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LICENCIATURA EN IDIOMA INGLÉS



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UTILIZADAS EN EL LABORATORIO DE INGLÉS POR LOS
ESTUDIANTES DE LOS CURSOS DE INGLÉS III Y IV DE
INGENIERIA INDUSTRIAL EN LA UTEC.**

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INTRODUCTION

This document has been created with a specific purpose that is the elaboration of a suitable set of audiovisuals aids to be used in the English Laboratory Practices by the Industrial Engineering III and IV English students at the Universidad Tecnológica de El Salvador.

These aids are intended to fulfill the lack of appropriate audiovisual aids in the English laboratory practices of the III and IV English courses; the students' needs, and the UTEC'S projection into the school community.

This document consists of five different chapters which are described as follow: CHAPTER I, it is called "The Statement of the Problem", which gives a general overview of the problem, on how it is perceived by the researchers; which elements deal with it, which reasons are achieved and which is the range and its limitations.

CAPTER II presents "The Theoretical Framework" that contains a variety of bibliographical information about the research. That is, the English Language and its classification; different skills

developed in the in the teaching learning process; Audiovisual aids and the English Laboratory practices

CHAPTER III, “The Methodology” shows not only the objectives and type of the research but also the method, population and sample, techniques and instruments of the data gathering used in the development of the research.

CHAPTER IV “Analysis and Interpretation of Data” refers to the analysis of data gathered with the instruments created for the sample involved with this research. They are the students, teachers and the laboratory technician. These results are presented in charts and presented in graphics. Besides, it includes a comment about the results from the researchers’ point of view.

CHAPTER V is titled “Proposal “. It consists of a handbook containing six English laboratory practices for English III and six for English IV of the Industrial Engineering major of the UTEC. This handbook has a basis the students’ needs gathered from the answers of the questionnaire applied. It also consists of an elaboration of a set of audiovisual aids which will enrich the English handbook created to be used in the English laboratory practices.

After this chapter, there are some conclusions and recommendations in which the researchers expressed their final points of view about the whole document and also they suggested some hints that should be taken into account to improve in a way the different situations that they have mentioned.

The last part of this document is the appendix part in which the conceptual framework, the different instruments used in the data gathering and the courses programs are presented.

CHAPTER I

STATEMENT OF THE PROBLEM

1. Problematical Situation

Nowadays, the English language is not a luxury; it is a very important tool for educational, social, and commercial purposes to manage any kind of enterprise.

Around the world there are a lot of situations in which the English language is necessary for different reasons. English is important for people who are involved in business because these people need to establish a better communication among them. Besides, they need to be able to speak the English language, if they have an international business.

Also, it is very important in order to obtain better job opportunities because nowadays the English language is a requirement for all people who work in the different labor areas, and especially if these people are going to work with computers, tourist guide programs, international communication, teaching ESL, EFL, ESP, etc.

Currently, most of the students need to speak the English language, in this way they can face all the situations that society demands. Bilingual students have more opportunities related to the labor environment because they are more prepared academically. The researchers think that the English language is a universal language.

The bilingual students not only need to speak the English language but also need to write it and to understand it. They need to know the grammar structures and all the elements that are related to the English language.

Recently, technology has changed in our country. Consequently, these changes require that people face all the risks, challenges and situations in a successful way; also the Universidad Tecnológica is updated with these changes. Among the most important projects that UTEC has for the new millennium is the implementation of the new English courses for all the majors. These English courses would be implemented gradually in each major, which are divided in four levels. The first two levels will consist of Basic English which are common to all majors and the other two levels will consist of technical English or a specialized English according to the major.

Through this new project, Universidad Tecnológica confirms that it is one of the best universities that is preparing new professionals to deal with our country and to face the new challenges.

In addition, the Universidad Tecnológica, in order to offer a good education to its students, created in 1993 an English Laboratory not only for the English Language Department students but also for English students from other majors. It was created to reinforce the English classes and to fulfill the students' needs. It is located in the Francisco Morazán building, whose capacity is for 24 students and it is equipped with high technology equipment. By 1998, another English Laboratory was created in the Simon Bolivar building with all the necessary equipment covering all the students' majors that have English as a course.

The teaching learning process is a complex process that involves a lot of elements that lead to the acquisition of knowledge. The teacher and the student are two relevant and important elements in this process. Indeed, the success of acquiring a language is not due just to these elements. The objectives, techniques and methodology also help to achieve the purposes of this process.

Furthermore, it is necessary to mention that in the teaching learning process, there exists another important element: that is audiovisual aids.

Audiovisual aids are important and are used in classes to let the students to be able to use the English language in a different way, to be motivated to learn and not to be bored. In the classroom, there are students who learn easily when the teacher uses attractive audiovisual aids although s/he uses a functional methodology. Furthermore, the use of these aids requires that they should be well selected and well used to achieve the students' acquisition in classes.

Laboratory classes as a complement for daily classes are important to the students. Through them, specific micro skills are developed in the students, therefore their preparation should be carefully planned. These kinds of classes also need specific audiovisual aids to achieve the objectives of the program and to motivate the students' willingness to learn by listening or watching something attractive.

The implementation of new English courses at the Engineering Department, especially in the Industrial Engineering, has demanded the need for elaborating audiovisual aids, even though the English Programs have been already elaborated for the courses.

In addition, the researchers interviewed the coordinator of Industrial Engineering and he supported our research about the lack of audiovisual aids . He emphasized that this department has the English programs but there are not suitable audiovisual aids to use especially in the English

laboratory. He concluded that these courses are already included in the new study programs which will be implemented very soon.

On the other hand, the researchers believe that the following alternatives could help to solve the problem. In the first place, it is a hard task to choose the appropriate audiovisual aids because there is a wide variety of them. However, they are going to be chosen and elaborated taking into account the following important aspects:

The English programs of these courses and the students' and teachers' needs.

Moreover, teachers training will be necessary and at the same time useful to employ the elaborated audiovisual aids in classes. This training should be taught with some frequency, otherwise an inappropriate usage of this material can bring consequences such as: students' lack of motivation, low grades, poor learning and students' failure.

To conclude, the elaboration of audiovisual aids to be used in the laboratory practices will enrich the English programs, providing not only excellent classes for the students of this major but also improving the University's projection into the society.

2. Statement of the Problem

What are the most appropriate audiovisual aids to be used among Industrial Engineering students at the English Laboratory practices at Universidad Tecnológica de El Salvador?

3. Delimitation

In order to determine and elaborate the most appropriate audiovisual aids to be used in the English laboratory practices, the research will have as a sample the Industrial Engineering English III and IV courses at Universidad Tecnológica de El Salvador. However, these courses will be implemented until 2001 year so, the sample to be taken during the field research will be the Industrial Engineering students from the upper levels. They are students from Higiene y Seguridad Industrial, Ingeniería del Producto y Dirección y Organización de la Producción who will be taking these courses during the field research time, that is, 01-2000 semester.

4. Justification

The teaching learning process needs to be evaluated in order to overcome the difficulties that do not let the students learn easily. Such evaluation

can point out specific aspects in this process that deserve more attention in order to improve it through several strategies.

The implementation of four English courses in all the majors that UTEC offers is a result of the different projects that the UTEC is creating.

The objective of this is to improve its students' learning with the best education that they can offer. However, a lack of the appropriate audiovisual aids to be used in the English laboratory practices is noticed in these two English courses. That is why, this research is important to achieve. The English laboratory practices are part of each English course and their purpose is to reinforce the students' acquisition of the language through a series of listening, watching and repetition of exercises.

A teacher who does not stimulate his or her students by using different kinds of audiovisual aids is not accomplishing the objectives of the course. Audiovisual aids are considered important tools in the classroom, as well in the English laboratory practices to improve the teaching learning process.

According to some information gathered about the problem, it is believed that there is a need to create audiovisual aids for these English courses. These materials are based on English for Specific Purposes according to the students' needs and the English program of this major.

There are several reasons that motivate the researchers to create these materials, for example: to fulfill students' needs in terms of better comprehension and understanding, to have enjoyable classes, to develop students' centered classes and to increase knowledge.

Also, the researchers expect to avoid the low students' acquisition of the language, the lack of motivation and failure through the creation of these audiovisual aids and the implementation of these English courses.

5. Range and Limitations

This research will be focused on the elaboration of audiovisual aids to be used in the English laboratory practice by the Industrial Engineering students. The researchers will begin with a diagnostic, which consists of an analysis of the different audiovisual aids that can be applied in the teaching learning process of the laboratory practices. As a result, the audiovisual aids (that in this case are the technical projected aids) that there are already in the laboratory are not going to be taken into account for this purpose.

Thus, the selection of the appropriate audiovisual aids will be needed. After this process, the researchers will continue with the elaboration of the audiovisual aids chosen. So, the audiovisual aids expected to be

elaborated are: a videotape, two tapes, pictures, transparencies and a guideline to be used in the English laboratory by the students and the laboratory technician.

CHAPTER II

THEORETICAL FRAMEWORK

The researchers believe, after analyzing the different information gathered from different books, that the most important elements that deal with the research are the following: a brief overview about English language, its classification and skills, audiovisual aids, their classification and importance; finally, the English laboratory practice, its definition and advantages.

1. Classification of the English Language Use

English as a worldwide language can be classified according to its usage. This classification takes into account a basic aspect, that is, the language environment in which a non-speaker uses it. Basically, Long and Richards point out four kinds of English: “ESL (English as a Second Language), EAL (English as an Additional language), ELWC (English as a Language of Wider Communication) and EFL (English as a Foreign Language).”¹

ESL is a kind of classification of English and it is used when people communicate in English, although they are not native English speakers in countries where English is the official language. These people need to use the English language a lot in order to express their ideas and points of

¹ Long Michael, Richards Jack, Methodology in TESOL. A book of Readings, 1987, p.5.

view about a particular topic. In ESL, listening, speaking, writing and reading are developed enough when speakers practice English in any situation that requires it.

EAL as another classification of English is used by people who learn the English language after they have already learned another primary language. These speakers use the language with the purpose of communicating with other people who have other basic languages. These are common situations in countries that are multilingual and where English is used just inside the country. Most of the people who are involved in a high, social, political and economic level use EAL. The four skills can be employed in an EAL environment.

There exists another kind of English which is used only for international purposes: ELWC. This means that people do not use it to establish common conversations among them. On the contrary, they use it only to establish specific international conversations with people who are involved in scientific, technical and commercial environments. Such use has given the English language the connotation of becoming a lingua franca. People who use this kind of English develop specific skills (writing, reading or speaking). Their development depends on the amount of time that speakers spend on it.

Finally, EFL is important in this classification of English because it is used in some social areas, for example people interested in literature or culture. EFL is used by children and teenagers outside the classroom, at home, in the park, etc. Also, it can be used by adults who are related with different professions like teaching, journalism, tourism, translation, etc. Besides, EFL has not a special status among people who practice it because it is learned as other foreign languages are and it is limited in communicative situations. It happens in countries in which English is not the mother tongue.

2. English for Special Purposes

The English language which is considered to be a worldwide language can be observed in two ways: on one side there are EFL courses with an orientation toward a general acquisition of the English to be used in any way and on the other side are other different kinds of English courses created to cover specific needs in terms of language usage and learner's development of a specific skill.

This newly courses deal with English for Specific or Special Purposes (ESP), ESP as a part of the English language is considered the largest contributor of the worldwide development of the English as a language. This development has taken place among societies that have many

cultural and lingual influences. Such influences can be observed in the dairy usage that people do of the language in different areas of work such as: business, technology, communications, laws, economics, machinery, etc.

2.1 Definition

According to Strevens, ESP “is based both on the obvious face attraction of the concept and on a reputation for relatively high success rates for ESP compared with the conventional teaching of English as a foreign language”². Similarly, Ann Johns points out that “ESP comprises a diverse group of teachers and curriculum designers dedicated to the proposition that all language teaching must be designed for the specific learning and language use purposes of identified group of students” ³ .

Both authors agree that ESP is an interesting and important kind of English that it is becoming a need in different fields of work. They also emphasize the teaching of ESP which has as priority the learner’s needs and his specific area of specialization.

2.2 Origins

It is difficult to determine how ESP was born. According to some information, the origin of ESP can be considered as a result of the

following reasons: First, ESP was born by 1960's as a need to apply a specific kind of English to do different activities to achieve a purpose.

Second, the origin of ESP can be due to the influences that education has had throughout time. As a result, English teaching changed letting the learner use it for his specific needs. Some years ago, the teacher was considered the center of the teaching learning process so his role was relevant enough, however, there has been a trend to change this pedagogical fact. The new approach defines that all elements in the teaching learning process move around the learner's needs.

Other influences are the fact of learning English without any connection to literary, social, and cultural values. After that event, English was offered at different ages to learners who wanted to learn it for specific purposes without the need of going to general education schools.

As a final influence, we have curriculum reform and syllabus design in language teaching. Such influence emphasized the learner's needs as a requirement.

2.3 Characteristics

² Croft, Keneth, Readings on English as a Second Language, 1980, p, 458.

³ Celce-Murcia. Teaching English as a Second Language, 1991. Second Edition, p.67.

