRIPTION

TECHNIQUE: Matching paragraphs and pictures

PART A: Match the pictures with the correspondent descriptions.

1 **Star**
In the star configuration, the central computer performs all processing and control functions. All access devices are linked directly to the central computer. The star configuration has two major limitations. First of all, the remote devices are unable to communicate directly. Instead, they must communicate via the central computer only. Secondly, the star network is very susceptible to failure, either in the central computer or the transmission links.

2 **Switched**
The central switch, which could be a telephone exchange, is used to connect different devices on the network directly. Once the link is established, the two devices communicate as though they were directly linked without interference from any other device. At the end of the session, the connection is closed, freeing capacity for other users and allowing access to other devices. Multiple switches can be used to create alternative transmission routes.

3 **Ring**
Each device is attached to a network shaped as a continuous loop. Data proceeds in only one direction and at a constant speed round the loop. Devices may send information only when they are in control of the 'token'. The token is a package of data which indicates which device has control. The receiving device picks up the token, then clears it for another's use once it has received the message. Only one device may send data at any given moment, and each device must be working for the network to function.

4 **Bus/Ethernet**
A bus network consists of one piece of cable terminated at each end to which all devices are connected. In a bus-based network, each device is able to broadcast a message when it has detected silence for a fixed period of time. All devices receive the broadcast and determine from the content of the message whether it was intended for them. The only problem occurs when two devices try to send at the same time. When a sending device detects another's transmission, it aborts its own.

a

b

c

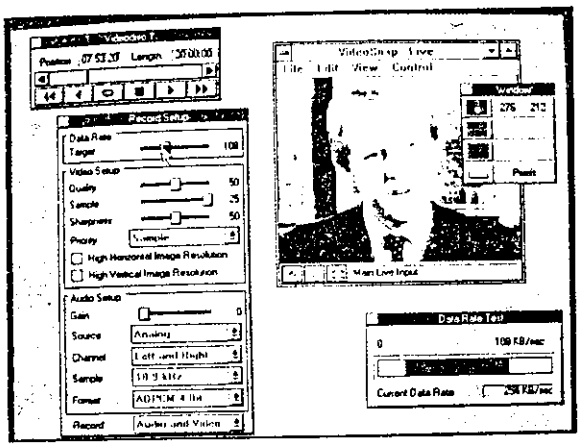
d

TASK 15 A: WRITE IDEAS ABOUT THE PICTURES. READING SPEED .

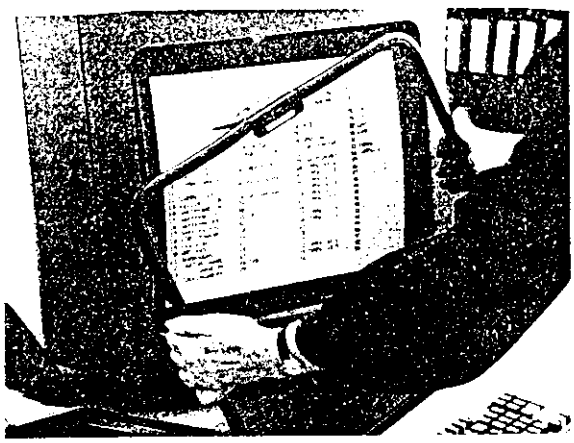
TECHNIQUE: Predicting

PART A Write under each picture how the computer is being used.

a



c



b

d

TECHNIQUE: Improving reading speed

PART B: Read the following text and write down the starting and finishing time of the rreading. Write down unfamiliar words too.

STARTING TIME: UNFAMILIAR WORDS

FINISHING TIME:

Visions of Tomorrow

First, safety. Radiation screens are available, and have been for some years. Most of them place an emissions barrier between you and the front of your display, while others encase the entire monitor, protecting you from side and rear emissions as well. Many offices already have these screens available for their workers.

The paperless office is still a dream, but the basic tools are in place. We receive mail in two basic forms: on paper in an envelope, or electronically on our computers. Most of us have access to e-mail in one form or another. That's half the battle won. The other half is a bit more difficult, but it can be, and is being, done. All mail can be opened in the mail room and scanned into the computer using optical character recognition (OCR). Then a document-image-processing program takes over and lets you accomplish electronically what you would normally do with paper. Various personal computer products are available for this purpose.

Pen-based computing is coming into its own. Pen-input capabilities are beginning to show up in hardware, applications, and operating systems. You can't take notes that will go directly into your computer, and the technology wouldn't know what to do with your doodles, but it would know that a doodle isn't a valid word. And that's a start – a good one.

Multimedia really needs no explanation. There are many packages that help you create multimedia presentations, and the tools to create customized multimedia training programs are also plentiful. CD-ROM disks, such as Ziff-Davis's Computer Select and Microsoft's Bookshelf, let you access mountains of information with ease.

Computers are already much smaller than they used to be, and you can't go to an industry show these days without finding some company promoting its 'small footprint'. When you start talking about laptops, notebooks, and palmtops, the question becomes, 'How small is too small?' FAX capabilities are already available on boards that you can plug into your computer. When you combine the technologies present in internal modems with voice recognition, the basics for having your computer replace your phone-voice line are in place.

Voice recognition is another technology that may appear limited in its present form, but it shows great promise for the future. Current voice-recognition systems can handle speaker-dependent continuous speech or speaker-independent discrete speech.

Speaking to your computer will be a major factor in the office of the future. In some locations, it is already a major factor in the office of today. Stock is traded in some brokerage houses by verbal command from the broker to the computer. So, you ask your computer a question, and it answers you – verbally. Depending on the rate of speech sampling used and the resolution the A/D converter used for each sample, we can already create a credible approximation of human speech with digitized sound.

Large display screens? You can get screens of up to 35 inches now, and between Barco and Mitsubishi competing for the honor of having the largest monitor, it's hard to predict just how big they will get in the future. As for color, some companies offer upwards of 16 million. Somewhere in that number must lie the perfect color for reducing eye-strain.

The real disaster that most of us still have to deal with is the traditional keyboard, which is the cause of much pain and suffering in the form of carpal tunnel syndrome and other repetitive-strain injuries. Wrist rests are available to alleviate the problem, and new designs for strange-looking keyboards, *Star Trek*-style, are moving from the drawing board to the factory.

Enterprise networks are proliferating almost as fast as LANs did just a year or two ago. Public data networks are ripe for the dialling up and signing on. And the Internet already exists, with several of the research and educational facilities on its membership rolls.

