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MAESTRÍA EN LA ENSEÑANZA DEL IDIOMA INGLÉS COMO LENGUA EXTRANJERA

Tema: “INTER LEARNING OF TECHNICAL ENGLISH TO DEVELOP READING SKILL IN STUDENTS OF SECOND LEVEL SECTION “A” AND “B”, OF INDUSTRIAL MECHANICS AT CARLOS CISNEROS INSTITUTE OF CHIMBORAZO PROVINCE”

Trabajo de Investigación, previo a la obtención del Grado Académico de Magíster en la Enseñanza del Idioma Inglés como Lengua Extranjera

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A la Unidad Académica de Titulación de la Facultad de Posgrados

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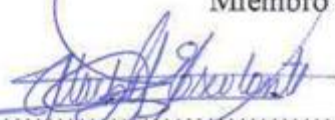
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ÍNDICE GENERAL DE CONTENIDOS

PORTADA.....	i
A la Unidad Académica de Titulación de la Facultad de Posgrados	ii
Autoría del Trabajo de Investigación.....	iii
Derechos de Autor.....	iv
Índice General de Contenidos	v
List of Tables.....	viii
List of Figures	ix
List of Illustration.....	ix
Agradecimiento	x
Dedicatoria	xi
Resumen Ejecutivo.....	xii
Abstract	xiii
INTRODUCTION	1
CHAPTER I	3
PROBLEM.....	3
1.1 Research Topic.....	3
1.2. Problem Statement	3
1.2.1. Contextualization of the Problem.....	3
1.2.2 Critical Analysis.....	5
1.2.2.1 Problem scheme	5
1.2.3. Prognosis	7
1.2.4. Formulation of the Problem	7
1.2.5. Research Questions	7
1.2.6. Research Delimitation	8
1.2.6.1. Spatial Delimitation	8
1.2.6.2 Temporal Delimitation	8
1.3. Justification	8
1.4. Objectives.....	10
1.4.1. General	10
1.4.2. Specific Objectives.....	10

CHAPTER II.....	11
THEORETICAL FRAMEWORK	11
2.1. Research Background.....	11
2.2. Philosophical Foundation.....	13
2.3. Legal Foundation	14
2.4. Fundamental Categories.....	16
2.4.1. Independent variable interrelated graphic	17
2.4.2. Dependent variable interrelated graphic	18
2.4.3. Independent Variable Conceptualization	19
2.4.4. Dependent Variable conceptualization	24
2.5. Hypothesis.....	33
2.6. Signaling hypothesis variable	34
2.6.1. Independent Variable	34
2.6.2. Dependent Variable.....	34
CHAPTER III	35
METHODOLOGICAL FRAMEWORK	35
3.1. Research Approach	35
3.2. Basic method of research	35
3.2.1. Field research	35
3.2.2. Bibliographical-documentary research	36
3.3. Type of research.....	36
3.3.1. Exploratory research	36
3.4. Population and Sample.....	37
3.5. Operationalization of Variables	39
3.5.1. Operacionalization of Independent Variable (Technical English).....	39
3.5.2. Dependent variable: (Reading Skill).....	41
3.6. Data collection plan.....	43
3.7. Process and Analysis Plan.....	43
CHAPTER IV	45
ANALYSIS AND INTERPRETATION	45
4.1. Analysis of Results.....	45
4.1.1. Structured Surveys	45
4.2. Hypothesis Verification	66

4.2.1. Hypothesis planning.....	66
4.2.2. Formula	66
4.2.3. Level of results.....	67
4.2.4. Specification of the regions of acceptance and rejection.....	67
4.2.5. Contingency table for CHI (chi) square.....	68
4.2.6. Calculation of CHI (chi) Square	68
4.2.7. Hypothesis Verification Chart.....	69
4.2.8. Final decision	69
CHAPTER V.....	70
CONCLUSIONS AND RECOMMENDATIONS	70
5.1. Conclusions.....	70
5.2. Recommendations	71
CHAPTER VI	72
PROPOSAL	72
6.1. Informative data	72
6.2. Background of the Proposal	72
6.3. Justification	72
6.4. Objectives.....	73
6.4.1. General Objective.....	73
6.4.2. Specific Objectives.....	73
6.5. Feasibility analysis	74
6.6. Theoretical foundation	74
6.7. Methodology and Operating Model.....	75
6.7.1. Methodology	75
6.7.2. Operating model.....	78
6.8. Administration of the proposal	102
REFERENCES.....	103
ANNEXES	106

LIST OF TABLES

Table N.- 1 Population and Sample	38
Table N.- 2 Independent. Variable	40
Table N.- 3 Independent. Variable	42
Table N.- 4 Basic Questions.....	43
Table N.- 5 Question 1. Acquisition of vocabular	45
Table N.- 6 Question 1. Specific vocabulary	47
Table N.- 7 Question 3. Socialization of technical subject.....	48
Table N.- 8 Question 4. Use of textual material.	49
Table N.- 9 Question 5. Technical modules.....	50
Table N.- 10 Question 6. Strategies for Reading.	51
Table N.- 11 Question 7. Reading activities	52
Table N.- 12 Question 8. Reading comprehension.	53
Table N.- 13 Question 9. Importance of Technical English.	54
Table N.- 14 Question 10. Understanding technical readings.	55
Table N.- 15 Question 1. Acquisition of Vocabulary.	56
Table N.- 16 Question 2. Specific vocabulary.....	57
Table N.- 17 Question 3. Socialization of technical issues.....	58
Table N.- 18 Question 4. Use of textual material.	59
Table N.- 19 Question 5. Technical modules.....	60
Table N.- 20 Question 6. Strategies for Reading.	61
Table N.- 21 Question 7. Reading activities.	62
Table N.- 22 Question 8. Reading comprehension.	63
Table N.- 23 Question 9. Importance of Technical English.	64
Table N.- 24 Question 10. Understanding technical readings.	65
Table N.- 25 Contingency Table	68
Table N.- 26 Calculation of Chi (chi) Square.	68
Table N.- 27 Operating Model.	78
Table N.- 28 Administration of the proposal	102

LIST OF FIGURES

Figure N.- 1 Problem schema	5
Figure N.- 2 Categorization.....	16
Figure N.- 3 Independent Variable.....	17
Figure N.- 4 Dependent Variable	18
Figure N.- 5 Communication Language study.....	32
Figure N.- 6 Question 1. Acquisition of vocabulary.....	46
Figure N.- 7 Question 2. Specific vocabulary.....	47
Figure N.- 8 Question 3. Socialization of technical subject.....	48
Figure N.- 9 Question 4. Use of textual material.	49
Figure N.- 10 Question 5. Technical modules.	50
Figure N.- 11 Question 6. Strategies for Reading.....	51
Figure N.- 12 Question 7. Reading activities.....	52
Figure N.- 13 Question 8. Reading comprehension.....	53
Figure N.- 14 Question 9. Importance of Technical English.....	54
Figure N.- 15 Question 10. Understanding technical readings.....	55
Figure N.- 16 Question 1. Acquisition of Vocabulary.....	56
Figure N.- 17 Question 2. Specific vocabulary.....	57
Figure N.- 18 Question 3. Socialization of technical issues.....	58
Figure N.- 19 Question 4. Use of textual material.....	59
Figure N.- 20 Question 5. Technical modules.....	60
Figure N.- 21 Question 6. Strategies for Reading.....	61
Figure N.- 22 Question 7. Reading activities.....	62
Figure N.- 23 Question 8. Reading comprehension.....	63
Figure N.- 24 Question 9. Importance of Technical English.....	64
Figure N.- 25 Question 10. Understanding technical readings.....	65
Figure N.- 26 Graphical Representation of the CHI (chi) Square.....	69

LIST OF ILUSTRATION

Illustration N.- 1 Communication Purpose	29
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DATE: Octubre 29, 2019

RESUMEN EJECUTIVO

La enseñanza basada en Inglés Técnico con fines específicos (IFE) ha tenido mayor impacto en los últimos 20 años, Hoy en día casi todo se encuentra relacionado con la utilización del inglés en distintas áreas de especialidad, enfatizando el concepto que corresponde estudiar, como lo es, el inglés con fin técnico para **Mecánica Industrial**. El presente trabajo ha servido para resaltar los factores esenciales para la adquisición de conocimientos, desarrollos de destrezas en Inglés Técnico para determinados fines como lo es la mecánica industrial. Como se ha podido apreciar el factor lingüístico, condicionado por las necesidades de comunicación motivadas a su vez por razones de orden económico, ocupacional y educativo, ha sido predominante en el desarrollo de este fenómeno. Es cada vez mayor el número de áreas que se ven inmersas por este tipo de inglés. En sentido general se puede concluir que el Inglés Técnico ha ido avanzando en la misma medida en que se ha desarrollado la enseñanza del Inglés General y ha ido en asimilando cambios y ha hecho propios y distintivos métodos y enfoques.

Descriptores: Inglés Técnico, Fines Específicos, Desarrollo de la destreza Reading, Mecánica Industrial, Inter aprendizaje.

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ABSTRACT

Based teaching of technical English with Specific Purposes (ESP) has had a major impact in the last 20 years, today almost everything is related to the use of English in different areas of expertise, emphasizing the concept for our study, as it is, Technical English for **Industrial Mechanics**. This work has served to highlight the key factors for the knowledge acquisition and skills in technical English for specific purposes. As we have seen the linguistic factor, conditioned by the communication needs motivated by economic, occupational and educative reasons, has been predominant in the development of this phenomenon. A growing number of areas that are immersed in this kind of English. In general it can be concluded that the technical English has progressed in the same measure that has developed teaching English and has been in assimilating changes and made own distinctive methods and approaches.

Key words: Technical English, Specific purpose, Develop reading skill, Industrial Mechanics, Inter Learning

INTRODUCTION

Gneuss Helmut (2013) states that in the global context, students at technical institutions need a specific set of language skills in education and in their career. Language classes at this higher level always make use of the texts or manuals of specific professional areas (architecture, business, civil engineering, technicians, etc) the texts are usually focused on the communicative needs of the learners according with their necessities.

The aim of this investigation was to propose the inter learning of technical English to develop reading skill in students of second level section “A” and “B” of Industrial Mechanics of Carlos Cisneros Institute of Chimborazo Province. This research was applied to 75 students and three teachers of English area with a survey application.

The teaching English specific purposes(ESP) has an important place in the field of teaching process as foreign language or second language, so actually is very important in some professional areas specifically in learner’s area profession to develop technical English in some careers like Industrial Mechanics.

The present investigative work consists of six chapters as follows:

CHAPTER I: It presents the problem and its contextualization. Additionally, the critical analysis, prognosis, and establishment of the problem, research questions, and delimitation of the study, justification, and objectives are presented.

CHAPTER II: Consists in the research background, philosophical foundation, and legal foundation. Furthermore, the key categories, the theoretical foundation and hypotheses are introduced.

CHAPTER III: details the methodology for this research the method of research, type of research, and population. In addition, the operationalization of variables, the method of data collection and analysis are displayed.

CHAPTER IV: presents the obtained data analysis and interpretation. Besides, hypothesis verification by applying T student mathematical test is detailed.

CHAPTER V: displays conclusions and recommendations that come up after finishing the current study.

CHAPTER VI: Finally, this section of the investigative work presents a Technical English Industrial Mechanics student's booklet to develop reading skill.

CHAPTER I

PROBLEM

1.1 Research Topic

“Inter Learning of technical English to develop reading skill in students of second level section “A” and “B”, of Industrial Mechanics at Carlos Cisneros Institute of Chimborazo Province”.

1.2. Problem Statement

1.2.1. Contextualization of the Problem

In all nations around the world need to communicate among the humans with fluent and coherent communication to understand the different parameters of the communication, for many years the dominant language of education in some places of the Western world, was displaced by the French language in the 6th century by the English language, since that time the need increases to learn a second language which is rising through the time.

Nowadays English has been considered the first global Lingua Franca in the world, also it has been an International language of communication in the world. Oliver Wendell Holmes (2015) states that the English language is not only a means of communicating thoughts and ideas, it also builds friendships, economic relationships and cultural ties.

The English language is spoken by at least over 2 billion people around the world so it is the most widely used language than other language in the planet, there are many countries around the world which have adopted English language as their first official language, so it will be easier for them to get motivated with an international communication.

Gneuss Helmut (2013) states that in the global context, students at technical institutions need a specific set of language skills in education and in their career. Language classes at this higher level always make use of the texts or manuals of specific professional areas (architecture, business, civil engineering, technicians, etc) the texts are usually focused on the communicative needs of the learners according with their necessities.

In Ecuador according with a research by English Proficiency index education, index level in English (EF- EPI) third edition (2012) the world ranking is around of 46.90% of people who speak English, so Ecuador has low level in English language, which means that it is necessary to put emphasis in general English and Technical English, in Ecuador also the learning of a second language in this case English was seen like just private institutions had the possibility to access. Actually to improve the education in this case to learn English is obligatory from first years of education until universities to have better knowledge, it allow to the students learn a foreign language, the English nowadays is very important and is a tool for the professionals.

The Carlos Cisneros Institute is located in Chimborazo Province, it is a technical Institution, it has 1345 students of different provinces of Ecuador it is one of the biggest technical Institutions in the country , a strength of this Institution is that it has English Teachers who are specialized in technical English according to the specialization they have to teach in each career, a weakness of this Institution is that the majority of students never receive English in their schools or high schools so they don't have basis of English, another problem is that the students have 2 hours in the week technical English, so it is not enough to increase their vocabulary and the different English skills in special reading skill because in Industrial Mechanics career the students need to read some manuals of the different parts of the car or research a specific terminology in the manuals.

1.2.2 Critical Analysis

1.2.2.1 Problem scheme

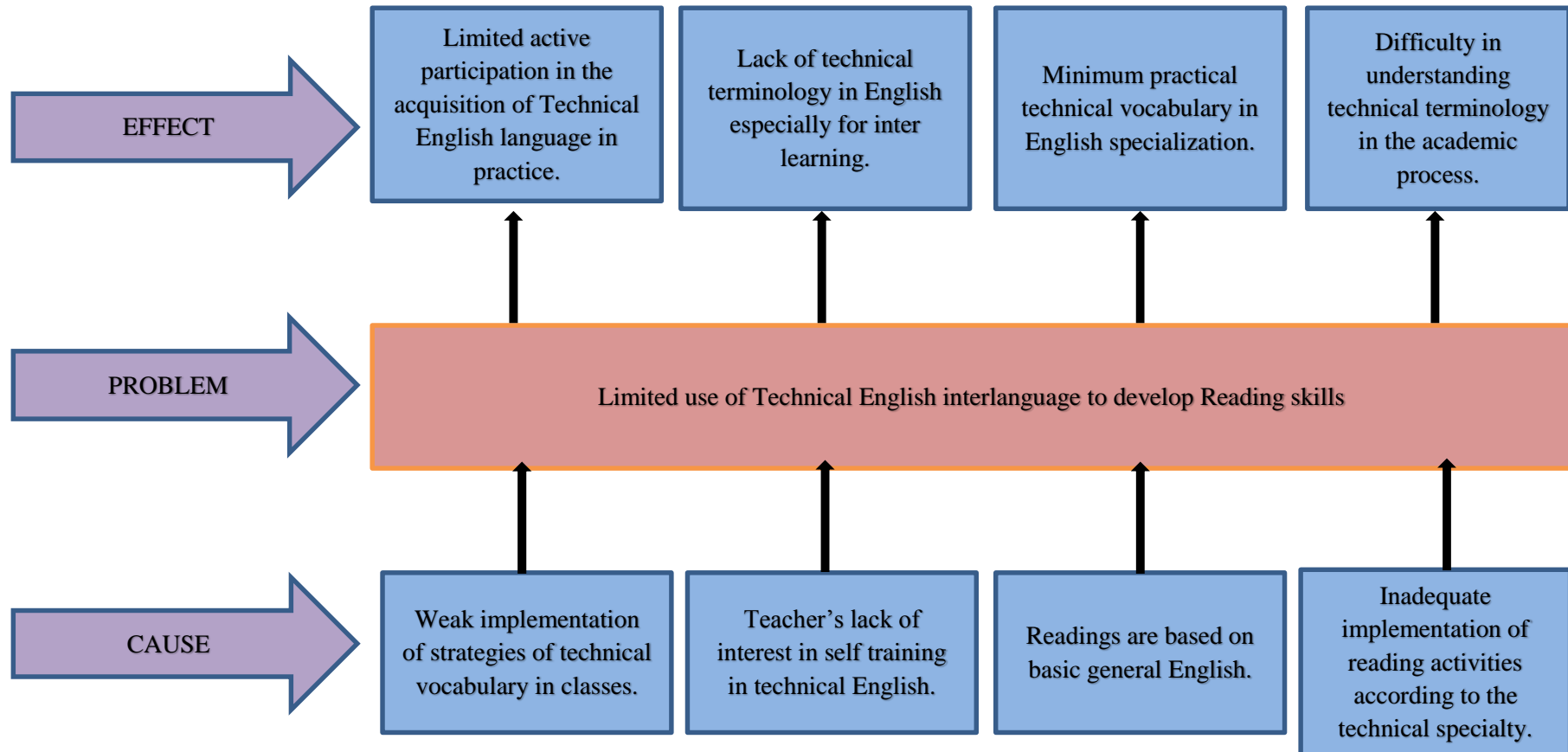


Figure N.- 1 Problem schema
Source: Castillo,D (2019)

For the minimal use of technical English in the process of learning English, some causes have been identified for Reading skill which allow the effective developed of it. First it should be mentioned that there is a weak knowledge of implementation strategies of technical vocabulary in class knowing that proper implementation of strategies can achieve an interaction between stakeholders and content to be developed to achieve new knowledge by not doing so it has been noted that there limited active participation in the acquisition of praxis.

