



UNIVERSIDAD TÉCNICA DE AMBATO

**FACULTAD DE CIENCIAS HUMANAS Y DE LA EDUCACIÓN
CARRERA DE PEDAGOGIA DE LOS IDIOMAS NACIONALES Y
EXTRANJEROS**

**Informe final del trabajo de Titulación previo a la obtención del título de
Licenciada en Pedagogía del Idioma Inglés.**

Theme:

Mind Facts Strategy and Reading Comprehension.

Author: Emilia Pamela Mayorga Vargas

Tutor: Lcdo. Mg. Sulca Guale Manuel Xavier

Ambato – Ecuador

2023

SUPERVISOR APPROVAL

CERTIFY:

I, Mg Manuel Xavier Sulca Guale, holder of the I.D No.1802447548, in my capacity as supervisor of the Research dissertation on the topic: “Mind Facts Strategy and Reading Comprehension ” investigated by Miss Emilia Pamela Mayorga Vargas with I.D No. 1805243720, confirm that this research report meets the technical, scientific and regulatory requirements, so the presentation of it is authorized to the corresponding organism in order to be submitted for evaluation by the Qualifying Commission appointed by the Directors Board.

.....
Lcdo. Mg. Sulca Guale Manuel Xavier

I.D 1802447548

DECLARATION PAGE

I declare this undergraduate dissertation entitled “Mind Facts Strategy and Reading Comprehension” is the result of the author’s investigation and has reached the conclusions and recommendations described in the present study.

Comments expressed in this report are the author’s responsibility.

A handwritten signature in black ink, appearing to read 'Emilia Pamela Mayorga Vargas', is written over a horizontal dotted line.

Emilia Pamela Mayorga Vargas

I.D. 1805243720

AUTHOR

BOARD OF EXAMINERS APPROVAL PAGE

**TO THE DIRECTIVE COUNCIL OF FACULTAD DE CIENCIAS
HUMANAS Y DE LA EDUCACIÓN**

The Board of Directors which has received the defense of the research dissertation with the purpose of obtaining the academic degree with the topic “Mind Facts Strategy and Reading Comprehension” which is held by Emilia Pamela Mayorga Vargas undergraduate student from Carrera de Idiomas, academic period April 2023-September 2023, and once the research has been reviewed, it is approved because it complies with the basic, technical, scientific and regulatory principles.

Therefore, the presentation before the pertinent organisms is authorized.

Ambato, *July 2023*

REVISION COMMISSION

.....
Mg. Alba Paulina Hernández Freire
REVISER

.....
Dra. Verónica Elizabeth Chicaiza Redin
REVISER

COPYRIGHT REUSE

I, *Emilia Pamela Mayorga Vargas* with I.D. No. *1805243720*, confer the rights of this undergraduate dissertation "*Mind Facts Strategy and Reading Comprehension* ", and authorize its total reproduction or part of it, as long as it is in accordance with the regulations of the Universidad Técnica de Ambato, without any kind of profit from it.



.....
Emilia Pamela Mayorga Vargas

I.D. 1805243720

AUTHOR

DEDICATION

To me for showing me that I am capable of anything despite the circumstances. To my dear parents for always being my support during this journey. To my siblings and boyfriend for making me laugh every day.

Pam.

ACKNOWLEDGEMENTS

I thank my parents and all my family for always being my support. To my boyfriend who never let me down and always motivated me to give more of myself. To my friends and coworkers who made this stage more fun and for always giving me opportunities to grow and show more of myself. Finally, I want to thank my tutor and teachers for being my learning guide and for patiently teaching me new things.

Pam.

TABLE OF CONTENTS

Supervisor Approval	ii
Declaration Page	iii
Board of Examiners Approval page.....	iv
Copyright Reuse.....	v
Dedication	vi
Aknowledgements.....	vii
Table of Contents	viii
Index of Tables and Figures	ix
Index of tables	ix
Abstract	x
Resumen.....	xi
Chapter I.....	1
1.1 Research Background.....	1
1.2 Theoretical Framework	9
Independent variable	9
Dependent variable.....	15
1.3. Objectives.....	22
Chapter II	23
2.1 Materials.....	23
Chapter III.....	28
3.1 Analysis and Discussion of the Results.....	28
Chapter IV	37
4.1 Conclusions	37
4.2 Recommendations	38
References	39
Annexes.....	47

INDEX OF TABLES AND FIGURES

Index of tables

Table 1 : <i>Population</i>	24
Table 2: <i>Types of mind facts</i>	28
Table 3: <i>Strategies students use for reading comprehension</i>	29
Table 4: <i>Levels of reading comprehension</i>	31
Table 5: <i>Open-ended questions</i>	32

UNIVERSIDAD TÉCNICA DE AMBATO
FACULTAD DE CIENCIAS HUMANAS Y DE LA EDUCACIÓN
CARRERA DE PEDAGOGÍA DE LOS IDIOMAS NACIONALES Y
EXTRANJEROS

THEME: “Mind Facts Strategy and Reading Comprehension”

AUTHOR: Emilia Pamela Mayorga Vargas

TUTOR: Lic. Mg. Manuel Xavier Sulca Guale

ABSTRACT

The current study analyzed students' perspectives on mind facts strategy in reading comprehension. A total of 72 university students (29 males and 43 females) participated in a descriptive, non-experimental investigation. Data was collected through a survey with 26 items on a Likert scale and, 3 open-ended questions. It was validated by Cronbach's Alpha coefficient (0.898). In addition, the research was based on three research questions based on the objectives. The results revealed that the mind facts most used by students are the notional and propositional due to their structures and elements. There were many strategies to implement in order to improve reading comprehension. Most students preferred the use of diagrams and authentic material such as magazines, articles, manga among others. However, skimming and scanning are infrequently considered as the main strategy because students prefer visual materials. The findings further revealed that the students faced challenges with inferential and literal comprehension levels, such as recognizing characters and developing conclusions. However, critical comprehension was relatively easier as students usually provide their opinions in academic settings.

Key words: Mind Facts, strategies, reading levels, reading comprehension, types of mind facts.

UNIVERSIDAD TÉCNICA DE AMBATO
FACULTAD DE CIENCIAS HUMANAS Y DE LA EDUCACIÓN
CARRERA DE PEDAGOGÍA DE LOS IDIOMAS NACIONALES Y
EXTRANJEROS

RESUMEN

El presente estudio analizó las perspectivas de los estudiantes sobre la estrategia de mentefactos en la comprensión lectora. Un total de 72 estudiantes universitarios (29 hombres y 43 mujeres) participaron en una investigación descriptiva, no experimental. Los datos se recogieron mediante una encuesta con 26 ítems en una escala de Likert y, 3 preguntas abiertas. Se validó mediante el coeficiente Alfa de Cronbach (0,898). Además, la investigación se basó en tres preguntas de investigación basadas en los objetivos. Los resultados revelaron que los mentefactos más utilizados por los estudiantes son los nocionales y proposicionales debido a sus estructuras y elementos. Hubo muchas estrategias que aplicar para mejorar la comprensión lectora. La mayoría de los estudiantes prefirieron el uso de diagramas y material auténtico como revistas, artículos, manga entre otros. Sin embargo, las estrategias de skimming (barrida del texto) y scanning (búsqueda de información específica) se consideran con poca frecuencia como la estrategia principal porque los alumnos prefieren los materiales visuales. Los resultados revelaron además que los alumnos se enfrentaban a dificultades en los niveles de comprensión inferencial y literal, como el reconocimiento de personajes y la elaboración de conclusiones. Sin embargo, la comprensión crítica resultó relativamente más fácil, ya que los estudiantes suelen expresar sus opiniones en contextos académicos.