Stevens remarks “that the only universal characteristic of all ESP courses is that they do not teach general English but the following characteristics can be considered also:

ESP defines a change in pedagogical perspectives as well as a change in content and sequence”⁴ . He also says that, “ESP requires more effort and more sophisticated preparation on the part of teachers; they must be highly skilled with special training; to be met with energy, enthusiasm and high expectations. Syllabuses are created by analyzing the learners’ needs and always preface their teaching by a clear indication to the learners of what they can and cannot expect to achieve”⁵ .

The above characteristics are relevant when teaching ESP. They include some of the elements that deal with the ESP teaching process. Such elements are: Methodology, the teacher and the syllabus’ goals.

Methodology in ESP is pretty different as compared with ESL or EFL ones. It depends on an analysis of the specific situation that is going to be taught. In terms of pedagogy, there is not a specific method to follow; some of the four skills are more developed than the others; the hours of instruction are few and contents depend on the field of study.

⁴ Idem 2,p. 458.

⁵ Idem 2,p. 467.

Teachers in ESP are very important too. Their role should be of an open minded teacher who likes challenges. They have to be active and well prepared. Finally, syllabuses have as a highest priority the learner and his needs, but the specific area of specialization is relevant too, therefore, goals and objectives are based on this criterion.

2.4 Classification

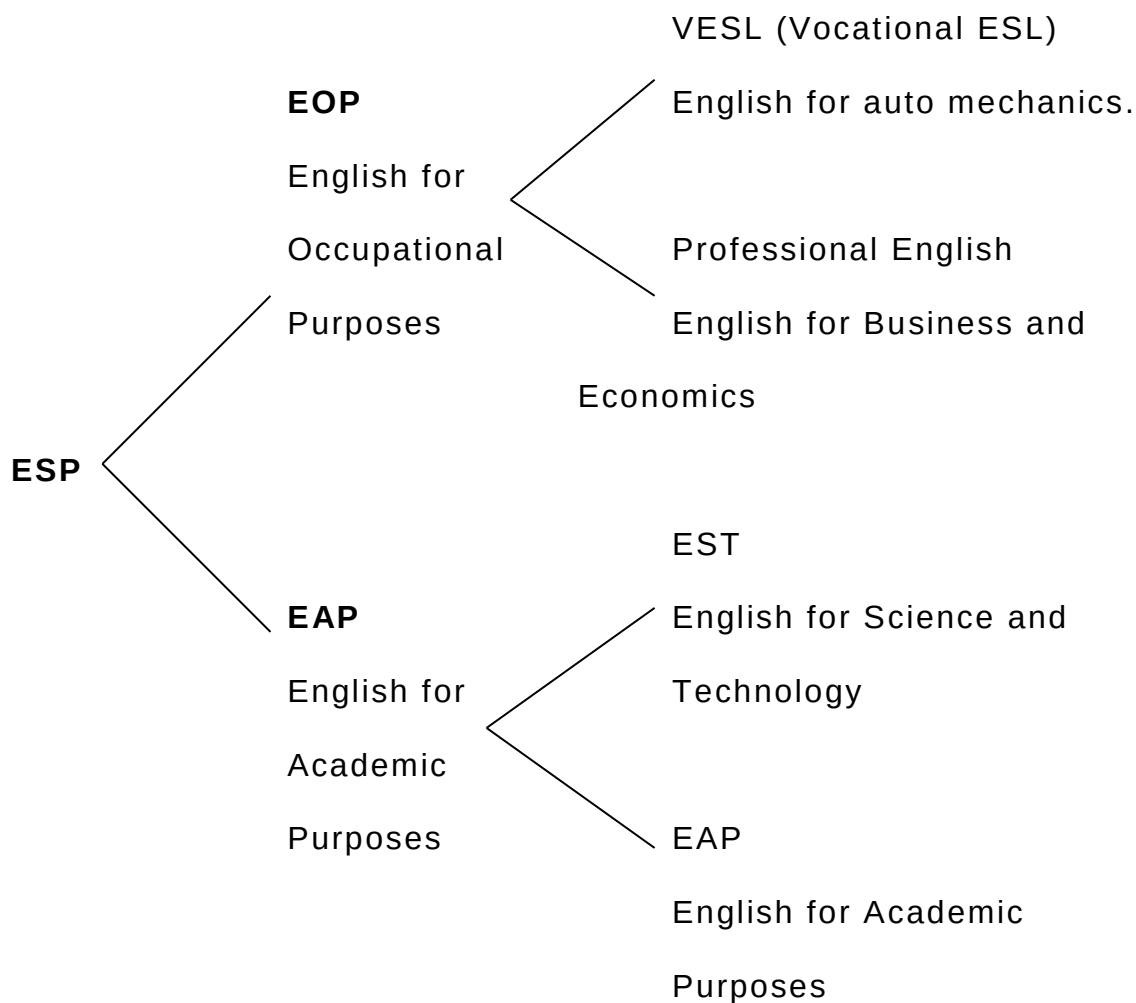
The different ESP courses have been classified according to four dimensions: 1. “area of specialization; 2. restriction of language skill; 3. specificity of language; and 4. according to a range of pedagogical variations.

Also, the quantity of instruction in terms of total number of hours, intensity of teaching and overall duration of the course and the starting level the proficiency in English” ⁶ are adopted to make a classification of ESP courses.

The above dimensions have helped the classification and creation of each kind of ESP course. In each course such dimensions are considered relevant in designing the syllabuses. Indeed, each syllabus has its own approach which is oriented to teach specific topics, to develop specific skills and to learn special language through a no determined methodology.

⁶ Idem 2, p. 464.

According to the real life situations in which specific groups of learners employ the language, Strevens has provided the most famous model of the categories of ESP.



Taken from Celce-Murcia and McIntosh, Teaching English as a Second or Foreign Language, p. 71

As it has been mentioned in chapter I, the sample of this research is the Industrial Engineering English courses, so the researchers want to point at the ESP classification where these courses have been included that is EST, English for Science and Technology.

Swales points out that “Academic English for Science and Technology (EST) has been the best developed and most frequently taught of all the categories: it is even considered the senior branch of ESP”.⁷

This development is due to the following reasons: Firstly, many students throughout the world want to be scientists and engineers and secondly, in many ways, it is easier to study science and scientific disciplines than it is to study business or humanities.

Similarly, it occurs in our country. Most of the students decide to study a technical major in the university after they have finished high school. They consider that there are more job opportunities for technical areas of specialization such as engineering, architecture and computer programming than for the professional of other majors. The reason can be due to the level of development that our country is experiencing.

2.5 Teaching Materials in ESP

For ESP courses, there are not enough appropriate teaching materials, so the ESP teacher could be in touch with a limited amount of specialized books. These few books are not enough aids to cover the different topics

of the syllabus. They can cover only a part of it. An ESP teacher has to have on hand other aids that can help him to achieve the goals of the syllabus.

In our environment, it is common that teachers prepare most of their aids by their own. Such aids in ESP demand a special preparation to teach and practice technical or specialized language in classes and in the laboratory practices.

All in all, ESP is an important and expanding subcategory of English. It is increasing because English has become international, consequently it is being used in the different and specific areas of real life.

Learners are considered important elements in the different courses created to cover the demand of ESP, so syllabuses are concerned with this need.

In our country, this expansion has been taken into account by the UTEC. The new English courses created for the Industrial Engineering major have considered throughout the syllabus the above facts. They answer the need that the students of this major have to learn technical language focused on specific fields of work.

⁷ Idem 3, p. 72.

3. Skills in the Teaching Learning Process

In order to be able to use a language in any situation, any speaker should be proficient in some skills. In the English language there are four skills that are developed, they are: Speaking, Listening, Reading and Writing.

Basically, in the speaking skill it is important to include some elements such as: pronunciation, listening, and grammar skills. The speaking skill involves traditional techniques in the classroom, for example, activities like repetitive imitation, drills and memorization of dialogues.

All these techniques help to form interesting conversation classes among the learners and also help them develop an activity focused on the speaking skill. Group discussions are very important activities in the conversation courses, because in this way, learners take the responsibility of all the activities that are developed in the classroom.

Listening. Students in the teaching learning process must deal with two kinds of processes related to the listening skill. The first one is called bottom up processing, which refers when students identify words, structures, and grammar, involved in the transmitted message. The second process is called top down processing, in this process the listener uses background information as a basis that later helps him/her to get the

transmitted message. Both processes are related with the listening comprehension activities in the classroom and also can be applied to listening texts in the laboratory practices.

In the reading skill it is necessary to include two reading techniques in the teaching learning process which are called: Skimming and Scanning. The skimming technique is a quick reading of any particular passage from a book. Also in this technique the reader just looks out for general information in a reading. This information gives the reader an idea about what the passage or reading is going to be about.

The other reading technique is scanning, it helps the reader to look for specific information in a reading. This kind of information could be a place, a number or a date. In the scanning technique, the reader needs more time to analyze a passage, also both reading techniques could be included into reading classes.

Writing. Different people who are learning a new language need to manage it not only in speaking, reading, and listening areas but also in the writing form. Writing is another way to express ideas, feelings, and knowledge to other people. Therefore, it is necessary to apply a process in order to learn or to teach an effective writing. Some students who want to create an effective writing need to start by practicing a rehearsing, then a drafting and finally a revising, in other words, they need to start

imitating or copying exercises using basic sentences or short paragraphs. The success of the students' good writing depends on the way how do teachers develop their exercises or activities in the classroom.

4. Audiovisual Aids

Audio-visual aids, are seem as important in most language lessons as teachers and students are. Indeed, teachers can improve any lesson for any group of students by using one or more well selected teaching materials to reinforce the activities planned. Otherwise, they will be always following the syllabus with a textbook or a skill.

Dubin and Olshtain agree on the value of teaching materials in classes: "if used effectively, they add a very important dimension to classroom activities. The modern language classroom must contain a variety of such aids, if it is to provide the learner with an active teaching-learning situation".⁸

The researchers agree with Dublin and Olshtain because they consider that the success on the teaching learning process depends a lot on an effective application of audiovisual aids in a class. They also emphasize

⁸ Celce-Murcia and Mschintosh, Teaching English as a Second or Foreign Language, 1979, p.314.

that audiovisual aids should be always included as a tool in the different activities that take place in the classroom.

4.1 Definition

Stevick defines teaching materials as “anything audible or visible which helps the students to learn the language more quickly or more accurately”. He also expresses that “sight and hearing are two senses used most in human teaching and learning activities of any kind and thus, they receive primary consideration. However, touch, taste and smell are senses that should be exploited too.”⁹ Similarly, Celce-Murcia defines teaching materials as “something that is visual, auditory, or both.”

¹⁰

The researchers’ point of view is similar as the expressed by Stevick and Celce-Murcia. We consider that students should be stimulated by teachers to let them acquire any knowledge. As human beings, we have different senses that let us perceive anything. Through audiovisual aids, these senses are stimulated in the students because each audiovisual aid causes different reactions such as feelings, attitudes, body movements, ideas, etc. Everything depends on the kind of activity in which they are

⁹ Idem 8, p. 308.

¹⁰ Idem 9.

being used and the way in which they are being applied. The results are noticed since the audiovisual aids are used.

4.2 Characteristics

After establishing what audio-visual aids are, it is important to focus on their advantages in using them in a lesson. Adrian Doff

points out some advantages:

- “They (Audio-visual aids) focus attention on meaning and help to make the language more real.
- They keep students’ attention and make the classes more interesting.
- They can be used at any stage of the lesson.
- They help in presenting a new language or introducing a new topic.
- They can be used not once but again and again.”¹¹

Equally, Stevick adds more advantages, they are:

- “They are available or prepared by the teacher.
- They develop the continuity of ideas.
- They frequently lead to the direct participation in some activities and they provide cues in some drills.
- They contribute to the efficiency, penetration and variety of the teaching process.

¹¹ Doff Adrian, Teaching English a Training Course for Teachers, 1988, p.82-

- They elicit nonverbal reactions from the students.”¹²

It is considered that all the advantages embrace interesting aspects which deal with the teaching learning process. They are: the students' role when using audiovisual aids in terms of their attention, participation and acquisition.

The language itself in regard to meanings, reality, topics, introductions, etc. Finally, audiovisual aids' role in the teaching learning process which it is pointed at efficiency, variety and usage.

4.3 Classification

Celce-Murcia admits that “audio visual-aids are divided into two main categories: Technical and Non-technical aids. Technical aids involve machinery and/or require electricity. While non-technical aids require neither machinery nor electricity but are simple and inexpensive that the teacher him/herself can acquire or make them.”¹³

The researchers have analyzed the wide variety of materials included in the classification that Celce-Murcia has pointed out. They consider that

¹² Stevick W. Teaching Language a Way and Ways, 1980,p.200.

¹³ Idem 8, p.308.

such analysis was a need in order to be involved with the different audiovisual aids.

The aids presented can be used either in any kind of English class or in the English laboratory practices according to our reality. Also, they are common aids for teachers and students in terms of usage and acquisition.

4.3.1 Technical Projected Aids

Allen and Valette acknowledge the audiovisual aids classification made by Celce-Murcia, however they have considered a subdivision of the technical aids into Projected and Non-projected aids.