Then it can say that the lack of teachers in self trained in the use of English Technical, produces a lack of technical terminology for inter career in learning; which leads to the teaching of English language is not focused on the area of specialization in which students are enrolled, must be English classes aimed at strengthening knowledge related to technical subjects.

Additionally, teaching basic English and use of readings based on basic general English in the institution, causes minimal practice of English vocabulary, so the students cannot practice the correct use of technical English that is directed to their specialty exists in students; making it difficult for the students to read manuals or read instructions of machinery for them used in industrial mechanics, since it is very important during his student and future professional life, operating machinery efficiently and accurately as these machinery it can be dangerous if not handled in a proper manner. In addition to this technology is advancing day by day, machinery and tools , you need to have at least a basic knowledge of technical English for understanding management and obtain optimum performance in institutional and workplace.

Finally, the inadequate implementation of activities in class, are not developed in an appropriate manner, mainly in Reading activities. As already mentioned above the material related to their specialty is not used. Then the readings and techniques used for the necessary understanding of it is not enough for students to get a clear idea. The teaching in this regard with respect to the development of the readings becomes monotonous and boring, more worrying it is that there is little understanding by students. Given this fact it was noted that the activities and materials used should be

renewed to effectively assist in the progress and student learning in English but focused on his specialty as is the Industrial Mechanics.

1.2.3. Prognosis

Unless the use of inter learning technical English is used in reading skill with the students of Industrial Mechanics of second level section “A”, “B” of Carlos Cisneros Institute of Chimborazo Province, students will not be aware about the importance of know specific vocabulary related with their career.

Furthermore, in the Industrial Mechanics career the students will not understand the importance to domain specific vocabulary in English for that reason these students will not employ appropriate vocabulary to give and exchange familiar topics or tools related to their profession.

Moreover, the students will not be motivated to attend Technical English classes with teachers that do not apply English skills such as reading skill to improve their knowledge. If this problem is solved, students will increase their specific vocabulary according with their career to have more opportunities with other professionals, moreover, students will improve their English reading skill and at the same time they will interact inside the class and outside the class without difficulties.

1.2.4. Formulation of the Problem

How the Inter Learning of Technical English influences in the development of reading skill in Students of Second Level section “A”, “B” of Industrial Mechanics of Carlos Cisneros Institute of Chimborazo Province?

1.2.5. Research Questions

- ✓ How do the students use the Technical English in the second level section “A” and “B” of Industrial Mechanics at Carlos Cisneros Institute of Chimborazo Province?

- ✓ How do the teachers could develop the reading skill by teaching Technical English in the students of second level section “A” and “B” of Industrial Mechanics at Carlos Cisneros Institute of Chimborazo Province?
- ✓ Which resources could provide solution to the problem in the area of Technical English at Carlos Cisneros Institute in the students of second level section “A” and “B” of Industrial Mechanics?

1.2.6. Research Delimitation

Field: Teaching

Area: Reading skill

Aspect: Teaching – Learning (Technical English)

1.2.6.1. Spatial Delimitation

Second English level “A” and “B” Industrial Mechanics career of Carlos Cisneros Institute during May- October -2019.

1.2.6.2 Temporal Delimitation

This project will be applied in Carlos Cisneros Institute of Chimborazo Province.

1.3. Justification

According to the British Council (2013) English is spoken by 1.75 billion people worldwide. By 2020, it is estimated that two billion people will be using this language or learning to use it, the British Council further (2013) states that the English language is the most important economic activity, business activity and entertainment activity. Besides, the British Council (2013) notes that people are talking to each other more and more through English language and it is reflected as the operating system of international dialogues or conversations. Furthermore, according to Jindapitak (2015) the number of non-native English speakers has exceeded that the native speakers, meaning that English language is also used as a lingua franca.

Juan Carlos Santamaria says technical English is the transmission of technical information in a clear objective manner, it is more oriented to text, booklets or manuals that have a practical purpose according students need.

This investigation is socio-educative so the main **interest** is to socialize with the teachers and students the Inter Learning of English technical vocabulary to develop reading skill. The Inter learning technical English needs a valuable teaching of the language because the students of this institution are in a city where exist a lot of work sources so they need to increase their technical, for this reason is necessary focus in the learning of Technical English to know students need.

According with Jennifer Tolbert (article) she mentions that the key to learn Technical English is to be able to break down the English Language to have a better understand of it.

The research unconditional support of the authorities of the Institution, teachers, and the most important the support of the students who are the most interested to help in the development of this research to contribute in the learning process and also they will contribute with their time to apply it. Their support will help a lot of because with their help the research will be more easily to a best develop, the students will help me to obtain information and data in the different activities to follow this research without problems.

The research is very relevant because to learn English language nowadays is important to increase the knowledge in the students. To add Technical English in the teaching and learning process can facilitate the reading skill and comprehension of technical terminology, machines names, tools and procedures that the students need in their career (Industrial Mechanics) the technical English is an advantage in the students that have a bite of knowledge of the language because can facilitate to domain the skills specially in this research reading skill according with their career.

Also help to determinate the truth necessities that the students have in the process of teaching –learning of technical English vocabulary; even more in the career that the

students are studying so is of public knowledge that the students do student practices and when they finish are require in the foreign enterprises where they use technical written documents in English.

1.4. Objectives

1.4.1. General

- To investigate the use of technical English to develop reading skill in students of second level, of industrial mechanics of Carlos Cisneros institute of Chimborazo Province.

1.4.2. Specific Objectives

- To identify how the Technical English is being used by the students of second level section “A” and “B” of Industrial Mechanics at Carlos Cisneros Institute of Chimborazo Province in the reading skill.
- To determine how the teacher could develop the reading skill by teaching Technical English in the students of second level section “A” and “B” of Industrial Mechanics at Carlos Cisneros Institute of Chimborazo Province
- To purpose a didactic resource to develop the Reading skill through Technical English teaching to the students of second level section “A” and “B” of Industrial Mechanics at Carlos Cisneros Institute of Chimborazo Province.

CHAPTER II

THEORETICAL FRAMEWORK

2.1. RESEARCH BACKGROUND

According with my research I can found some similar researchers about Technical English in some universities of Ecuador.

The first investigation is to following results were obtained as references to strengthen this thesis. Specialization in English, Faculty of Humanistic and Human Administrative Sciences, UNIVERSIDAD TÉCNICA DE COTOPAXI, Mr. Beltrán, M., Panchi, A., Velasco, M. (2006) "LEVEL OF DEVELOPMENT OF THE FOUR BASIC SKILLS IN THE PROCESS OF INTENDED LEARNING OF TECHNICAL ENGLISH IN COMPUTATION IN THE 1st 2D AND 3rd YEARS OF BACHELOR OF THE UNIT EDUCATIONAL "SAN FRANCISCO DE ASÍS", periods 2004-2005. According with this research the students have trouble learning and understanding the meaning of certain key terms in the teaching-learning process, so the proposal has been to prepare a booklet of technical terms applied to the computer science with the aim of improving the acquired learning. It refers to the investigation about technical English is indispensable about the use in different areas like computing at the conclusion of this investigation it can be noted that Technical English is indispensable in the use of specific areas as it is in the case of computing. Because in this area is necessary the use of texts manuals, instructions or computer procreation.

The second investigation is at the Central University of Ecuador, Faculty of Philosophy, Letters and Education Sciences, Plurilingual Career, Mr. Encalada, E. (2013). "The Technical Vocabulary of English, in the Outgoing profile of the third year of baccalaureate, Electricity-Electronics specialty, of the Salesiana Don Bosco Experimental Technical College, 2011-2012 period".

The result of this research refers to the lack of specific terminology in English" causing the recipient not to properly assimilate the message presented in that information.

In addition, it is important because the English language can help to understand both the natural and socio-cultural reality of our country. (p. 91)

The third investigation at University of Guayaquil, Faculty of Philosophy, Letters and Education Sciences, in the Postgraduate and Continuing Education Institute, work related to the author's learning of Technical English, Torres, A. (2012). "THE ENGLISH LEARNING PROCESS TECHNICIAN IN THE TRAINING OF STUDENTS OF THE CIVIL ENGINEERING CAREER OF THE FACULTY OF SCIENCES MATHEMATICS AND PHYSICS OF THE UNIVERSITY OF GUAYAQUIL IN THE YEAR 2012 ". This investigation refers to the learning of Technical English, the conclusions is that are assimilated to the research work being carried out are taken into account, in which it states, there is no necessary methodological guidance in the area of English in the institution because the English teachers do not apply new learning strategies. In the process of teaching. (p.125)

The fourth investigation is at UNIVERSIDAD TÈCNICA DE COTOPAXI with the topic "The English language for specific purposes related to the electrical field with undergraduate students of 3rd year at "Técnico Pujilí" high school during the academic cycle April - August 2015" The present project was developed in order to provide a manual for students of electricity from "Técnico Pujilí" high school, which is located in the Pujilí canton. As result of this research nowadays, learn the English language in the technical field has become a necessity especially in the technical high schools because they use tools and materials to carry out their work. Teachers like students do not have a manual to teach technical English. It has produced in the students a shortcoming in the production of English language. Therefore, the vocabulary is limited and the total unawareness of technical words. It is important mention that students, as well as, teachers are the direct beneficiaries of this project...

The present project was developed in order to provide a manual for students of electricity in the technical field because the students use many tools and materials to carry out a better work. In this Institution the teachers and students do not have a manual to teach and learn technical English and at the same time they do not have enough technical vocabulary to contribute to improve their technical English

knowledge.

The fifth investigation was at UNIVERSIDAD CENTRAL DEL ECUADOR with the topic Estrategias Metodológicas en la Enseñanza del Inglés Técnico en estudiantes de quinto semestre de Bachillerato Técnico del Centro Ecuatoriano Regional de Formación Industrial SECAP – CERFIN El Inca, Quito D. M., período 2013 -2014 by: Mónica Patricia Muñoz. This research consists in the teaching-learning process with innovative strategies that reinforce the knowledge in the teachers to improve their work of Technical English so it is necessary to communicate with people from other countries and to study in a globally way. This research work it did because today the teaching-learning process with applications of innovative strategies reinforce the knowledge that the teachers to perform better the work of technical English, because it is important in the profession and to access new job opportunities to communicate with people from other countries and to study globally. The investigation it is qualitative, quantitative, of field data actually taken and the information obtained through surveys of teachers and students, applied, descriptive, it was made in order to determine how the methodological strategies improve teaching Technical English, 50 students in fifth semester Regional Technical school of Industrial Training Centre Ecuadorian SECAP-CERFIN", the Inca, DM, Quito 2013-2014, of the results obtained using sampling technic 67% of teachers need to be updated in the study of methodological tactics, such conclusion can be noted that teachers use outdated modes and methodologies and students do not improve their learning, a methodological guide with appropriate strategies.

2.2. Philosophical Foundation

According with Herrera, L. Medina, A., & Naranjo G. (2005). It is a research to have a specific paradigmatic location or approach (p.74). The present investigation is Proposal Criticism. The human beings constitute the measure of the new technological advances and development in our society experiences, culturally, historically, socially and intellectually, therefore it must be projected with a society to form people interested in transforming our world in which we live, responsible for an environment of exploration and virtual construction.

It is important that the Educational Institution implement new ways of applying teaching materials to achieve motivation, interest and attention to students, the important thing is that the interrelation between teachers and students have mutual goals to improve the teaching and the learning process according with Herrera, L. Medina, A., & Naranjo G. (2005)

Ontological Foundation

The human being is capable to adapt to the environment, and is very important to have good relationship between teacher – student to obtain the teaching-learning process with a positive development inside the classroom.

The learning process is based on Technical English it is an essential part, since it allows communicating in the different existing areas, using specific terminology for the specific understanding of them, such as in the field of science or technology. It allows to develop and increase the field of communication and knowledge in these areas, in this case it allows to acquire technical vocabulary and develop the reading skill to Industrial mechanic's career.

2.3. LEGAL FOUNDATION

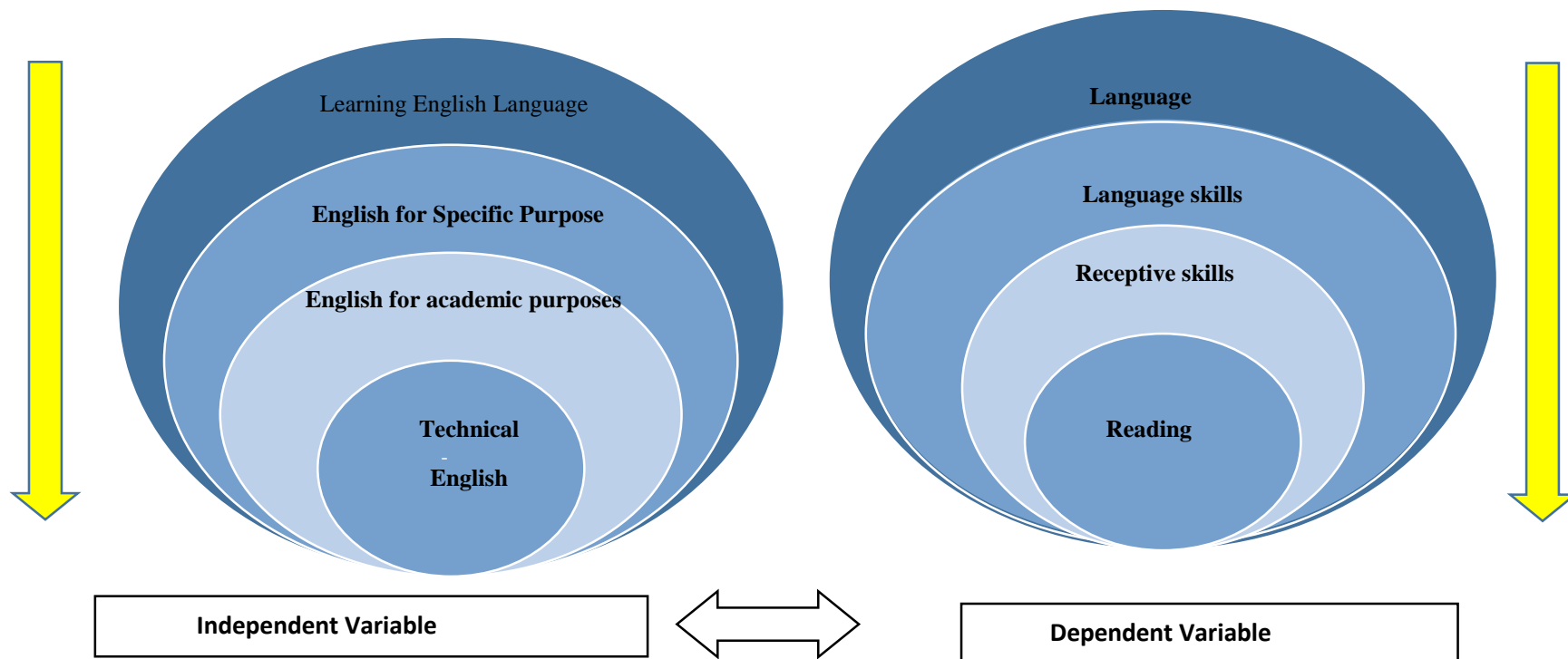
The Ecuadorian Legal Framework sets up several guidelines to the educational system and mainly to the development of language learning process in all the level of the Ecuadorian system. It considers the Education have fundamental services provided to the people. The Ecuadorian Political Constitution, Chapter 2, Article 6, Section J: Guarantees digital alphabetization and use of ITC's during the educational process, and promote teaching process under social and productive activities.

In Ecuador, the public system introduced for the first time in the history of the country a specific timetable for the foreign language, from second to seventh grade of General Basic Education, in the elementary and middle levels. It is established by an agreement of the Ministry of Education, which supports the curricular reform of February 17 of this year 2017.

The Statuto de Régimen Académico in Ecuador, approved by the Council of Educación Superior (CES) on 2013, establishes that the Higher Level Institutions (IES), are destined to the teaching and learning of a foreign language acquisition. They will guarantee the level of proficiency in the language to meet the requirement of graduation at the third level careers, and must be organized or approved from the beginning of the studies.

