

Analysis of the low level of achievement in the english subject of the universidad tecnológica de Tecamachalco

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RESUMEN

Esta investigación involucra aspectos vitales como el dinamismo del docente, la aplicación de teorías de aprendizaje específicas para la enseñanza de una lengua extranjera y la aplicación de estrategias de comunicación. La presente investigación se desarrolló para conocer el porqué del bajo rendimiento en inglés en la Universidad Tecnológica de Tecamachalco. Se aplicó encuestas a 993 estudiantes de diferentes niveles con perfil de ingeniería. Las encuestas mostraron que la comunicación y la empatía son parte esencial del aula, y especialmente cuando se trata de enseñar una lengua extranjera, la zona de proximidad a la que se refiere Vygotsky es significativa porque los estudiantes refieren una necesidad de acompañamiento por parte del docente. Los resultados muestran que las técnicas de enseñanza que aplican los docentes son adecuadas y su metodología no afecta el proceso de enseñanza-aprendizaje.

Palabras Clave: enseñanza de una lengua extranjera; rendimiento; teorías del aprendizaje; comunicación; habilidades lingüísticas y proceso de enseñanza-aprendizaje

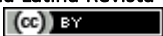
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ABSTRACT

This research involves vital aspects such as the teacher's dynamism, the application of specific learning theories for teaching a foreign language, and the application of communication strategies. The present research was developed to know the reason for the low English achievement level at the Universidad Tecnológica de Tecamachalco. It applied surveys to 993 students of different levels with an engineering profile. The surveys showed that communication and empathy are an essential part of the classroom, and especially when it comes to teaching a foreign language, the zone of proximity referred to by Vygotsky is significant because students refer to a need for accompaniment by the teacher. The results show that the teaching techniques teachers apply are suitable, and their methodology does not affect the teaching-learning process.

Keywords: *teaching a foreign language; achievement; learning theories; communication; language skills and teaching-learning process*

INTRODUCTION

The background of Technological Universities dates from 1970 to 1973, when the Ministry of Public Education (Known in Spanish as SEP) carried out comparative studies of the educational systems of the major countries in the world; from this review, the educational modalities of high school plus two years of technical career were identified: in the United States, the Community Colleges and in France the Instituts Universitaires de Technologie (Known in French as IUT), among other industrialized countries; however, at that time there was no express need for these modalities in Mexico's productive sector (SEP, 2000, p. 8).

In the nineties, the opening of trade was unavoidable, and the knowledge economy posed new challenges to the labor market. Nowadays, it is essential to continue with this vital link and congruence between education and the labor market, to face the challenges posed by development, and as an essential element to maximizing the range of possibilities for the benefit of the population. In 1991 the modality of Higher University Technician (known in Spanish as TSU) was born at level 5 of ISCED (UNESCO's International Standard Classification of Education). "The impact for the educational sector was translated into demands on productivity, flexibility and technological adaptation capacity of the workforce, especially in the middle and high levels of formal qualification" (Silva, 2006, p. 45). In September 2009, the continuity of studies with engineering (ISCED level 6) was opened.

The first encounter with developing English as a foreign language is within the classroom. Various activities are carried out in this place, and it is the only place where he is exposed to limited contact that prevents him from communicating in this language since it is the only practice they have (Beltrán M., 2017). Using the theory of input and output, it is understandable that the student needs to process the information given by a source, which is reflected in the four skills: listening, writing, speaking, and reading.

Teachers are an essential part of the process, mainly because they belong to all the strategies in the process (Dowoska, 2018, p. 3). Balduzzi, E. (2021) pointed out that the "constitutive" effects are fundamental for constructing our identity. These effects show the anthropological and educational value of interpersonal relationships. In his concept of the proximal development zone, Vygotsky refers to the existing distance between the current psychic development of a person and his or her maximum development. This

concept is vital in the didactic postulates, and its use is detailed in forming values using information and communication technologies (ICTs) (González, A. 2011). Therefore, the teacher's management is essential since it must be based on expanding the learner's zone of proximal development.

Technology has brought many people closer despite the distance; this has also happened in the field of education, and adaptation to the use of technological tools requires good communication. According to Carlota Pérez (2002), humanity is currently at the "turning point" of an unprecedented technological transformation. Communication in any form (face-to-face or online) is essential to develop activities correctly. Communication is possible to the extent of common knowledge among community members. These members boast of being competent social actors; that is, they can understand the actions of others and their own. Communication can be understood as a process that requires mutual knowledge. Busts, J.C. (2011).