Palabras clave: Mentefactos, estrategias, niveles de lectura, comprensión lectora, tipos de mentefactos.

CHAPTER I

1.1 Research background

Several study sources were used to support this research. The information was collected from different academic databases such as Taylor and Francis, Researchgate, Google Scholar, Scielo and Eric. The information collected is about the use of the mind facts strategy and its application in reading comprehension.

Araujo and Valenzuela (2019) managed a study which objective was to establish the application of the didactic strategy of argumental mind facts to develop critical thinking. This research was applied to political science students at the University of Zulia. The methodology employed was qualitative-descriptive, and an observation guide was used as tool. The researcher concluded that mind facts are extraordinary tools to represent the internal structure of concepts, and their elaboration requires enormous care the teacher, additionally, students do not have the characteristics to develop good critical thinking, so the use of mind facts would be a good tool to develop it.

This research significantly contributed to the project by emphasizing the effectiveness of mind facts in representing concepts and fostering the development of critical thinking skills.

Romero et al. (2022) conducted a study to fifty-four students from the Catholic University Sedes Sapientiae with the objective of discuss the relationship between metacognitive strategies and graphic techniques. A quasi-experimental methodology with a qualitative approach was applied. After practicing with workshops to learn metacognitive strategies, an evaluation was taken, and a survey and a SPSS version package was used to process the results. Finally, the author concluded that there is a proportional and positive relationship between the use of mind facts and academic performance.

This study helped with the understanding of mind facts by demonstrating their effectiveness in enhancing students' academic performance. The findings highlight the practical utility of mind facts in educational settings.

Guerrero and Orrantia (2018) led a research which main objective was to produce argumentative mind facts and descriptions by implementing tools for reading and critical thinking. The methodology used was qualitative because an action-research project was carried out in the classroom. The data was collected using some techniques such as participatory observation, questionnaires and evaluation. The authors concluded that despite the successes, failures, and challenges this has been an opportunity to innovate, critically rethink teaching practice, and find solutions to recurring problems in the classroom.

The previous study made a significant impact by providing information about the effectiveness of mind facts and their potential for innovation, critical reevaluation of teaching practices, and solving recurring classroom problems.

Naranjo et al. (2021) conducted research with seventh grade students of basic secondary education at Planeta Rica-Cordoba. The study was aimed to establish the appropriate use of conceptual mind facts for the learning of the living component. The methodology used was qualitative-descriptive divided into three phases: First it was necessary the skills recognition, second the creation of the mind fact and finally an evaluation was taken. The teachers applied some instruments such as interview, questionnaire and direct observation. The researcher concluded that the use of mind facts as a methodological tool made it possible to facilitate the different support activities, since students elaborate mind facts designs, their thinking skills and appropriation of specific knowledge were strengthened and students through mind facts were able to enhance the differentiation of main and fundamental ideas organized, information by categories, analysis of the evaluations made of the specific knowledge developed.

This study was very helpful as it revealed that mind facts facilitated support activities, reinforced students' thinking skills, and improved their ability to differentiate main ideas and analyze specific knowledge.

Monsalve (2018) carried out research to eight grade students in Santander. The main objective of this study was to understand the strengths and difficulties that conceptual mind facts strategy has and how it influences in reading. The methodology applied was qualitative because it goes according to the model used

called “Dialogue Pedagogy” where many interventions were applied. A survey was used to collect data from the population. The results of the research showed that the participating students were not familiar with the term "Conceptual Mind fact", or with the strategies to identify some of its constitutive elements; however, they were capable of identify and recognize central ideas in texts using conceptual mind facts. Furthermore, cognitive and metacognitive work is developed during the elaboration process and not exclusively on the product presented.

This study had a remarkable impact as it reports on the effectiveness of using conceptual mind facts as a tool to improve students' comprehension and critical thinking skills which makes its application long-lasting.

Mucha et al. (2022) managed a study which main aim was to determine the effectiveness of conceptual mind facts to learn statistics. The research was carried out to sixteen students from the Psychology major in Peru applying an experimental approach with pre- test and post-test. At the end of the study, the group performance was increased by using mind facts, showing that there are statistically significant differences between the pre-test and post-test. Furthermore, designing a class with conceptual mind facts as a teaching strategy through a graphic scheme perpetuates the thematic concepts in the minds of students, who manage to learn them in a creative and meaningful way.

Mucha's study was very important because the relationship between mind facts and learning improvement is significant and is very applicable in the classroom.

Rodriguez and Camacho (2019) conducted research with the objective of address classroom challenges by planning, designing, and implementing pedagogical artifacts known as mind facts. The study was qualitative, involving a selective search of information from different databases, websites, and theoretical material relevant to the topic. The researchers identified a specific line of analysis and used an Analysis Matrix to study it through five sub-categories. Then, researchers planned and executed mind facts with the students of the program, engaging them in a process that began with a diagnosis, followed by planning of activities, execution records, application, and support. The results of the research showed that the students created Factocional, a pedagogical artifact that focused on concept pedagogy methodology

through notional mind facts. The researchers developed creative and engaging ludic pedagogical activities such as consonants, self-image, values, social and family structure, dialogue, and environmental care.

The creation of Factocional was very relevant for the development of this thesis because it shows that mind facts are more than just diagrams, they are pedagogical artifacts for teaching any subject.

Del Valle and Chuquimia (2019) led a research study involving 82 students in their third year at UNJBG. The primary objective of the study was to assess the effectiveness of conceptual mind facts as a metacognitive strategy for enhancing meaningful learning among students. The research employed a mixed experimental methodology, combining qualitative and quantitative approaches. Surveys were administered to gather data, followed by pre- and post-tests. The results revealed a significant improvement in students' learning levels, with scores increasing from 3.41 to 14.11. This improvement in learning outcomes demonstrated the efficacy of conceptual mind facts as a metacognitive strategy for enhancing students' learning achievements.

This research was fascinating as it highlights the significant impact of conceptual mind facts on students' comprehension abilities, effectively serving as a metacognitive strategy that nurtures cognitive development.

Gallego et al. (2019) held a research where the main aim was to determine the proficiency in reading comprehension (literal, deductive, and critical) and the level of reading proficiency (insufficient, elementary, and appropriate) among a sample of Chilean students in an urban school. A quantitative and cross-sectional study was conducted, involving a total of 186 students (95 girls and 91 boys) from the 2nd to 8th grades. The findings revealed a concerning trend, indicating a decline in reading comprehension and learning as students progressed through the school years. This highlights an inadequate progression in reading development and indicates no significant differences based on gender.