2.4. Fundamental Categories

Figure N.- 2 Categorization



Author: Castillo, D. (2019)

2.4.1. Independent variable interrelated graphic

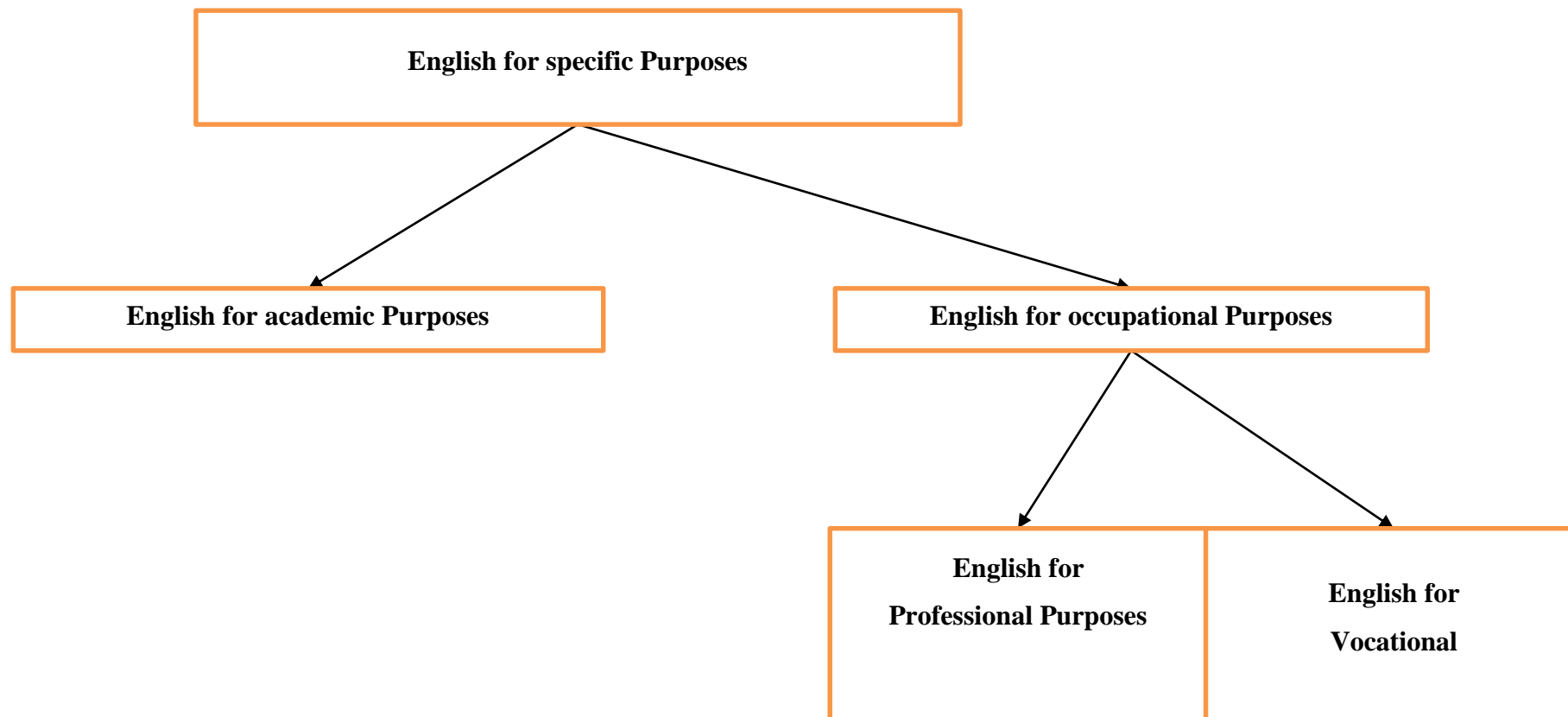


Figure N.- 3 Independent Variable
Author: Castillo,D(2019)

2.4.2. Dependent variable interrelated graphic

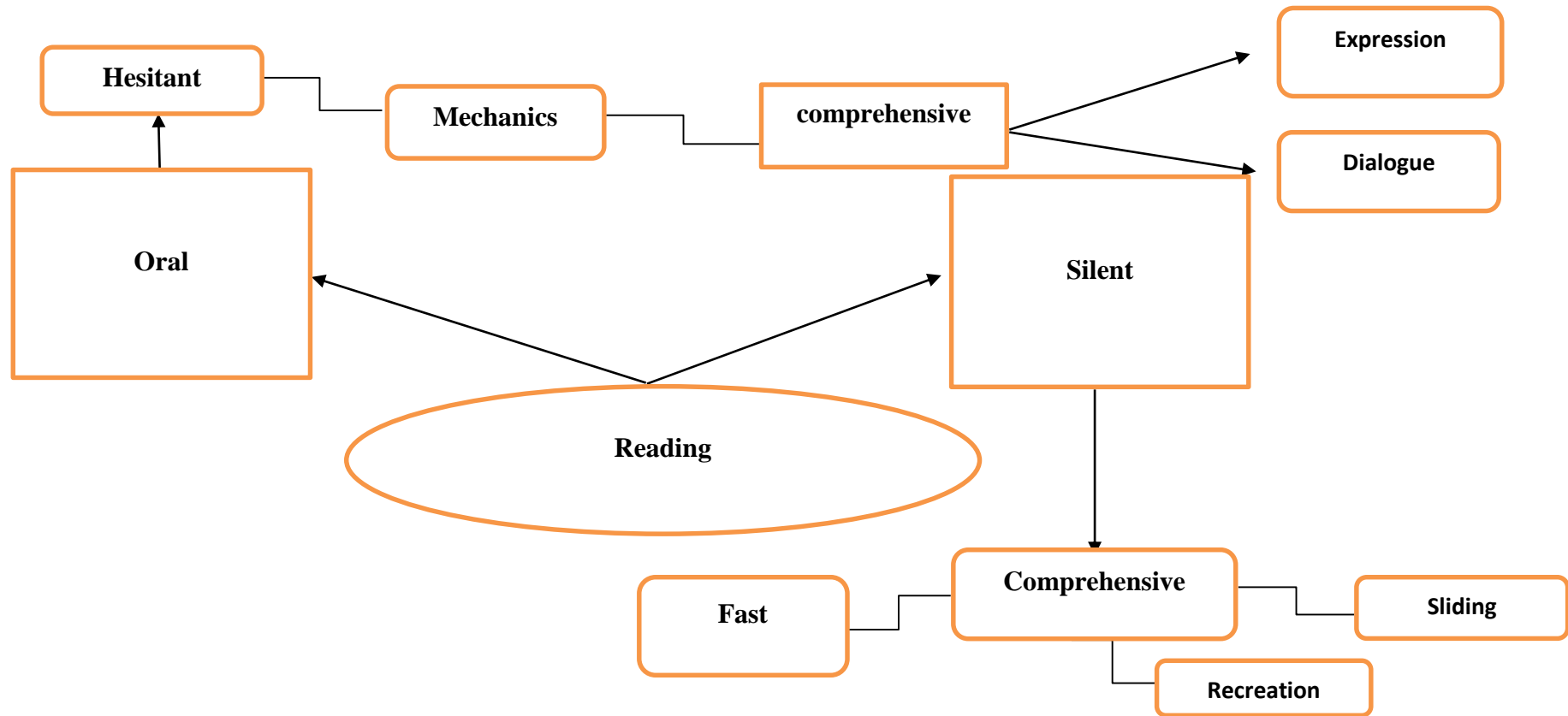


Figure N.- 4 Dependent Variable
Author: Castillo,D.(2019)

2.4.3. Independent Variable Conceptualization

LEARNING ENGLISH LANGUAGE

Concept

According with Richard Nordquist (2019) states that English as a second language is a traditional term to use or study of the English Language among non-native speakers in the English speaking environment, this environment can be the country in which English is the mother tongue.

Also mention that English as a second language refers to the specialized approaches to the language teaching designed that the primary language is not the English language

Importance

According with the British Academy for English Language (2018) states that English is not only an international language for the interpersonal communication around the world, the learning English is a language for research in any field that we want to follow communication like student's life or student's learning process, it language plays an important role in the teaching –learning process

Factors that influence in the learning of English Language

Marc Anderson (2018) states that some students learn a second language more easily than others because some of them are more persistent, the factors are: Factor age, motivation, experience, native language, general aptitude /cognitive abilities.

- **The Factor age**

It consists in that the children learners that have literacy skills in their native language is easily for them acquire other language easily, the older learners can be successful too in the learning process but they generally do not achieve the native-speaking

pronunciation and intonation that younger children naturally do.

- **The factor motivation**

This factor plays an important role with the language achievement, if a learner enjoys the language and learning or does well in this area of study, he/she will continue with the learning process.

- **The factor experience**

It refers to the opportunities that some learners who had the opportunity to be exposed to travel or to diverse cultures have a stronger base for learning another language.

- **The factor Native Language**

The students who are learning a second language like English in the same language are family and may even use the same alphabet system and many of the phonetic sounds as their native language and they are apt to have easier time to learn it.

- **The factor General Aptitude/Cognitive Abilities**

The learners that have greater aptitude and cognitive abilities will learn faster another language for this reason they can be better in language patterns and structure more easily, the learners can acquire new vocabulary words quicker and are more fluent speakers and writers of their new language acquisition.

ENGLISH FOR SPECIFIC PURPOSES

Lorenzo Fiorito (2006) states that the most important difference between learners and their purposes for learning a foreign language in this case English. Fiorito says that the English for specific purposes students are usually adults because they have some acquaintance with English and they are learning the language in order to communicate a set of professional skills to perform a particular job related with some functions for which the English language is required.

The term ESP refers to the specific purpose to learn English, the learners approach the study of English through a field that they are known and it is relevant for them in the

other hand they are able to use what they learn in the ESP in their work and studies. The English for Specific Purposes (ESP) has a clear objective more on language in context than teach grammar and the language structures. concentrates more on language in context than on teaching grammar and language structures.

The English Specific Purpose as a matter of fact, it combines subject matter and English language teaching. Such a combination is highly motivating because the learners are able to apply what they learn in their English classes to their main field of study. Also we can use specific vocabulary and structures that the students learn in a meaningful context reinforces what is taught and increases their motivation to learn a new language.

ENGLISH FOR ACADEMIC PURPOSES

It is used as a means of international communication, so in addition to being researched in an area of English for specific purposes, they have established a division into two branches of specialty English according to the need of English language learners, which will be useful for years of study and for the future. The first is ENGLISH FOR ACADEMIC PURPOSES (English for Academic Purposes or EAP) and English for Occupational Purposes (EOP). English for Academic Purposes is an area that currently has a great expansion within the academic and professional field. Which refers to the needs of a student in a given subject. It has had such an impact that in different educational institutions it has been implemented so that students and professors can develop at a level that is more advanced and specialized according to each subject in which they are immersed.

Importance

According with Dudley-Evans, T., & St John, M. J. (1998). "teach certain lexical and grammatical items relevant to the comprehension of undergraduate academic reading texts" (p. 40). It is designed depending on the language needs that may exist in a given discipline. In certain countries, English for academic purposes is known as technical English, and is focused exclusively on Reading.

Classification

According to Jordan R., R., (1997), English for Academic Purposes (EAP) is divided into: English for General Academic Purposes (EGAP) and English for Academic Specific Purposes (ESAP), (p.3).

- English for General Academic Purposes (EGAP), refers to the teaching of skills and language that is common in all disciplines of teaching or study skills, skills and abilities in academic development for example: listening and note taking etc.
- English for Specific Academic Purposes (ESAP), refers to the teaching of characteristics that distinguish one discipline from another, the language that is required in a particular subject. Here you can identify the language structures, vocabulary and skills necessary in learning a certain area. In this division is English for the purpose of science and technology. Here is the study of the discipline that is being used for this research work.

Disciplines of English for Academic Purposes

It focuses on specific disciplines such as:

- Geology
- Biology
- Mechanical Engineering
- Civil Engineering
- Chemical engineering
- Electrical and electronic engineering

TECHNICAL ENGLISH

According with APUNEXPO, (2003), on Technical English he mentions: “It is a style of its own, saturated with a series of structural and semantic characteristics of the language that make up a very specific and special way of expressing ideas, the”

Technical English does not have an exact definition so rather it serves to refer to a different style of technical or scientific subjects. Use your own form or style of semantic and grammatical expressions for each specific area, with the Technical English we cannot express feelings only be expressed through sentences, simple phrases, words, exact paragraphs, so it is focused in the specific vocabulary to understand manuals, texts that have technician vocabulary.

Learning Objective

Tuohy, M. (2007) states that is very necessary at first to learn to speak or listen to Technical English; the important thing is to understand the written word.

The technical English is designed by the linguistic necessities of a specific goal, to the following of the reading comprehension the learners can understand specific technical texts and scientific writings in English.

Importance of Technical English

The technical English is designed for workers and professionals in specific areas like technic studies, science, computing because it can allow to acquire specific technical vocabulary related in a specific career because it can allow the communication and performance in the different task according with each necessity.

The reading comprehension is important to acquire the reading skill in the learning English for technology and science.

Technical English Classification

According with Alcaraz (2000) there are three groups in the learning process of Technical English: Technical Vocabulary, Sub technical Vocabulary and General Vocabulary.

- **Technical Vocabulary**

This is about the terminology that we can find or identified in a same field of studies
This type refers to all the words that can be identified in the same field, also it has a particular terminology.

- **Sub technical Vocabulary**

It refers to the use of common words that have acquired a new meaning within a certain field of knowledge.

- **General Vocabulary**

It consists in a general lexical its use is very frequently to increase new language but it is use in any field of communication.

2.4.4. Dependent Variable conceptualization

LANGUAGE

A language has several definitions these are used according with different perspectives but in conclusion all definitions are similar.

Henry Sweet states that the "Language is the expression of ideas by means of speech-sounds combined into words. Words are combined into sentences, this combination answering of ideas and these into thoughts."

Also says the "Language refers to the cognitive faculty that enables humans to learn and use systems of complex communication." in the human being.

According with Robert Henry Robins a language is a system of a conventional spoken among manual or written symbols by means, the human beings are members of a social group,

Language importance

According with "Chomsky believed that humans acquire the language through an instinctive knowledge, also he says that the thought that there was deeper meaning to words and that was how people learned them so easily.

The language has the capacity to interact with other people using a complex system of symbols or signs such as phonetics or writings .The language is divided in two groups verbal language and nonverbal language.

The verbal language refers to spoken or written manifestations.

The nonverbal language refers to the use of another resources such as symbols, signs, drawings and also in it is included the body language.

Language functions

The language has two functions: cognitive, and communicative function. The first one consists in the study and development of knowledge, and the second one consists in the externalization of thoughts and the issuance of messages.

The factors that interview in the language functions are: **Issuer**; is who sends the message, **receiver or recipient**; is who receives the message. **Channel**; it is the medium between **sender and receiver**, **Message**; it is transmitted information, and finally **Code**; the encrypted message shared by sender and receiver.

LANGUAGE SKILLS

The language skills consists in the dynamic participation of some skills, or also known as language skills, is important before to start the acquisition of a foreign language have the knowledge of the principles of the language English skills these are: Reading ,Speaking, Listening and Writing.

Language Skills Classification

The language skills are divided into two sections these are Receptive or passive skills and Productive or active skills.

- **Receptive or passive skills:** It is sub divided in listening and reading skill these skills are focused on understanding.
 - **Listening skill:** This skill consists in the learners listen and at the same time understand the information through an auditory way.
 - **Reading skill:** This skill refers to understand any kind of communication through text to understand the meaning and the context of it.
- **Productive or active skills:** It is sub divided in speaking and writing skills these skills are focused on the expression.
 - **Speaking skill:** This skill consists to articulate and pronounce words correctly.
 - **Writing skill:** It consists in the written expressions where the learners can express the communication with other people using different means like stories, paragraphs, messages, letters, mails, etc.

RECEPTIVE SKILLS

These are called receptive skills since the students do not need to produce the language, the only action to be performed is to receive and decode the meaning and understand the information or the message. Receptive skills are also known as passive skills: Listening and Reading. These are the first skills taught in the English language teaching process.

Classification of receptive skills:

Listening: It is the ability through which, the student listens and understands the information received in auditory form.

Reading: It is a skill through which, the reader faces a text to understand its full

meaning and react to it.

Importance of Receptive skills

The receptive skills also called interpretive skills are used to acquire information either through oral interpretation or written interpretation of a message. In addition to receiving a message it helps to expand knowledge. Through the receptive skills the information that is received needs a great process for its understanding, so the receiver needs to be concentrated for such activity, it can only be confirmed that the apprentice acquired the information when the information is produced or expressed. The purpose of the skills is to reach a common goal which is communication.

Characteristics of receptive skills

- The domain of the language is broader, by reading you access a greater number of words than are used when expressed orally.
- There is no control over the language used in the message that is to be understood.
- There are certain affinities that differ from productive skills, these are: anticipation, inference, hypothesis formulation.

READING

According with Espinosa (1998) The reading is not only deciphering a written code but decoding and at the same time understand and interpret a text.

The reading is an important process that the human being has developed from language, the reading is defined as an important process in which the human being captures a series of symbols and decodes them making them an impact logical sequence and he says that it is the ability to understand words and other signs. It is also defined as the translation of symbols or codes for understanding.

In the reading skill we can find some codes these can be visual, auditory and tactile, it

depends according with the author wants to express. The reading involves an interaction between the text the idea that the author of a text wants to express.

The process of reading has three fundamental skills.

- **Decode:** It refers to the ability to recognize words.
- **Understand:** It consists in the ability to interpret the meaning what the reader is reading.
- **Assimilate:** It refers to the ability to think in a critically and creatively way about the content of the reading according with the author.

According with Harestad (2010) the reading skills is an important tool in teaching students how to be better readers to enhance their understanding. Suleiman (2012) states that Reading is an interactive process between the reader and the text, so the reader interacts enthusiastically to elicit some meaning about the text.

Ediger (2014) states that the reading skills include multiple skills the use of lower order (or bottom up skills) these are related to understanding, word recognition, spelling and an awareness of grammar and a sentence structure.

Reading importance

According with Paulo Freire (1983) the importance of reading is according with the interaction with the self and the world using experiences like texts, words and letters to see the growing awareness of the world and the kind of reading through the self learns and the changes. Learning to read must be seen as one aspect of the act of knowing and as a creative act. Reading the world thus precedes reading the word and writing a new text must be seen as one means of transforming the world.

The reading is an activity that the people learn to early ages, so the students must to read texts according with their ages, read is very important to the education, the people can increase their intellect for vocabulary strengthening also with the reading the students can develop interpretation and imagination.

Reading communication process.

It refers to the purpose of the Reading to interpret the message of a text.