Worldwide connectivity is already available in the enterprise networks of some major corporations (e.g. DEC's DECnet and IBM's Systems Network Architecture). Admittedly, these are proprietary networks, but they are living proof that the concept can and does work.

TECHNIQUE: Understanding of main ideas and supporting ideas.

PART C: Write down a summary of the main points from the text.

Using the table below, make a summary of the main points of the article in note form.

Item	**Current/potential use**

TECHNIQUE: Scanning

PART D: Choose which sentence has the correct meaning similar to the original.

Each of the following sentences from the text is followed by two paraphrases. Decide which paraphrase (a or b) is closer in meaning to the original comment.
Remember to look at the comments in their original context.

1. Pen-based computing is coming into its own (line 38)
    a. Pen-based computing is receiving the recognition it merits.
    b. Pen-based computing is good for tasks where a conventional pen would normally be used.

2. ...you can't go to an industry show these days without finding some company promoting its "small footprint". (line 67)
    a. At every exhibition these days, you will find at least one company advertising its own miniature computer.
    b. It is impossible to get invited to a computer show these days unless you have a contact in a company manufacturing miniature computers.

3. Current voice recognition systems can handle speaker-dependent continuous speech or speaker-independent discrete speech. (line 91)
    a. Some of today's voice-recognition systems are set up to recognize continuous speech from certain people, while others can recognize specific words from anyone.
    b. All of today's voice-recognition systems are set up to recognize either continuous speech from certain or specific words from anyone.

4. Public data networks are ripe for the dialing up and signing on. (line 147)
    a. There are public data networks waiting to be used
    b. Public data networks are now sufficiently developed to be used.

ORAL PRESENTATIONS

TASK 6: FREE ORAL PRESENTATION: SELECT A TOPIC AND PREPARE A PRESENTATION.
TECHNIQUE: Identifying specific information, Adding ideas, Using prior knowledge
CONTENT:
TIME:
MATERIALS:

TASK 22: Prepare a practise lesson where you show the class how to install and set up a piece of hardware. make one of the students do it.
TECHNIQUE: Identifying specific information, Adding ideas, Using prior knowledge
CONTENT:
TIME:
MATERIALS:

TASK 23: PREPARE A PRACTICE LESSON WHERE YOU SHOW THE CLASS HOW TO INSTALL A
TECHNIQUE: Identifying specific information, Adding ideas, Using prior knowledge
SOFTWARE PROGRAM AND HOW TO USE IT. MAKE ONE STUDENT DO IT.
CONTENT:
TIME:
MATERIALS:

TASK 24: PREPARE AN EXERCISE SIMILAR TO THE ONES WE HAVE DONE IN CLASS OF ONE OF YOUR OWN AND DEVELOP FOLLOW-UP EXERCISES.
TECHNIQUE: Identifying specific information, Adding ideas, Using prior knowledge
CONTENT:
TIME:
MATERIALS:
FOLLOW-UP EXERCISE:

TASK 25: LISTEN TO YOUR CLASSMATES PRESENTATIONS AND TAKE NOTES.
TECHNIQUE: Identifying specific information, Adding ideas, Note taking
CONTENT:
TIME:

TASK 16: SEARCH ON A MSDN LIBRARY ABOUT MICROSOFT SECURITY FRAMEWORK AND WRITE A SUMMARY IN ENGLISH.

TECHNIQUE: Scanning, summarizing.

CONTENT:

SUMMARY:

WWW:

TASK 17: SEARCH ON THE INTERNET ABOUT SECURITY, WALLET, CRIPTOGRAPHY, AUTHEMTIC CODE, SECURE PAYMENT. WRITE A SUMMARY IN ENGLISH FOR EACH TOPIC.

TECHNIQUE: Scanning, summarizing.

CONTENT:

SUMMARY:

WWW:

TASK 18: SEARCH ON THE INTERNET ABOUT ARTIFICIAL INTELLIGENCE, FIELDS OF APPLICATION, EXAMPLES. WRITE A SUMMARY IN ENGLISH.

TECHNIQUE: Scanning, summarizing.

CONTENT:

SUMMARY:

WWW:

TASK 19: SEARCH ON THE INTERNET ABOUT A TOPIC OF YOUR OWN INTEREST. NOT NECESSARILY ABOUT TECHNOLOGY. WRITE A SUMMARY AND PRESENT IT ORALLY.

TECHNIQUE: Scanning, summarizing.

CONTENT:

SUMMARY:

WWW:

TASK 20: SEARCH ON THE INTERNET ABOUT A TOPIC OF YOUR OWN INTEREST. IT COULD EITHER ABOUT TECHNOLOGY OR SCIENCE, AND PRESENT IT ORALLY.

TECHNIQUE: Scanning, summarizing.

CONTENT:

SUMMARY:

WWW:

TASK 21: SEARCH ON THE INTERNET ABOUT SOME INTERESTING JOKES, SAYINGS FUNNY GRAPHS RELATED TO COMPUTERS. MAKE UP YOUR OWN AND PRESENT.

TECHNIQUE: Scanning, summarizing.

CONTENT:

WWW:

Annex 4
(Examples)

CUESTIONARIO ANALISIS DE NECESIDADES PARA EL DISEÑO DEL CURSO DE "COMPUTING" ESCUELA DE SISTEMAS-PUCESA

Este cuestionario ha sido elaborado para sobre esta base diseñar un Curso de Inglés Específico en su rama profesional que mejor responda a sus necesidades.

1. GENERAL

1.1 Por cuánto tiempo ha estudiado inglés? Donde?

Periodo de Colegio y Universidad (Católica)

1.2 Qué es lo que más ha estudiado en Inglés:

a. Gramática ☒
b. Vocabulario ☐
c. Conversación ☐
d. Lecturas ☐
e. Comprensión auditiva ☐
f. Escritura ☐
g. Frases idiomáticas ☐
h. Otros: .....

1.3 Estudia inglés actualmente?

SI ☐ NO ☒

1.4 Le gusta el idioma inglés?

SI ☑ NO ☐

1.5 Si su respuesta es NO, porqué toma este curso?

---

2. CONOCIMIENTO DEL IDIOMA

2.1 Cuando escucha inglés

a. Entiende la idea general de lo que expresan ☑
b. Trata de entender cada palabra ☐
c. No comprende nada ☐
d. Otro: .....