The findings of this study highlight a troubling pattern, demonstrating a decline in reading comprehension and learning as students' progress through their academic

years, and that was important to know in this research to demonstrate that mind facts can solve that problem.

Nadira et al. (2020) carried out a study aimed to explore the strategies employed by two English teachers in reading comprehension and how these strategies were implemented. The research employed qualitative methods, including eight observations sessions, checklists, and interviews. The teachers implemented various strategies such as brainstorming, reading aloud, and specific questioning. To conclude, these strategies proved effective in enhancing reading comprehension, leading to improved student motivation, attention, and overall teaching and learning experiences.

Nadira's research had an impact on the development of this project because it showed that the application of certain strategies can improve the level of reading comprehension in students.

Zambrano and Castro (2019) developed a study with the aim of evaluate the levels of reading comprehension among university-level students. A descriptive methodology was employed, and a non-experimental design was utilized as the study variable was not manipulated. The population consisted of 250 university-level students. Data was collected through the administration of a questionnaire instrument. The statistical analysis was conducted using the SPSS 20 software, involving the description, analysis, and comparison of the information. The results led to the conclusion that the investigated university students exhibit a moderate level of reading comprehension.

Knowing that the students have a moderate level of reading comprehension was vital since mind facts seek to improve that level and raise it to a higher level.

Septiyana et al. (2021) managed a research to investigate the correlation between students' understanding of cohesion and their reading comprehension. The study involved 206 fourth-semester students from the English Education department at the State Islamic Institute of Metro in the academic year 2019/2020. The researchers applied the Product-moment Pearson correlation to analyze the data. The results indicated a significant correlation between cohesion understanding and reading comprehension. The observed correlation value surpassed the critical values,

suggesting a positive and noteworthy relationship between students' cohesion understanding and reading comprehension abilities.

Understanding the link between cohesion and reading comprehension is crucial because it helps us grasp the specific reading skills needed for its development. This knowledge enables us to effectively apply and improve these skills using clear strategies.

Anaya et al. (2019) developed a research study focusing on the topic of reading comprehension and its relationship with academic performance in third-grade primary education. The aim was to assess the connections between both variables and raise awareness of the importance of reading in academic processes overall. The study was conducted with children from two groups in a Mexican primary school, aged between eight and nine years old. The methodology employed a quantitative approach, using interviews and observations to interpret students' reading levels and the types of errors made. Descriptive analysis of the variables was conducted, along with calculations of Spearman's rho correlations and independent samples t-tests. The results revealed a significant correlation between comprehension and academic achievement, while gender was not associated with reading comprehension levels, although there were slight coincidences with other studies showing that females tend to have slightly higher levels of comprehension.

This study is crucial as it highlights the importance of reading comprehension for academic improvement, regardless of gender. It underscores the need to develop reading comprehension skills to achieve strong performance.

Canquiz et al. (2021) carried out a research with the objective of analyze the development of reading comprehension in elementary school students and the didactic planning processes carried out by teachers at this level. A mixed-method study was conducted, involving a sample of 132 students and 12 teachers from 3rd and 5th grades in a public school in Colombia. The research employed a structured questionnaire, an objective test to assess reading comprehension, document analysis of lesson plans, and a semi-structured interview. The findings revealed that despite the design of coherent didactic planning aligned with the structural requirements outlined by the Ministry of National Education and considering quality standards,

the objectives, strategies, activities, and allocated time did not effectively promote the development of reading comprehension among students. They exhibited difficulties, particularly in the inferential and critical levels of comprehension.

Canqui's research was of utmost importance as it reveals that despite the available resources, reading comprehension remains particularly challenging at the inferential and critical levels. This finding underscores the need for teachers to explore innovative strategies that foster development across all comprehension levels.

Ruiz (2020) conducted a study with 46 students in the teaching and learning process of physical education teachers at the Escuela Oficial Urbana Mixta Tipo Federación. The aim of this research was to assess the students' reading comprehension levels. A mixed-methods research methodology was employed, combining quantitative and qualitative approaches in a descriptive and exploratory manner. A reading comprehension questionnaire was administered to gather statistical information. Techniques such as topic identification and identifying main ideas were utilized. As a conclusion, in university classrooms, students often struggle with reading and comprehending texts, reading without understanding, lacking enjoyment, and failing to apply effective reading strategies that facilitate structured and satisfactory learning processes.

This research uncovers the reading comprehension problems faced by university students, emphasizing the role of innovative strategies in addressing these challenges. Its value lies in the application of mind facts to enhance comprehension skills and tackle these issues effectively.

Danaei et al. (2020) conducted a research study to measure reading comprehension in children who read a digital storybook compared to those who read the traditional print version. A quasi-experimental methodology with a post-test only design was used. The study involved 34 children aged 7 to 9 in Tehran, Iran, randomly assigned to experimental and control groups. Participants read the print storybook with or without a tablet, then retold the story and answered comprehension questions. Observations and interviews were conducted. Data analysis employed the Mann-Whitney test, revealing a significant difference in overall reading comprehension between the two groups. The study concluded that the experimental group, reading

the augmented storybook, performed better in retelling and answering comprehension questions. While there were no significant differences in retelling theme and setting, the experimental group scored higher in answering implicit questions. The inclusion of multimedia content alongside the print storybook improved reading comprehension.

This study played a crucial role in the development of this thesis as it demonstrates the significant impact of multimedia content, such as graphics, drawings, and visual materials, on enhancing reading comprehension. It highlights the effectiveness of mind facts, which are visually perceived diagrams, in facilitating comprehension.

1.2 Theoretical framework

Independent variable

Pedagogical Model

A pedagogical model constitutes several theoretical guidelines that includes methods, strategies, techniques, and different characteristics that allow teachers to assume a position in relation to the society, curriculum, and the human being to be formed (Gómez et al., 2019).

Ochoa (2005) pointed out that a pedagogical model tries to answer at least four questions. The first question refers to the experiences with which the human being grows. Second question the model has to answer is what kind of human being do we want to form? The third important question is about who is in charge of the educational formation of the human being. The last question refers to what the methods and techniques will be used to achieve efficient education.

If these questions are not solved, it is not possible to think of a pedagogical model and it is not possible to teach consciously. Pedagogical models serve three essential functions. Firstly, they provide a framework for comprehending the theoretical foundation of pedagogical proposals and their correlation with the applied methodology. Secondly, they enable the development of a well-structured pedagogical approach that aligns with the specific problem at hand. Finally, they facilitate the customization and adaptation of pedagogical strategies to different educational contexts. Pedagogical models employ diverse strategies and techniques that are congruent with the beliefs, conceptions, and overall philosophical framework of the constructed paradigm (Talavera, 2019).