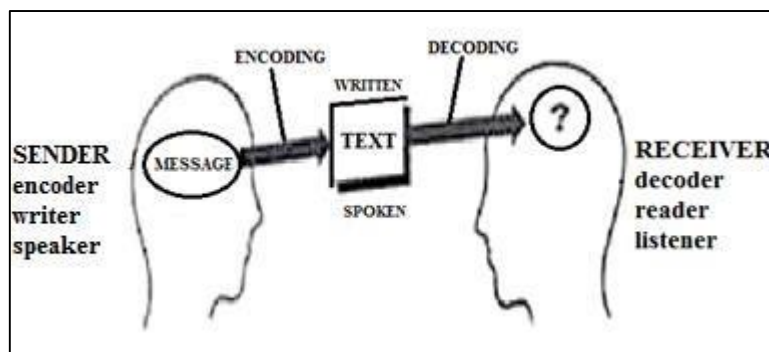


Illustration N.- 1 Communication Purpose

Source: Nuttall, C., (2005): *Teaching Foreign Skills in a foreign language*, (p.4)

According with Nuttall, C, (2005) the graphic shows how is possible the communication process. All messages must be changed in words writing or speaking so it can be accessible to the receiver person who will read or listening. Finally, the text read is decoding to get a clear idea of the message that the sender tried to share with others.

Methodological process of reading

It refers that the reader is related with the text, dialogue in which the expressions skills are activated it has three reading process.

- Pre- reading
- While reading
- Post - reading

Pre-reading

It refers to the interest about the text that the learner will read, this stage allows to review the previous knowledge like vocabulary, their reality and the use of their language and in this stage is the opportunity to motivate and generate curiosity of the

reading, this stage has pre-reading skills:

- **pre-reading skills:** These are developing through activities such as
 - **Denotative and connotative** it is the reading of the images that accompany the text, the **denotative** invites you to observe and describe the graphics as they look and the **connotative** refers to interpret them creatively.
 - **Activation of previous knowledge**, it refers to ask what you know about the
 - text and what it relates to.
 - **The formulation of predictions** it refers to the text content, based on some elements like: the text title, the year of publication, the author, graphics, keywords, prologue, bibliography, etc.
 - **Determination of the purposes pursued by reading** it refers to the recreation, practical application, the location of information, the critical evaluation.

While reading

According with Brown D. (2001) in this stage while the students read the passage the teacher needs give a purpose to read, after the students try to understand and do a struggle to decode the message in the reading activity.

It refers to the act of read in the mechanical and comprehension way. The level of understanding that is achieved will depend largely on the importance given to the skills of this stage. Reading is not only about deciphering linguistic signs it is also about understanding, interpreting, discovering and activating the imagination.

Steps for reading comprehension

- Read many necessary times for understanding the text.
- Predict while reading is taking place.
- Relate the content of the reading with previous experiences.

- Select specific parts of the text to read them.

Post-reading

It refers to the activities in the text and if the reader understood the reading and the level of comprehension that is required, this stage is the most important because the learners in it have the opportunity to share their knowledge they learned, it has some aspects such as:

- Verify the predictions made.
- Formulate and answer questions.
- Comment about the topic of reading.
- Relate the content of the text in own experiences.
- Make discussions about the text.
- Summarize the text information.

Reading sub skills

There are six types of sub-skills which help to read in different ways.

- **Scanning:** It refers to read specific information in the text, it is used in tasks that do not require the understanding word by word in the text, it is used most useful in the books tasks and articles. According with (Gonzales,2004) the learners that know what is looking for, so they should think about some questions and look for the answers in the text.
- **Skimming:** It refers to the gist of the text to obtain a general idea of all text that is read, in it allows to speed up with a reading speed three or more times.in skimming the idea is to identify the main concept of the text and do not read each word of the text.

According with Gallego (1997) if a reader just read to obtain a general idea of the text and read a part of it with skimming method the reader reduces the whole understanding of the reading.

- **Reading for detail:** It refers to read with more details to obtain the meaning of each word found in the text
- **Infer:** This sub-skill refers to focuses on finding out what the writer's opinion or feelings.
- **Deducing meaning from context:** It consists to deduce the meaning of context and find out the meaning of words that are in an unknown context.
- **Predicting:** It refers to use keys provided in advance of the text t guess the content.
- **Understanding text structure:** It refers to understand the text structures about the development of a certain type of text.

Types of reading

There are some types of reading like oral reading and silent reading.

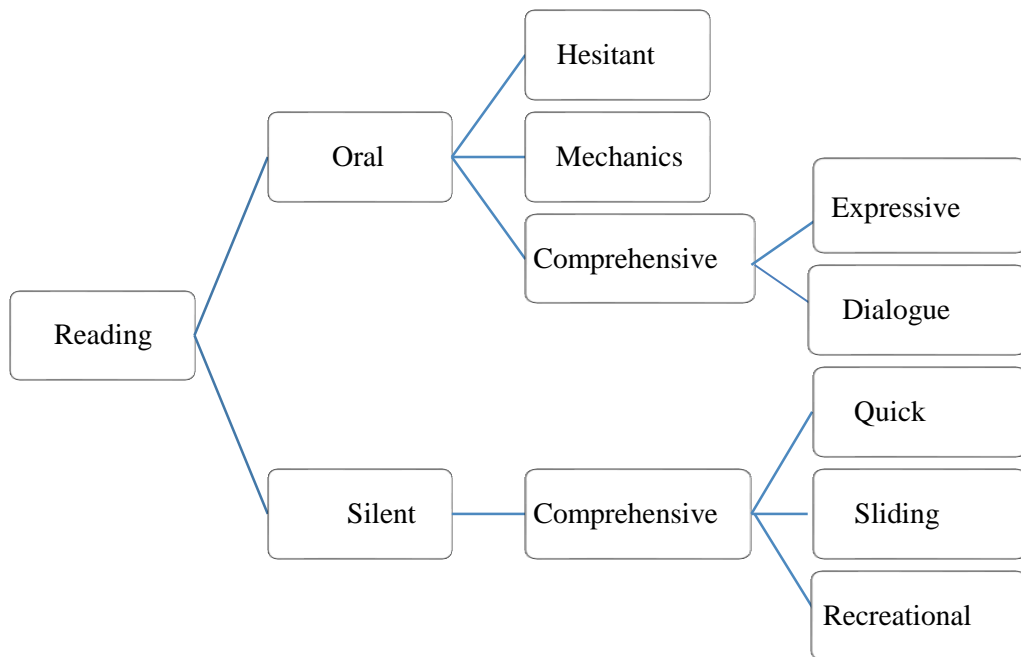


Figure N.- 5 Communication Language study
Source: Communication, Language study (p. 6)
Author: Fuentes, J. L.

Oral Reading: is the production of articulated sounds of visual signs.

a) **Hesitant reading:** it occurs at the beginning of learning, the process is done syllable by syllable and word by word.

b) **Mechanical reading:** it is fast and fluid but the reader has a poor understanding of what is read, the reader is still in the learning process.

c) **Comprehensive Reading:** the reader captures the meaning while reading.

Expressive Reading: it is done with rhythm, intonation and pronunciation suitable for understanding, generally, it is done in public.

d. **Reading Dialogue:** it is represented by the various interlocutors who participate in the reading. It serves as an interlocution and modulation exercise.

Silent Reading: it is a mental understanding of the meaning of visual signs.
Comprehensive silent readings:

a) **Sliding Reading:** It does not look for a total understanding of the text but, rather, looks for a specific data in the whole reading.

b) **Quick Reading:** It refers to a total reading, but you do not have a deep understanding of the subject, only a general idea of what is read is sought.

c) **Recreational Reading:** It is a reading that is done in a paused way, so that the reader likes the content he is reading.

2.5. Hypothesis

- **H 1:** Technical English enhances the development of Reading skill in the students of second level section “A” and “B” of Industrial Mechanics of Carlos Cisneros Institute of Chimborazo Province.
- **H 0:** Technical English does not enhance the development of Reading skill in the students of second level section “A” and “B” of Industrial Mechanics of Carlos Cisneros Institute of Chimborazo Province.

2.6. Signaling hypothesis variable

2.6.1. Independent Variable

Technical English (Cause)

2.6.2. Dependent Variable

Reading skill (effect)

CHAPTER III

METHODOLOGICAL FRAMEWORK

3.1. RESEARCH APPROACH

This research is focus at students of second level, section “A” and “B” of Industrial Mechanics at Carlos Cisneros Institute of Riobamba, Chimborazo Province.

To have a qualitative methodology is required that there is a relationship whose nature is linear between the elements of the research problem. That is to have clarity between elements of the research problem which make up the problem, which permits to define, limit and know exactly where the problem starts, in which direction it is and what kind of impact between its elements exists. This study is based on two theories. The first is Skinner’s Behaviorism which highlights positive or negative reinforcement to a certain type of behavior as a way of learning. The second is Bandura’s Socio Cognitive theory which states that people not only learn skills through behavior conditioning but also emphasizes that cognitive and social factors intervene in observation and imitation. Both theories are related to quantitative and qualitative approaches. It is quantitative because it determines the cause and effect of the hypothesis which is specified at the beginning of the research, it will collect data in an objective way which will be represented and summarized in numbers and it will indicate samples to signify the population. It is qualitative because the research includes describing a continuous process which is the teaching and learning process of English. Furthermore, certain pieces of data will be summarized in narrative forms that need to be described. Finally, this research focuses on the study of the behavior in its natural setting because it analyses cultural aspect influencing an EFL class.

3.2. Basic method of research

3.2.1. Field research

The field research was used, because through this method, the problem can be

analyzed, it could determine the causes which gives its origin and control the effects of this phenomenon.

In this way, it represents an advantage since the analysis, description and interpretation of data on the use of Technical English at Carlos Cisneros Institute of Chimborazo Province in Second Level “A” and “B” of Industrial Mechanics.

3.2.2. Bibliographical-documentary research

The bibliographic and documental research in this project led to examine scientific and trustworthy information comparing the ideas of different authors and taking into consideration the different points of view of each one in order to establish a reliable research of the phenomena under study.

The bibliographical research is essential to use it a support to the different conceptualization

Criteria and theories that can guarantee the same investigative work.

To carry out the investigation of this problem was used:

- Books
- Websites

3.3. Type of research

3.3.1. Exploratory research

It will use this type of research since the purpose of it is to examine a topic or research problem which has been rarely studied or that has not been addressed before.

So this exploratory research level will determine the level of knowledge of English Technician students of second parallel "A" and "B" Carlos Cisneros Institute in

Riobamba, of Chimborazo Province.

Descriptive research

José V. Altamirano (2009: Internet), states that "Descriptive research, is also known as statistical research", since it can describe data themselves that should have an impact on the lives of people who are around them. Its main objective is to know the customs, attitudes and situations prevailing in a particular group of individuals, through the description

Exact its various activities. Their goal is to predict and identify relationships between two or more variables and not just focus on data collection.

Research association of variables

Correlated studies aim to measure the degree of relationship and how they interact with two or more variables together, these relationships are established within a single argument, based on the same arguments and subjects.

Its main objective is to determine the behavior of a variable knowing the behavior of other related variables. That is to try and predict the approximate value that will have a group of individuals in a variable, from the value of a related variable.

It is a study that aims see as the independent variable (Technical English) with the dependent (Reading), a factor with another, this plan are designed to measure the degree of relationship between the two variables are related.

3.4. Population and Sample

The population of this research were 75 students of Industrial Mechanics, second level, section "A" and "B" and 3 teachers of English area in Carlos Cisneros Institute located in Riobamba, of Chimborazo Province.

Table N.- 1 Population and Sample

POPULATION	SAMPLE
Parallel “A” and “B”	75
Teachers	3
Total	78

Source: Teachers and Students in” Carlos Cisneros Institute”

Elaborated by: Castillo, D(2019)

3.4.1 Sample

The sample is determined by applying the following formula:

Where:

N= Population

N= Sample size

Common International Accurate 95%

Error margin 5% or 0.05

Applying the data:

$$n = \frac{75}{(0,05)^2(75-1)+1}$$

n=64

3.5. Operationalization of Variables

3.5.1. Operacionalization of Independent Variable (Technical English)

CONCEPTUALIZATION	DIMENSIONS	INDICATORS	ITEMS	TECHNIQUES AND INSTRUMENTS
<p>Used to refer to a different style of technical or scientific issues, it is focused on the type of vocabulary to be used, in order to understand texts and manuals that are specifically scientific or technical nature.</p>	<p>Technical Topics</p> <p>Vocabulary</p> <p>Understanding</p>	<p>Technical English for science</p> <p>Technical English for technology.</p> <p>Technical</p> <p>Sub Technical</p> <p>General often used in a specialty</p>	<p>1.-Do activities for vocabulary acquisition are suitable for their learning?</p> <p>Yes..... No..... Not sure.....</p> <p>2.-The activities are practiced in classes English words related to your specialty?</p> <p>Yes..... No..... Not sure.....</p> <p>3.-Does English teacher socializes</p>	<p>Surveys</p>

		Textual material	technical subjects in English according to their specialty during classes?	
		Auditory materials	<p>Yes..... No..... Not sure.....</p> <p>4.-The didactic materials used in English classes promotes learning Technician?</p> <p>Yes..... No..... Not sure.....</p> <p>5.-Does the institution have technical modules written in English?</p> <p>Yes..... No..... Not sure.....</p>	

Table N.- 2 Independent. Variable

Source: Direct Investigation

Author: Castillo, Daniela

3.5.2. Dependent variable: (Reading Skill)

CONCEPTUALIZATION	DIMENSIONS	INDICATORS	ITEMS	TECHNIQUES AND INSTRUMENTS
<p>It is the process in which the human being captures a series of symbols and decodes making them a logical sequence. You can also say that it is the ability to understand words and other signs, which can recognize three steps: pre-reading quick scan of the text, reading, text comprehension, Post reading verify understanding of the text.</p>	<p>Pre reading</p> <p>Reading</p> <p>Post reading</p>	<p>Anticipation</p> <p>Exploration</p> <p>Perception</p> <p>Understanding</p> <p>Verifying the understanding of the text.</p> <p>Activities understanding</p>	<p>1.- Do the strategies used in Reading are developed appropriately for their understanding? Yes..... No..... Not sure.....</p> <p>2.- Are Reading activities must be related to your specialty? Yes..... No..... Not sure.....</p> <p>3.- Does the level of English will help you understand written technical readings in English? Yes..... No..... Not sure.....</p> <p>4.-Does Technical English learning is important for your academic and</p>	<p>Surveys</p>

			<p>professional development?</p> <p>Yes..... No..... Not sure.....</p> <p>5.- Does the use of a module with technical vocabulary in English and basic grammar will help understanding technical readings in English?</p> <p>Yes..... No..... Not sure.....</p>	
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Table N.- 3 Independent. Variable
Source: Direct Investigation
Author: Castillo,D(2019)

3.6. Data collection plan

Collection of information so that it can be interpreted by statistical tables so can have an idea of the magnitude of the problem.

Table N.- 4 Basic Questions

Basic questions	Explanation
1. - For what?	Determine the use of English Technical and development of skills in Reading in the students of the second level.
2.- What people or object	Independent Variable: Technical English. Dependent Variable: Reading Skill.
3. - What aspects?	The aspects raised in the operationalization of variables.
4. - Who?	Daniela Fernanda Castillo Llamuca
5. - To Whom?	English-area teachers and students of the second level "A" and "B" of Industrial Mechanics
6. - When?	New Semester October- March
7.- Where	“Carlos Cisneros Institute ”
8. - How often?	Once
9. - How?	Applying surveys of teachers and students

Source: Direct Research

Author: Castillo,D(2019)

Sample: Sample is a meaningful representation of the characteristics of a population, that under the assumption of an error (usually no more than 5%) It is studied the characteristics of a population set much lower than the overall population.

3.7. PROCESS AND ANALYSIS PLAN

Once the application of techniques and tools for data collection is performed, survey and observation sheet, this research will be applied with surveys, as some English

teachers and students, the data gathered from this process will be organized and processed by tabulating, then these data can be analyzed statistically for future presentation of results.

The statistical analysis to be performed on the data obtained it may be deducing the relationship both of them have with the objectives and hypotheses initially propose.

CHAPTER IV

ANALYSIS AND INTERPRETATION

4.1. ANALYSIS OF RESULTS

This chapter shows the obtained results about students 'surveys and teachers 'surveys that were applied to the 75 students of second level section "A" and "B" of Industrial Mechanics of Carlos Cisneros Institute of Chimborazo Province and the 3 teachers of English area of Carlos Cisneros Institute of Chimborazo Province. The students survey and teachers survey contained 10 questions each survey, these were focused on the use of Technical English and Technical English modules in the classes. the importance of learning of Technical English is their profession, the level of technical English in the students. After the application of these surveys, the obtained results from the English teachers and from the students were analyzed and interpreted in analogy with the objectives and variables of the study , the analysis of these surveys are shown below.

4.1.1. Structured Surveys

SURVEY TO STUDENTS

QUESTION 1:

Are vocabulary acquisition activities appropriate for your learning?

Table N.- 5 Question 1. Acquisition of vocabular

Alternatives	Frequency	Percentage
Yes	4	5%
No	71	95%
TOTAL	75	100%

Source: Student survey.
Author: Castillo,D(2019)

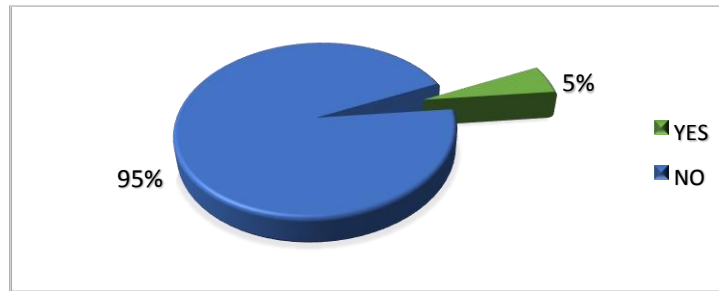


Figure N.- 6 Question 1. Acquisition of vocabulary.
Source: Students survey.
Author: Castillo,D (2019)

DATA ANALYSIS AND INTERPRETATION

According with the 75 students surveyed, 4 of them answered **YES** that is equivalent to 5%, while 71 indicate that **NO** is equivalent to 95%. Which shows that most students do not know English terminology as names of machinery used in their specialty daily. This is a big problem, as Alarcón, E. (2002) cites “vocabulary is conceived as part of capacity development” (p. 94). The capacities are not being developed in an adequate way.