The Technical Projected aids consist of:

The Overhead Projector: It helps the teacher to project on a wall or screen any kind of information printed on acetates. It is used for class/group correction of compositions error, paragraphs, presenting rules, vocabulary, pictures for descriptions, explanations, etc. The information contained on the acetates should be clear enough and synthesized.

Movies: This medium is available anywhere and it has a lot of uses for a class. There are commercial films, home-made movies, educational films where teachers can get a lot of practice in teaching specific lessons.

Television: It has been in classrooms for many years. Some of its uses are in teaching large classes, watching commercial and educational programs in which students have discussion of events, vocabulary, etc.

Videotape: Through this kind of tape a given lesson can be watched several times to practice speaking and listening. Corrections, evaluations can be made in playing recorded tapes with speeches, oral exercises, performances, etc. To use them, a combination of a videotape recorder and a monitor is needed.

4.3.2 Technical Non-Projected Aids

They are important as well. They work with batteries or electricity, besides they are more available than projected technical aids. These non-projected aids are:

Tape recorder: It is one of the most common aids used in the classroom. Native speaker voices, songs, stories or different cultures can be taught to learn specific language lessons. Today, many English classroom and labs, have it to give a lot of practice to students in listening and pronunciation activities. The teacher can play cassettes with any information, he even can record his own ones.

The radio: Teachers can use it in different activities to reinforce their students by telling them what to listen to and what to speak when interesting broadcasts are in the air while they are having classes.

Reproduced Materials: They are reproduced quickly, saving a lot of time. They let the teacher to be creative and flexible. The copies can be taken from different sources such as: books, magazines, newspapers, or from the teacher's preparation (worksheets, pictures, diagrams, maps, etc.)

4.3.3 Non-Technical Aids

When there are not technical projected aids, these materials are good to cover different lessons and objectives are reached as well.

Some non-technical aids are:

Board based aids: The chalkboard is considered the universal aid that a teacher can have in the classroom. A lot of information is written on it to let the students to take notes or visualize it. Other boards included in this kind are the flannel board, the magnetic board, and the pegboard. Many activities such as practicing spelling, word lists, sentences, paragraphs, pictures, descriptions, games, etc., can have them as help.

Pictures: They are very flexible when using in the activities, because there is not a specific way to use them. Their size is important in order to be useful. They can be black and white or colored. They are useful for teaching vocabulary, adjectives, colors, comparatives, elicit discussions, descriptions, etc.

Flashcards: Flash cards are words or simple pictures written or drawn on pieces of cardboard. Their size is important when using in class. They can be useful to teach reading, pronunciation, review of vocabulary, grammar, etc.

Charts: They are used in the same way as pictures and flashcards are. They can supply contexts for practice any topic presenting several charts simultaneously. Grammatical points, descriptions, rules, drills can be taught through them. Clarity should be a characteristic of a chart.

Realia: It is considered as a limitless aid. Many items can be included to teach a lesson. Each item can be acquired anywhere, without any special preparation. Some suggested realia are: calendars, large maps, globes, puzzles, clock, menus, suitcases, postcards, letters, stamps, magazines, newspapers, posters, food, containers, paper, hand puppets, money, mirrors, etc. Dates, days of the week, verb tenses, time, names, places, conversations, descriptions, vocabulary, can be taught in using them.

Equally, Stevick agrees with the audio-visual aids presented above, but he does not provide any classification of them. He points out that “a teacher can combine different audio-visual aids for a specific class.”¹⁴

On the other hand, Adrian Doff says that non-technical aids are the most used aids in classes because not all the teachers can be in touch with the Technical projected aids. He, especially emphasizes five non-technical aids: “the teacher, the blackboard, real objects, flashcards and pictures or charts.”¹⁵

To conclude, it can be said that only students and teachers know the extent of what audiovisual aids can do for them. These audiovisual aids are related with all the activities planned for a lesson.

5. English Laboratory Practice

The language laboratory is considered an audio aid because it is an excellent opportunity for students to hear their own pronunciation and compare it with other voices.

¹⁴ Stevick W. Teaching and Learning Languages, 1982,p.117

¹⁵ Idem 11.

The first laboratory was a building that contained phonetic instruments in Louisiana State University in 1906. Nowadays, the English laboratory is a modern place that contains different equipment and materials in order to facilitate the students' learning process of a foreign language.

By 1967, most of the universities of the United States had access to a modern language laboratory but it was at the beginning of 1969 that language laboratories were installed in some schools and universities in America.

5.1 Classification

According to Hammerly there are four criteria in order to classify a language laboratory. They are “ function, access to the materials, control, and location.” ¹⁶

Function refers to what the students can do using the devices; access to the materials is a dimension in which the students can get photocopies of different written material, cassettes, guide practices laboratories, etc.

Control, in this criterion the students use the laboratory by themselves or remote control and the location is based on conventional and high electronic practices.

Similarly, Duncan classified the language laboratory according to its uses. They can be first, simple laboratory because it is used to have only listening practices and second, sophisticated laboratory because it contains computers and other updated equipment.

The researchers agree with Hammerly and Duncan's point of view presented above because nowadays, the language laboratories at UTEC contain modern equipment that is used by the students not only in order to have English listening practices or to watch English programs but also to have access to a different variety of materials.

In order to obtain better results in the process of learning a foreign language is necessary to combine theoretical class presentations and laboratory practices. The laboratory gives to students the opportunity to practice different drills like repetition, imitation, substitution, response and confirmation. Also, they can listen to poems, songs lectures, radio and TV programs, telephone conversation, etc.

According to some information gathered by the researchers, by 1963 some language laboratories were ineffective because the students did not have enough practice at the laboratory, the listening test was not applying correctly and there was a lack of equipment manipulation. However,

¹⁶ Hammerly Hector ,*Síntesis in Language Teaching*, 1982,p.587.

nowadays the technology is updated therefore it is expressing that laboratory practice offers a lot of advantages. Stevick remarks “the main advantage of the laboratory is that the students can work at their own speed and the teacher can tune in without the student knowing and feeling nervous.” ¹⁷

ther advantages are:

First, the students have the opportunity to hear the voices of native speakers and audio lingual practices. Also, they use headphones in order to get isolation and privacy for better concentration, and self-correction.

Secondly, in the laboratory model voices can be heard clearly as many times as necessary to improve listening and comprehension of the language studied, so the students can play the recording again and again.

Thirdly, modern laboratories have high audio quality in terms of phonetic features according to audible humans ears (from 250-6,000 Hertz).

Finally, there are some hints that the laboratory technician has to take into account in the laboratory such as: Instructions in the laboratory practices have to be in native language, they have to be replaced gradually in the

¹⁷ Idem 4,p.116.

second language; the students have to be oriented about the correct uses of the laboratory.

It is important to convince the students to use a language laboratory because its importance in the process of learning a foreign language; this process has to be guided, evaluated, and corrected by a laboratory technician.

On the other hand, at UTEC, every student has his own perception about English language. In terms of level they can be classified in beginners, intermediate and advanced students.

However, it is common in the university to hear expressions that show the actual proficiency that the students of all majors have in the English Language.

When students take the English courses they realize their real proficiency. Consequently, it is hard for them to study a language that it is not their native one. Students come to the university with little knowledge about English so it is difficult for teachers to teach it.

At UTEC, ESP is taught taking into account the learners' needs so all of the syllabuses are focused on their specific fields of study. Besides, this

special English is applied in terms of technical vocabulary, grammar points, readings according to their major and laboratory practices.

The laboratory practices are important in the process of learning a foreign language in the different majors. In the laboratory the students can develop some skills like reading, listening, speaking and writing. According to the new programs that the university will implement, they will emphasize the reading skill but the researchers think that the most appropriate skill to be used in the language laboratory practices is listening. Nevertheless, writing speaking and reading are used as a complement of this kind of practices.

Most of the students have laboratory practices but not all of them acquire excellent results because there is a lack of audiovisual aids, the place is too small, few practices by semester, etc. however, language laboratory practices are workable.

Finally, it is important to use audiovisual aids in the laboratory practices to achieve the students' knowledge. According to some information gathered, the most common aids used in the laboratory are books, workbooks, tapes, tape recorder, headphones, television, VCR, videos, and reproduced materials.

CHAPTER III

METHODOLOGY

1. Objectives.

1.1 General Objective.

To provide the Universidad Tecnológica de El Salvador with a suitable set of audiovisual aids for Industrial Engineering students to be used in the English laboratory practices.

1.2 Specific Objectives

1.2.1 To analyze the different audiovisual aids that exist in our environment and can be applied to the Industrial Engineering III and IV English courses in the laboratory practices.

1.2.2 To choose the most appropriate audiovisual aids to be used by the Industrial Engineering III and IV English students in the laboratory practices.

1.2.3 To elaborate the audiovisual aids to be used by the Industrial Engineering III and IV English Students in the laboratory practices.

2. Type of Research

This research is composed of three different parts. The first entitles a book research in which a lot of information was gathered from different books to show all the different elements that deal with the research. This information was put all together in the theoretical framework.

The second part comprises a field research in which a specific sample was surveyed and interviewed to get the necessary and important data that would determine the specific needs of the Industrial Engineering major in terms of audiovisual aids preference.

Finally, the conclusions and recommendations gathered from the analysis and interpretation of the results led not only to design a wide variety of audiovisual aids for the Industrial Engineering major, but also, to elaborate them as a part of the proposal- solution.

3. Method

This research falls into the category of “Educational research” because it describes the behavior of the different elements which deal with the teaching learning process. They are: the teacher, the students’ needs, the contents, the audiovisual aids, etc.

4. Population and Sample

The population of this research was:

First, the students of the Industrial Engineering major from the Universidad Tecnológica de El Salvador. According to the academic registration data, this population contained 1,010 students during the 01-2000 semester. Based on this information it was determined to consider a 10% from this population as the sample for this research.

As a result, 101 students were surveyed from this major. The students included were females and males of different ages, jobs, and professions and they belonged to different courses of the last years of the major.

Second, a group twenty five teachers was taken into account for this research as a part of the population. These teachers were contacted for this purpose from the advanced and specialized courses of the Industrial Engineering major .However, the real sample was the twenty percent of this population that means, five teachers as a total including the coordinator of this major. Our purpose was interview them nevertheless, four of the teachers were surveyed because it was difficult to interview them in terms of time and access; in spite of this, one of the professors was interviewed.

Third, the English laboratory technician from the English Language Department was interviewed to learn about his personal experience related with the English laboratory practices. He was dated on a specific time to be interviewed by the researchers. Finally, the population sample is considered to be reliable for this field research.

Chart I Summary of the Population Sample of this Field Research.

Major	Course	Population sample	Criteria for choosing the sample
Industrial Engineering Major. Coordinator and teachers.	-Ingeniería de métodos 1 -Sistemas eléctricos lineales - Sistemas eléctricos mecánicos -Introducción a la Ingeniería - Formulación y evaluación de proyectos.	5	20 % of the population
Industrial Engineering major students	Higiene y seguridad industrial -Organización y dirección industrial	101	10% of the population

	-Ingeniería del producto		
English laboratory technician	English laboratory practices	1	Mandatory

5. Data Gathering

After choosing the sample the researchers started gathering the data following the next process:

- To ask for an authorization in the Engineering faculty and the Industrial Engineering major in order to administer the different instruments to the sample involved.
- To find out the schedule of each different course to attend fifteen minutes before the beginning of each course and ask for permission to the teacher in charge of the course to survey the students.
- To contact the professors and the English laboratory technician to make the necessary dates in order to interview and to survey them.

To accomplish the data gathering three different instruments were elaborated with a variety of questions. All of them try to get reliable information to answer all the questions that are related with the research .

6. Techniques and Instruments.

6.1 Techniques

In this research, different techniques were applied to gather information that later will be taken into account in the proposal solution. The techniques were:

- The Interview
- The survey

It is considered that both techniques are the most suitable in order to carry out this field research because they can help not only to get information from the sample but also to save time picking up information in a practical way.

6.2 Instruments

According to the technique used in this research, three instruments were elaborated to collect the data. They are: a questionnaire for all the students and two different interview guides for the teachers and the English laboratory technician.

6.2.1 Questionnaire for the Industrial Engineering Major Students.(see appendix A)

This questionnaire contained six questions divided in one open-ended and five open. It was written entirely in Spanish and it was administered to the Industrial Engineering students from the different upper levels.

It was created in order to achieve the following objectives:

- To determine the different needs that the Industrial Engineering students face in terms of vocabulary, contents and audiovisual aids preference.
- To choose the different types of audiovisual aids to be elaborated for the Industrial Engineering English students.

6.2.2 Interview Guide for the Teachers of the Industrial Engineering Major.(see appendix B)

This interview guide had eight questions, one open-ended and seven open. Besides, it was written in Spanish and administered to five teachers of different upper courses including the coordinator of the major. It was elaborated in order to acquire basic information to the following objectives:

- To find out what kind of audiovisual aids are the most appropriate to create in terms of the Industrial Engineering students' needs.

- To identify the needs of the Industrial Engineering students all concern with the contents, technical vocabulary and skills.

6.2.3 Interview Guide for the English Laboratory Technician.(see appendix C)

The English laboratory technician's interview guide consisted of six open questions. It was written in English and administered to the English Laboratory Technician.