Conceptual Pedagogy

De Zubiría and De Zubiría (2019) indicated that Conceptual Pedagogy is a model that seeks the answer to what to teach today. In addition, conceptual pedagogy wants to train human beings for life and not only to educated them. Under this postulate, the model is based on 3 types of approaches: affective, cognitive and expressive. The affective approach seeks the valuation of the different events that happen around

the learner and give him/her a tool to recognize situations. On the other hand, we have the second approach that is related with cognitive functions. It allows the learner to organize, classify and build different cognitive structures which are referred to the knowledge. Finally, the third approach blend up the affection and cognition to create significant actions. They are also known as language, texts or coding operations (Gomez et al., 2019). Conceptual Pedagogy Model uses mind facts as a strategy of learning. It was found that in order to learn cognitive structures, it was necessary for the trainees to master certain intellectual operations. Mind facts have the capacity to organize big amounts of knowledge and structure them into the mind (De Zubiría & De Zubiria, 2019).

Didactic Strategy

Reynosa et al. (2020) stated that didactic strategies are defined as that part of pedagogy that deals with the study and intervention in the teaching-learning process in order to optimize the methods, techniques and instruments involved in it. They are essential to form researchers with favorable attitudes to develop leadership, teamwork, empathy and communication. Didactic strategies are important because they stimulate learning and awaken interest in knowledge. A didactic strategy is conceived as the procedure to guide learning. They provide clarity on how to guide the development of actions to achieve the objectives. According to the performance of each strategy, they are classified as follows: First, didactic teaching strategies are activities implemented by the teacher to transmit learning. Second, learning strategies that are the tasks or work that the student must carry out to demonstrate his or her learning. At the end the evaluation strategies, which are strategies used to evaluate the achievement of the learning obtained by the student (Gutiérrez et al., 2018).

Tejedor et al. (2019) commented that the different didactic strategies were not just created to improve education quality, they are being applied to focus students learning on social justice and as a response to the different challenges that they will pass.

Since Covid-19, didactic strategies that a teacher must employ must be accompanied

by two aspects, the first being the use of digital tools to deliver learning to students, and the second the reflection of the teaching method that was used in the teaching-learning process. The global problem caused by the pandemic created aspects of education such as school dropout, making education a difficult factor to continue with the closure of educational institutions, generating instability in learning and teachers had to implement special didactic strategies (Guarnizo et al., 2021).

Mind Facts Strategy

Mind facts are an original idea of Dr. Miguel De Zubiría Samper, and the Alberto Merani International Foundation for Conceptual Pedagogy has been developing over the last two decades. The Alberto Merani institution started to teach a course called essay. This course was focused on reading and writing essays under a comprehensive postulate. It was there, between 1994 and 1996, that De Zubiría, together with a team of psycho-pedagogues and linguists, developed the first postulates of the conceptual pedagogy model. Based on this model, some postulates were developed, such as propositions and concepts. And the theory of mind facts emerged when they realized that what they were proposing were propositional maps. Innovative diagrams without hierarchy or order that presented ideas and understanding in students. Conceptual pedagogy, and therefore mind facts, develop a type of expressive, cognitive as well as affective learning. Moreover, mind facts strategy is based on formative learning (De Zubiría, 2006).

Herrán (2011) explained that a mind fact is a diagram that represents a concept and its internal and external structure. It relates potentially significant ideas to the concept to be learned, expressing them as a complex semantic unit.

De Zubiría (2006) defined mind facts as hierarchical diagrams that allow the organization of information to remember it. Furthermore, the term mind fact means products of the mind, they are instruments of knowledge that allow the construction of concepts. Further, with these diagrams it is possible to order from many specific information and refute secondary ideas.

Mind facts act as diagrams, save time and valuable intellectual efforts because it

allowed the storage of learning slowly and step by step, the concepts are digested. Mind facts have effects on both, thinking and language development simultaneously, because students read, write, and communicate about the notion or concept. In addition, serves as an accelerator of the developmental processes (Lopez, 2018).

According to Perea (2014), mind facts consist, in essence, of two major components: the schema and the propositions. A scheme is an organized structure that makes it possible to observe, understand and specify the existing relations between its different components and that also allows synthesizing the information that one wants to express or understand. On the other hand, the propositions are the key words or words that make it possible to establish the relationship. The structure of the proposition consists of a subject and predicate because it must be as synthetic as possible.

De Zubiría (2006) classified three different types of mind facts such as notional (graphic representation of notions), propositional (graphic representation of propositions) and conceptual (graphic representation of concepts). Each mind fact serves a different need in the construction of knowledge.

Notional: The notional mind fact is an instrument whose design has a triangle and a rectangle at its base. Inside the rectangle is written the name of the of the notion in question and around these, objects, subjects and/or events related or not to this notion. The mental activity consists in the identification and inclusion of the objects in the notional class. The variations to the structure and its use depend on the intentionality and the experience with them by the mediating teacher. The first form of organized knowledge that people are confronted with is the notional, notions represent the inclusion or gathering of things into classes, actions or similar relations. Conceptual pedagogy proposes to represent notions through ideograms (Lopez, 2018).

De Zubiría (2006) classified notional mind facts into two:

Clasal: In this type of mind facts, the information that belongs to the notion is put inside the diagram and those that do not belong are put outside.

Relational: The notions that are related to each other are placed inside the diagram using arrows.

Propositional: A proposition is a universal thought, contained in a sentence. To graph or represent propositions, circles, rectangles or Euler Venn diagrams are used. You

can receive a text and then identify the different notions. At the beginning goes a noun, then a verb and complement. Adverbs go in the little squares at the top. These mind facts are useful to identify concepts and “big” texts because with that learners have the capacity of separate and identify elements (De Zubiría, 2006).

Lopez (2018) focused on the elements that propositional mind facts have: N: Notion, idea, thought of a general and complete character.

R: Relation are verbs different from verb to be and look for the clarification or expansion of notions. For example, fake news generates problems. Generate is the relation between fake news and problems.

Cr: Chromatizers are the characteristics that a notion has. They can be examples or quantifiers. A rectangular chromatizer is placed over each notion.

Conceptual: Conceptual mind facts are tools to organize knowledge instruments. They allow to organize, preserve and protect knowledge in a visual way (Rozo, 2015). Conceptual mind facts consists of specifying, using a diagram, a series of relationships between the central concept and the concepts and aspects to which it is related, as follows: the central concept in relation to the one to which it is subordinate called supraordination, elements that define the central concept known as isoordination, aspects that oppose the concept to its definition , known as exclusion and the constituent elements of the concept or its subcategories called infraordination (Sarmiento & Ruiz, 2021).

According to Perea (2014), the elements of conceptual mind facts can be defined in this way:

Supraordination: Implies the relationship between the concept being defined and the class to which it corresponds or in which it is included. Supraordination implies the inclusion of the concept in a class of higher hierarchy.

Infraordination: Implies the existing relationship between the concept to be defined and the classes it contains or includes, which means that the infraordination divide a concept into subclasses.

Isoordinations: Refer to the particular characteristics of the concept being defined, which identify it and differentiate it from the other classes belonging to the

superordinate, to which it is included.