QUESTION 2:

Do you practice English words referring to your specialty during classes?

Table N.- 6 Question 1. Specific vocabulary

Alternatives	Frequency	Percentage
Yes	2	3%
No	73	97%
TOTAL	75	100%

Source: Students survey.

Author: Castillo,D(2019)

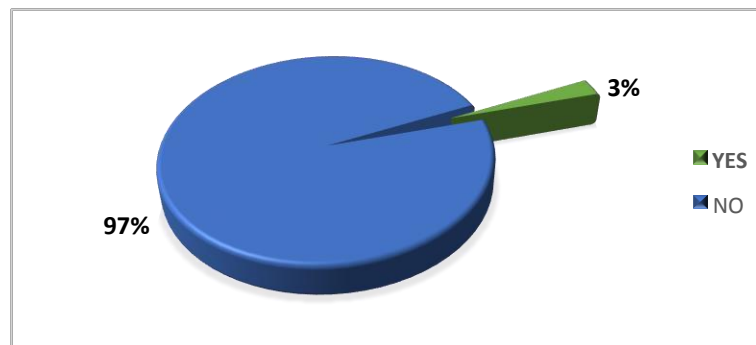


Figure N.- 7 Question 2. Specific vocabulary.

Source: Student survey.

Author: Castillo,D(2019)

DATA ANALYSIS AND INTERPRETATION

According with the 75 students surveyed at the second level Industrial Mechanics section “A” and “B ” of “Carlos Cisneros”Institute of Chimborazo Province the analysis shows that 2 of them answered **YES** equivalent to 3%, while 73 indicate that **NO** equivalent to 97 %. A high percentage of students state that technical terminology is not practiced in English during their classes. Akerberg, M. (2005) quotes: “the acquisition of the appropriate vocabulary is essential to succeed in the use of a second language” (p. 144). English language learning can be developed in a better way if it is aimed at the area of student development.

QUESTION 3:

Does the English teacher socialize technical subjects in English according to her specialty during classes?

Table N.- 7 Question 3. Socialization of technical subject.

Alternatives	Frequency	Percentage
Yes	16	21%
No	59	79%
TOTAL	75	100%

Source: Student survey.
Author: Castillo,D(2019)

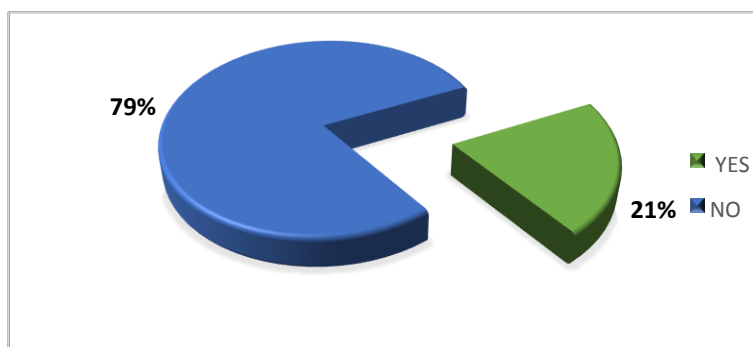


Figure N.- 8 Question 3. Socialization of technical subject.
Source: Student survey.
Author: Castillo,D(2019)

ANALYSIS OF DATA

According with the 75 students surveyed at the second level Industrial Mechanics section “A” and “B ” of “Carlos Cisneros”Institute of Chimborazo Province “, the analysis shows that 16 of them answered **YES** that is equivalent to 21%, while 59 indicate that **NO** that is equivalent to 79% .(Encalada, 2013) states that: “In the English technical vocabulary it is good to mention that communicative competence and listening comprehension would be needed as a complement for the effective mastery of said vocabulary”. The majority of students state that the teacher in the English area does not socialize technical subjects in English during classes, so technical vocabulary is not acquired. Also, that oral and auditory skills are not being developed.

QUESTION 4

Does the textual material used in English classes promote the learning of Technical English?

Table N.- 8 Question 4. Use of textual material.

Alternatives	Frequency	Percentage
Yes	3	4%
No	72	96%
TOTAL	75	100%

Source: Student survey.
Author: Castillo,D(2019)

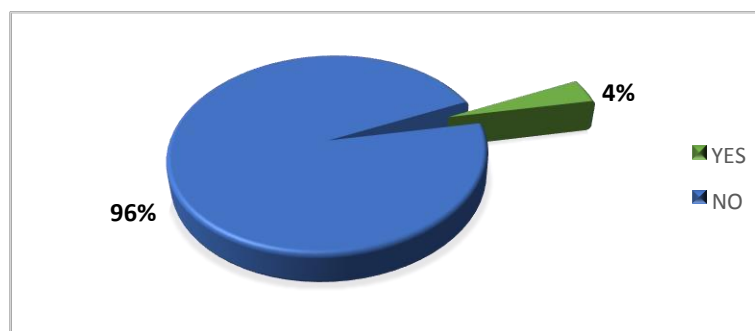


Figure N.- 9 Question 4. Use of textual material.

Source: Student survey.
Author: Castillo,D(2019)

ANALYSIS OF DATA

According with the 75 students surveyed at the second level Industrial Mechanics section “A” and “B ” of “Carlos Cisneros”Institute of Chimborazo Province “, the analysis shows that 3 of them answered **YES** equivalent to 4%, while 72 indicated that **NO** equivalent to 96 %. A high percentage of the students surveyed are agree that the textual material used in classes is not consistent with the specialty they are taking as is Industrial Mechanics, which causes students to divert their learning to other subjects. Materials containing Technical English related to industrial mechanics should be used. (Encalada, 2013) points out that technical vocabulary should be used “in several fields where they have a specific and specialized purpose”.

QUESTION 5

Does the institution have technical modules written in English?

Table N.- 9 Question 5. Technical modules.

Alternatives	Frequency	Percentage
Yes	17	23%
No	58	77%
TOTAL	75	100%

Source: Student survey.

Author: Castillo,D(2019)

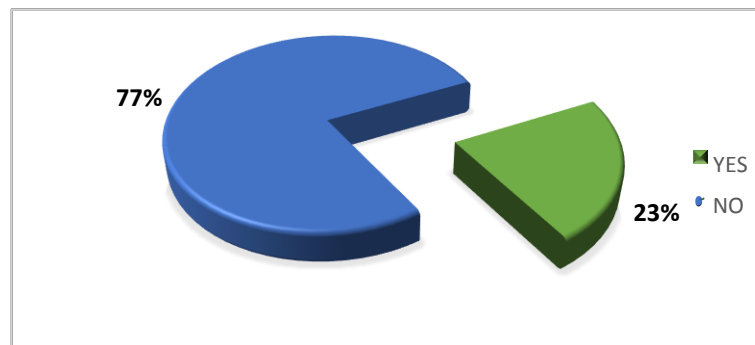


Figure N.- 10 Question 5. Technical modules.

Source: Student survey.

Author: Castillo,D(2019)

ANALYSIS OF DATA

According with the 75 students surveyed at the second level Industrial Mechanics section “A” and “B ” of “Carlos Cisneros”Institute of Chimborazo Province “, the analysis shows that 17 of them answered **YES** equivalent to 23%, while 58 indicate that **NO** equivalent to 77% . A high percentage of students affirm that the institution does not have modules with technical content in English while the minority of them assures that the opposite, to which we can conclude that being a technical college, if there are technical modules in English but they are not used During the English course, they are only used for other subjects, especially in the specialty.

QUESTION 6

Are the strategies used in Reading developed adequately for your understanding?

Table N.- 10 Question 6. Strategies for Reading.

Alternatives	Frequency	Percentage
Yes	25	33%
No	50	67%
TOTAL	75	100%

Source: Student survey.

Author: Castillo,D(2019)

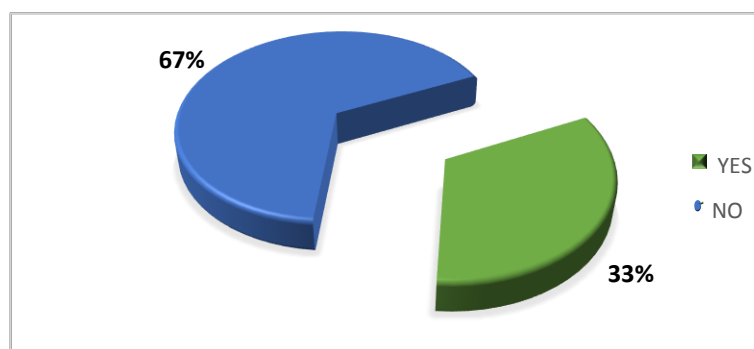


Figure N.- 11 Question 6. Strategies for Reading.

Source: Student survey.

Author: Castillo,D(2019)

ANALYSIS OF DATA

According with the 75 students surveyed at the second level Industrial Mechanics section "A" and "B" of "Carlos Cisneros" Institute of Chimborazo Province, the analysis shows, 25 of them answered **YES** that is equivalent to 33%, while 50 indicate that **NO** is equivalent to 67%. Espinoza, C., (1998) states: "The reading-writing strategies consist of a series of systematic activities aimed at encouraging the taste for reading" (p.62). A high percentage considers that reading strategies are not developed in an appropriate manner, which results in a clear understanding of what they read and that they lose interest in it. It should be taken into account that reading comprehension development is the most important in the learning of Technical English.

QUESTION 7

Does the Reading activities be related to your specialty?

Table N.- 11 Question 7. Reading activities

Alternatives	Frequency	Percentage
Yes	62	83%
No	13	17%
TOTAL	75	100%

Source: Student survey
Author: Castillo,D(2019)

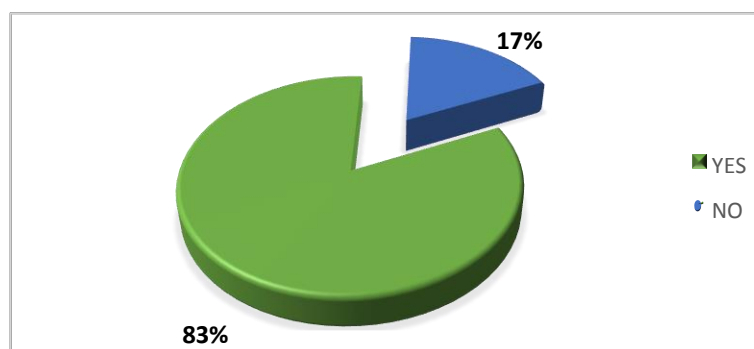


Figure N.- 12 Question 7. Reading activities.

Source: Student survey.
Author: Castillo,D(2019)

ANALYSIS OF DATA

According with the 75 students surveyed at the second level Industrial Mechanics section “A” and “B ” of “Carlos Cisneros”Institute of Chimborazo Province ", the analysis shows, that 62 of them answered YES equivalent to 83%, while 13 indicate that NO equivalent to 17%. A high percentage of students consider that readings used in class should be related to their specialty, (Encalada, 2013) considers it important “both reading and written comprehension in order to understand specific texts and handle terminology appropriate to the use of the person who requires such knowledge in the subjec ”. It should be taken into account that most manuals and texts on machinery and tools used by students are written in English.

QUESTION 8

Does your level English allow you to understand readings written in Technical English?

Table N.- 12 Question 8. Reading comprehension.

Alternatives	Frequency	Percentage
Yes	4	5%
No	71	95%
TOTAL	75	100%

Source: Student survey.
Author: Castillo,D(2019)

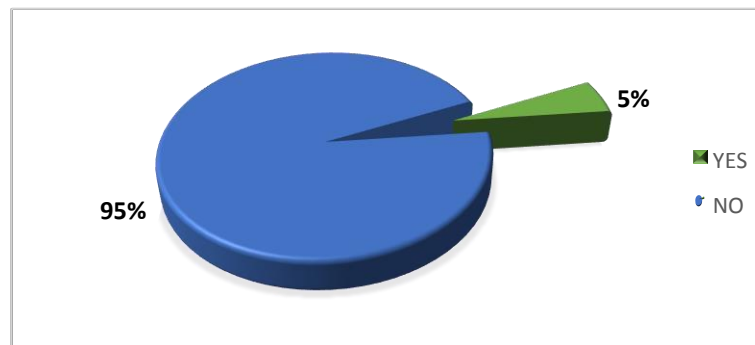


Figure N.- 13 Question 8. Reading comprehension.

Source: Student survey.
Author: Castillo,D(2019)

ANALYSIS OF DATA

According with the 75 students surveyed at the second level Industrial Mechanics section “A” and “B ” of “Carlos Cisneros”Institute of Chimborazo Province ", the analysis shows, that 4 of them answered **YES** equivalent to 5%, while 71 indicate that **NO** equivalent to 95 %.The majority of students surveyed due to lack of knowledge about technical terminology related to their specialty consider that their level of English is not adequate with which they can understand readings or texts written in technical English. According with: Akerberg, M. “Without a broad vocabulary we will not be able to use the structures and functions that we have been able to learn to achieve understandable communication” (p.144).

QUESTION 9

Is the learning of Technical English important for your academic and professional development?

Table N.- 13 Question 9. Importance of Technical English.

Alternatives	Frequency	Percentage
Yes	68	91%
No	7	9%
TOTAL	75	100%

Source: Student survey.
Author: Castillo,D(2019)

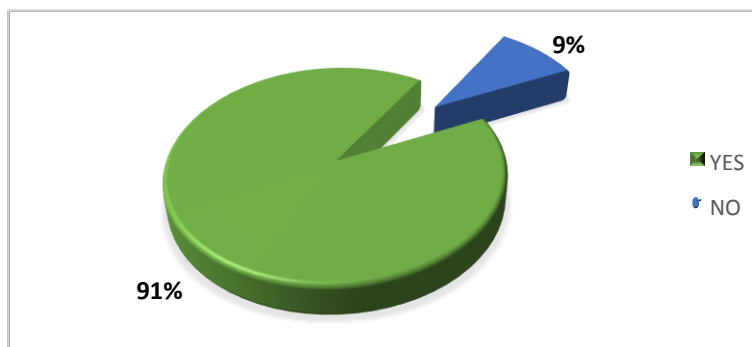


Figure N.- 14 Question 9. Importance of Technical English.

Source: Student survey.
Author: Castillo,D(2019)

ANALYSIS OF DATA

According with the 75 students surveyed at the second level Industrial Mechanics section “A” and “B ” of “Carlos Cisneros”Institute of Chimborazo Province ", the analysis shows, that 68 of them answered **YES** equivalent to 91%, while 7 indicate that **NO** equivalent to 9% .According with (Beltrán, 2006) “The mastery of some foreign language in the training of professionals is an aspiration, and an objective declared or accepted in the modern world. The foreign language as an instrument of study or work shows interest these days.”The majority of students surveyed agree with the aforementioned authors, since today the mastery of Technical English opens up more employment opportunities in the different existing areas. This is why they consider that Technical English is important in their student cycle and professional life.

QUESTION 10

Does the use of a module containing technical vocabulary in English and basic grammar help you understand technical readings in English?

Table N.- 14 Question 10. Understanding technical readings.

Alternatives	Frequency	Percentage
Yes	75	100%
No	70	0%
TOTAL	75	100%

Source: Student survey.
Author: Castillo,D(2019)

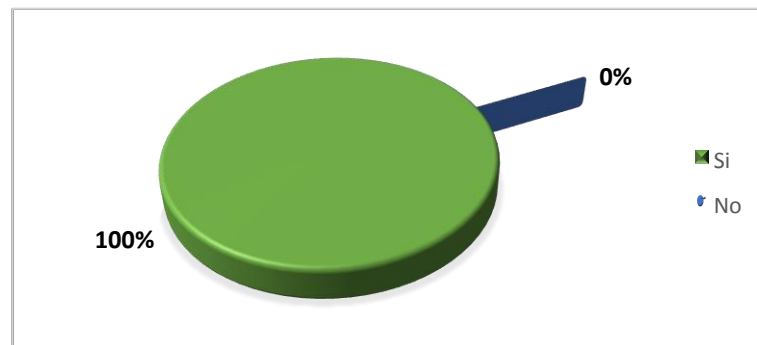


Figure N.- 15 Question 10. Understanding technical readings.

Source: Student survey.
Author: Castillo,D(2019)

ANALYSIS OF DATA

According with the 75 students surveyed at the second level Industrial Mechanics section “A” and “B ” of “Carlos Cisneros”Institute of Chimborazo Province ", the analysis shows, that 75 of them answered **YES** equivalent to 100%, while 0 of them indicate that **NO** equivalent to 0 %. According with (Encalada, 2013) states “the person who is going to learn Technical English must handle a specialized vocabulary in the subject to which he is dedicated, which facilitates the understanding and manipulation of texts, documents, writings, technical manuals”. According to the aforementioned, and the data obtained, all the students surveyed agree that the use of a module will help in the understanding of texts and manuals written in Technical English.

SURVEY TO TEACHERS

QUESTION 1

Do you use English words as a lathe or welder during English classes?

Table N.- 15 Question 1. Acquisition of Vocabulary.

Alternatives	Frequency	Percentage
Yes	1	33%
No	2	67%
TOTAL	3	100%

Source: Survey of teachers.