Students must know the knowledge they will acquire as part of the scaffolding to achieve communication. Vygotsky, quoted by Ojalvo, asserts that: "the development of communication and the development of generalization go hand in hand." The word introduces the generalized mode of reflection of reality in consciousness- which into the activity of the brain- another aspect of the fact that man's consciousness is a social consciousness formed in communication (Vygotsky, pág.196).

Education should be configured around four essential learning that will be useful for each person throughout his or her life and are the four pillars of knowledge: learning to know, learning to do, learning to live together, and learning to be (Delors, J. 1994). Moreover, some of the advantages of these are: providing communication between the participants in the learning process, realizing an objective based on the selection of resources, methods, and experiences necessary to facilitate learning, and carrying out the evaluation of this objective with the students and the curriculum (Glazman y de Ibarrola, 1983). Ricardo & C et al. (2021) affirm that it is a commitment to contribute to scientific and academic knowledge since only through science, research, and collaboration is it possible to win the battle without forgetting the human part.

There is a curricular proposal by Arnaz (1981), who proposes stages for the development of the curriculum: to realize objectives considering the essential needs of the student, to elaborate the content and the design of evaluation; all the elements mentioned above

must be worked with the training of teachers, appropriate evaluations, selection and evaluation and the adjustment of the administrative system.

According to Mercedes Charles, *communication* in the classroom is defined as "a process of production-reception of complex effects of meaning. Auccapuri et al. (2021) conclude that it is crucial not only for the theory regarding curricular planning with its respective objectives and evaluation of learning but also to put them into practice to strengthen the abilities, capacities, and skills of the students.

METHODOLOGY

Learning a foreign language is a phenomenon that operates within context, form, meaning, functions, and structure (Dawoska, 2018,3). The develop learning, the four language skills must be considered. The present work contemplates the possibility of increasing the evaluation of the students of the Technological University of Tecamachalco. Varguillas et al. (2021) mention the importance of theory and practice by applying research instruments, participatory action, and learning strategies in school and family contexts. The project, during all stages, brought students closer to real contexts to intervene directly with the actors of the educational process, allowing the development of observation, description, analysis, and questioning skills. Varguillas et al. (2021) mention the importance of theory and practice By applying research instruments, participatory action, and learning strategies in school and family contexts. The project, during all stages, provoked the approach of students toward real contexts to intervene directly with the actors of the educational process, allowing the development of observation, description analysis, and questioning skills.

At the Universidad Tecnológica de Tecamachalco, 993 online questionnaires were applied to the student community (women and men) to know what aspects they consider important when acquiring new English language knowledge. The researchers observed that the teacher must maintain communication with the group according to the answers obtained. This observation tells us that the teacher must explain at the beginning of each unit and period what topics will be taught and evaluated.

RESULTS AND DISCUSSION

Operationalization matrix.

The following table shows three columns. The First column contains the variables, the second column contains the indicators, and the third column contains the items.

According to the Brian Tracy Method, a group of experts selected these questions using brainstorming.

Table 1. Operationalization matrix		
Variables	Indicator	Item (questionnaire)
Professor	Effective and efficient communication	How often does the teacher talk to you about certifications you can get in English? How often does the teacher maintain good communication with the group? Did the English teacher introduce you to the content of the English course at the beginning of the course?
Evaluation exercises and instruments	Evaluation instruments, practical exercises, checklists, and quizzes	How often do the assessment tools match the acquired knowledge in class? Does the English teacher use different platforms when teaching classes such as: Jamboard, Kahoot, Richmond? Does the teacher make use of audio, video, PowerPoint presentations, conversations, reading aloud?
Knowledge	Acquired knowledge in English class	Do you know how topics before each unit? Is there continuity and correlation in the seen topics?
Achievement	Non-achievement	How often have you failed English?

Validation of the questionnaire.

The questionnaire validation was developed through Dr. Manuel González Pérez's methodology, which has already been applied in several research articles. This methodology is based on applying a pilot test. Two multifactorial statistical models are applied to the raw data.

- 1) Pearson's correlation for linear relationships and
- 2) chi-squared for nonlinear associations.

Table 2. Multifactorial analysis of items vs items (0.7). Item 8 was correlated with 9.

	Item1	Item2	Item3	Item4	Item5	Item6	Item7	Item8	Item9	Item10
Item1	1									
Item2	0.03	1								
Item3	-0.02	0.55	1							
Item4	-0.01	0.46	0.45	1						
Item5	-0.04	0.36	0.45	0.55	1					
Item6	-0.05	0.30	0.34	0.33	0.34	1				
Item7	0.00	0.37	0.40	0.36	0.37	0.39	1			
Item8	-0.08	0.50	0.54	0.48	0.46	0.49	0.61	1		
Item9	-0.08	0.51	0.55	0.48	0.45	0.51	0.54	0.77	1	
Item10	-0.02	0.42	0.51	0.39	0.43	0.41	0.47	0.61	0.62	1

Validation postulates.