2.2 Cuando habla en inglés

a. Puede mantener una conversación ☑
b. Puede decir frases sueltas ☐
c. Solo puede decir palabras ☐
d. No puede decir ni una palabra ☐

2.3 Cuando lee en inglés

a. Entiende la idea general o traduce el texto ☐
b. Entiende parte del texto ☑
c. No comprendo en absoluto ☐
d. Otro: .....

2.4 Cuando escribe en inglés

a. Escribe en español y luego traduce al inglés ☐
b. Escribe pocas frases ☑
c. Solo puede escribir palabras sueltas ☐
d. No puede escribir una sola palabra ☐

2.5 En su criterio que es lo que más sabe? Califique 1 lo menos, 4 lo más

DESTREZA	100%	80%	60%	50%	MENOS
Escuchar	50%			X	
Hablar	50%			X	
Lectura	50%			X	
Escritura	60%		X	X	

3. NECESIDADES

3.1 Necesita inglés

Mucho ☑
No mucho ☐
Poco ☐

3.2 Con qué frecuencia utiliza inglés?

Frecuentemente ☑
A veces ☐
Pocas veces ☐
Nunca ☐

3.3 Necesita escuchar en inglés:

Con frecuencia ☑
A veces ☐
Pocas veces ☐
Nunca ☐

3.4 Si necesita escuchar en inglés es para poder entender:

a. A sus colegas del trabajo ☐
b. A sus compañeros de estudio ☐
c. Conversaciones telefónicas ☐
d. Conferencias ☒

e. Programas interactivos en CDROM ☐
f. Reportajes ☒
g. Entrevistas ☐
h. Programas televisivos técnicos ☐
i. Otros:.....

3.5 Necesita comprender en inglés para participar en:

a. Conferencias ☑
b. Foros ☐
c. Presentaciones de programas ☐
d. Discusiones ☑
e. Entrevistas ☐
f. Foros técnicos ☐
g. Asistencia técnica ☐
h. Servicio al cliente ☐
i. Otros:.....

3.6 Necesita hablar en inglés:

Con frecuencia ☑
A veces ☐
Pocas veces ☐
Nunca ☐

3.7 Necesita leer en inglés:

Con frecuencia ☑
A veces ☐
Pocas veces ☐
Nunca ☐

3.8 Qué necesita leer en inglés

a. Mensajes electrónicos ☐
b. Instrucciones ☑
c. Cartas ☐
d. Proformas ☐
e. Revistas técnicas ☐
f. Manuales ☑
g. Libros técnicos ☐
h. Otros: .....

3.9 Con qué frecuencia necesita escribir en inglés?

Con frecuencia ☐
A veces ☑
Pocas veces ☐
Nunca ☐

3.10 Cuando escribe en Inglés, son

a. Cartas formales ☐
b. Proformas de servicios y productos ☐
c. Instrucciones ☑
d. Manuales ☐
e. Resúmenes ☐
f. Documentos personales ☑
g. Reportes ☐
h. Diagramas de datos ☐
i. Bases de datos ☐
j. Otros: .....

3.11 Cuánto tiempo dispone para asistir al curso? (Marque con una X)

HORAS	
1H DIARIA	
1H A LA SEMANA	
2-3 H A LA SEMANA	X

Cuando finalice este cuestionario, por favor entregarlo al instructor

GRACIAS

CUESTIONARIO DE LA MATERIA COMPUTING

ESCUELA DE SISTEMAS-PUCESA

Este cuestionario ha sido elaborado para determinar su conocimiento acerca de la materia "Computing", su experiencia de trabajo con material técnico en inglés y su habilidad de lectura y comprensión de textos escritos relacionados con computación.

1. GENERAL

1.1 Cuál fue la idea que tuvo cuando escuchó acerca de la materia "Computing"?
Que la materia estaba enfocada a la ciencia y sería en inglés

1.2 Qué ha escuchado sobre la materia "Computing"?
Que es fácil e interesante

1.3 Qué es Computing para usted?
Materia a través de la cual ampliaré los conocimientos de la carrera relacionada al inglés.

1.4 Qué temas cree que se estudiarán en Computing?
Temas q' se refieran a informática

1.5 Cuántas horas de Computing recibirá?
5 horas a la semana

1.6 Cuál es su opinión de la relación Inglés-Infomática?
Es buena, porque mucha información sobre Informática está en inglés, y ello ayuda aprender las dos materias al mismo tiempo

1.7 Cómo colaborará durante clases de Computing?
Siendo responsable y cumpliendo con todas mis obligaciones como estudiante.

1.8 Qué es lo más difícil que ha encontrado cuando ha trabajado con material técnico en Inglés?
Talvez q' el vocavulario es difícil para entender

1.9 Cuál cree usted que es su destreza más desarrollada en el lenguaje Inglés?
Lectura.

1.10 Cuál es su experiencia de trabajo en el área de Sistemas?
Pasantia en una empresa

1.11 Explique algún caso en particular que usted haya tenido que enfrentar con relación a Informática - Inglés
No

2. LECTURA

2.1 Con qué frecuencia utiliza inglés en su carrera?

Frecuentemente ☐

☐

A veces

Pocas veces [X]

Nunca [ ]

2.2 Qué tipo de textos en Inglés lee?

Mensajes electrónicos [ ]

Información de internet [X]

Instrucciones [X]

Cartas [ ]

Proformas [ ]

Reportes [ ]

Revistas técnicas [ ]

Manuales [X]

Libros técnicos [ ]

Documentos técnicos [X]

2.3 Necesita leer en inglés:

Frecuentemente [ ]

A veces [X]

Pocas veces [ ]

Nunca [ ]

2.4 Cuando lee en inglés:

Entiende la idea general [ ]

Entiende parte del texto [X]

Traduce el texto para entender [ ]

No comprende en absoluto [ ]

Otro:---------- ----------

2.5 Cuando lee en inglés encuentra difícil:

Entender nuevo vocabulario [ ]

Entender vocabulario técnico [X]

Entender la idea del contenido [X]

Entender frases y expresiones [ ]

Resumir el texto [ ]

Otro: ----------

2.6 Cuando lee en inglés:

Trata de entender la idea general [X]

Traduce cada palabra del texto [ ]

Utiliza un diccionario para el vocabulario nuevo [X]

Utiliza un traductor computarizado [ ]

3. NECESIDADES

3.1 Necesita leer in inglés:

Frecuentemente [ ]