This instrument was administered to accomplish the next specific objectives:

- To know the different audiovisual aids that are the most useful and workable in the English Laboratory practices for the students of different majors.
- To investigate information regarding to the implementation of new audiovisual aids in the English Laboratory practices of the students of different majors.

CHAPTER IV

ANALYSIS AND INTERPRETATION OF DATA

After the data collection, the researchers followed a process in order to analyze and interpret the three different instruments that were administered to the sample of this research. This process consists of the following steps:

- Analyze the answers gathered through each instrument and classify them according to the content of each item. In this step, it was taken into account only answers that achieved the objectives of each different question. The same process was applied to all the instruments.
- Determine a structure in order to show in an easy way the results obtained in each instrument. So, each instrument was analyzed and presented as follows: Each item and its objective is presented followed by a table which displays the different answers provided and the specific amount gathered for each one. Besides, the total obtained from the addition of each one all together. Next to this table, after doing a numerical process, all the answers were represented in percentages with its conformed graph.

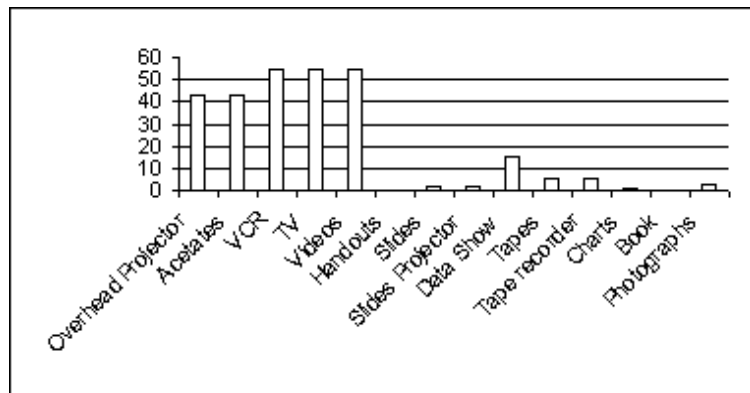
- Interpret through a comment the results. This comment was placed after showing the results in a table and its graph. Through these comments the answers were compared with the objective of each question in order to get conclusions about the facts noticed in each answer.

4.1 ANALYSIS AND INTERPRETATION OF STUDENT'S QUESTIONNAIRE

Item 1: Which audiovisual aids are the ones that motivate you the most?

Objective: To know which audiovisual aids motivate the students during the class development.

Answers	# of sts.
Overhead Projector	43
Acetates	43
VCR	55
TV	55
Videos	55
Handouts	0
Slides	2
Slides Projector	2
Data Show	15
Tapes	5
Tape recorder	5
Charts	1
Book	0
Photographs	3
TOTAL	284



The Industrial Engineering students considered that the audiovisual aids that motivated more in their classes are: the VCR/TV and videos, obtaining a 19.36% in the three of them.

As a second place, they also expressed that the overhead projector and acetates are important obtaining a 15.14% in each one.

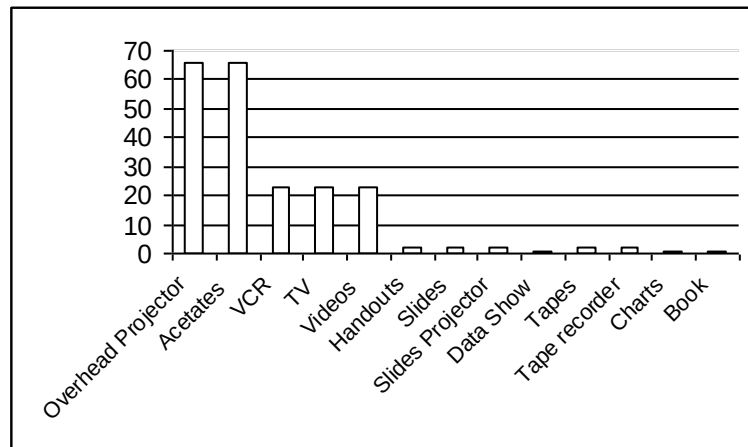
A 5.28% expressed that the data show motivated them, followed by the tape recorder and tapes having 1.76% in each one.

A 1.05% said that photographs motivate them, a 0.38% charts and finally a 0.70% considered that slides and slide projector are others that motivate too.

Item 2: Which specific audiovisual aids do your teachers use in their classes that let your participation during them?

Objective: To identify the audiovisual aids that the professors use and motivate their students to participate in classes.

Answers	# of students
Overhead Projector	66
Acetates	66
VCR	23
TV	23
Videos	23
Handouts	2
Slides	2
Slides Projector	2
Data Show	1
Tapes	2
Tape recorder	2
Charts	1
Book	1
TOTAL	214



The Industrial Engineering students' answers in this question provide most of the audiovisual aids that teachers in this major use to support their classes. They are: first, the acetates and the overhead projector with a

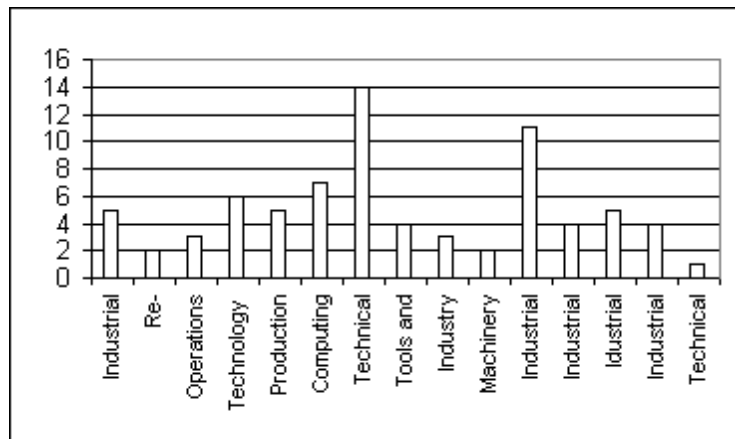
30.84% each one. Second, the VCR, TV and videos with a 10.74% each one, all of them as the more outstanding aids used by the Industrial Engineering teachers. However, with a 0.93% each one, there are handouts, slides, slide projector, tapes, tape recorder as other aids used by teachers. Finally, other aids mentioned are the data show, books and charts with a 0.46% each one. All this data together means that teachers vary the aids to motivate the students to participate.

Item 3: According to your academic experience in this major, in which topics would you like that the English laboratory practices where focused on?

Objective: To find out the students' most important topics to be studied in the English laboratory practices.

Answers	# of students
Industrial Safety	5
Re-Engineering	2
Operations Management	3
Technology	6
Production	5
Computing	7
Technical Vocabulary	14
Tools and Industrial Equipment	4

Industry	3
Machinery Handling and Maintenance	2
Industrial Organization	11
Industrial Processes	4
Industrial Materials	5
Industrial Economics	4
Technical Drawing	1
Total	76



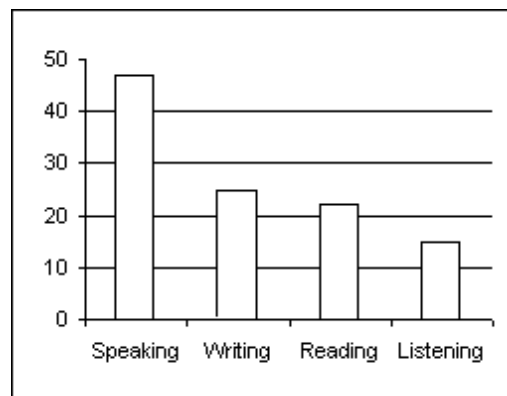
The results display the most relevant topics considered by the Industrial Engineering students, they are: Technical Vocabulary with a 18.42%, Industrial Organization with 14.47%, Computing with a 9.21%, and Technology with 7.89% as the higher answers. Similarly, other topics are: Industrial Safety, Production and Industrial Materials with a 6.57% each one. With a 5.26% each one, we have Tools and Industrial Equipment, Industrial Processes, and Economics. Followed by a lower percentage but considered as important topics are presented Industry and Operations Management with 3.94% each one; Reengineering and Machinery Handling

and Maintenance with 2.63% each one, and finally, with 1.31% Technical Drawing.

Item 4: Which skill will be the most important to use at the end of your studies?

Objective: To determine what is the most useful skill for the Industrial Engineering students at the end of their career.

Answers	# of students
Speaking	47
Writing	25
Reading	22
Listening	15
TOTAL	109



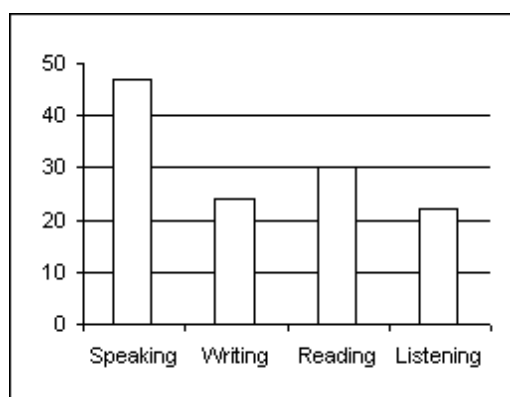
Most of the Industrial Engineering students' answers in this question, point out clearly that the Speaking skill with a 43.11% is the most important skill to be used at the end of their studies. The Writing skill with a 22.93%, it is considered to be useful too. Similarly, only with a 20.18%, the reading skill is placed in a third place, and with 13.76% the Listening skill in the

fourth place. The data of this question contains a big value because expresses the different students' point of view. They emphasized through a percentage the skill of their preference.

Item 5: Would you like that audiovisual aids were focused on a specific skill such as: Speaking, Writing, Reading or Writing.

Objective: To know the specific skill that the students prefer for the aids to be focused on.

Answers	# of students
Speaking	47
Writing	24
Reading	30
Listening	22
TOTAL	123

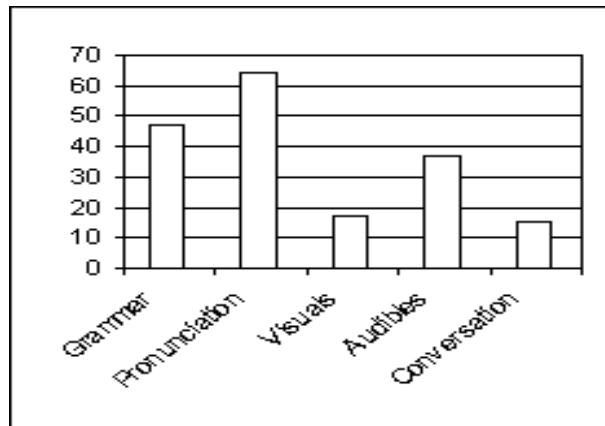


According to the data obtained, a 38.21% of the students expressed that audiovisual aids need to be focused on the Speaking skill, followed by 24.39% that considered on the Reading skill. Likewise, 19.51% said on Writing. Finally, 17.88% thought that they need to be focused on the Listening skill.

Item 6: What kind of exercises, for example, audible, visuals grammatical, pronunciation, etc., would you like to practice during the English Laboratory practices?

Objective: To detect the different kind of exercises that the students prefer to practice during the English laboratory practices.

Answer	# of students
Grammar	47
Pronunciation	64
Visuals	17
Audibles	37
Conversation	15
TOTAL	180



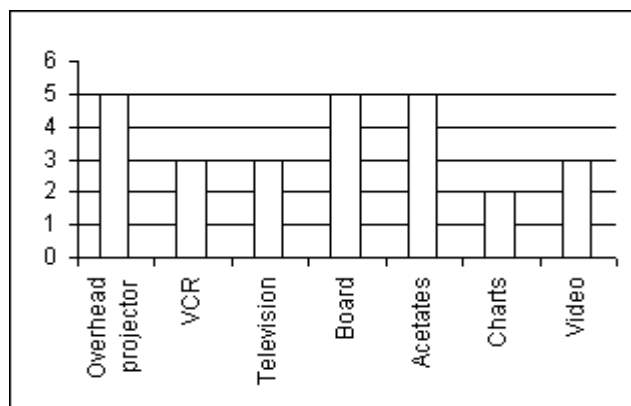
The kind of exercises that the Industrial Engineering students would like to practice during the English laboratory practices are: Pronunciation exercises with 35.55% obtained the highest percentage. Other students would like to practice Grammar ones whose percentage is 26.11%; a 20.55% considered the audible exercises; a 9.44% the visuals and finally, a 8.33% prefer conversation exercises. These results express that the students have thought in a variety of exercises. However, the pronunciation ones are the most demanded.

4.2 ANALYSIS AND INTERPRETATION OF TEACHER'S INTERVIEW GUIDE

Item 1: Which audiovisual aids do you use the most in your classes?

Objective: To know the different audiovisual aids that the teachers use in their classes.

Answer	# of teachers
Overhead projector	5
VCR	3
Television	3
Board	5



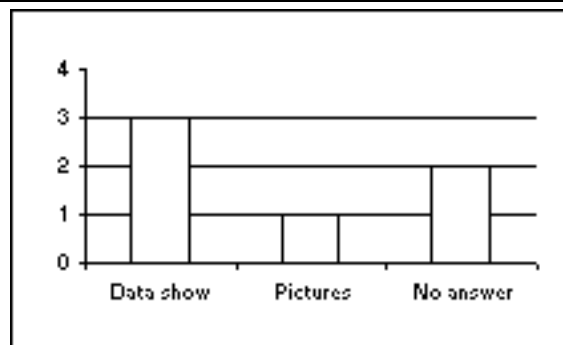
Acetates	5
Charts	2
Video	3
TOTAL	26

According to the results, the teachers from the Industrial Engineering major use the following audiovisual aids: a 57.69% of the teachers considered the overhead projector, the board and the acetates as the most useful aids in their classes. In a second place, a 34.61% expressed that they used the VCR, the television and the video, and finally, a 7.69% use charts as other useful aids for their classes.