1. The items are repeated. No, there are no repeated items. Table 2 only correlates item 8 with item 9, which is different.
2. Items are paraphrased. No, table 2 only correlates item 8 with item 9, which is totally different.
3. Items are paraphrased on purpose. Nope.
4. Items were correlated by chance. No, table 2 only correlates item 8 with item 9, which is totally different.
5. Items were correlated by their very nature. Yes, only items 8 and 9.

The questionnaire is validated, and the only correlation between items 8 and 9 is natural.

Item 8 Does the teacher maintain effective and efficient communication with your group?

Item 9 Do the evaluation instruments, practical exercises, checklists, and quizzes adhere to the knowledge acquired in the English class?

Inference 1. If the teacher maintains effective and efficient communication with his group, then the evaluation instruments, practical exercises, checklists, and quizzes, adhere to the knowledge acquired in the English class.

Inference 2. If the evaluation instruments, practical exercises, checklists, and quizzes are consistent with the knowledge acquired in the English class, then the teacher maintains effective and efficient communication with his group.

Thesis 1. (Validated hypothesis 1). Effective and efficient communication in the group generates instruments attached to the knowledge acquired in class.

Thesis 2. (Validated hypothesis 2). Instruments attached to the knowledge acquired in class generate effective and efficient communication in the group.

Hypothesis validation by chi-square.

The hypotheses were not validated with Pearson's multiple correlations. They are presented and validated by chi-square in Table 3.

The nonlinear hypotheses were validated, and the Likert scale was dichotomized at its statistical mean. The chi-squared function for one degree of freedom and two options has 3.84 as the upper bound.

Therefore, if the two-variable chi-square value is less than 3.84, the bivariate hypothesis fails the test. If the chi-square value exceeds 3.84, the bivariate hypothesis passes the association test.

Table 3. Presents the theses (validated hypotheses) validated with chi-squared.

Table 3. Validated hypotheses.

Pair	Item A	Item	Inference	Chi-square	Tested hypothesis
(8,9)	Does the teacher maintain effective and efficient communication with your group?	Are the evaluation instruments, practical exercises, checklists, and quizzes in line with the knowledge acquired in English class?	If the teacher maintains effective and efficient communication with your group, then the valuation instruments, practical exercises, checklists, and quizzes are in line with the knowledge acquired in English class	187.35	Maintaining effective and efficient communication with the group ensures that the evaluation instruments, practical exercises, checklists, and quizzes are in line with the knowledge acquired in English class
(8,10)	Does your English teacher evaluate you in class by skills: Listening 10%, Speaking, 10 % , Reading 10%, Writing 10 %, Grammar 10%, Vocabulary 10%?	Did the English teacher inform you about the evaluation method for the English course at the beginning of the course?	If the teacher maintains effective and efficient communication with your group, then your English teacher evaluates you in class for skills: Listening 10%, Speaking, 10 %, Reading 10%, Writing 10 %, Grammar 10%, Vocabulary 10%	106.94	Maintaining effective and efficient communication with the group generates the English teacher to evaluate in class by skills: Listening 10%, Speaking, 10 %, Reading 10%, Writing 10 %, Grammar 10%, Vocabulary 10%.
(4,5)	How often do you use Moodle during the English course?	How often do you make use of the English course?	If you use the Richmond platform during the course, you use Moodle during the course	106.54	The use of the book's platform during the English course also generates the use of Moodle during the course.
(9,3)	Does the teacher use audio, video, PowerPoint presentations, conversations, reading aloud, etc. in English classes?	Are the evaluation instruments in line with the knowledge acquired in English class?	If the evaluation instruments are in line with the knowledge acquired in class, then the teacher makes use of audio, video, PowerPoint presentations, conversations, and reading aloud.	91.44	The use of audios, videos, PowerPoint presentations, conversations, reading aloud generates that the teacher maintains an effective and efficient communication with your group.

CONCLUSIONS

An investigation was made about the achievement of the English subject at the Universidad Tecnológica de Tecamachalco.

The operationalization matrix was designed to have congruence in the minor and major logic of the research.

The questionnaire that was applied to 993 students was submitted for validation by experts.

The questionnaire was obtained by means of Brian Tracy's technique (brainstorming).

A multifactorial analysis was performed directly through Pearson's multiple correlations- to these results were applied —---postulates for validation—----

The same technique, the chi-squared validation technique, was used for nonlinear associations.

The research hypotheses were subdivided into working hypotheses, taking each item as an independent variable factor.

In general, we conclude that the English teachers at UTTECAM have good teaching-learning strategies for the English language.

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