Exclusions: Expresses which differs from the concept or class being defined. Those classes or concepts that are confused with the concept to be defined are excluded. Generally, confusions occur between very similar classes, being similar because they belong to the same inclusive class, for example, all furniture that has four legs and fulfills similar functions to a table tend to be confused, which would imply that if we were constructing the conceptual mind fact of table, we would have to exclude desk because it is very similar to a table, etc.

De Zubiría (2006) pointed out the process of the elaboration of conceptual mind facts:

First, students select the basic bibliography that will serve as support in its elaboration. It should be noted that the more a wide bibliographical reference is consulted, the more richness the mind fact will reflect in its construction. Second, select the propositions of isoordination, exclusion, supraordination and infraordination. Third, the elaboration of the scheme will be carried out, where the essential aspects that characterize the proposition are placed. Finally, verify the coherence of mind facts and its readability.

Mendoza (2019) stated that mind facts allow discussion of gaps, weaknesses, inconsistencies in any theory and help disadvantaged students to overcome them, and talented students to advance. They are in charge of organizing and simplifying our ideas and is a powerful strategy for teachers. Students can observe how ideas relate to each other and decide how to organize or group information. For all these reasons, mind facts are an effective method, as an active learning technique, to help improve memory. Likewise, teachers consider that mind facts help hundred percent to preserve knowledge, since a visual diagram is stored in the two hemispheres of the brain, forming in this way a true instrument of knowledge that can be applied in the future (Jama & Cornejo, 2018).

Herrán (2011) also proposed many advantages of the application of mind facts. One is that mind facts include very clarifying graphic forms. They are a complement to the definition and can help to understand and remember, as well as to plan and develop the conceptual part of a subject and help to evaluate the conceptual knowledge of the students with more difficulties. Mind facts train professors intellectually and finally mind facts save time and intellectual effort for the learner.

It can be used as an evaluation instrument since it graphically represents the way in which the student processes information and conceptualizes it through the development of different thinking skills. Surely, the teacher mediator can discover other aspects to be evaluated with the use of mind facts (Lopez, 2018).

Despite the quantity of advantages, mind facts have a disadvantage. The strength of the models is such that they easily lead to habit. When mind facts are memorized, it is very difficult to modify them or to add more elements when is necessary. For teachers, the way to evaluate mind facts is long, since the information and relationships that can be established reflect the personal experience of each student. In addition, teaching mind facts may take a few classes until students become familiar with them (Sarmiento & Ruiz, 2021).

Dependent variable

Language use

According to Santana (2016), language is that information genetically transmitted that pass from one generation to another with the purpose of having communication. Language is everywhere and is presented in all areas with different purposes. The science that studies the language is called Linguistic and this science categorize the language into 6 fields of study: Pragmatics, Phonology, Morphology, Phonetics, Semantics and Syntax. Something that called the attention of many linguistics is the semantic aspect of language. It means, the ability to think and produce language with meaning and being able to have this communication unconsciously because the syntax is ignored (Chomsky, 1975).

Toro et al. (2019) emphasized that language is a mean of expression of social behavior that involves interactive speech processes, which makes it a vehicle for communication. One of the actions that human beings do most with their speech is to communicate their ideas and thoughts, but more than that they also discuss, apologize, promise, among others, in order to express a feeling.

Linguistic Skills

Marlina (2018) mentioned that teaching language skills is often the central element of language teaching practice. The spread of English has led to significant changes in

its form, usage, demographic background, and status, resulting in the emergence of English as an international language paradigm. Cognitively, language also has 4 skills that must be developed: writing, speaking, listening, and reading. These are subdivided into 2 categories which are receptive skills or also called passive and productive skills, known as active (Husain, 2015).

It is essential to apply strategies that help in the developing of skills and stimulate reflective knowledge in order to reduce the number of children who do not understand the texts they read and thus improve their linguistic competencies. The development of linguistic skills is directly related to the teaching and learning process that is encouraged in the classrooms of educational institutions. The teacher plays a fundamental role and is conceived as a direct space in which the student is the protagonist and is guided to improve the development of their learning, taking into account that it is the student who build their own knowledge from reading and in this way also manage to contribute with their experiences and reflect on them. (Avila & Varas, 2021).

Reading Skill

Reading is one of the most important skills when learning a second language. It helps us to improve other skills such as speaking and writing because of the structures it possesses and the information it projects. Reading also fosters creativity, imagination, helps with vocabulary growth and teaches us basic language structures (Ramírez & Mena, 2021). Reading is an important tool that help students to obtain information on various topics. Likewise, it becomes a requirement to be part of a society. Further, it involves many cognitive processes that the brain develops to try to decode meanings. In the classroom, the reality is that teachers do not motivate students to read on their own and the texts that are used are not interesting. The activities that are frequently completed are comprehension questions, but they are not oriented to meaningful learning, they seek memorization (Adrianto, 2014).

Reading components are varied. Fluency, vocabulary, phonics, and comprehension are some of the components that are found in reading. It must be notable that these components are not taught separately, as they are all part of the same skill (Jenner, 2021). Reading, like other skills, is also developed in different ways. One form of reading is oral. In oral reading, students not only understand a text and the context

in which it takes place, they can also practice pronunciation, intonation, accent, rhythm, among many other skills. Then there is silent reading. This type of reading is useful in specific circumstances where the goal is for the student to read fluently, comprehend the text, and do so more quickly. Students should be encouraged to be independent and develop their own comprehension. Finally, visual reading is that which comprehends not only the text and its meaning, but also looks at shapes, drawings, colors, diagrams, and anything that involves a mental construction. Students are looking for knowledge to come to them naturally and this type of reading will help them to achieve it (Ari, 2018).

Reading Comprehension

Reading comprehension is a process that has been studied for centuries. Several authors have developed theories about reading comprehension and how to develop it effectively. Since the 1970s and is a field that demonstrates a great theoretical proliferation, theories are precise and account for the complexity of the cognitive process of reading comprehension. All theories have something in common and that is that reading comprehension is based on constructivist and associative learning where the reader creates his own meanings in each phase and associates meanings with what was previously learned (Canet et al., 2005).

Elleman and Oslund (2019) referred to reading comprehension as a difficult cognitive job where the learner should decode and interpret information. Furthermore, the student should comprehend various scenarios that are presented. Reading comprehension is also a process that occurs when the student extracts content from a text and integrates it into his or her knowledge, making it a process that is by no means simple, but with which the student manages to interact with the purposes of the text and the writer. Working memory, inference creation, comprehension monitoring, vocabulary, and previous knowledge are only few of the linguistic and cognitive processes that must be coordinated in reading comprehension. However, human beings need a process to develop each skill, and this is not the exception (Abbasi, 2021).

Ibarra (2020) pointed out that there are different levels of reading comprehension that are developed as the reader progresses through the text:

Literal comprehension level: At this stage, the reading focuses primarily on

information explicitly stated in the text. Simple answers and the recognition of general information such as characters, place, and date, among others, are requested.