A veces [X]

Pocas veces [ ]

Nunca [ ]

3.2 Necesita comprender en inglés:

La idea general [ ]

Todo el texto [X]

Cada palabra nueva del texto [ ]

3.3 Necesita leer en inglés para:

Mejorar sus estudios [X]

Mejorar su trabajo [ ]

Comprender mejor la información [X]

Mejorar su habilidad de comprensión de lectura [X]

Mejorar su habilidad de comunicación [ ]

Otro: ----------

d. Reading speed ☐

e. Suggestions and predictions ☐

f. Guessing vocabulary from context ☐

g. Writing information based on pictures ☐

h. Matching titles and paragraphs ☐

i. Matching pictures and descriptions ☐

j. Summarising and reporting ☐

k. Completion items ☑

l. Matching vocabulary and definitions ☐

m. Finding words from descriptions ☐

n. Looking for references in texts ☐

o. Oral presentations ☐

p. Searching on Internet ☑

2. ¿Cuál de las técnicas anteriores aplicará en su vida profesional? Por qué?

P. Es necesaria en toda carrera.

3. ¿ Cuál de las técnicas anteriores le pareció más difícil? Por qué?

O. Se me hace más difícil hablar

4. ¿ Cuál de las técnicas anteriores le pareció más fácil? Por qué?

L. Unes son líneas la palabra y su definición

DE LOS TRABAJOS Y DEBERES

1. ¿Considera que los trabajos asignados fueron suficientes?

Si

2. ¿Cuál sería su sugerencia respecto a asignación de trabajos?

3. ¿Qué tipo de trabajos sugeriría que se envíen?

4. ¿Qué le parece el trabajo en grupos o parejas?

DEL TRABAJO EN LABORATORIO

1. ¿Cómo se sintió al trabajar en el laboratorio?

Bien

2. ¿Tuvo tiempo suficiente para realizar los trabajos?

Si

3. ¿Qué problemas se presentaron durante la realización de los trabajos?

4. ¿Qué actividad le gustó más?

Internet

SUGERENCIAS

Escriba sus sugerencias con respecto a los temas, metodología, deberes, trabajos en clase, materiales, horario, etc.

En la vida practica lo que vamos a utilizar más es Internet, como todo viene en Ingles nesesitamos un listado de palabras tecnicas de computación

CHECKLIST

	Outstanding	Very Good	Good	Poor
READING COMPREHENSION				
Understanding of main ideas and details				
STRATEGIES				
Use of prior knowledge				
Skimming				
Scanning				
Summarising				
Self-correct words and phrases				
Rereads				
Makes predictions				
Forms opinions				
Paraphrases				
Adds ideas				
Read between lines				
Can locate words in texts				
Locates details				
Recognizes logical order				
Draws inferences				
Draws conclusions				
Predicts outcomes				
Other				
RESPOND TO READING				
Attitude				
Enjoyment				
Behaviour				
PERFORMANCE OBSERVED				
Identifies environment print				
Exhibits pretend reading				
Listen with interest to read-alouds				
Participates in discussions				
Reads from left to right				
Identifies letters and words				
Reads during free time				
Reads different				

topics				
Read the assigned pages				
Use higher level thinking skills				
Elicit responses from others				
Uses alternatives points of view				
Refers to text elements, plot, traits, effects, causes				
Brought materials and assignments				

CUESTIONARIO ANALISIS FINAL DE RESULTADOS DEL CURSO "COMPUTING"

Una vez que usted ha finalizado el curso de Computing, responda a las siguientes preguntas:

GENERAL

1. ¿Cómo se sintió durante el curso?

   Bien

2. ¿Considera suficiente el tiempo de clase asignado a la materia de Computing?

   Si

3. ¿Cómo se siento ahora que ha finalizado el curso?

   Muy Tranquila

4. ¿Qué considera haber aprendido en este curso?

   Aprender mas a utilizar Internet

DE LOS TEMAS

1. ¿Qué tema le interesó más? Por qué?

   Clases en el laboratorio porque más practica

2. ¿Qué tema le ayuda más en su carrera?

   El último del proyecto

3. ¿Qué tema aprendió o reforzó su conocimiento?

   Win 2000

4. ¿¿Qué tema le hubiera gustado tratar durante el curso?

   Las buenas tareas, todo bien

DE LAS ACTIVIDADES

1. ¿Con qué actividad se sintió más a gusto? Por qué?

   Producir, utilizar el Internet

2. ¿Cual actividad le permitió aprender más?

   Todas

3. ¿Cómo aplicó su conocimiento previo para la realización de las actividades?

4. ¿Cuál es su mejor estrategia de aprendizaje ahora?

   Leer, si una palabra no la sabe utilizar el diccionario

DE LAS TÉCNICAS

1. ¿Qué técnica le pareció más interesante?
   a. Read for specific information ☐
   b. Read for general information ☐
   c. Main and supporting ideas ☐

DISCOVERING YOUR INTELLIGENCE TYPE

A questionnaire on Multiple Intelligences

By Nadia Jaramillo © 2003

INSTRUCTIONS: Mark each of the following statements about you as a learner using the following scale: 5-Always true, 4-Generally true, 3-Sometimes true, 2-Seldom true, 1-Never true

1. I like to immitate other people's accents	(1)	2	3	4	5
2. I like working with numbers and formulas	1	2	3	(4)	5
3. I don't like sitting all the time	1	2	3	(4)	5
4. I like to draw	1	2	(3)	4	5
5. I enjoy listening to music	1	2	3	4	(5)
6. I like to work in groups	1	2	3	(4)	5
7. I am very emotional	1	2	3	(4)	5
8. I easily remeber what my teacher said	1	2	3	(4)	5
9. I like algebra	1	2	3	(4)	5
10. I enjoy games	1	2	3	4	(5)
11. I can easily remeber faces	(1)	2	3	4	5
12. I buy music a lot	1	2	3	(4)	5
13. I am concerned about my classmates' problems	1	2	3	(4)	5
14. I like to follow rules	1	2	(3)	4	5
15. I like to wotk by my own	1	2	3	4	(5)
16. I like to show my point of view	1	2	3	(4)	5
17. I like to hum	1	2	(3)	4	5
18. I can imagine pictures in my head	1	2	3	(4)	5
19. I like to construct things	1	2	3	4	(5)
20. I like to work with computers	1	2	3	4	(5)
21. I enjoy writing stories	1	2	(3)	4	5
22. I can remember what I have read	1	2	3	(4)	5
23. I use graphics to understand information	1	2	(3)	4	5
24. I am good at physical activities	1	2	3	4	5
25. I learn by using charts, graphs, maps	1	2	(3)	4	5
26. I listen to music when I study	1	2	3	4	(5)
27. I don't have problems when getting used to new environments	1	2	(3)	4	5
28. I never stop learning	1	2	3	(4)	5