Author: Castillo,D(2019)

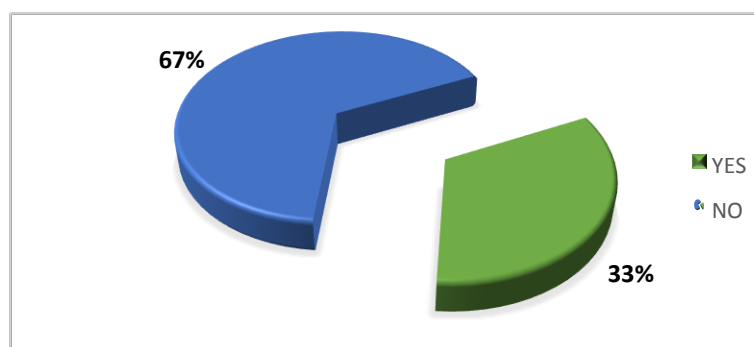


Figure N.- 16 Question 1. Acquisition of Vocabulary.

Source: Survey of teachers.

Author: Castillo,D(2019)

ANALYSIS OF DATA

According with the 3 teachers surveyed, 1 of them answered **YES**, which is equivalent to 33%; while 2 of them indicate that **NO** is equivalent to 67%.

According with Alarcón, E. (2002) “vocabulary is conceived as part of capacity development” (p. 94). Only one of the teachers in the area of English states that he knows about technical terminology as the names of machinery used in the specialty of industrial mechanics, while the other percentage indicates that he is unaware of the terms.

QUESTION 2

Do you practice English words referring to the specialty of Industrial Mechanics in your classes?

Table N.- 16 Question 2. Specific vocabulary.

Alternatives	Frequency	Percentage
Yes	0	0%
No	3	100%
TOTAL	3	100%

Source: Survey of teachers.
Author: Castillo,D(2019)

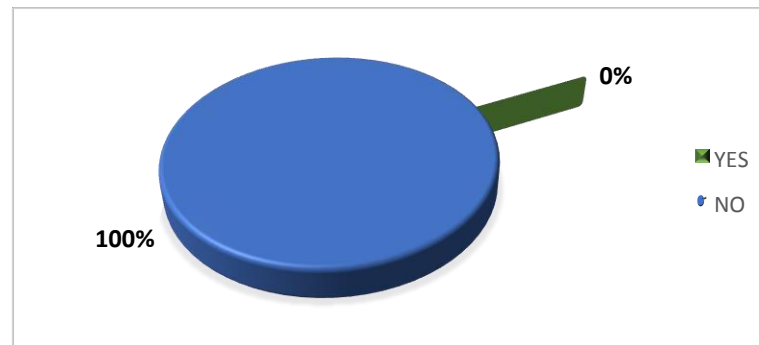


Figure N.- 17 Question 2. Specific vocabulary.

Source: Survey of teachers.
Author: Castillo,D(2019)

ANALYSIS OF DATA

According with the 3 teachers surveyed, the 3 of them answered that NO is equivalent to 100%.According with Akerberg, M. (2005) quotes: “the acquisition of the appropriate vocabulary is essential to be successful in the use of a second language” (p.144). According to the results obtained, all teachers replied that in their classes there is no practice of terminology referring to the specificity of students, such as Industrial Mechanics.

QUESTION 3

Do you socialize technical topics in English according to the specialty during your classes?

Table N.- 17 Question 3. Socialization of technical issues.

Alternatives	Frequency	Percentage
Yes	1	33%
No	2	67%
TOTAL	3	100%

Source: Survey of teachers.
Author: Castillo,D(2019)

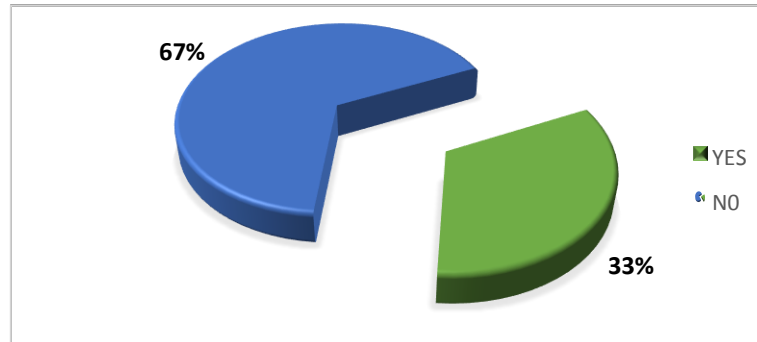


Figure N.- 18 Question 3. Socialization of technical issues.

Source: Survey of teachers.
Author: Castillo,D(2019)

ANALYSIS OF DATA

The 3 teachers surveyed, 1 of them answered **YES**, which is equivalent to 33%; while 2 of them indicate that **NO** is equivalent to 67%.

According with (Encalada, 2013) “in the English technical vocabulary it is good to mention that communicative competence and listening comprehension would be needed as a complement for the effective mastery of said vocabulary”. Only one of the teachers in the English area responded that if they socialize topics related to Industrial Mechanics during their classes, while the other percentage of teachers state the opposite, which indicates to this point that most teachers do not have knowledge of English Technical reason why there is ignorance of the subject also in students.

QUESTION 4

Does the textual material used in English classes promote the teaching of Technical English?

Table N.- 18 Question 4. Use of textual material.

Alternatives	Frequency	Percentage
Yes	0	0%
No	3	100%
TOTAL	3	100%

Source: Survey of teachers.
Author: Castillo,D(2019)

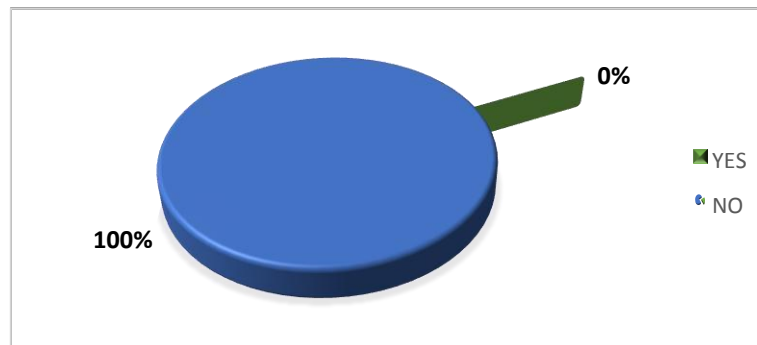


Figure N.- 19 Question 4. Use of textual material.

Source: Survey of teachers.
Author: Castillo,D(2019)

ANALYSIS OF DATA

The 3 teachers surveyed answered NO, which is equivalent to 100%. According with (Encalada, 2013) says that technical vocabulary should be used "in several fields where they have a specific and specialized purpose". The totality of the teachers surveyed states that the textual material used during their classes does not promote the teaching of Technical English with reference to the specialty of Industrial Mechanics.

QUESTION 5

Does the institution have technical modules written in English?

Table N.- 19 Question 5. Technical modules.

Alternatives	Frequency	Percentage
Yes	3	100%
No	0	0%
TOTAL	3	100%

Source: Survey of teachers.

Author: Castillo Daniela

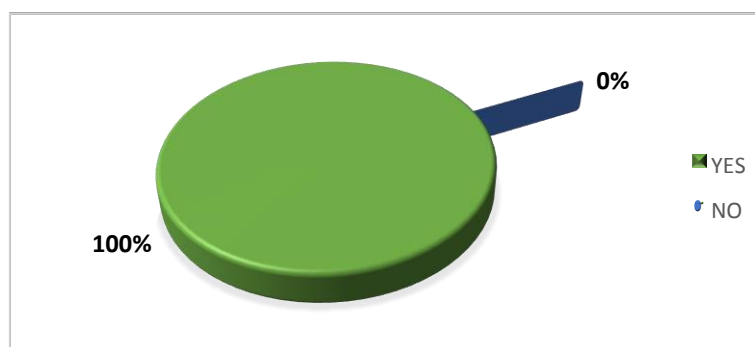


Figure N.- 20 Question 5. Technical modules.

Source: Survey of teachers.

Author: Castillo,D(2019)

ANALYSIS OF DATA

According to the data obtained in the survey, the 3 teachers answered **YES**, which is equivalent to 100%. All of the teachers surveyed in the English area state that the institution does have technical textual material written in English, to which we can deduce that this material is not used during English class to strengthen technical knowledge in English or to Understanding them.

QUESTION 6

Do the strategies used in Reading skill developed adequately for your understanding?

Table N.- 20 Question 6. Strategies for Reading.

Alternatives	Frequency	Percentage
Yes	3	100%
No	0	0%
TOTAL	3	100%

Source: Survey of teachers.

Author: Castillo,D(2019)

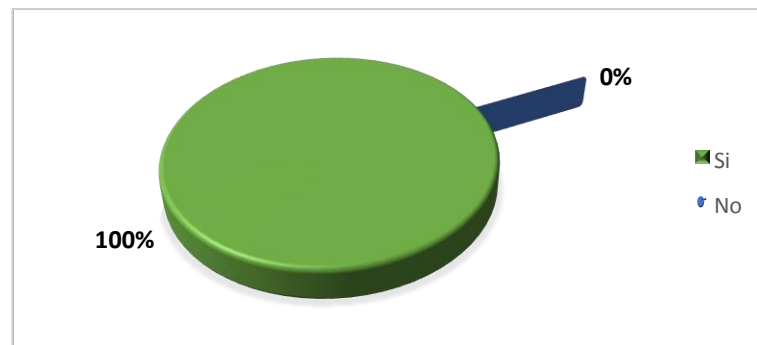


Figure N.- 21 Question 6. Strategies for Reading.

Source: Survey of teachers.

Author: Castillo,D(2019)

ANALYSIS OF DATA

The 3 of the teachers surveyed answered **YES**, which is equivalent to 100%.The total number of teachers surveyed states that the strategies used in Reading activities are developed in an adequate way for a good understanding of it, as Espinoza, C., (1998) states. “The reading-writing strategies consist of a series of systematic activities aimed at encouraging the taste for reading ”(p. 62); In addition to the taste for reading, that the understanding of the readings is clear.

QUESTION 7

Do the Reading activities be related to the specialty that your students are studying?

Table N.- 21 Question 7. Reading activities.

Alternatives	Frequency	Percentage
Yes	3	100%
No	0	0%
TOTAL	3	100%

Source: Survey of teachers.

Author: Castillo,D(2019)

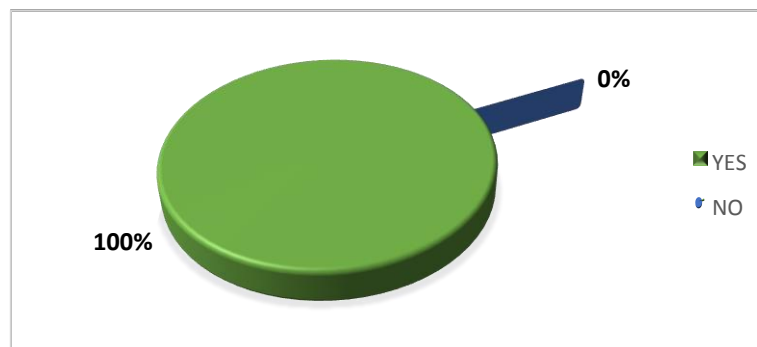


Figure N.- 22 Question 7. Reading activities.

Source: Survey of teachers.

Author: Castillo,D(2019)

ANALYSIS OF DATA

The 3 teachers surveyed answered **YES**, which is equivalent to 100%. According to the response we obtained from teachers and students, most agree that the readings used in class during the teaching process English language learning should be related to the specificity of Industrial Mechanics, constituting this in a breakthrough for optimal student learning. , (Encalada, 2013) considers important “both reading and written comprehension in order to understand specific texts and handle terminology appropriate to the use of the person who requires such knowledge in the subject”.

QUESTION 8

Will the English level your students possess allow them to understand readings written in Technical English?

Table N.- 22 Question 8. Reading comprehension.

Alternatives	Frequency	Percentage
Yes	0	0%
No	3	100%
TOTAL	3	100%

Source: Survey of teachers.
Author: Castillo,D(2019)

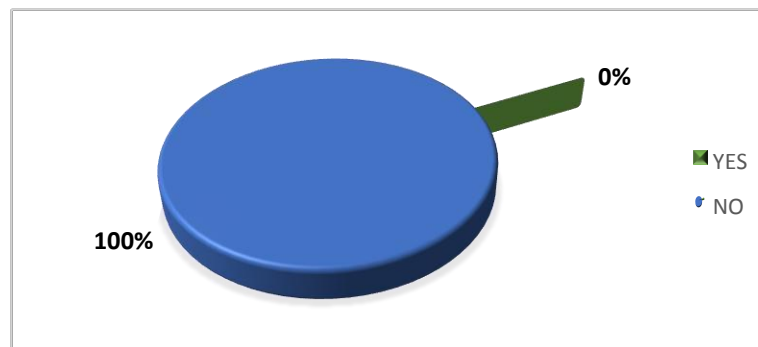


Figure N.- 23 Question 8. Reading comprehension.

Source: Survey of teachers.
Author: Castillo,D(2019)

NALYSIS OF DATA

The 3 teachers surveyed answered **NO** is equivalent to 100%. Akerberg, M. (2005) states: “Without a broad vocabulary we will not be able to use the structures and functions that we have been able to learn to achieve understandable communication” (p.144). All teachers surveyed agree that the level of English that students have will not allow them to understand texts or technical manuals written in English, representing this a great problem when it comes to the correct handling of machinery, tools and performance in their work.

QUESTION 9

Is the learning of Technical English important for your academic and professional development?

Table N.- 23 Question 9. Importance of Technical English.

Alternatives	Frequency	Percentage
Yes	3	100%
No	0	0%
TOTAL	3	100%

Source: Survey of teachers.

Author: Castillo,D(2019)

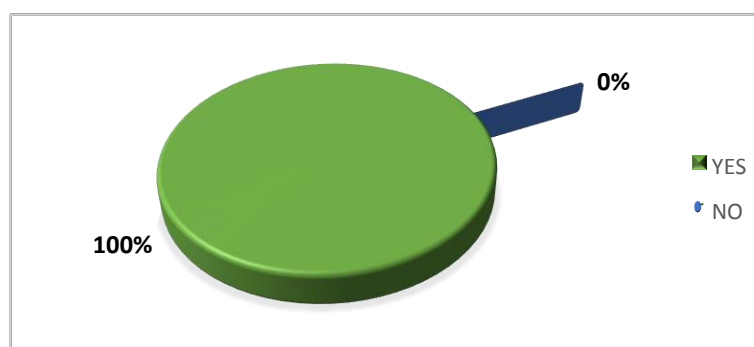


Figure N.- 24 Question 9. Importance of Technical English.

Source: Survey of teachers.

Author: Castillo,D(2019)

ANALYSIS OF DATA

The 3 teachers surveyed answered **YES** which is equivalent to 100%.The totality of the teachers surveyed declared that the learning of technical English is important for the students taking into account the place where they are. (Beltrán, 2006) “The mastery of some foreign language in the training of professionals is an aspiration, and an objective declared or accepted in the modern world. The foreign language as an instrument of study or work shows interest these days.”

QUESTION 10

Does the use of a module containing technical vocabulary in English and basic grammar help you understand technical readings in English?

Table N.- 24 Question 10. Understanding technical readings.

Alternatives	Frequency	Percentage
Yes	3	100%
No	0	0%
TOTAL	3	100%

Source: Survey of teachers.
Author: Castillo,D(2019)

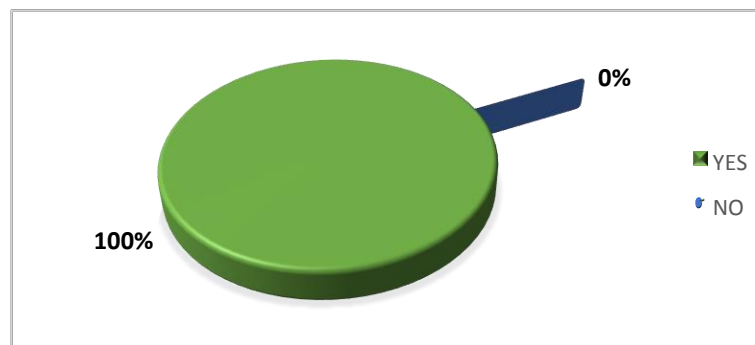


Figure N.- 25 Question 10. Understanding technical readings.

Source: Survey of teachers.
Author: Castillo,D(2019)

ANALYSIS OF DATA

The 3 teachers surveyed replied that **YES**, which is equivalent to 100%. According to the response provided by all the teachers surveyed, it shows that they agree that they would like to use a module in their class that allows them to teach basic technical vocabulary and grammar in English to help students understand technical readings written in English. (Cuvi, 2013) states “the person who is going to learn Technical English must handle a specialized vocabulary in the subject to which he is dedicated, which facilitates the understanding and manipulation of texts, documents, writings, technical manuals”.

4.2. HYPOTHESIS VERIFICATION

For verification of the research with the project called: **“INTER LEARNING OF TECHNICAL ENGLISH TO DEVELOP READING SKILL IN STUDENTS OF SECOND LEVEL SECTION “A” AND “B”, OF INDUSTRIAL MECHANICS OF CARLOS CISNEROS INSTITUTE OF CHIMBORAZO PROVINCE”**

INDEPENDENT VARIABLE: Technical English.

DEPENDENT VARIABLE: Reading.