Inferential comprehension level: At this stage, the reader begins to associate meanings with the words and contexts described above. Conclusions begin to develop, and main ideas are inferred. In addition, the reader is able to predict events.

Critical comprehension level: At this stage, the reader is able to make judgments about the text read. Reader judgment is involved, and students are able to accept or reject them, appropriate them, and integrate them into the daily life. This stage is the most important and is considered the ideal stage because the text makes sense, and the reader-writer relationship takes place.

Reading comprehension is developed based on the application of different strategies that are divided into three categories based on its use: Pre-reading, in which the student examines the vocabulary or illustrations of a text before reading it. In this phase, the student tries to understand, predict and assimilate what the text is about. (Banditvilai, 2020). While-reading is the next phase where the student puts into action the skills already learned. He starts trying to understand words, contexts and sentences. This phase can be carried out orally, silently, or visually. Regardless of how it is carried out, the goal is for the student to understand the writer's purpose and the details that have been written (Gustani & Ayu, 2021). Finally, in the post-reading phase, the student will internalize his knowledge with some comprehension questions. This phase aims at consolidating the student's knowledge (Young & Hee, 2018).

According to Banditvilia (2020), the process of reading comprehension involves several strategies as follows:

Skimming: This technique is focused on get a global understanding of the text. Reading fast and having an overview of the topic is the main objective and to achieve it, students have to identify the topic sentence.

Reading for specific information: This skill is the opposite of skimming. Learners are asked to find specific information such as: Names, addresses, colors, etc.

Inferring: This skill is focused on learners' empathy. Students are asked to think about emotions, ideas or thoughts that the characters on the reading can be feeling.

Predicting: This skill is focused on the future. Learners should predict or imagine what will happen with the story or with the characters. The title and pictures will be elements that will help students predict what will happen in the story or what opinions the writer might have.

Questioning: Questioning strategy can be applied before or after reading. The student tries to ask questions to find information. In addition, this strategy helps to clarify doubts and establish answers.

Teachers believe that reading more and focusing on quantity, will make better readers, but that is not the reality. Studies have discovered that in order to improve comprehension, readers must obtain precise and methodical reading training. As a result, the emphasis on reading strategies is exceptional in reading comprehension (Snow et al., 2021).

Garcia (1993) described some cognitive strategies that the student can apply based on the objective the student wants to achieve when reading. Firstly, a student should focus on the material by using techniques such as underlining, outlining, or note-taking. This will help to maintain attention and retain important information.

Secondly, organizing ideas is key. A reader can prioritize their thoughts by structuring them hierarchically and can even make use of diagrams or mind maps for a more visual representation. For any roadblocks one encounters while reading, such as unfamiliar words, confusing sentences, or lack of coherence, it is helpful to use dictionaries or infer meaning from context. Finally, one should always generate conclusions or rephrase the text in their own words to cement new knowledge and build upon what has been learned. By following these guidelines, readers can effectively and efficiently digest any written material.

According to Aziza and Bakar (2019), reading comprehension is a challenging process where the reader is able to understand meaning and produce interaction with the writer. To enhance the connection between reader and text, it is necessary to employ appropriate techniques. Firstly, activating prior knowledge is crucial. When working in groups or cooperatively, students can share their knowledge, opinions, and ideas to develop critical reading skills and distinguish their opinions from those of their peers. Moreover, visual tools can greatly facilitate the search for information

and help learners to organize their thoughts. Teachers can also formulate questions to guide discussions and gauge student comprehension. It is essential for teachers to check for students' understanding of the text, including whether it was too lengthy, interesting, or perfectly suited to their level. By reading materials such as articles, magazines, and emails, students can gain insight into various writing styles and put their own writing skills into practice. By incorporating these strategies, readers can hone their abilities to approach reading material with a critical eye, thus improving their overall comprehension (Dolba et al., 2022).

English teachers often use different sources to develop this skill in a better way. Graded readers are one of them. These books have the particularity of having a language that is easier for language learners understanding and learning. It will depend on the level, and they have the objective of increase the confidence and consolidate the language that they already known, with the vocabulary that is going to be learned. Furthermore, lesson plans must include a variety of activities to reinforce reading comprehension such as pre-teaching vocabulary, open-close questions, summarizing exercises among others (Spratt et al., 2018).

The purpose of reading does not exist without comprehension. Texts are design in a coherent and cohesive way, to express or share an idea or tell a story to the one who is reading. However, comprehension is there, because if not, the text will be just words and phrases without meaning or sense. Comprehension means understanding. Understanding the meaning of what is written, its words, its phrases its context, key points in short, knowing how to interact with the text, enriching ourselves and taking advantage of our own experience with the text, is the key to reading comprehension (Elleman & Oslund, 2019).

Duke et al. (2021) specified that any reading purpose influences its comprehension. At least 18 differences have been identified between reading a narrative and an informal text. In the same way, it influences whether the reading is done for pleasure or for obligation where the student can choose which genre wants to read for entertainment or if in the educational institution the student is forced to read something that in many cases is not of his/her taste, interest or level. In addition, the texts to be read should be carefully chosen depending on the level and purpose. Voluntary choice of reading material for students is a very important aspect when considering the development of reading comprehension. When students have this

freedom, the barriers of learning are lowered because they are motivated to complete the activities and share their newly acquired knowledge (Sholeh et al., 2019).

Another limitation in reading comprehension is the assessment process. Students must, in the majority, answer multiple choice questions. First of all, these questions are time-consuming for the teacher to develop and do not fully assess comprehension. To do this type of questions, the teacher usually looks for the answer and then add distracters that are often the same or very difficult or easy and become just meaningless words. Secondly, students answer by discarding or guessing an answer making everything the student has read has lack of comprehension and seeking to finish the task as quickly as possible. For both the teacher and the student, this evaluation process is not fair and does not reflect the true knowledge at its core (O'Reilly et al., 2019). Reading comprehension assessment of students is a process that becomes a barrier because of the anxiety involved. By being evaluated only with correct or incorrect answers, the student feels dissatisfied, and his anxiety grows to obtain a good grade. Reading comprehension should be evaluated with questions or projects that really evaluate comprehension as open questions. Even though it is a tougher task for the teacher, the teacher must provide the students with calm and continue generating a love of reading (Dardjito, 2019).

Falcón et al. (2022) suggested that little is said about virtual education and the technological tools it offers as professors. The use of applications such as Kahoot, Jamboard, Google forms, among others, are excellent tools to practice and improve reading comprehension. However, the use of technology in the classroom is not always possible due to the limitations that exist such as the lack of internet and the lack of sufficient tools to carry out the use of ICTs. Teachers of institutions should provide more tools such as reading books, stories, magazines, and online newspapers in order to couple it to daily life and improve reading comprehension skills.

1.3. Objectives

General Objective

To analyze students' perspectives on mind facts as a strategy in reading comprehension.

Specific Objectives

1. To identify the primary types of mind facts used by learners.
2. To examine the strategies employed by students for reading comprehension.
3. To determine the varying levels of reading comprehension among learners.