VS = 11 Intra = 16

M = 17

Inter = 15

Robin Beltran

DISCOVERING YOUR INTELLIGENCE TYPE

A questionnaire on Multiple Intelligences

By Nadia Jaramillo © 2003

INSTRUCTIONS: Mark each of the following statements about you as a learner using the following scale:
5-Always true, 4-Generally true, 3-Sometimes true, 2-Seldom true, 1-Never true

1. I like to immitate other people's accents	1	2	3	4	X
2. I like working with numbers and formulas	1	2	3	X	5
3. I don't like sitting all the time	1	2	X	4	5
4. I like to draw	1	X	3	4	5
5. I enjoy listening to music	1	2	3	X	5
6. I like to work in groups	1	2	3	4	X
7. I am very emotional	1	2	X	4	5
8. I easily remeber what my teacher said	1	2	X	4	5
9. I like algebra	1	X	3	4	5
10. I enjoy games	1	2	X	4	5
11. I can easily remeber faces	1	2	X	4	5
12. I buy music a lot	1	X	3	4	5
13. I am concerned about my classmates' problems	1	2	X	4	5
14. I like to follow rules	1	2	X	4	5
15. I like to wotk by my own	1	2	X	4	5
16. I like to show my point of view	1	2	X	4	5
17. I like to hum	1	2	X	4	5
18. I can imagine pictures in my head	1	2	3	X	5
19. I like to construct things	1	2	X	4	5
20. I like to work with computers	1	2	3	X	5
21. I enjoy writing stories	1	2	3	X	5
22. I can remember what I have read	1	2	X	4	5
23 I use graphics to understand information	1	2	X	4	5
24. I am good at physical activities	1	2	3	4	X
25. I learn by using charts, graphs, maps	1	2	X	4	5
26. I listen to music when I study	1	2	X	4	5
27. I don't have problems when getting used to new environments	1	2	X	4	5
28. I never stop learning	1	2	3	X	5

= 15
= 13
= 14

VS = 12
M = 12
Inter = 14

Intra = 13

DISCOVERING YOUR LEARNING STRENGTHS

A questionnaire on Learning Preferences

By Gabriel H. Díaz Maggioli © 1993

INSTRUCTIONS: Mark each of the following statements about you as a learner using the following scale:

5-Always true, 4-Generally true, 3-Sometimes true, 2-Seldom true, 1-Never true

1. I like to keep my study materials handy and in order	1	2	~~3~~	4	5
2. My friewnds say I am very talkative	1	2	~~3~~	4	5
3. I cannot understand complex graphs or diagrams easily	1	~~2~~	3	4	5
4. Many people think I am always nervous	1	2	~~3~~	4	5
5. I am good at working with my hands	1	~~2~~	3	4	5
6. I like sports	1	2	3	4	~~5~~
7. I move too much in class	1	2	~~3~~	4	5
8. I don't feel comfortable when I am too close to other people	1	2	~~3~~	4	5
9. I work quickly in class and finish early	1	2	3	~~4~~	5
10. I don't like to speak loud in class	1	2	~~3~~	4	5
11. I like to tell jokes and stories	1	2	3	~~4~~	5
12. I can memorize easily	1	2	~~3~~	4	5
13. When they ask me to remember something, I try to "see" the page where it was written	1	2	3	~~4~~	5
14. I like working in groups	1	2	3	~~4~~	5
15. I like working on my own	1	2	~~3~~	4	5
16. My teacher thinks I am disrespectful	~~1~~	2	3	4	5
17. My classmates think I am a good leader	1	2	~~3~~	4	5
18. I like the teacher to show me what I have to do	1	2	~~3~~	4	5
19. I like the teacher to show and tell me what I have to do	1	2	~~3~~	4	5
20. I find it hard to concentrate for a long period of time	1	2	~~3~~	4	5
21. I am good at physical activities	1	2	3	~~4~~	5
22. I need to write things down many times	1	~~2~~	3	4	5

1) 20 Visual
2) 20 Auditory
3) 15 Tactile

LEARNING STYLES

INSTRUCTIONS

There are six sets of four words listed below. Working across the page rank each word 1-4. The word ranked 4 will be the one which best describes the way you learn. The word ranked 1 will least characterize it.