Item 2: Which audiovisual aids that you can use but the university does not provide you with, would you like to implement in your classes?

Objective: To detect which other different audiovisual aids the teachers would like to implement in classes, even though the university does not have them.

Answer	# of teachers
Data show	3
Pictures	1
No answer	2
TOTAL	6

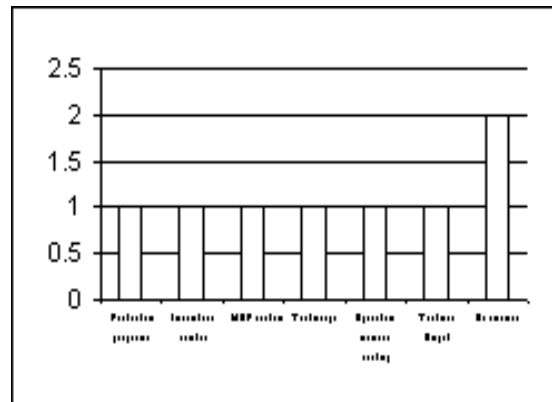


Analysing question number two, it can be concluded that the teachers from the Industrial Engineering major would like to implement the following audiovisual aids in their classes: a 49.99% consider the data show to implement, a 16.66% pictures, and finally a 33.33% of the teachers did not answer the question.

Item 3: If an English handout were created, which topics would you suggest to be studied by the Industrial Engineering English students?

Objective: To find out different topics that are important to study in English by the Industrial Engineering students.

Answers	# Of Teachers
Production programs	1
Inventory control	1
MRP system	1
Technology	1
Operation manuals reading	1
Technical English	1
No answer	2
TOTAL	8



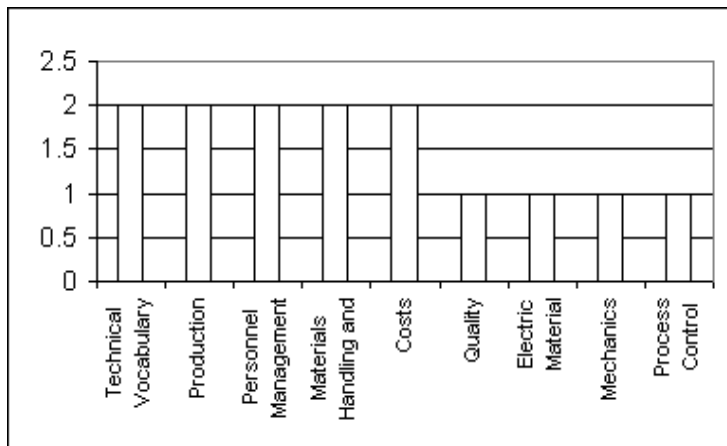
The results show that a 75% of the teachers answered this question providing the following topics to be studied by the Industrial Engineering English students: Production programs, Inventory Control, MRP system,

Technology, Operation manuals reading and Technical English; on the other hand, a 25% did not provide any topics.

Item 4: According to your personal experience, if an English handout were created, which technical vocabulary do you think that the students need to know in their labor environment?

Objective: To determine which English technical vocabulary the students need to know in their labor environment.

Answer	# of teachers
Technical Vocabulary	2
Production	2
Personnel Management	2
Materials Handling and Industrial Equipment	2
Costs	2
Quality	1
Electric Material	1
Mechanics	1
Processes Control	1
TOTAL	14



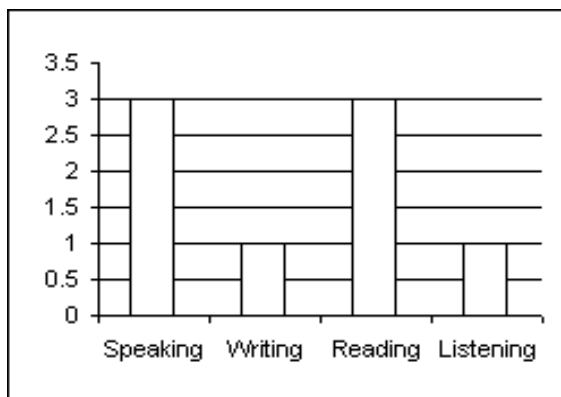
The teacher's answers express that the most important technical vocabulary that the students need in their labor environment is about Production, Personnel Management, Material Handling and Industrial Equipment and Costs. Besides, the students need to know about Quality, Electric Material, Mechanics and Control processes.

Item 5: Would you like that audiovisual aids were focused on a specific skill such as Speaking, Writing, Reading, or Listening?

Yes ☐ No ☐ Which one? _____

Objective: To know which skill is the most useful to develop by the Industrial Engineering English students.

Answer	# of teachers
Speaking	3
Writing	1
Reading	3
Listening	1
TOTAL	8

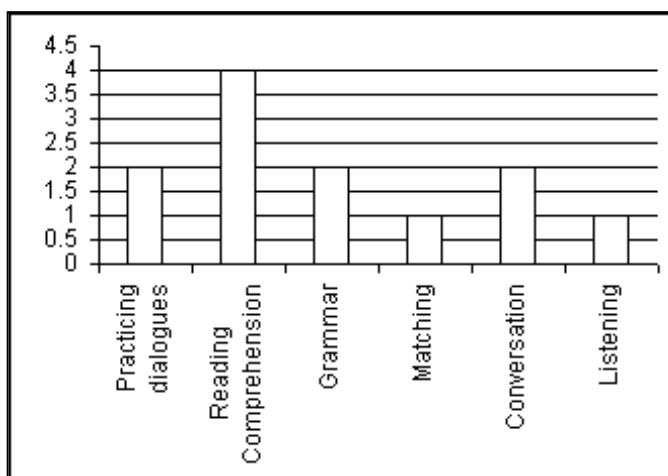


It can be seen that teachers agree in the skills in which they think audiovisual aids can be focused on. Reading and speaking with a 37.5% each one are the most projecting skills. On the contrary, writing and listening are placed with a 12.5% each one.

Item 6: What kind of exercises would you suggest to be developed along the English laboratory practices?

To know the different kind of exercises that the Industrial Engineering students can practice in their English laboratory practices.

Answer	# of teachers
Practicing dialogues	2
Reading Comprehension	4
Grammar	2
Matching	1
Conversation	2
Listening	1
TOTAL	12



Teachers remarked that the students of this major need to develop Reading comprehension exercises (33.33%). However, Practicing dialogues, Grammar and Conversation exercises each one with a 16.66% was suggested too. Matching and Listening exercises are relevant too with an 8.33% each one.

Item 7: According to your point of view, how long should last any particular activity in a class?

Objective: To define how long each English activity should last.

Teachers emphasized that in this major there is not a specific time for any particular activity. All depends on the schedule, the course and the students' abilities.

Item 8: Provide some suggestions toward the elaboration of audio visual aids to be used in the Industrial Engineering English laboratory practices.

Objective: To gather important information that can help the researchers to elaborate a suitable set of audiovisual aids.

Only a 60% of the teachers answered this question providing the following suggestions for this purpose. They are: First, enough quantity of aids to be used in the laboratory practices to avoid any kind of improvisation. Second, teachers training should be necessary about the better usage of the aids. Then, they suggest to have well prepared videos where students

can understand easily a class and conversation clubs to practice and to reinforce the speaking skill.

4.3 ANALYSIS AND INTERPRETATION OF LABORATORY TECHNICIAN'S INTERVIEW GUIDE

Item 1: Which are the English Laboratory's audiovisual aids that the teachers or you use in the English laboratory practices?

Objective: To determine the audiovisual aids that the teachers use the most in the English laboratory practices.

No.	ANSWER
1	Videos
2	Transparencies
3	Overhead Projector
4	VCR
5	Television

Item 2: Which are the audiovisual aids that are more practical to use in the English laboratory practices?

Objective: To find out which audiovisual aids are practical to use with the different groups in the English laboratory practices.

No.	ANSWER	
	Small Groups	Large Groups
1	Transparencies	Transparencies

2	Videos	Videos
3	Cassettes	Cassettes

Item 3: According to your personal experience which are the audiovisual aids that let the students to learn the English language much better?

Objective: To determine which audiovisual aids are more practical to use to better learn the English language.

No.	Answer
1	Transparencies
2	Videos
3	Overhead Projector
4	VCR
5	TV

Item 4: How many English laboratory practices do the students have during each semester?

Objective: To know the amount of English laboratory practices that the students receive during each semester.

ANSWER
Five sessions practices

Item 5: What kind of audiovisual aids the UTEC will implement in the future in the laboratory practices?

Objective: To investigate new audiovisual aids to be implemented by the UTEC in the English laboratory practices.

No.	ANSWER
1	Slides
2	Videos
3	Transparencies
4	C.D. ROM

Item 6: Do you have any suggestion toward the elaboration of audiovisual aids to be used in the English laboratory practices?

Objective: To gather Laboratory Technician's personal information to better elaborate audiovisual aids to be used in the English laboratory practices.

Some of the suggestions that the English laboratory technician provided are: Aids with the necessary motivation in order to keep the student's

attention. They should be elaborated with a lot of technical vocabulary and expressions taken from internet and other sources.

COMMENTS

1. The most used English Laboratory's audiovisual aids are: videos, VCR, TV, transparencies and the overhead projector.
2. The laboratory technician answered that the more practical audiovisual aids used with small and large groups are: transparencies, videos and tapes.
3. This answer says that the audiovisual aids that motivate more the students to learn better are: transparencies, overhead projector, videos, VCR, and TV.
4. The number of English laboratory practices that students of different majors have during each semester are five.
5. Among the audiovisual aids to be implemented during the English laboratory practices are slides, videos, transparencies and CD ROM.

PROPOSAL

CHAPTER V

PROPOSAL

This proposal has been created for Industrial Engineering III and IV English students. Its objective is to provide them with a useful English Handbook to be used during the English laboratory sessions of these two technical courses.

This English handbook is a series of twelve laboratory session especially designed to reinforce the acquisition of the English language during the laboratory sessions of a whole year. Some of its most relevant features are:

- It is divided into two main parts, which are: six English laboratory sessions for English III and six English laboratory sessions for English IV.
- Each part consists of Students' guidelines and Laboratory Technician's guidelines.
- Its grammar structures are based on the sixteen grammar reviews of the New Interchange Book 2 and the contents programs of these two technical English courses
- It is rich and varied in its topics; they were gotten from the instruments applied to the students and teachers of this major
- It also teaches technical vocabulary and specific readings focused on the needs of the students from the Industrial Engineering Major.
- It develops the four skills through the different exercises presented in each session, therefore students can practice English in a meaningful way.
- Each laboratory session contains a different structure in terms of the kind of exercises applied along it, the activities to be developed, the audiovisual aids to be used and the skills to be emphasized.
- The laboratory technician's guidelines are full of details in the lesson plannings.

This English Handbook consists of students' guidelines, laboratory technician's lesson planning guidelines and a wide variety of audiovisual aids elaborated (according to the students' needs) to enrich this handbook. Such aids are: 30 transparencies , two tapes , a videotape with five video clips  and ten pictures .

The authors strongly believe that the success of this English Handbook for the Industrial Engineering English Students will depend a lot on the students and the laboratory technician's usage.

**UNIVERSIDAD TECNOLÓGICA DE EL SALVADOR
ENGLISH LABORATORY SESSION GUIDELINES FOR INDUSTRIAL
ENGINEERING STUDENTS
ENGLISH COURSE III**

**PRESENTED BY
SALVADOR NERY CHICAS LINARES
JESUS ALBERTO MARIN NAJERA
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Audiovisual Aid's Signs Used Along this Handbook

SIGN	MEANING	DESCRIPTION OF THE CONTENT
	Tape	It means that a tape will be used in the activity . The content of the tape can be some vocabulary, a reading or the answers from an excersice (two tapes).
	Video	The T.V. signs means that a videotape containig some clips will be used in the activity. The clips are about the topic studied in the lesson which have been taken from different movies and videos (A video tape unit with 5 clips which last

		around 5-10 minutes each one).
	Transparency	It means that some information such as written or illustrated vocabulary, answers from some exercises and some readings is contained in a transparency (30 transparencies).
	Pictures	This sign means that some laminated pictures with some vocabulary will be used in the activity (10 pictures).

PRACTICE 1

HOW TIMES HAVE CHANGED IN INDUSTRY?



A. Practice new vocabulary with your teacher. Repeat after your teacher word by word.

Textile	Plastics	Screwdriver
Machines	Tools	Sugar
Clothing	Plane	Cotton
Pulley	Manufacturing	Mallet
Factory	Equipment	Pincers

Now classify the words according to:

TECHNOLOGY

PRODUCTION

TOOLS



B. Look at the transparencies carefully, then answer different questions about them.

C. Talk about how Industrial factories have changed in the last fifty years in our country. Answer questions like these ones:

1. How were industrial machines fifty years ago?
2. What kind of industrial factories did we have by then?
3. What kind of jobs did men used to have? And women?
4. How much did people use to earn?
5. What kind of goods did people produce?