4.2.1. Hypothesis planning

Technical English enhances the development of Reading skill in students of second level, section “A” and “B” in Industrial Mechanics of Carlos Cisneros Institute of Chimborazo Province

- **H1 alternative hypothesis:**

Technical English enhances the development of Reading skill in students of second level, section “A” and “B” in Industrial Mechanics of Carlos Cisneros Institute of Chimborazo Province

- **Null hypothesis:**

Technical English does not enhance the development of Reading skill in in students of second level, section “A” and “B” in Industrial Mechanics of Carlos Cisneros Institute of Chimborazo Province

4.2.2. Formula

The statistical model CHI square is applied. The survey is applied to the 75 students of second level, section “A” and “B” in Industrial Mechanics of Carlos Cisneros Institute of Chimborazo Province.

Because there are several alternatives, a contingency table is prepared, selecting the square CHI for the Hypothesis.

$$x^2 = \frac{\sum(Fo - Fe)^2}{Fe}$$

X² = Chi square

∑ = Sum

O = Observed Frequencies

E = Expected Frequencies

4.2.3. Level of results

After analyzing and interpreting the results, I worked with the data, a confidence level of 0.95 (95%) α 5% = 0.05 is selected for testing the Hypothesis.

4.2.4. Specification of the regions of acceptance and rejection

To determine the region of acceptance and rejection, the degrees of freedom are calculated, and the value of CHI = (Rows -1), (Columns -1) is determined.

$$g.l. = (f-1) (c-1)$$

$$g.l. = (2-1) (2-1)$$

$$g.l. = (1) (1)$$

$$g.l. = 1$$

$$X^2 = 3.84$$

4.2.5. Contingency table for CHI (chi) square

Table N.- 25 Contingency Table

QUESTIONS	ALTERNATIVES		
	YES	NO	TOTAL
No. 7: Should Reading activities be related to your specialty?	62	13	75
N°10: Will the use of a module containing technical vocabulary in English and basic grammar help you to understand technical readings in English?	75	0	75
TOTAL	137	13	150

Source: Student survey.

Prepared by: Castillo,D(2019)

4.2.6. Calculation of CHI (chi) Square

Table N.- 26 Calculation of Chi (chi) Square.

FREQUENCY OBSERVED	EXPECTED FREQUENCY	FO-FE	(FO-FE) ²	(FO-FE) ² /FE
62	68,5	-6,5	42,25	0,62
13	6,5	6,5	42,25	6,50
75	68,5	6,5	42,25	0,62
0	6,5	-6,5	42,25	6,50
150	150	X²C(CHI CALCULADO)=		14,23

Source: Student survey.

Author: Castillo,D(2019)

4.2.7. Hypothesis Verification Chart

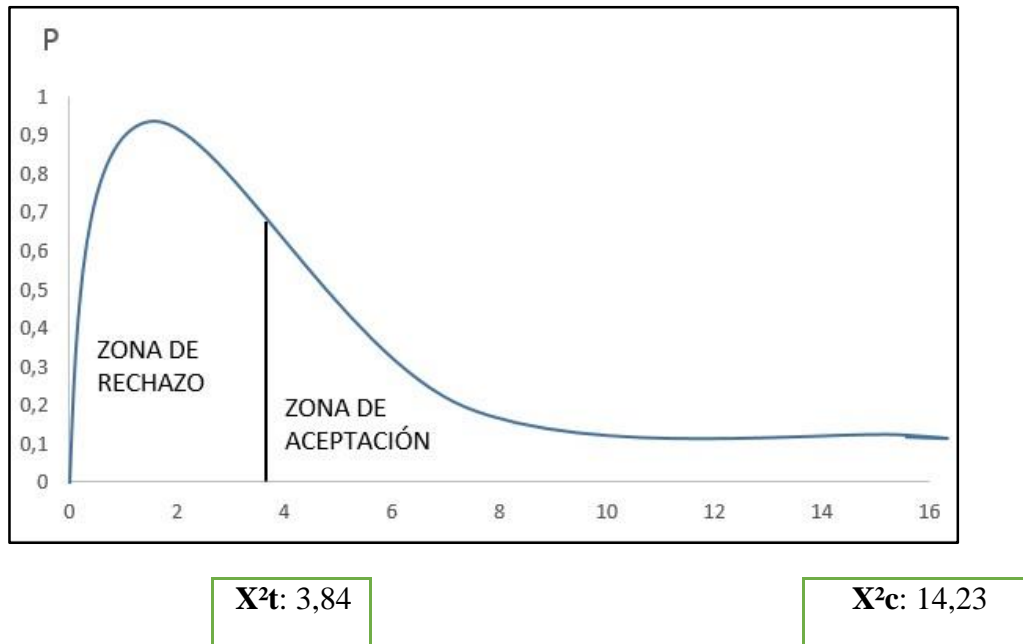


Figure N.- 26 Graphical Representation of the CHI (chi) Square.
Source: Student survey.
Prepared by: Castillo,D(2019)

4.2.8. Final decision

Since X^2_t is less than X^2_c , we reject the null hypothesis and **ACCEPT** the alternative hypothesis that says: Technical English does influence the development of Reading skills in the students of the second level , section “A” and “B” in Industrial Mechanics of Carlos Cisneros Institute of Chimborazo Province

CHAPTER V

CONCLUSIONS AND RECOMMENDATIONS

5.1. Conclusions

According with this research it can be concluded that:

- The English teachers in the Carlos Cisneros Institute of Chimborazo Province do not have adequate knowledge regarding the management of Technical English and the application of activities for learning it; even more so in the teaching of English referring to the specialty of Industrial Mechanics; so the students are not trained in the use of technical terminology in English for the realization of academic works, nor for the practice of English language outside the institution, aimed at their specialty.
- Concerning reading comprehension, the teachers do not use strategies that strengthen the development of Reading skills in an objective way; so the students do not acquire a clear idea of what they are reading, even more taking into account that the reading skill has an important paper in the learning process of the English language.
- In conclusion, teachers in the English area do not have enough teaching resources for the teaching of Technical English and the development of Reading skill; which complicate the effective learning of their specialty and optimal performance in the use of tools and the different kinds of machineries.

5.2. Recommendations

- Socialize and train teachers on the benefits and advantages of the application of innovative activities for the learning of Technical English, which is related to the specialty of Industrial Mechanics during the teaching process in the English area, so that students improve their academic and professional development in terms of handling Technical English terminology related to his specialty.
- The development of reading skills should be promoted, through the use of reading strategies and sub-skills, so that students feel motivated and acquire the necessary information to understand the context to which they are exposed, for adequate academic training and professional development.
- It is necessary to use didactic materials with technical content in English for industrial mechanics, in order that students can understand texts and documents with technical contents written in English, which will be useful in academic performance and much more in their professional life, as it can be in the understanding of a manual that will help you learn the correct functioning of a machinery.
- Use teaching resources that promote the development of reading skills. Resources must be of interest to students, in order to induce the transfer of knowledge in the learning of Technical English and the development of Reading. In addition, the didactic material to be used must be easy to handle so that the student does not have difficulty with it and that it is aimed at the specialty they are studying.

CHAPTER VI

PROPOSAL

TOPIC: “INTER LEARNING OF TECHNICAL ENGLISH TO DEVELOP READING SKILL IN STUDENTS OF SECOND LEVEL SECTION “A” AND “B”, OF INDUSTRIAL MECHANICS OF CARLOS CISNEROS INSITUTE OF CHIMBORAZO PROVINCE”

6.1. Informative data

Institution: Carlos Cisneros Institute (English area)

Location : México y La Paz

Province: Chimborazo

Beneficiaries: Teachers - Students

Estimated time: 8 weeks

Beginning: Junio 2019

Ending: Julio 2019

Tutor: Lic. Lorena Monserrath Meléndez Escobar Mg.

Researcher: Lic. Daniela Fernanda Castillo LLamuca

6.2. Background of the Proposal

The proposal is part of a long research, the lack of use of Technical English to development the reading skill in the second level section “A” and “B” of Industrial Mechanics of Carlos Cisneros Institute in Chimborazo Province, The proposal is the creation of a Student booklet which allows to do a job that is a great to help to the students of the specialty of Industrial Mechanics, in a way that they could improve their knowledge in their area by doing this research perform a complete job.

6.3. Justification

In the process of foreign language teaching has an important role, through them those attitudes are transmitted in the English language teaching process, increasing the

percentage of knowledge by the student, since the use of this technique, the student has clear and more real idea of the subject being treated.

The use of the technical booklet (Technical English for Industrial Mechanics) allows students to know different ways of thinking and acting, about a certain area through reading. In this case the use of Technical English, in order to meet their needs in terms of reading comprehension, to the use of manuals, texts and documents written in English, which facilitates the correct handling of machinery and tools used by students in their specialty.

The development and distribution of the technical booklet will help teachers to raise awareness about the importance of the use of technical vocabulary in the English area and its influence on the development of reading skills.

6.4. OBJECTIVES

6.4.1. General Objective

To develop a technical booklet in the English area for learning basic technical vocabulary in English to improve reading skills in the students of the second level section “A” and “B” of Industrial Mechanical specialty of “Carlos Cisneros” Institute of Chimborazo Province.

6.4.2. Specific Objectives

- To promote the learning of technical vocabulary to improve reading skills in second level section “A” and “B” of Industrial Mechanics of “Carlos Cisneros” Institute of Chimborazo Province.
- To socialize the benefits of the Technical English booklet for learning basic technical vocabulary that will help the development of Reading skill in Technical English, with students in the second level section “A” and “B” of Industrial Mechanics of “Carlos Cisneros” Institute of Chimborazo Province.

- To evaluate the impact of the implementation of the Technical English booklet for the development of reading skills in second level section “A” and “B” of Industrial Mechanics of “Carlos Cisneros” Institute of Chimborazo Province.

6.5. Feasibility analysis

The proposal is feasible because it has the support of the authorities and professors of Carlos Cisneros Institute of Chimborazo Province, the teachers are interested in knowing the importance of the correct use of the Technical English booklet.

The policies to be implemented for the development of the proposal and its execution in the Carlos Cisneros Institute of Chimborazo Province will be determined by the authorities of the institution and the researcher.

Finally, there are the necessary financial resources to carry the proposal to meet the needs of the educational community.

6.6. Theoretical foundation

Technical English

The technical English does not have the exact definition; it refers to a different style of technical or scientific topics. Use your own form or style of semantic and grammatical expressions for each specific area that will need it. The Technical English is related to prosaic English. It should be expressed through sentences, simple phrases, words, exact paragraphs and clauses. In addition, it is focused on the type of technical vocabulary to be used, in order to understand texts and manuals specifically that are of a scientific or technical nature.

- The “Unknown texts must be selected, as it is not enough for a reader to be able to read the text that is worked in class since it is done with the help of the teacher and the classmates.
- The reader must acquire the ability to read authentic texts that serve a real

purpose.

- The student must ensure that the student acquires the knowledge that meets their interests and purposes. For example, if the purpose is to know how a certain machine is installed, the understanding must be of each and every one of the linguistic units of the text, but if the interest is to extract certain information, the reader does not need to understand the meaning of all the words.

Espinosa, A. (1998) states that: "Reading is not simply deciphering a written code, but decoding and also understanding and interpreting a text."

(p.43).

In conclusion it can be said that reading is the most important process that human beings have developed the language, it is defined as a process in which the human being captures a series of symbols and decodes, making them a logical sequence.

Additionally, other authors specify that to exercise the true act of reading, reading involves three fundamental skills:

- **Decode:** it implies the ability to recognize words.
- **Understand:** it refers to the ability to interpret the meaning of what is read.
- **Assimilate:** it is the ability to think critically and creatively about what is read, as well as to react to what the writer has expressed.

6.7. METHODOLOGY AND OPERATING MODEL

6.7.1. Methodology

Tobón, S. (2008). states that: In the complex methodology of the booklet design, these are characterized in the first place by the theory and the practice integration, because every booklet must articulate activities of both theoretical appropriation and application around problems, in order to facilitate the development of skills.

- According to the Community Language Method According to Curran (1976) this method adopts the techniques of a psychologist, which addresses problems that arise during language learning, the method allows the student to be guided to the direction of the class.
- The Language Freeman (1992-1998) interprets that this method is based exclusively on an integral language because the principles that stand out are: language is personal and social but the classroom activities of the classes into society through interaction.

The proposed booklet has the following context in a timely manner; where the second level section “A” and “B” of Industrial Mechanics of Carlos Cisneros Institute of Chimborazo Province.

- Cover of the Technical English module for Industrial Mechanics.
- Then the introduction about the importance of Technical English is shown.
- An index explains the order of activities and the parts in which the booklet is divided. The activities for learning technical vocabulary contain 3 units, in which you can learn terminology related to Industrial Mechanics. The grammar used is related to the content of the book that students use in their daily classes and the last chapter with technical readings on procedures performed in industrial mechanics.

This proposal consists in the creation of a Mechanic Industrial booklet offers 3 units for students learning each unit has some activities related with Industrial Mechanics vocabulary a guide to the learners with some interesting tasks in the booklet to develop the reading skill focused on the technical English vocabulary about Industrial Mechanics and the activities are doing methodologically.

In the first unit the learners must to identify people who work in a Mechanical workshop by using simple present tense and their professions, they will have the opportunity to listen professions vocabulary related with Industrial Mechanics, complete dialogues, answer questions and read a conversation about the new technical vocabulary.

In the second unit the learners must to listen Industrial Mechanics tools vocabulary, read concepts and do sentences according with the new technical vocabulary known,read a text.

In the third unit the learners must to complete a dialogue, unscramble some new words related with the new technical vocabulary,write sentences, read a text.

UNITS

Unit 1	Unit 2	Unit 3	Unit 4	Unit 5
Meeting people working in a mechanical workshop	Do you have any.....?	Are they any...?	Areas	Procedures

CONTENTS

Vocabulary:Professions

Grammar: Simple Present

(verb to be)

Reading: Conversation

Useful expressions

Listening

Vocabulary: Industrial Mechanics

Tools

Reading: the use some Industrial

Mechanics tools

Grammar: Countable and

Uncountable Nouns

6.7.2. Operating model

PHASE	OBJECTIVES	ACTIVITIES	RESOURCES	RESPONSIBLE	TIME
Socialization	To collect information related to the technical module in English for its development	Socialize on the subject with the authorities and teachers of the English area.	Computer Sheets of paper	Daniela Castillo (researcher)	4 days
Planning	To determine the elements that facilitate the use of the booklet in the classroom.	Development of the Technical English module for industrial mechanics.	Computer	Daniela Castillo (researcher)	5 weeks
Execution of the proposal	To develop the reading skill through application of the technical English	Application of the Technical English booklet for industrial mechanics.	Computer	Daniela Castillo (researcher)	1 week
Evaluation	To review Check the functionality and benefits of the proposal.	Monitoring the application of surveys to English teachers and students.	Sheet of papers	Daniela Castillo (researcher)	2 days

Table N.- 27 Operating Model.

Source: Direct Research.

Author: Castillo Daniela

Technical English

Industrial Mechanic



Student's Booklet

Second level

Author: Daniela Castillo

Introduction

This work is based on the Communicative Approach applied to second level of Industrial Mechanics of Carlos Cisneros Institute of Chimborazo Province; it is important to understand that students must communicate using language in an appropriate way according to the social context. Students need to know technical language according their career, its meaning and functions as well as procedures like tools and machinery. In some cases, the students must try to understand by themselves when specific vocabulary is appropriate. In this booklet the teacher's role is less dominant than other methods. Students are more responsible for their own knowledge using it. Another important aspect of this didactic material is that students can learn about technical vocabulary that is used in their specialty.

Finally, all tasks are essential to help you to understanding manuals, texts, technical documents and readings in English used in industrial mechanics. It allows students to improve their skills, in this opportunity the skills of reception.

INDEX

Unit	Objective	Function	Strategy
Unit 1: Meeting people in a Mechanical workshop	To identify people who work in a Mechanical workshop by using simple present tense and their professions.	<ul style="list-style-type: none"> • VOCABULARY: Professions • GRAMMAR: simple present tense (verb to be) • READING • GRAMMAR: Simple present tense (other verbs) 	<ul style="list-style-type: none"> • Labeling • Completing Answering Transferring • True or false • Writing and rewriting sentences
Unit 2 Do you have any...?	Learn the name of vocabulary tools, their uses, and how to use them ANY and SOME	<ul style="list-style-type: none"> • LISTENING • VOCABULARY: Tools. • GRAMMAR: Countable nouns • READING: the use of some tools. 	<ul style="list-style-type: none"> • Game • Categorizing Listen and write • Writing sentences Joining words Completing • Matching
Unit 3 Are there any...?	Use of THERE IS and THERE ARE, names of materials	<ul style="list-style-type: none"> • READING • VOCABULARY: • GRAMMAR: There is / there are Some / any 	<ul style="list-style-type: none"> • Silent reading Question and answer • Matching • Write sentences



MEETING PEOPLE WORKING IN A MECHANICAL WORKSHOP

UNIT 1

VOCABULARY

1.- Listen to the teacher the professions and repeat

- a) Manager
- b) Engineer
- c) Welder
- d) Lathe operator
- e) Security guard
- f) Secretary
- g) Receptionist
- h) Mechanic

2.- According with the professions above rewrite in the correct place using the pictures. (8 marks)



.....



.....



Welder



.....



.....



.....



.....



.....