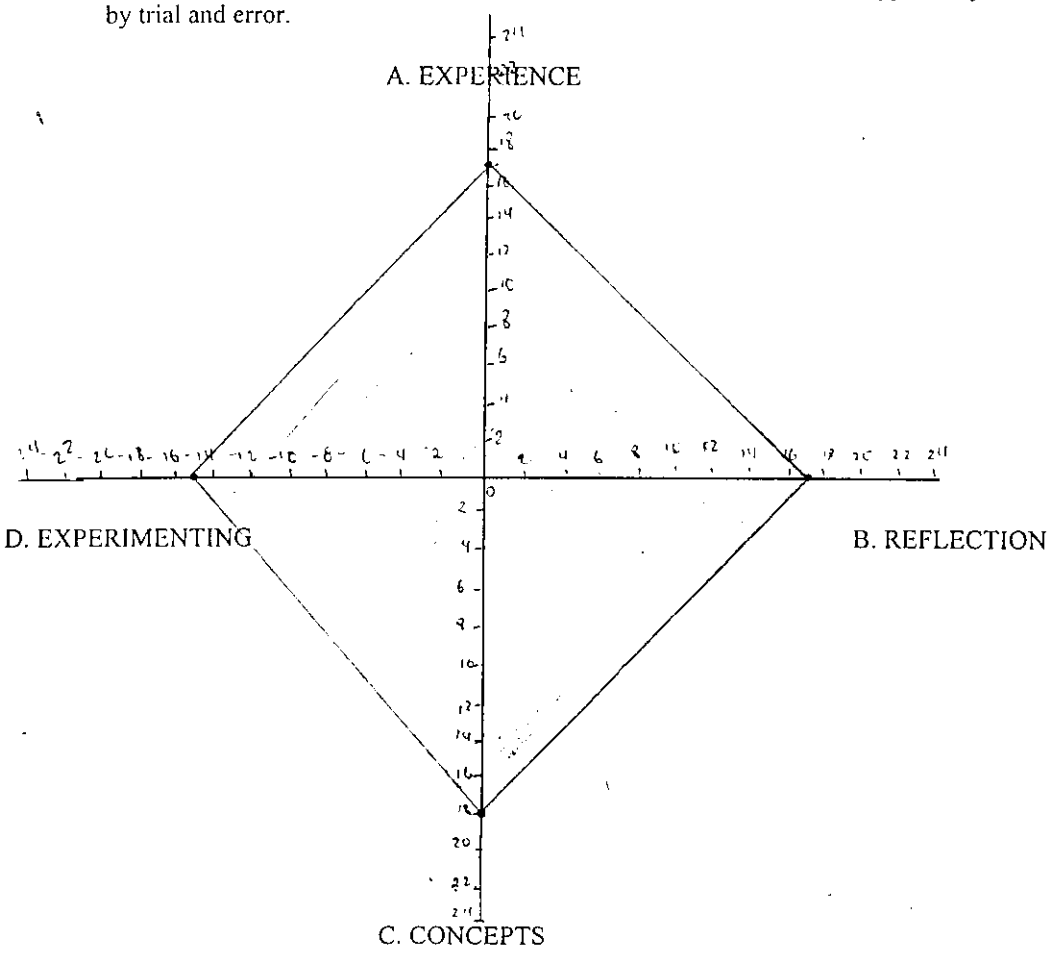
1. ---- involved	---- observes	---- logical	---- testing
2. ---- enthusiastic	---- thoughtful	---- analytical	---- practical
3. ---- intuitive	---- reflective	---- systematic	---- tries out
4. ---- feelings	---- listening	---- clarity	---- new ideas
5. ---- challenging	---- gathers data	---- explanation	---- takes risks
total A...17.....	B...17.....	C..16.....	D..15.....

A. EXPERINCE: This suggests involvement in the things going on around you and the enjoyment of experience. It indicates being concerned with the present., being open-minded and emotionally expressive. Learning by being part of what is happening

B. REFLECTION: This implies thinking about your experience. Standing back, taking time out to reflect, not rushing into conclusions. Ruminating. Learning by reflecting about what has happened

C. CONCEPTS: This involves drawing conclusions from having reflected upon your experiences, it is the analysis of what has happened and gathering together of ideas, concepts, theories, frameworks or guidelines for action.

D. EXPERIMENTING: This means testing out the rules and principles in action. Seeing if they work. Looking for new ideas and solutions. Taking nothing for granted. Seeing what happens if you do it differently. Learning by trial and error.



* Martes, 20 de mayo del 2003

7:00 PM

Ahora hiciera un diagrama de flujo, que a los tiempos no [illegible]
hace, antes eso era facilito, pero esta vez se me hizo difícil [illegible]
de práctica y no me acordaba muy bien, la solución ya [illegible]
el expresar el dibujo fue lo difícil

7:50 PM

La información no fue muy familiar para mí, porque todavía [illegible]
conozco muy bien Windows 2000, el texto se estaba un poco [illegible]
entender, los puntos que no entendía trataba de traducirlo para [illegible]
entender mejor, pero aún así, copiamos bastante del texto porque [illegible]
un poco difícil poner con nuestras palabras ciertas cosas que [illegible]
difíciles de poner, por suerte aprendí un poco más de lo que es Windo[illegible]

* Martes, 3 de junio del 2003

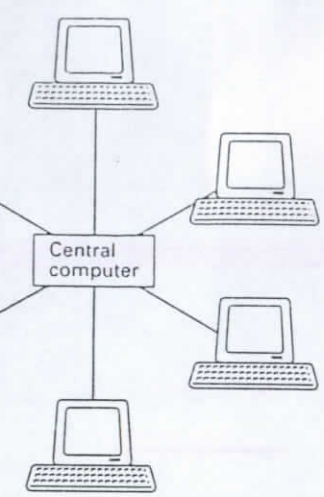
Estoy cansado, creo que con eso puedo resumir todo lo q[illegible]
he sentido ahora, también un poco de ira porque creo que todo
es un período de tiempo y ya me quiero ir, ya no a[illegible]

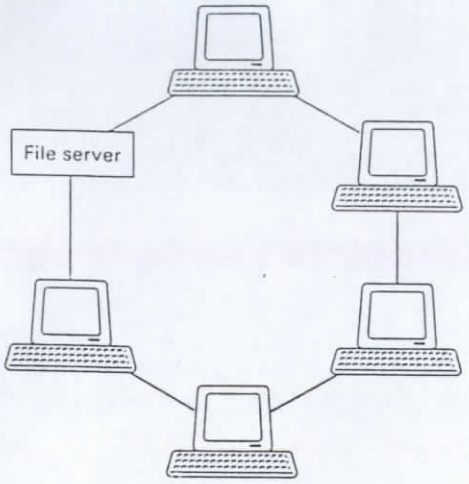
* Martes, 10 de junio del 2003

En general me siento bien cansado, lo de inteligencia [illegible]
si es chévere, pero la búsqueda estuvo medio difícil, [illegible]

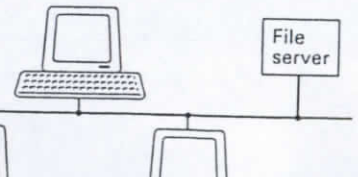
PICTURES AND THE DESCRIPTIONS

a Ring.

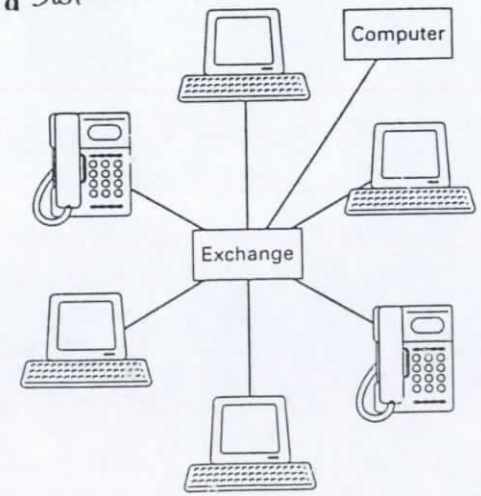




c Bus/Ethernet.



d Switched.