D. Questions and Answers. Underline the correct answer. Then, check your answers with your teacher.

1. _____ What does the industry provide to our society?
 - A. Food to eat, clothes to wear and house to live.
 - B. Machinery, tools, and religion.
2. _____ Which are the most well-known Industries in El Salvador?
 - A. Atomic energy, chemical industry and motion picture.
 - B. Textile, cotton, and coffee.
3. _____ A primary industry makes use of natural sources. Which of the factories belong to it?
 - A. Steel. Glass, and automobile.
 - B. Agriculture, fishing, and forestry.
4. _____ What are the elements that are included in the structure of the industry?
 - A. Raw materials, labor, and capital.
 - B. A car, a man, and a woman.
5. _____ Which food is produced from dairy Industry?
 - A. Milk, cheese, and cream.
 - B. Meat, bacon, and pork.



E. **ENTERPRISE PLANNERS**

Think about the different things you can find in the Assembly area. Write some suggestions about how to improve it, and then read your suggestions.

PRACTICE 2

CHOOSING AN ENGINEER MAJOR



A. Watch the video, then underline the correct answer.

1. What is the movie's topic?
 - a) Health Problems
 - b) Family Problems
 - c) Engineers Difficulties

2. What is the profession of Doug?
 - a) Industrial Engineering
 - b) Civil Engineering
 - c) Carpenter

3. What kind of things does he build?
 - a) Houses and Buildings
 - b) Furniture
 - c) Cars and Buses

4. What kind of problems does he face?
 - a) The lack of money
 - b) He does not have enough time to stay home

c) Work environment problems

5. How do you consider that he is doing his job?

a) Excellent

b) Good

c) Bad



B. Listen to the following reading twice. The first time, just listen; the second time, try to keep as much information as you can about the reading.



C. Listen to each question and check (3) the correct answer.

1. ☐ They build, discover and create.
☐ They work hard, earn money and travel a lot.
2. ☐ The contributions they can make.
☐ His / her personal qualifications.
3. ☐ The ability to work during a long time.
☐ The ability to work with Mathematics.
4. ☐ Curious, intelligent, creative, communicative.
☐ Speak fluently, good appearance and self-motivated.
5. ☐ Computer programming, workshops, mechanics.
☐ English, Math, Science, History, another language.

LOOKING FOR A JOB!

 D. Look at the following ads for jobs. Make comparisons using as...as. What job would you choose?

Example: Job 1 requires as computer skills as job 2.

JOB 1

Are you looking for a job?

International Company wants to hire an industrial Engineer

REQUIREMENTS

- 3Hard worker
- 33 years of experience in machines
- 3Maintenance, installation of industrial equipment
- 3Strong computer skills
- 3Car is a must
- 3Team work oriented

WE OFFER

- 3Excellent salary
- 3Excellent social benefits
- 3Good working environment
- 3Labor stability
- 3Opportunities to travel to other countries

If you're interested in, please call for an interview. Tel: 220-0000

JOB 2

Industrial Engineer is Needed

National Company is looking for an industrial engineer with the following qualifications:

- Male
- 25 to 35 years old
- Experience in Industrial Safety, industrial management and machinery manipulation.
- Ability to train and coordinate groups
- Excellent relationships
- Computer knowledge

The Company offers:

- Salary according to experience

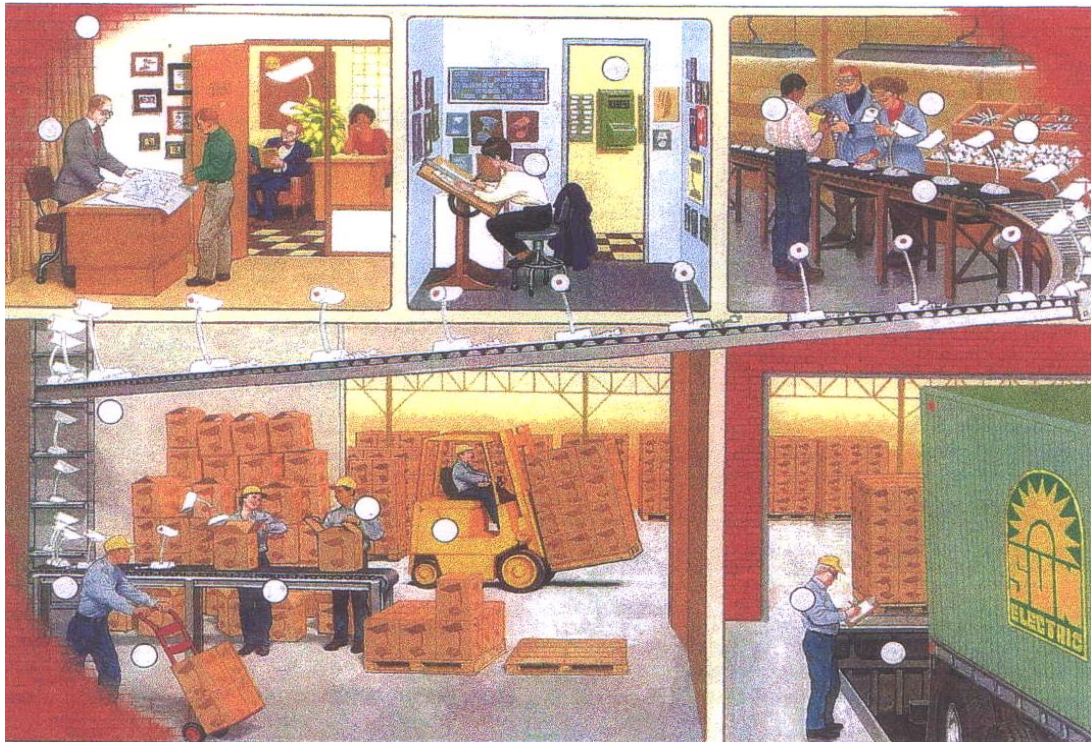
- Opportunity to grow in the company
- Excellent benefits

Please bring your resume to
Olimpica Avenue No. 40 S.S.

PRACTICE 3

TALKING ABOUT FACTORY AND TOOLS

-  A. Match the words with the pictures. Use the numbers form 1 to 16.



Taken from the Oxford Picture Dictionary, Page 146

- | | | |
|------------------|-------------------|---------------------|
| 1. Front office | 7. Designer | 13. Line supervisor |
| 2. Parts | 8. Ware house | 14. Hand truck |
| 3. Packer | 9. Chipping clerk | 15. Conveyor belt |
| 4. Factory owner | 10. Time clock | 16. Factory worker. |
| 5. Assembly | 11. Order puller | |
| 6. Forklift | 12. Loading dock | |



B. Using the vocabulary presented in exercise A, fill in the blanks and read the sentence.

- e.g.
- 1 Have you driven a forklift ?
 - 2 . I have often checked the time in a _____
 3. You have to pass the box through a _____
 4. I have often used a _____ in my job.
 5. I have never been a factory _____
 6. Have you seen the factory _____ ?
 7. I'd like to be a _____ supervisor.
 8. T he _____ has been using a pencil and a ruler.



C. Study and learn by heart the following vocabulary, then, match the English word with each meaning. Finally, check your answers.

e.g.

- | | |
|---------------------------|--------------------------------------|
| a) Venier depth gauge | ___ Metro (regla) |
| b) Venier Scale | ___ Destornillador |
| c) Adjustable cutting tip | ___ Martillo |
| d) Driving plate | ___ Tornillo micrométrico |
| e) Calliper gauge | ___ El tope de arrastre |
| f) Screwdriver | ___ El perro de arrastre |
| g) Microcenter calliper | ___ La placa cortante de metal |
| h) Hammer | ___ Escala de Nonio |
| i) Yardstick | ___ Calibrador de extensiones |
| j) Lathe carrier | <u>a</u> Calibrador de profundidades |



D. Based on the vocabulary presented in the box, replace the underlined words and create a new statement. Then, read them aloud.

a. Level	d. Vise	g. Computer
b. Hammer	e. Flashlight	h. Mouse
c. Electric drill	f. Adjustable cutting tip	i. Tape
		j. Hand truck

e.g. 1. I have never used a screwdriver.

I have never used a level.

2. The worst tool I have ever used is Vernier scale.

3. I have never tried to use a handsaw.

4. The most usual thing I have ever used is a C-clamp.

5. A common tool that we use is a yardstick.

6. They have been using a lathe carrier.

7. She has been using a pen and a piece of paper.

8. I have never used a scanner.

9. I have used a calliper gauge.

10. The best tool I have ever used is a microcenter calliper.

PRACTICE 4

TOOLS AND RESOLUTIONS



A. Practice new vocabulary with your teacher. Repeat after him.

B. Do you know more about tools? Tell the function of each one.

C. How will you reach success in a factory?

Express statements telling how will you improve it.

Look at the examples:

"I am going to increase the production next month."

ON PLANS

D. A businessman is planning to open a new factory in the city. What plans does he need to make? How many suggestions can you think of? Use had better, should and shouldn't.

Examples:

A: You should hire the necessary people to work in

B: You should set a schedule to workers.

E. Write your classmate's more relevant suggestions on the lines.

C: _____

D: _____

E: _____

F: _____

F. Substitution Drill.

Practice the following sentences with your teacher, listen carefully and repeat aloud.

1. I am going to work late tonight.

She

We

You

2. You are going to check the small parts.

He

I

The assembly line

3. She is going to have a meeting with her boss.

Not

They

With their parents

4. Are we going to design a new product next week?

I

Not

Next weekend

PRACTICE 5

I'M SORRY, I'LL...

A. Express apologies to the following complains.

1. You forgot to stop the machine on time, _____
2. The power is out, _____
3. The grinding machine doesn't work, _____
4. The conveyor belt has trouble, _____
5. A worker had an accident, _____

WONDER TOOLS



B. Look at the picture and think of as many possible uses for this item as you can.

A: You can use these pincers for _____

B: _____

C: _____

D: _____



C. Watch the video about TOOLS and list the tools you watched. Then express orally the function of each one.

D. Substitution Drill. Using the verb that is in parenthesis, rewrite the sentences on the lines.

1. You can use pincers to pick objects.

_____ (catch)

2. You can use the vernier capiller gauge to measure pieces.

_____ (press)

3. You can use the screwdriver to screw machine screws.

_____ (unscrew)

4. You can use the wire stripper to cut wire.

_____ (double over)



E. Listen to the tape and complete the missing words. Then sing the song while you listen to.

TRULY, MADLY, DEEPLY (SAVAGE GARDEN)

_____1 be your dream, I'll be your wish, I'll _____2 your fantasy.

I'll be your hope, I'll be your love, be everything that you need

_____3 _____4 you more with every breath truly madly deeply do

I will be strong, I _____5 _____6 faithful because I'm counting on a new
beginning a reason for living, a deeper meaning yeah,

CHORUS:

I want to _____7 with you on a mountain

I want to bathe with you in the sea

I want to lay like this forever

Until the sky falls down on me.

And when the star are shining brightly in the velvet sky, I'll _____8 a wish send it
to heaven, then make you want _____9

The tears of joy for all the pleasure in the certainty

That were surrounded by the comfort of the highest power,

In lonely hours, the tears devour you.

CHORUS

Oh _____¹⁰ you see it baby you don't have to close your eyes
Because it's standing right here before you
All that you need _____¹¹ surely come.
I'll be your dream, I'll be your wish, I'll be your fantasy
I'll be your hope, I'll be your love, be everything that you need
I'll love you more with every breath truly, madly deeply _____¹²

CHORUS

I want to stand with you on a mountain
I want to bathe with you in the sea
I want to live like this forever
Until the sky falls down on me.

PRACTICE 6

INDUSTRIAL SAFETY



A. Safety Sources

Look at the pictures and using the words below, match the word with the correct picture, Then check your answers.

Safety gloves

Safety vest

Respirator

Safety glasses

Hard hat

Latex net

Safety boots



Ear plugs

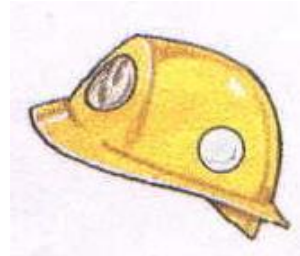
Fire extinguisher



1. _____

2. _____

3. _____



4. _____

5. _____

6. _____



7. _____

8. _____

9. _____

Taken from the Oxford Picture Dictionary. Page.197

☐ B. Watch the video and complete the check- list.

	Yes	No
1. The movie was about petroleum Industry.		

2. The movie was about fishing industry.
3. The boss' name is Harry.
4. The workers wore helmets to protect their heads.
5. They wore respirators.
6. They wore safety boots.
7. The workers used fire extinguisher.
8. The workers wore safety gloves.
9. The workers wore safety vests.
10. The workers didn't find petroleum.



C. LISTENING

Listen to the reading about "Industrial Safety", then make a check (✓) if the statement is TRUE or FALSE. After that check your answers.