Fulfillment of objectives

All objectives were successfully accomplished through data collection via a survey, effectively addressing the three research questions.

Introducing students to mind facts strategy was essential. This involved familiarizing them with the concept and different types of mind facts through slides and interactive questioning. The survey enabled students to identify the most frequently utilized mind facts and their characteristics.

Furthermore, the questionnaire facilitated the analysis of strategies employed by students to comprehend texts. Notably, the use of diagrams, such as mind facts, for organizing information emerged as one of the most employed strategies.

Obtaining the students' genuine opinions was vital, particularly regarding the reading comprehension levels in which they encountered the most challenges. This information was crucial for identifying areas requiring reinforcement and suitable tools. To achieve this, the survey included three open-ended questions, allowing students to express their opinions on the types of mind facts they use, strategies employed, and the levels where they face the most difficulty.

CHAPTER II

METHODOLOGY

RESOURCES AND MATERIALS

2.1 Materials

For the development of this research, the use of both, technological and human resources were fundamental. Many technological resources, laptops and cell phones were used to answer the survey. Finally, data was collected using Google forms and analyzed using SPSS (Statistical Package for Social Science) software.

Instruments

This research started with the constructed survey validated by Cronbach's Alpha with a result of 0,898 that was applied to 72 students. The survey was divided in three main sections that correspond to the research questions: What are the types of mind facts that students use the most? Which strategies students use for reading comprehension? Which levels of reading comprehension students develop in reading comprehension?

The applied survey was divided in three sections based on the objectives that are aligned to the research questions. The survey possessed 26 items and three open ended questions that correspond to the questions that students were surveyed with Likert scale. The first section was related to types of mind facts. It contained 8 items and one open ended question. Second section included 8 items with one open ended question corresponding to strategies to develop reading comprehension. Last section was about the different levels of reading comprehension. It involved 5 items and one open ended question as well. Surveys are a useful tool since they typically provide a wide capacity, providing a more accurate sample to gather specific information with which to make a crucial decision and draw conclusions (Finchman & Draugalis, 2013).

Population

Students from the higher levels of Pedagogía de los Idiomas Nacionales y Extranjeros Program at Universidad Técnica de Ambato were used. The total amount of participants was 72. There were 43 females and 29 males, all of them mestizos (ages ranged 21-31). The participants in the study were selected for their backgrounds as

pre-service teachers, having spent considerable time learning and applying diverse methodologies and innovative strategies in their lesson planning. They were equipped with various technological devices, including laptops and cell phones, and regularly integrated modern advancements in their classrooms to stay current in their approaches to education.

Table 1

Population

Population	Participants	Percentage
Male	29	40,3 %
Female	43	59,7 %
Total	72	100%

Note: Pre-service teachers surveyed

Procedure:

The research was conducted in a meticulous and progressive manner, following a detailed procedure to ensure comprehensive exploration of the subject matter. The initial and most important step involved an in-depth bibliographical research on mind facts and reading comprehension. Extensive efforts were made to gather relevant information from various sources, including books, articles, and scholarly databases. One of the most influential sources was "Mentefactos I" by Julian de Zubiria, which served as a cornerstone in understanding mind facts creation, application, and its underlying significance. This comprehensive review of literature was not limited to a single source, as multiple libraries and platforms such as Research Gate, Taylor and Francis, E-book, and Google Scholar were extensively explored to gather a diverse range of perspectives on reading comprehension.

Following the bibliographical research, the next crucial step was the creation of a survey designed to investigate the relationship between mind facts and reading comprehension. To develop the instrument, the identified specific objectives were translated into three research questions that encompassed the desired insights. Each

research question required a meticulous examination of the extracted bibliography to identify key themes, trends, and practical implications. This process involved a thorough analysis of relevant theories, methodologies, and empirical findings, which were then translated into well-crafted survey questions. Furthermore, to encourage participants to share their unique perspectives and expand the knowledge base, three open-ended questions were incorporated. These open-ended questions aimed to explore uncharted territory beyond the existing literature, enabling participants to provide original insights and valuable contributions. Throughout the survey development process, multiple iterations and revisions were carried out to ensure the clarity, relevance, and comprehensibility of the questions.

Once the survey was well-structured, it underwent a validation process to assess its reliability and validity. A pilot test was conducted with ten participants from the eighth semester who completed the survey and provided valuable feedback. The responses obtained during the pilot test were meticulously reviewed, and necessary adjustments were made to enhance the survey's clarity and effectiveness. The data obtained from the pilot test were manually entered into the Statistical Package for the Social Sciences (SPSS) program to conduct validation procedures, employing statistical measures such as Cronbach's alpha coefficient. The high coefficient value of 0,898 indicated strong internal consistency and reliability of the survey instrument.

With a validated survey in hand, the research proceeded to the data collection phase, which involved administering the survey to students in the sixth, seventh, and eighth semesters. However, before the survey administration, a preliminary intervention was conducted to ensure that the students were well-acquainted with Mind Facts strategy. This intervention aimed to address any potential gaps in students' understanding of mind facts, their application, and the significance of the strategy in improving reading comprehension. By providing students with the necessary knowledge and contextual understanding, the intervention facilitated their active engagement and meaningful participation in the subsequent survey.

To facilitate the survey administration process, the survey link was shared with the different presidents of the courses. The survey was carefully structured into sections, encompassing both general information data and the sections aligned with the

research questions. Participants were encouraged to respond honestly and thoughtfully, providing their unique perspectives and insights based on their experiences with mind facts and reading comprehension. The survey data, once collected, underwent rigorous analysis using the SPSS program. Quantitative data were analyzed using appropriate statistical techniques, such as calculating means and generating data tables, while qualitative data from the open-ended questions were analyzed manually, employing thematic analysis techniques to identify key patterns, themes, and emerging insights.

From the processed data, insightful conclusions were drawn, and meaningful recommendations were formulated. These findings not only contributed to the existing body of knowledge on mind facts and reading comprehension but also provided practical implications for educators and researchers. The comprehensive research process, which encompassed thorough bibliographical research, survey development, validation, data collection, and analysis, ensured the rigor and robustness of the study, further enhancing its credibility and value within the academic community.

Mixed approach

A mixed approach, qualitative and quantitative was applied in the current research. This research was qualitative because the opinions of the public, experiences, beliefs, and behaviors were considered through a survey, and quantitative because the numerical results of the survey had to be processed. According to Haven and Grootel (2019), qualitative data employs images, videos, or other sorts of behavioral records. The primary data source for qualitative research is typically language, either written or spoken. The most common methods for gathering qualitative data are interviews, focus groups, surveys, and observation. By addressing the subjects directly, qualitative research aims to understand their viewpoints. It is important to mention that the data described in the surveys were processed numerically as mentioned above, so the application of the qualitative approach is very important. Smith and Hasan (2020) pointed out that quantitative methods are especially important for numerically exploring the extent and variation of change in the data we are studying. Thus, the quantitative approach generates real information for later use.