GRAMMAR

AFFIRMATIVE STATEMENTS			NEGATIVE STATEMENTS			
NOUN	BE	COMPLEMENT	NOUN	BE	NOT	COMPLEMENT
I	Am	the security guard	I	am	not	the security guard
YOU	Are	the receptionist	You	are	not	the receptionist
HE/SHE	Is	the welder	He	is	not	the welder
IT	Is	The mechanical workshop	It	is	not	The mechanical workshop
WE/YOU/THEY	Are	the mechanics	We	are	not	the mechanics

Yes/No questions			Yes/No questions' answers	
BE	NOUN	COMPLEMENT?	AFFIRMATIVE	NEGATIVE
Are	You	the receptionist?	Yes, I am	No am not
Is	He	the welder?	Yes, he is	No, he is not
Is	It	the mechanical workshop?	Yes, it is	No, it is not
Are	We	The mechanics?	Yes, we are	No, we are not

INFORMATIVE QUESTIONS				INFORMATIVE QUESTIONS' ANSWERS	
Wh	Be	Noun	Complement	Short answer	Long answer
Where	are	You	working?	In the mechanical workshop	I am working in the mechanical workshop
Who	is	the welder?		Carlos Vargas	The welder is Carlos Vargas
When	is	the motor installation?		On Monday	The motor installation is on Monday

VERB TO BE CONTRACTIONS

I am	I'm
You are	You're
He is	He's
She is	She's
It is	It's
You are	You're
We are	We're
They are	They're

3.- Complete the sentences using verb TO BE, affirmative (+) or negative (-)

(5 marks)

- Carlos Vargas the welder (-)
- The motor installation on Monday (+)
- Susan isthe receptionist (-)
- the mechanical workshop (-)
- We lathe operators (+)

4.- Answer the following questions of verb TO BE, positive and negative answers

(5 marks)

- **Is Susan the receptionist?**

Yes,

No,

- **Are you in the mechanical workshop?**

Yes,

No,

- **Is the motor installation on Monday?**

Yes,

No,

- **Are you the welder?**

Yes,

No,

- **Is Carlos Vargas the lathe operator?**

Yes,

No,

READING

5.- Read carefully the following conversation while you listen.

Carlos: Good morning, what are you up to these weeks?

Felipe: Good morning Mr. Carlos, mmm... No so busy. What about you?

Carlos: Sounds interesting. My weeks are so busy. Is Mr. José here?

Felipe: No, he isn't. He is in the welding field. Do you want me to call him?

Carlos: No, I don't. Thank you . I'll go there now.

Felipe: What else do you need?

Carlos: I don't need anything else, that's enough. Thanks. See you.

Felipe: ok. Have a nice week. Bye.

6.- Read the sentences below and write (T) True or (F) False according with the reading above. (4 marks)

- Felipe has busy days
- Carlos is in Felipe's warehouse.
- Felipe calls Carlos.
- Carlos doesn't need anything else.

T F

SIMPLE PRESENT TENSE OTHER VERBS		
Affirmative Statement	Negative Statement	
I need anything else	I don't need anything else	
Felipe has busy weeks	Felipe doesn't have busy weeks	
Yes / No questions	Affirmative answer	Negative answer
Do you need anything else?	Yes, I need	No, I don't need anything else
Information questions	Short answer	Long answer
What else do you need?	Nothing	I don't need anything else

7. - Rewrite the following sentences according with the parentheses. (4 marks)

- You have something to fix (informative)
.....?
- Joel goes to the mechanical workshop (yes, no question)
.....?
- Martha works in the reception office (information question)
.....?
- Martha and Felipe call to the manager. (negative)
.....?



Do you have any.....?

UNIT

2

LISTENING

1.- Listen to the teacher and repeat the tools vocabulary

TOOLS VOCABULARY

1



DRILL

2



SCREWDRIVER

3



WISE CLAMP

5



WRENCH

4



TAPE MEASURE

6



PRIERS

7



TOOLBOX

8



CUTTING DISC

9



SAFETY GLASSES

10



WIRE CUTTERS

11



OXY ACETYLENE WELDING

12



ANGLE GRINDER

2.-Listen the number about tools vocabulary after that spell the name of the tool and finally write in the lines. (5 marks)

-
-
-
-
-

READING

3.- Join with a line the meaning with the correct tool vocabulary (3 marks)

a

Are made from a solid abrasive disc. These discs are often used for cutting metal; they are composed of an abrasive mix of grit and adhesive that is formed into a rigid and thin disc with fiber webbing running through it for strength.

WRENCH

b

To move with a violent twist

CUTTING DISC

c

Also known as **oxy-fuel welding** or **acetylene welding** is a process that uses oxygen and fuel gases to **weld** and cut steel or metallic components

OXY ACETYLENE
WELDING

GRAMMAR

COUNTABLE NOUNS		
SINGULAR	PLURAL	
a toolbox	two	Toolboxes
a tape measure	five	Tape measures
an oxy acetylene welding	several	oxy acetylene weldings
a drill	many	Drills

4.- Using the tools vocabulary do sentences with countable nouns (6 marks)

1



DRILL

.....

2



SCREWDRIVER

.....

3



WISE CLAMP

.....

...

4



TAPE MEASURE

.....

5



WRENCH

.....

6



PRIERS

.....



Are they any.....?

UNIT

3

READING

1.- Listen the dialogue and complete (7 marks)

Felipe: I need some rounds, bring.....

José: In this I can't because I amthe ceiling.

Felipe: ok. But I need some extrato paint the aluminum too.

José: I don't have, say to Carlosmore paint please.

VOCABULARY



WISE GRIP



DRILL PRESS



HACK SAW



DRILL BITS

2.- Unscramble the tools vocabulary above then write the meaning in Spanish
(4 marks)

	<u>UNSCRAMBLE</u>	<u>MEANING</u>
SEPESR RLILD
KCAH WAS
ESVI PGIR
LDIRL TBIS

GRAMMAR

THERE IS / THERE ARE (SOME AND ANY)	
AFFIRMATIVE STATEMENT	NEGATIVE STATEMENT
There is a drill press	There is not a drill press
There are several drill bits	There are not several drill bits
There is some hack saw	There is not some hack saw
There are two vise grips	There are not two vise grips
Yes/ No questions	Short answers
Is there a drill press?	Yes, there is / No there is not
Are there two vise grips?	Yes there are / No there are not

3.- Write four sentences using **THERE IS** and **There are** (4 marks)

-
-
-
-

4.- Answer the following questions (4 marks)

- **Is there a drill press in the mechanical workshop?**

..... (+)

- **Are there three vise grips?**

..... (-)

- **Is there a drill bit?**

..... (+)

- **Are there four hack saws?**

..... (-)

READING 1

5.- Write the name in each paragraph.

Sending Speed (Feed)

Rotating Speed

Cutting

Depth

a)

It expresses with the number of rotations (rpm) of the chuck of a lathe. When the rotating speed is high, processing speed becomes quick, and a processing surface is finely finished. However, since a little operation mistakes may lead to the serious accident, it is better to set low rotating speed at the first stage.

b)

The cutting depth of the tool affects to the processing speed and the roughness of surface. When the cutting depth is big, the processing speed becomes quick, but the surface temperature becomes high, and it has rough surface. Moreover, a life of byte also becomes short. If you do not know a suitable cutting depth, it is better to set to small value.

c)

The sending speed of the tool also affects to the processing speed and the roughness of surface. When the sending speed is high, the processing speed becomes quick. When the sending speed is low, the surface is finished beautiful. There are 'manual sending' which turns and operates a handle, and 'automatic sending' which advances a byte automatically. A beginner must use the manual sending. Because serious accidents may be caused, such as touching the rotating chuck around the byte in automatic sending,

https://www.nmri.go.jp/eng/khirata/metalwork/lathe/intro/index_e.html

READING 2

1.- Read and order the paragraph

a)

b)

c)

Basic Operation of a Lathe

1: A material is firmly fixed to the chuck of a lathe. The lathe is switched on and the chuck is rotated. And since the table which fixed the byte can be moved in the vertical direction, and the right-and-left direction by operating some handles.

2: It touches a byte's tip into the material by the operation, and make a mechanical part.

3: A lathe is a machine tool which turns cylindrical material, touches a cutting tool to it, and cuts the material. The lathe is one of the machine tools most well used by machining.

https://www.nmri.go.jp/eng/khirata/metalwork/lathe/intro/index_e.html

2.- Circle the correct answer

In paragraph number 1 the word “fixed” refers to:

- a) Attached or placed so as to be firm and immovable.
- b) Not fluctuating or varying.
- c) Held in chemical combination.

3.- In paragraph number 1, the word “chuck” refers to:

- a) To resign from
- b) A toss
- c) A device that holds a workpiece in a lathe or tool in a drill

In paragraph number 3, the word “turns” refers to:

- a) To reverse the position or placement of.
- b) To shape (a piece of metal, etc.) into form with a cutting tool while rotating it on a lathe.
- c) To twist out of position; wrench.

3.- Write the correct information according what you read.

- a) A lathe is a machine tool which turns cubical material.

.....

- b) A material is firmly fixed to the switch of a lathe.

.....

- c) The lathe is switched on and the chuck is cutting.

.....

- d) The lathe is one of the machine tools best well used by machining.

.....

READING 3

4. Underline the correct answer. What are you going to read in the text?

- a. process b. definition c. someone's experience d. history

Stick or MSAW welding

Paragraph 1

Shielded Metal Arc Welding (SMAW) is frequently referred to as "stick" or "covered electrode" welding. a)

Paragraph 2

The flux covering on the electrode melts during welding. This forms the gas and slag to shield the arc and molten weld pool. b) The flux also provides a method of adding scavengers, deoxidizers, and alloying elements to the weld metal.

Paragraph 3

When an arc is struck between the metal rod (electrode) and the workpiece, both the rod and workpiece surface melt to form a weld pool. Simultaneous melting of the flux coating on the rod will form gas and slag which protects the weld pool from the surrounding atmosphere.

c)

Paragraph 4

The process allows only short lengths of weld to be produced before a new electrode needs to be inserted in the holder. Weld penetration is low and the quality of the weld deposit is highly dependent on the skill of the welder.

<http://www.advantagefabricatedmetals.com/stick-welding.html>

2. Read the paragraph. Then insert the sentences given in the text where they best fit.

a)

b)

c)

1. The slag will solidify and cool and must be chipped off the weld bead once the

- weld run is complete (or before the next weld pass is deposited).
2. The slag must be chipped off the weld bead after welding.
 3. Stick welding is among the most widely used welding processes.

6. Answer the questions.

a) What does (SMAW) mean?

.....

b) When does the flux covering on the electrode melts?

.....

c) What does it happens when an arc is struck between the electrode and the workpiece?

.....

d) Whose quality welding depends?

.....

READING 4

1. - Underline the words in the text according with the language terms listed.

Milling Machine

Milling machines are very versatile. They are usually used to machine flat surfaces, but can also produce irregular surfaces. They can also be used to drill, bore, cut gears, and produce slots. The type of milling machine most commonly found in student shops is a vertical spindle machine with a swiveling head. Although there are several other types of milling machines, this document will focus only on the vertical milling machine.

A milling machine removes metal by rotating a multi-toothed cutter that is fed into the moving workpiece. The spindle can be fed up and down with a quill feed lever on the head. The bed can also be fed in the x, y, and z axes manually. In this clip the z axis is adjusted first, then the y, than the x. Once an axis is located at a desired position and

will no longer be fed, it should be locked into position with the gibb locks.

Most milling machines are equipped with power feed for one or more axes. Power feed is smoother than manual feed and, therefore, can produce a better surface finish. Power feed also reduces operator fatigue on long cuts. On some machines, the power feed is controlled by a forward reverse lever and a speed control knob.

<http://web.mit.edu/2.670/www/Tutorials/Machining/mill/Description.html>

5. Circle the correct answer.

In paragraph number 1, the word “flat” refers to:

- a. Level, even, or smooth in surface, such as land or tabletops.
- b. A residential apartment.
- c. With the air out; deflated; collapsed.

In paragraph number 2, the word “fed” refers to:

- a. To give food to.
- b. To flow or move forwards into a machine.
- c. The quantity of material or fuel so supplied.

In paragraph number 3, the word “knob” refers to:

- a. A part, usually rounded, that forms a handle, or forms a control device.
- b. A rounded projection from a surface.
- c. A handle of a door.

READING 5

Put the words were they best fit.

- | | | |
|------------|--------------|----------|
| a. begin | b. mud | c. water |
| d. removed | e. drill rig | f. dug |

Drilling Rig

The drilling process is a very in-depth process. A well site must first be selected then all the legal documents obtained. Drilling operations can

1) only after the site has been prepared, ground has been leveled, roads have been built, a derrick has been erected, and other equipment that comprises the 2) has been put in place.

Water is a vital component in the drilling process for mixing drilling mud (lubricant). 3) can be hauled into the location by trucks or pumped from a nearby lake, pond, or water well. If no source is available, a new water well must be drilled before the drilling process can begin.

A drilling operation produces waste material that includes drilling 4)....., rock cuttings, and salt water brine (highly concentrated salt water) which flows out of a reservoir trap and up the well to the surface. These materials must be disposed of properly. The reserve pond is often

5) to temporarily hold the brine and drilling mud.

Neither the drill mud nor the salt water brine is allowed to remain at the drilling site. All waste materials must be 6) off site and sent to a properly licensed landfill for disposal.

<http://www.tidalpetroleum.com/drilling-rigs>

Circle the correct answer.

All of the following are mentioned in drilling operations, paragraph 1,

EXCEPT:

- a. roads have been built
- b. a derrick has been erected
- c. an axis located at a desired position

Complete the following sentence: Water is a vital component in the drilling process for drilling mud.

- a. melting
- b. mixing
- c. dropping

According to paragraph 3, which of the following is NOT a waste material:

- a. rock cuttings,
- b. smoke
- c. salt water brine

According to paragraph 4, which of the following information is correct:

- a. The drill mud and the salt water brine are allowed to remain at the drilling site.
- b. The drill mud and the salt water brine are not allowed to remain at the drilling site.
- c. The drill mud and the salt water brine are allowed to remain at the drilling site if the owner is millionaire.

Rubric for assessing Reading skill

Student's name: _____

CRITERIA	0-1	2	3	4	TOTAL
Pronunciation of Words	The students struggles the words.	Some words are pronounced correctly.	The most words are pronounce correctly.	All words are pronounced correctly.	
Fluency of Reading	The students struggles to read.	The student reads words for words.	The words are pronounced logically.	The reading is very easy and fluent.	
Use of Pronunciation	The punctuation marks are omitted.	The punctuation marks are replaced with a pause.	The punctuation is observed but the student stops at the end of a line.	The punctuation is used correctly.	
					/ 12

Observations:

.....

6.8. Administration of the proposal

This proposal will be administrated by the teachers in the English area who will be responsible for applying the technical booklet with the students in the classroom.

Table N.- 28 Administration of the proposal

INSTITUTION	“ Carlos Cisneros Institute”
RESPONSABLES	✓ Head Master of the Institution ✓ English tteachers ✓ Researcher
ACTIVIDADES	✓ Socialization ✓ Participation ✓ Organization
MATERIALES	✓ Photo Copies
BUDGET	\$120
FINANCING	Researcher

Author: Castillo,D(2019)

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- <https://www.thoughtco.com/english-as-a-second-language-esl-1690599>
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- <https://www.teachthought.com/education/7-factors-impact-the-learning-curve-of-english-language-learners/>
- <https://www.usingenglish.com/articles/teaching-english-for-specific-purposes-esp.html>
- <https://sites.google.com/site/kadpolyenglish/home/language>
- <https://www.britannica.com/topic/language>
- https://shodhganga.inflibnet.ac.in/bitstream/10603/29223/17/9_chapter%201.pdf
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- National Maritime Research Institute: Elementary Knowledge of Metalworking: Recuperado de: https://www.nmri.go.jp/eng/khirata/metalwork/lathe/intro/index_e.html
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ANNEXES



Anex 1

UNIVERSIDAD TÉCNICA DE AMBATO

Students' survey

Objective: To determine the incidence of the use of Technical English to development Reading skill.

Instructive: Put an **X** en uno de los paréntesis de cada pregunta, de a cuerdo a su criterio.

1. Are vocabulary acquisition activities appropriate for your learning?
YES () **NO** ()

2. Do you practice English words referring to your specialty during classes?
YES () **NO** ()

3. Does the English teacher socialize technical subjects in English according to her specialty during classes?

YES () **NO** ()

4. Does the textual material used in English classes promote the learning of Technical English?

YES () **NO** ()

5. Does the institution have technical modules written in English?
YES () **NO** ()

6. Are the strategies used in Reading developed adequately for your understanding?
YES () **NO** ()

7. Does the Reading activities be related to your specialty?

YES () **NO** ()

8. Does your level English allow you to understand readings written in Technical English?

YES () **NO** ()

9. Is the learning of Technical English important for your academic and professional development?

YES () **NO** ()

10. Does the use of a booklet containing technical vocabulary in English and basic grammar help you understand technical readings in English?

YES () **NO** ()

Anex 2



UNIVERSIDAD TÉCNICA DE AMBATO

Teachers' survey

Objective: To determine the incidence of the use of Technical English to development Reading skill.

I. Instructive: Put an **X** en uno de los paréntesis de cada pregunta, de acuerdo a su criterio.

1. Do you use English words as a tape source or welder during English classes?

YES () **NO** ()

2. Do you practice English words referring to the specialty of Industrial Mechanics in your classes?

YES () **NO** ()

3. Do you socialize technical topics in English according to the specialty during your classes?

YES () **NO** ()

4. Does the textual material used in English classes promote the teaching of Technical English?

YES () **NO** ()

5. Does the institution have technical modules written in English?

YES () **NO** ()

6. Do the strategies used in Reading skill developed adequately for your understanding?

YES () **NO** ()

7. Do the Reading activities be related to the specialty that your students are studying?

YES () **NO** ()

8. Will the English level your students possess allow them to understand readings written in Technical English?

YES () **NO** ()

9. Is the learning of Technical English important for your academic and professional development?

YES () **NO** ()

10. Does the use of a module containing technical vocabulary in English and basic grammar help you understand technical readings in English?

YES () **NO** ()

ANEX 3

Second Industrial Mechanics “A”



Second Industrial Mechanics “B”



English Teachers