	TRUE	FALSE
1. Industrial Safety Engineering and Public Health is an area in which people need a protection.	☐	☐
2. Chemical, Biological and Physical hazards can't Produce injures.	☐	☐
3. Chemical hazards can arise from the presence of Poisons.	☐	☐
4. To eliminate hazards, workers aren't required to wear protective equipment.	☐	☐



D. READING

Read the following paragraph, then answer some questions related to it.

INDUSTRIAL SAFETY

Industrial Safety Engineering and Public Health is an area in which people need a protection in order to avoid hazards, injuries and death. Various external sources such as chemical, biological and physical hazards can produce injury. Hazard can also result from an interaction between workers and environment. Some chemical hazards can arise from the presence of poisonous or irritating gas, mist, or dust. Hazard elimination may require the use of less toxic material, improve ventilation, leakage control, protective clothing, etc. Besides, common physical hazards include: environment, heat burn, noise, vibration, sudden pressure changes, radiation, and electric shock. So, in order to eliminate hazards, workers are required to wear protective equipment. For example: safety glasses, earplugs, or earmuffs, boots, gloves, etc.

Taken from Funk S. Wagnalls New Encyclopedia

Page 74, volume 14.

QUESTIONS:

1. What is Industrial Safety Engineering?
2. Which is the equipment that workers need to wear to protect themselves from any accident?
3. Which are some common physical hazards?
4. Which are some chemical hazards?

5. Which are some of the advises to eliminate hazards?

C. Practice the vocabulary from exercise A with the following pattern sentences.

1. Q: What is number 2?

A: It's a / an _____.

A: They're _____.

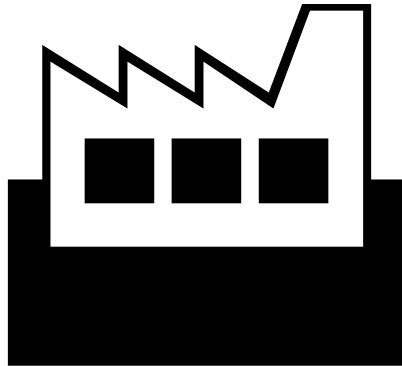
2. Q: What is a / an _____ used for?

A: It's used for _____.

A: They're used for _____.

**UNIVERSIDAD TECNOLÓGICA DE EL SALVADOR
ENGLISH LABORATORY TECHNICIAN'S SESSION PLANNING
GUIDELINES FOR THE INDUSTRIAL ENGINEERING
ENGLISH COURSE III**

**PRESENTED BY
SALVADOR NERY CHICAS LINARERS
JESUS ALBERTO MARIN NAJERA
PABLO GUSTAVO MORENO MARTINEZ**

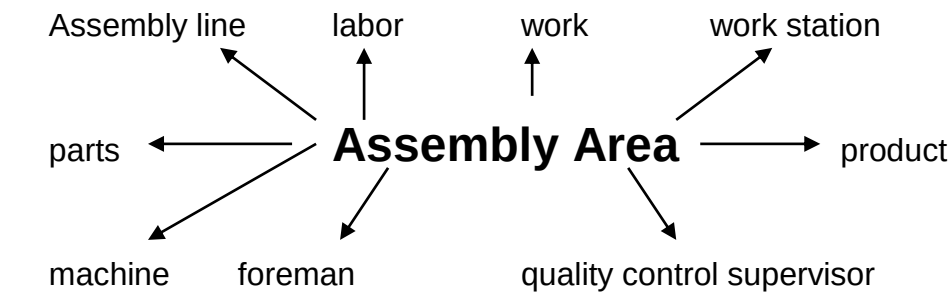


PRACTICE 1

LESSON PLANNING

TOPIC: How times have changed in Industry? Enterprise Planners.																																
GRAMMAR STRUCTURE: The Simple Present Tense.																																
OBJECTIVE: To reinforce the use of the Simple Past Tense through some sentences, questions and suggestions related with changes in Industry.																																
SKILLS EMPHASIZED: Listening, speaking, reading and writing.																																
ACTIVITIES:  A. Introduce the following vocabulary to the students through a repetition drill using the tape. VOCABULARY AND TAPE SCRIPT <table><tr><td>Textile machine</td><td>Plastics</td><td>Screwdriver</td></tr><tr><td>Machines</td><td>Tools</td><td>Sugar</td></tr><tr><td>Clothing</td><td>Plane (cepillo)</td><td>Cotton</td></tr><tr><td>Pulley (polea)</td><td>Manufacturing</td><td>Mallet (almágana)</td></tr></table>  Then, ask the students to classify them in the following categories: Technology, Production, and Tools and check their answers by asking them at random. Present the transparency with the correct answers to let the students check themselves. <table><tr><td>TECHNOLOGY</td><td>PRODUCTION</td><td>TOOLS</td></tr><tr><td>Factory</td><td>Textile</td><td>Pincers</td></tr><tr><td>Machine</td><td>Cotton</td><td>Screwdriver</td></tr><tr><td>Tools</td><td>Plastics</td><td>Plane</td></tr><tr><td>Manufacturing</td><td>Clothing</td><td>Mallet</td></tr><tr><td>Equipment</td><td>Sugar</td><td>Pulley</td></tr></table>		Textile machine	Plastics	Screwdriver	Machines	Tools	Sugar	Clothing	Plane (cepillo)	Cotton	Pulley (polea)	Manufacturing	Mallet (almágana)	TECHNOLOGY	PRODUCTION	TOOLS	Factory	Textile	Pincers	Machine	Cotton	Screwdriver	Tools	Plastics	Plane	Manufacturing	Clothing	Mallet	Equipment	Sugar	Pulley	TIME 15'
Textile machine	Plastics	Screwdriver																														
Machines	Tools	Sugar																														
Clothing	Plane (cepillo)	Cotton																														
Pulley (polea)	Manufacturing	Mallet (almágana)																														
TECHNOLOGY	PRODUCTION	TOOLS																														
Factory	Textile	Pincers																														
Machine	Cotton	Screwdriver																														
Tools	Plastics	Plane																														
Manufacturing	Clothing	Mallet																														
Equipment	Sugar	Pulley																														

 B. Present the transparencies to the students. The first one contains the factory from the past time and the other from updated time. Ask them the following questions. QUESTIONS: What kind of factory is this? How many workers can you see? What else can you see? What are the workers doing?	5'
C. In order to develop the topic, ask at random the following questions. Give help as possible to have an answer from the students. Emphasize the Simple Past Tense. Answers can vary. 1. How were industrial machines fifty years ago? 2. What kind of industrial factories did we have by then? 3. What kind of jobs did men use to have? And women? 4. How much did use to earn? 5. What kind of goods did people produce?	15'
D. Explain the exercise to the students read the instruction and provide the first answer. Then check the answer with the students by asking them their answer. If necessary ask the students to read aloud in chorus.  E. Ask the students brainstorm with the phrase: <u>Assembly Area</u>. Help the students as necessary providing cues to do this activity. Write their ideas on the board. Then show the transparency containing a model of a	10'

brainstorming. After that, read the instructions, ask the students to think and write about some suggestions of how to improve this area. Provide the next example: “This area should have capable people to work with small parts.”  <pre>graph TD; AA[Assembly Area] --> AL[Assembly line]; AA --> L[labor]; AA --> W[work]; AA --> WS[work station]; AA --> P[product]; AA --> QCS[quality control supervisor]; AA --> F[foreman]; AA --> M[machine];</pre>	15'
AUDIOVISUAL AIDS NEEDED: Tape Exercise A Transparencies Ex A, B, E Tape recorder Overhead projector Board	60'

PRACTICE 2

LESSON PLANNING

TOPIC: Choosing an Engineering Major - Looking for a job	
GRAMMAR STRUCTURE: Comparisons with as...as	
OBJECTIVE: To know how to choose an Engineering Major by comparing jobs and having some information about it.	
SKILLS EMPHASIZED: Listening, speaking, reading, writing.	
ACTIVITIES:  A. Introduce the topic, then go over the exercise. Read the instructions, play the Video "Choosing an Engineer Major" and ask the students to pay attention. After that, give the students time to answer the five questions. Then ask different students the answers they have. *ASWERS: 1.C 2.B 3.A 4.B 5.C  B. Explain the students that the reading is going to be about "Requirements when choosing an Engineering Career", then, go over instructions. Play the tape to let students listen for a first time, then ask them to listen again keeping information in mind. TAPE SCRIPT * Choosing an Engineering Major. Engineering is a challenging field that offers many opportunities to young men and women. Engineers build, discover, and create, They contribute to the health and welfare of many people. Before a person desires to enter Engineering, he should carefully consider his personal qualifications, He should also know what education and training are	TIME 10' 15'

required. He will then be able to judge whether he can meet the demands of the profession. Ability to work with mathematics is probably the most important qualification for an engineer. Many personal traits also qualify a person for an Engineering career. The following list will help you check which of these traits you have. A person who enters Engineering should be: 1. Curious, searching for the “how” and “why” of natural and mechanical things. 2. Intelligent, thinking clearly and using sound judgement 3. Imaginative, picturing difficult situations and suggesting new ideas or new ways of doing things. 4. Creative, bringing new facts and methods together to solve new problems. 5. Industrious, working hard to complete exacting tools as quickly as possible. 6. Studious, reading widely, and extensively to increase knowledge, 7. Responsible, completing assignments in a dependable way with a minimum of supervision. 8. Communicative, sharing ideas with others and getting along with people. A student who plans to be an engineer should prepare for Engineering school and take certain courses in high school. He should take (1) four years of English, (2) four years of mathematics. (3) at least three years of Science (such as Physics and Chemistry. (4) at least two years of modern language (such as German, French , or Spanish), and (5) at least two years of History. A student who does not take these courses must have to take additional preparatory courses. <i>Taken from The World Book Encyclopedia Pag. 232 Vol. 6E</i> C. Play the tape to do exercise C. Go over instructions. Play the tape to listen to each question, pause after each question to give students time to	12'
---	------------

check. (✓) the correct answer. Check the correct answers by asking to different students. * Answers. 1. They build, discover and create. 2. His / her personal qualifications. 3. The ability to work with Mathematics. 4. Curious, intelligent, creative, communicative. 5. English, math, Science, History, another language.	
 D. Ask different students to brainstorm about some industrial Engineering requirements when looking for a job. • Write their ideas on the board. Ask them to give reasons why each requirement. • Read the instructions and ask them to read the two ads. Then, show the transparency (ies) and read its / their information aloud. • Provide an example like this: “Job 1 requires as computer skills as Job 2” then ask different students to express their comparisons. Give help as needed. Finally ask the question to find out which job is the best to get. * Possible Answers. Job 2 doesn’t offer as many salary benefits as Job 1. Job 1 doesn’t ask for as many requirements as job 2. Job 2 is as convenient as job 1. Job 1 asks as much work experience as job 2. Job 2 offers as good benefits as job 1.	10’ 5’ 8’

AUDIOVISUAL AIDS NEEDED: “Choosing an engineer major “ video Ex A Tape Ex B – C Transparency Ex D TV-VCR Tape recorder Overhead projector Board	60'
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PRACTICE 3

LESSON PLANNING

TOPIC: Talking About Factory and Tools.																	
GRAMMAR STRUCTURE: Present Perfect Tense.																	
OBJECTIVE: To review the Present Perfect Tense in sentences by using vocabulary about factory and tools.																	
SKILLS EMPHASIZED: speaking, writing, listening, and reading.																	
ACTIVITIES:  A. Describe the picture (things and people) as warm-up using questions and answers. Then, the students match the words with the picture using numbers from one to sixteen. After that, show the transparency to check the correct answer.  B. Ask the students to keep silent and read the vocabulary presented in exercise A. Then, play the tape twice; students just listen and then they have to listen and repeat aloud. Finally, ask the students to fill in the blanks and read a statement using the vocabulary studied. TAPE SCRIPT: <table style="width: 100%;"> <tr> <td>1. Front Office</td><td>9. Chipping Clerk</td></tr> <tr> <td>2. Parts</td><td>10. Time clock</td></tr> <tr> <td>3. Packer</td><td>11. Order puller</td></tr> <tr> <td>4. Factory Owner</td><td>12. Loading dock</td></tr> <tr> <td>5. Assembly</td><td>13. Line Supervisor</td></tr> <tr> <td>6. Forklift</td><td>14. Hand truck</td></tr> <tr> <td>7. Designer</td><td>15. Conveyor belt</td></tr> <tr> <td>8. Warehouse</td><td>16. Factory worker</td></tr> </table>	1. Front Office	9. Chipping Clerk	2. Parts	10. Time clock	3. Packer	11. Order puller	4. Factory Owner	12. Loading dock	5. Assembly	13. Line Supervisor	6. Forklift	14. Hand truck	7. Designer	15. Conveyor belt	8. Warehouse	16. Factory worker	TIME 15' 15'
1. Front Office	9. Chipping Clerk																
2. Parts	10. Time clock																
3. Packer	11. Order puller																
4. Factory Owner	12. Loading dock																
5. Assembly	13. Line Supervisor																
6. Forklift	14. Hand truck																
7. Designer	15. Conveyor belt																
8. Warehouse	16. Factory worker																

 C. Ask the students if they know about the vocabulary presented in the transparency. Then, explain to the students some basic description of the tools in order to let students guess the meaning in term of Spanish. Finally, Ask them to learn by heart and match the words in column A and B.

a) Venier depth gauge	<u>i</u>	Metro (regla)
b) Venier Acale	<u>f</u>	Destornillador
c) Adjustable cutting tip	<u>h</u>	Martillo
d) Driving plate	<u>g</u>	Tornillo micrométrico
e) Caliper gauge	<u>d</u>	El tope de arrastre
f) Screwdriver	<u>j</u>	El perro de arrastre
g) Microcenter calliper	<u>c</u>	La placa cortante de metal
h) Hammer	<u>b</u>	Escala de Nonio
i) Yardstick	<u>e</u>	Calibrador de extensiones
j) Lathe carrier	<u>a</u>	Calibrador de profundidades

15'

 D. For this exercise put the pictures around the laboratory that contain these English words; level (nivel), hammer, electric drill, vise(prensa), flashlight, adjustable cutting tip (placa cortadora de metal), computer, mouse, tape, and hand truck before to start the activity.