Star

In the star configuration, the central computer performs all processing ar control functions. All access devices are linked directly to the central computer. The star configuration has two major limitations. First of all, t remote devices are unable to communicate directly. Instead, they must communicate via the central computer only. Secondly, the star network i very susceptible to failure, either in the central computer or the transmiss links.

Bus/Ethernet

A bus network consists of one piece of cable terminated at each end to w all devices are connected. In a bus-based network, each device is able to broadcast a message when it has detected silence for a fixed period of tim devices receive the broadcast and determine from the content of the mess whether it was intended for them. The only problem occurs when two devices try to send at the same time. When a sending device detects anot transmission, it aborts its own.

Switched

The central switch, which could be a telephone exchange, is used to conn different devices on the network directly. Once the link is established, the t devices communicate as though they were directly linked without interference from any other device. At the end of the session, the connecti is closed, freeing capacity for other users and allowing access to other devi Multiple switches can be used to create alternative transmission routes.

Ring

Each device is attached to a network shaped as a continuous loop. Data proceeds in only one direction and at a constant speed round the loop. Devices may send information only when they are in control of the 'token' The token is a package of data which indicates which device has control. receiving device picks up the token, then clears it for another's use once it received the message. Only one device may send data at any given momen and each device must be working for the network to function.

182 - 206
x - 15

11,3
13,13

13,13

Exercise 12

bulary

Choose the correct word to complete each sentence. You may have to change some words slightly.

instruction, instruct, instructed, instructor

a Our maths instructor explained to us the principles of binary arithmetic.

b We were instructed to document our programs very carefully.

c Both instructions and data have to be changed to machine code before the computer can operate on them.

compilation, compiler, compile, compiled

a Our university computer does not have a PASCAL compiler.

b Usually, a programmer compile his program before he puts in the data.

c A source program cannot be directly processed by the computer until it has been compiled.

result, results, resulting

a The linkage editor links systems routines to the object module. The resulting program, referred to as the load module, is directly executable by the computer.

b The results of these mathematical operations were obtained from the university mainframe and not from my micro.

pecification, specify, specific, specified, specifically

Our company bought three packages with very specific applications: payroll, accounts receivable, and accounts payable.

An applications program is designed to do a specified type of work, such as calculating the stress factor of a roof.

Did the analyst give the new programmer the specification necessary to

Exercise 11

Nvidia Extends Cg Programming Environment

Cg Compiler 1.0 is a collection of software modules for generating real-time shaders from Nvidia's high-level shading language syntax. The Cg Compiler generates code for both DirectX and OpenGL platforms.

The Cg language, a C-like high-level graphics programming language, is a companion to Nvidia's recently announced GeForce FX family of graphics processors. These products help 3D content developers render cinematic-caliber, real-time worlds and characters. Nvidia has published the Cg language specification so that other vendors can implement products based on it. The company made the Cg Compiler technology open source under a free, nonrestrictive license.

The Cg language specification is compatible with Microsoft's High Level Shading Language. The Cg shaders follow the standard set by Microsoft's latest D3DX Effects format and are also fully compatible with Microsoft's HLSL.

The Nvidia Cg Compiler and other elements of the Cg programming environment, including the open source code, are available for free at http://developer.nvidia.com.

Idea: This software could be really useful for the people who works with grafics and virtual reality

Perforce Software Enhances SCM System

Perforce 2002.2, the latest version of the software configuration management system from Perforce Software, includes a new proxy (P4P) for remote server access and upgrades to the system server (P4D). P4D is a stand-alone, connection-based program at the core of the SCM system. It manages access to a central file repository, or "depot," on the server machine. Users access the P4D through client programs, invoked locally on workstations located anywhere on a short- or long-haul network.

P4D consists of three main subcomponents: a request handler, a data manager, and a file librarian. The system request handler acts as an executive, sequencing actions to carry out client requests and managing communication with the client. The data manager implements database services optimized for multiuser operations. The librarian stores repository files on disks local to the server.

P4P caches file revisions sent from the central server and delivers subsequent requests for that same revision. This technique is designed to reduce network traffic across the WAN and also reduce CPU load on the central server. The software provides remote developers as well as the central manager with a real-time view of project changes across the entire team.

End-user licenses, including one year of support and maintenance, start at $750 per seat; www.perforce.com.

Idea: ~~This~~ is very important for networks and to accelerate

EADING

each paragraph and write the Reading Initial Time and Finishing Reading Time

inside a microcomputer?

ve centre of a microcomputer is the Processing Unit, or CPU. This unit is a single microprocessor chip – an inte-cuit – which executes program instruc-d supervises the computer's overall . The unit consists of three main parts:

Control Unit, which examines the tions in the user's program, interprets nstruction and causes the circuits and the the components – disk drives, monitor, to be activated to execute the functions ed;

rithmetic Logic Unit (ALU), which ms mathematical calculations (+, -, etc.) gical operations (and, or, etc.);

egisters, which are high-speed units of ory used to store and control informa-One of these registers is the Program er (PC) which keeps track of the next tion to be performed in the main mem-nother is the Instruction Register (IR) holds the instruction that is currently executed. (See Fig. 1.)

where microprocessors differ is in the

ng time: 9:07 5 min
ing time: 9:12

ilar words: 10

amount of data – the number of bits – they can work with at a time. There are 8, 16, 32 and 64-bit processors. The computer's internal architecture is evolving so quickly that the new 64-bit processors are able to address + billion times more information than a 32-bit system. (See Fig. 2.)

The programs and data which pass through the central processor must be loaded into the **main memory** (also called the **internal memory**) in order to be processed. Thus, when the user runs an application, the microprocessor looks for it on secondary memory devices (disks) and transfers a copy of the application into the RAM area. RAM (Random Access Memory) is temporary, i.e. its information is lost when the computer is turned off. However, the ROM section (Read Only Memory) is permanent and contains instructions needed by the processor.

Most of today's computers have internal **expansion slots** that allow users to install acceleration cards or co-processors. As the word implies, an **acceleration card** is a board that increases the processor speed. A **co-processor** is a silicon chip that performs precise tasks and mathematical operations at a very high speed.

The power and performance of a computer is partly determined by the speed of its microprocessor. A **clock** provides pulses at fixed intervals to measure and synchronize circuits and units. The clock speed is measured in MHz (megahertz) and refers to the frequency at which pulses are emitted. For example, a CPU running at 50 MHz (50 million cycles per second) is likely to provide a very fast processing rate and will enable the computer to handle the most demanding applications.