- Then, Ask the students (one by one) to point at the picture named by you, in order to identify the meaning. Finally, ask the students to write statements and read them.

Answers:

- I have never use a level.
- The worst tool I have ever use is a hammer.
- I have never tried to use an electric drill.
- The most usual thing I have ever use is a vise.

15'

5. A common tool that we have used is a flashlight. 6. They have been using an adjustable cutting tip. 7. She has been using a computer. 8. I have never used a mouse. 9. I have used a tape. . 10. The best tool. I have ever used is a handbook.	
AUDIOVISUAL AIDS NEEDED: Tape ex. A-B Pictures ex D Transparencies ex C Tape recorder Board Overhead projector	60'

PRACTICE 4

LESSON PLANNING

TOPIC: Tools and Resolutions, On plans.														
GRAMMAR STRUCTURE: be going to, will, had better, should and shouldn't.														
OBJECTIVE: To reinforce the future tenses and some modal auxiliaries by talking about tools and business planning.														
SKILLS EMPHASIZED: speaking, writing, listening, and reading.														
ACTIVITIES:		TIME												
	 A. Introduce the vocabulary about tools, show the transparency one by one and ask the students to repeat after you. Be careful with the stress in each word. • Play the tape to let students listen the pronunciation of the tools you have introduced. • Write the vocabulary on the board or show the transparency again because it will be used in the next exercise.	15'												
VOCABULARY SCRIPT:														
<table border="0" style="width: 100%;"> <tr> <td>Pincers</td> <td>mallet</td> <td>hammer</td> </tr> <tr> <td>Screwdriver</td> <td>pulley</td> <td>tape measure</td> </tr> <tr> <td>Plane</td> <td>electric drill</td> <td>level</td> </tr> <tr> <td>Vise</td> <td></td> <td></td> </tr> </table>			Pincers	mallet	hammer	Screwdriver	pulley	tape measure	Plane	electric drill	level	Vise		
Pincers	mallet	hammer												
Screwdriver	pulley	tape measure												
Plane	electric drill	level												
Vise														
B. Ask different students to express to you the function of the following tools which are used in the factory. Provide the following example: "With pincers, I can cut wire."		10'												
C. Ask students to write statements related to the improvements in a factory using "be going to" and "will". Provide this example: "I'm going to increase the production next month" • Go over the instructions and give time to students in order to write their		10'												

statements on the lines. - Ask for the answers to students at random or through a chain drill (Students express their answer, the second repeat the first answer and add more information, and so on). D. Elicit a discussion about planning to open a factory using had better, must, should. Provide an example after you read the instruction “You should hire the necessary people to work in” Students will express their statement at random. E. Ask the students to express their statement and write on the board the most relevant. Ask them to take notes. - Then, ask different students to read the statements. F. Practice with the students the different sentences, explain them that you will give a cue word to be substituted in the sentences. Give help as needed it. Then, try to practice in chorus and individually. Take into account that the use of “<i>be going to</i>” is studied through this exercise.	10’ 8’ 7’
AUDIOVISUAL AIDS NEEDED: Tape ex A Transparencies ex. A. Tape recorder Overhead projector Board	

PRACTICE 5

LESSON PLANNING

TOPIC: I'm Sorry, I'll... Wonder tools.	
GRAMMAR STRUCTURE: Infinitive verbs, Can, Will.	
OBJECTIVE: To talk about work environment by expressing requests, apologies and tools and their function.	
SKILLS EMPHASIZED: speaking, writing, reading, listening.	
ACTIVITIES: A. Introduce the exercise to students by reading the instructions. They have to express requests and apologies to some complaints. Provide the following example: Complaint: You didn't come to work yesterday. Apology: I'm sorry but it won't happen again. - Give time to write their answers. Then, ask different students to express their answers. - Explain some vocabulary if needed: Vocabulary: - Grinding machine (máquina replicadora cilíndrica) - Unscrew - check - Conveyor belt - double over (doblar) - Vernier capiller gauge (pie de rey) Possible answers: - I'm sorry, I'll take care next time. - I'm sorry, I'll check the electrical system. - I'm sorry, I'll check it now. - I'm sorry I'll call the assistance - I'm sorry, I'll call his relatives.	TIME 15'

B. Go over instructions. Explain the exercise providing an example: “You can use these pincers to catch something.” Then, ask the students at random to think in possible uses that pincers can have. Then, all together are going to discuss the most interesting ones. Write them on the transparency containing the picture and let them to take notes.	15;										
C. Read the exercise C instructions, Play the video <i>WONDER TOOLS</i> and ask the students to pay attention. While they are watching the video, they have to list the different tools. After the video, ask them to express orally the function of them, as in exercise B. Answers: <table border="0" style="width: 100%;"> <tr> <td style="width: 50%;">Hammer</td><td style="width: 50%;">Glasses</td></tr> <tr> <td>Electric drill</td><td>Shovel</td></tr> <tr> <td>Saw</td><td>Circular Saw</td></tr> <tr> <td>Pipe wrench</td><td>Mallet</td></tr> <tr> <td>Screwdriver</td><td>Wheelbarrow</td></tr> </table> D. Go over instructions, explain vocabulary if needed, then give time to students to rewrite the sentences. Then, ask the students at random to express the new sentence.	Hammer	Glasses	Electric drill	Shovel	Saw	Circular Saw	Pipe wrench	Mallet	Screwdriver	Wheelbarrow	10'
Hammer	Glasses										
Electric drill	Shovel										
Saw	Circular Saw										
Pipe wrench	Mallet										
Screwdriver	Wheelbarrow										
Possible answers: 1. You can use pincers to catch objects. 2. You can use the vernier capiller gauge to press pieces. 3. You can use the screwdriver to unscrew machine screws. 4. You ca use the wire stripper to double over wire.	15'										
E. Play the tape with the song <i>Truly, Madly, Deeply</i> to the students to do the exercise, then play it again if it is necessary, then check the missing vocabulary together. Finally, play the tape to listen to the song.	5'										

Answers: <table> <tr> <td>1. I'll</td><td>7. stand</td></tr> <tr> <td>2. Be</td><td>8. make</td></tr> <tr> <td>3. I'll</td><td>9. To cry</td></tr> <tr> <td>4. Love</td><td>10. can</td></tr> <tr> <td>5. Will</td><td>11. will</td></tr> <tr> <td>6. Be</td><td>12. Do</td></tr> </table>	1. I'll	7. stand	2. Be	8. make	3. I'll	9. To cry	4. Love	10. can	5. Will	11. will	6. Be	12. Do	
1. I'll	7. stand												
2. Be	8. make												
3. I'll	9. To cry												
4. Love	10. can												
5. Will	11. will												
6. Be	12. Do												
AUDIOVISUAL AIDS NEEDED: Transparencies Ex A, B, C. Tape Ex. E "Wonder tools" video Ex. C Overhead projector TV-VCR Board	60'												

PRACTICE 6

LESSON PLANNING

TOPIC: Industrial Safety											
GRAMMAR STRUCTURE: Be in Present and Reading technique (Scanning)											
OBJECTIVE: To make students study about personal industrial safety by using vocabulary in different exercises.											
SKILLS EMPHASIZED: Listening, speaking, reading, and writing.											
ACTIVITIES:  A. Go over instructions, then provide the students an example on the board. - Give time to students to do the exercise, after that, play the tape in order to let the students check their answers and repeat the vocabulary. - Ask the students to repeat the vocabulary after you. Answers and tape script: <table border="0"> <tr> <td>1. Respirator</td> <td>6. Hard hat</td> </tr> <tr> <td>2. Safety glasses</td> <td>7. Safety gloves</td> </tr> <tr> <td>3. Fire extinguisher</td> <td>8. Latex net</td> </tr> <tr> <td>4. Safety vests</td> <td>9. Safety boots</td> </tr> <tr> <td>5. Earplugs</td> <td></td> </tr> </table>  B. Play the “Industrial Safety Equipment” video to the students. After that, read the instruction and ask the students to complete the checklist. Check the answers if needed. Then, check the answers by asking to different students.	1. Respirator	6. Hard hat	2. Safety glasses	7. Safety gloves	3. Fire extinguisher	8. Latex net	4. Safety vests	9. Safety boots	5. Earplugs		TIME 10’ 10’
1. Respirator	6. Hard hat										
2. Safety glasses	7. Safety gloves										
3. Fire extinguisher	8. Latex net										
4. Safety vests	9. Safety boots										
5. Earplugs											

Answers: <table> <tr> <td>1. Yes</td> <td>6. Yes</td> </tr> <tr> <td>2. No</td> <td>7. No</td> </tr> <tr> <td>3. Yes</td> <td>8. No</td> </tr> <tr> <td>4. Yes</td> <td>9. No</td> </tr> <tr> <td>5. No</td> <td>10. No</td> </tr> </table>  C. Go over instructions. Play the tape twice. To give the students the opportunity to listen better the reading. * Then, ask the students to check (✓) the statements in the TRUE or FALSE box. • Play the tape again to let the students listen to the statements. After, check their answers by asking orally. Answers: 1. TRUE , 2. FALSE, 3. TRUE, 4. FALSE. • The reading to be listened in this exercise will be used in the exercise D. TAPE SCRIPT: INDUSTRIAL SAFETY Industrial Safety Engineering and Public Health is an area in which people need a protection in order to avoid hazards, injuries and death. Various external sources such as chemical, biological and physical hazards can produce injury. Hazard can also result from an interaction between workers and environment. Some chemical hazards can arise from the presence of poisonous or irritating gas, mist, or dust. Hazard elimination may require the use of less toxic material, improve ventilation, leakage control, protective clothing, etc. Besides, common physical hazards include: ambient, heat burn, noise, vibration, sudden pressure changes, radiation, and electric	1. Yes	6. Yes	2. No	7. No	3. Yes	8. No	4. Yes	9. No	5. No	10. No	15'
1. Yes	6. Yes										
2. No	7. No										
3. Yes	8. No										
4. Yes	9. No										
5. No	10. No										

shock. So, in order to eliminate hazards, workers are required to wear protective equipment. For example: safety glasses, earplugs, or earmuffs, boots, gloves, etc. <i>Taken from Funk S. Wagnalls New Encyclopedia. Pag. 74 Vol. 14</i>	10'
 D. Ask the students to read the paragraph once in silently way. • Then, give time to students to answer each question in the space provided. • At random, ask the questions to different students in order to have the right answer. • Provide the right answers if necessary by showing the transparency. Answers: 1. It is an area in which people need a protection in order to avoid hazard, injury and death. 2. Safety glasses, earplugs, or earmuffs, boots, gloves. 3. Ambient heat, burn, noise, vibration, sudden pressure changes, radiation, electric shock. 4. Poisonous or irritating gas, mist, or dust. 5. Use of less toxic material, improve ventilation, leakage control, protecting clothing, etc. E. Read the instructions and give time to the students to read the vocabulary on Exercise A, silently. Practice the vocabulary by using the pattern questions. (be careful with the singular and plural forms). Do it at random, provide an example if necessary.	15'

AUDIO-VISUAL AIDS NEEDED: Tape exercise A, C Transparency exercise E “Industrial Safety Equipment” Video Tape recorder Overhead projector TV-VCR Board	60'
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**UNIVERSIDAD TECNOLÓGICA DE EL SALVADOR
ENGLISH LABORATORY SESSION GUIDELINES FOR
INDUSTRIAL ENGINEERING STUDENTS
ENGLISH COURSE IV**

**PRESENTED BY
SALVADOR NERY CHICAS LINARES
JESUS ALBERTO MARIN NAJERA
PABLO GUSTAVO MORENO MARTINEZ**



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Audiovisual Aid's Signs Used Along this Handbook

SIGN	MEANING	DESCRIPTION OF THE CONTENT
	Tape	It means that a tape will be used in the activity . The content of the tape can be some vocabulary, a reading or the answers from an exercise (two tapes).
	Video	The T.V. signs means that a videotape containig some clips will be used in the activity. The clips are about the topic studied in the lesson which have been taken from different movies and videos (A video tape unit with 5 clips which last around 5-10 minutes each one).
	Transparency	It means that some information such as written or illustrated vocabulary, answers from some exercises and some readings is contained in a transparency (30 transparencies).
	Pictures	This sign means that some laminated pictures with some vocabulary will be used in the activity (10 pictures).