DING

r as A.

nemory

ic units of memory

n is processed and stored in computers l signals. A computer contains thou-ectronic circuits connected by switches ly be in one of two possible states: ON t is flowing through the wire) or OFF t is not flowing through the wire). To hese two conditions we use **binary** in which 1 means ON and 0 means s the only way a computer can 'under-hing. Everything about computers is this binary process. Each 1 or 0 is **nary digit**, or **bit**.

characters

re grouped into eight-digit codes that present characters (letters, numbers ls). Eight bits together are called a , each character in a keyboard has its

The ASCII code

The majority of computers use a standard system for the binary representation of characters. This is the American Standard Code for Information Interchange, known popularly as 'ASCII' (pronounced 'ask-key'). There are 256 different ways of combining 0 and 1 bits in a byte. So they can give us 256 different signals. However, the ASCII code only uses 128 bytes to represent characters. The rest of the bytes are used for other purposes.

The first 32 codes are reserved for characters such as the Return key, Tab, Escape, etc. Each letter of the alphabet, and many symbols (such as punctuation marks), as well as the ten numbers, have ASCII representations. What makes this system powerful is that these codes are standard.

Starting time: 9:12 6 min
Finishing time: 9:16

Kilobytes, megabytes and gigabyt

In order to avoid astronomical figures an the calculation of bytes we use units suc bytes, megabytes and gigabytes. One k 1,024 bytes (2^{10}) and it is represented a more informally as K. One megabyte i lent to 1,024 kilobytes, and one gigabyt MB.

We use these units (KB, MB, GB) to des RAM memory, the storage capacity of the size of any application or docum instance, the text of this book contains 1 MB of information.

WITH CRITICAL UPDATES.

2. Read:

2.1 MAIN IDEA

CRITICAL UPDATES TO HELP PROTECT YOUR COMPOTER'S SECURITY

2.2 SECONDARY IDEAS

1.- THE AUTOMATIC UPDATES FEATURE WORKS IN THE BACK GROUND.

2.- TO CHECK FOR ~~AND~~ DOWNLOAD UPDATES.

3.- INSTALL

2.3 DETAILS FOR EACH SECONDARY IDEA

1.- THE AUTOMATIC UPDATES FEATURE, it doesn't INTERFERE WITH YOUR COMPOTING

2.- YOUR COMPOTER SIMPLY NEEDS TO BE TURNED ON AND CONNECTED TO THE INTERNET

3.- THE STEPS YOU TAKE TO AUTOMATICALLY INSTALL OR TO BE NOTFIED OF NEW UPDATES DEPEND ON WHICH WINDOWS OPERATING SYSTEM YOU ARE RUNNING.

2.4 UNFAMILIAR WORDS AND DEFINITIONS

- TOWARD.- DIRECTION
- FLAWS - DEFECT
- FEATURES.- CHARACTERISTIC OF SOFTWARE
- SMOOTHLY.- EASY
- TASKBAR.- BARRA DE TAREAS

- TCP has proved to be remarkably
- Use networks, protocols
- Improve the use of information, control error in the network
- Implementation in Linux O S
- TCP flow control algorithm use a windows

2 Wireless LAN 802.11 technology

- Is standar
- Designer, operative in different frecuency
- Is very important
- the antena signal could be detective by electronic system
- Access point also known as a base station
- Wireless sniffer this coptur the first part of the connection session

3 Samsung SGH-V200

- This is the first camera phone from samsung
- a telephone and a digital camera for sending images
- Allow you to create and send messages containing text, images
- With the digital camera incorporated in the cellular it is possible to verif the exact view on the display

4 PALMS

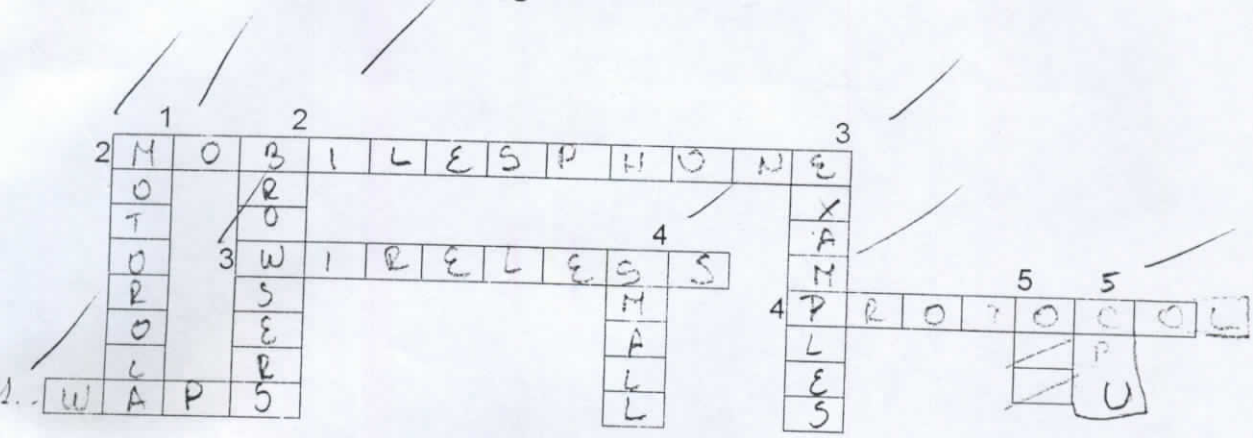
- Is similar a phone
- have e.mail, internet
- programs
- small size we can bring it in your pocket
- it have a dictionary and games.

5 PALMS COMPUTERS.

- it exists in the market, is more interests
- the applicator of voice is an option so that the user can catch ideas quickly
- control of the information
- its navigation of five routes
- the computer of hand Palm has the power to execute functions of multimedia and applications of software.

CROSSWORD

After reading, try to solve the following crossword:



VERTICAL

1. WAP founded in 1997
2. WAP is a protocol designed for micro
3. WAP use to Checking train table information, Checking weather conditions, Looking up stock values.
4. A Micro browser.
5. Use minimal demands of memory.

HORIZONTAL

1. I.N Wireless Application Protocol
2. The WAP protocol is the leading standard
3. Type Communications that use mobile phones
4. A Micro Browser is a piece of software