Descriptive

The research employed a descriptive research approach to analyze and describe data and results in order to evaluate the precision and perspective of students. The research was conducted in a natural classroom setting to facilitate an authentic representation of student behavior. The methodology involved based on administering surveys and carefully interpreting responses based on students' unique experiences and knowledge was used to gather information. This approach enables a deeper understanding of the student's point of view and provides more accurate insights into their thoughts and perceptions. Manjunatha (2019) affirmed that descriptive methodology emphasizes in the description of "what" is being studied rather than the explanation of "why" it is happening. By collecting data and describing the features of the subject, researchers can gain a better understanding of its nature and characteristics. Researchers have several techniques at their disposal, such as surveys, questionnaires, interviews, observation, etc. to collect data for the descriptive approach. Researchers must accurately define the target population and identify the aspects they wish to evaluate and conduct a successful descriptive study.

Research Questions

- What are the types of mind facts that students use the most?
- Which strategies students use for reading comprehension?
- Which levels of reading comprehension students develop in reading comprehension?

CHAPTER III

RESULTS AND DISCUSSION

3.1 Analysis and discussion of the results

The current chapter shows the analyzed data with the aim is to answer the three questions based on the study objectives and will be presented with the results obtained after the survey. The data were processed through SPSS to obtain the mean and to be able to tabulate the results of the open-ended questions.

1. What are the types of mind facts that students use the most?
2. Which strategies students use for reading comprehension?
3. Which levels of reading comprehension students develop in reading comprehension?

Table 2

Types of mind facts.

Item	Mean
I create triangled diagrams with information inside and outside, to understand a text.	3,71
I make diagrams to understand a text with principal information inside, and information that it is not necessary outside.	3,53
When I read a paragraph, I include information that is not related to the topic. (For example, the topic is dog, I also add information about cats).	3,35
I use mind facts when I want to understand a text.	3,24
When I design a diagram, I look for the type to which my concept belongs. (For example, cat to feline, and dog to canine).	2,68
When I create a diagram, I give examples of the concepts after reading. (For example: the topic is technology the examples will be smartphones, laptops, televisions among others.	2,58
When I create a diagram, I divide the concept into subcategories (For example, for the concept of "dog", the subclasses would include breed, food, etc.)	2,57
I use verbs to connect concepts, for example: generate, influence, impact, contribute, affect, etc to read a text.	2,56

Note: The following scales were used to derive the measures: 1. Always, 2. Often, 3. Sometimes, 4. Rarely, and 5. Never.

Analysis and Interpretation

Research Question: What are the types of mind facts students use the most?

The results of the study indicated that learners primarily used triangular diagrams, which allows them to effectively summarize and assimilate information from texts. These diagrams contain both internal and external components, principal characteristic of notional mind facts, and were rated as the most useful and applicable with a mean score of 3,71. By incorporating external information, pupils are able to connect ideas that may or may not be directly related to the text. Interestingly, students also demonstrated a tendency to incorporate conceptual mind facts into their thinking, scoring a mean of 3,35. Conceptual mind facts consist of exclusive elements, which do not directly correspond to the main concept but aid students in identifying central themes and avoiding confusion with unrelated ideas. The use of mind facts is a strategy that is already being implemented by some future student teachers, as evidenced by a mean score of 3,24. Learners add examples to their concepts with a mean of 2,58 and with 2,56 they use verbs to connect ideas. The aforementioned characteristics correspond to propositional mind facts, so as a conclusion, students find them less applicable in their learning process.

Based on the results, it can be inferred that the majority of learners use notional mind facts, while the least commonly used are conceptual mind facts. One possible reason is that conceptual mind facts are relatively complex to develop, given the numerous elements involved. However, despite this added complexity, they tend to be more comprehensive than notional mind facts and therefore should be prioritized for use.

Table 3

Strategies students use for reading comprehension.

Item	Mean
I read manga, newspapers, magazines or other types of reading in English to understand a text better.	2,57
I share ideas and opinions with my classmates to understand a text.	2,56
I ask myself questions to clarify doubts after reading.	2,50

My teacher asks me to find names, addresses, or colors to understand a text.	2,49
I check the dictionary for some words I don't know.	2,33
I underline or take notes on my reading to understand a text.	2,32
I check vocabulary and illustrations before reading.	2,28
I read fast to have an overview of the topic when I am reading.	2,04

Note: The following scales were used to derive the measures: 1. Always, 2. Often, 3. Sometimes, 4. Rarely, and 5. Never.

Analysis and Interpretation

Research Question: Which strategies students use for reading comprehension?

The study revealed the most popular strategies by learners for reading comprehension. Firstly, the analysis demonstrated that one of the most frequently employed strategies by pupils is engaging with authentic materials, such as magazines, newspapers, and other similar sources, scoring a mean of 2,57. Consequently, another strategy commonly adopted is the practice of asking questions to clarify doubts, with a mean of 2,50. Although this strategy may not be explicitly taught, it is quite often applied by students to understand a text. Interestingly, the strategy of underlining or taking notes during readings, which is often taught by teachers, received a relatively lower mean of 2,32. Contrary to what is typically instructed, students appear to prefer asking questions or engaging in discussions with their peers to enhance their comprehension. This suggests that the strategy of notetaking may not be as prevalent among students. Moreover, the data indicated that the skimming strategy, widely emphasized by teachers in the classroom, received a mean of 2,04, suggesting that its application is not frequently employed by students.

The research results suggested that the majority of students do not read extensively, and when they do read, their preferences tend towards manga, magazines, and articles. Reading is widely regarded as a major challenge for university students, and nowadays with technology and resources it is possible to take more advantage of it, but learners prefer to watch videos rather than read. Additionally, while

teachers commonly emphasize the skimming and scanning technique, the data indicates that it is not widely used by students, who often prefer to complete reading material quickly instead.

Table 4

Levels of reading comprehension.

Item	Mean
When I read a text, I give my personal opinion of the topic.	2,50
I can recognize people and places of a story at the beginning of my reading.	2,32
I understand the situations or circumstances that occur and are described in the text while I am reading.	2,19
I pay close attention to information that is clearly stated in the text	2,10
I can make conclusions after reading a text.	2,08

Note: The following scales were used to derive the measures: 1. Always, 2. Often, 3. Sometimes, 4. Rarely, and 5. Never.

Analysis and Interpretation

Research Question: Which levels of reading comprehension students develop in reading comprehension?

Surprisingly, the results indicated that most students demonstrate proficiency in expressing their personal opinions at the end of a reading, scoring a mean of 2,50. The critical comprehension phase does not pose a challenge for them, and they can give their opinions effectively. However, developing conclusions proves to be a more arduous task for learners, resulting in a lower mean of 2,08 for inferential comprehension. Understanding situations and contexts also presents some difficulty for students, as evidenced by a mean of 2,19. This difficulty is also associated with the inferential comprehension level, indicating that it causes obstacles in forming opinions but less so in comprehending contexts. In terms of literal comprehension, students demonstrate the ability to locate explicitly stated information within the text. However, with a mean score of 2,10, it is apparent that this activity still poses

a challenge for students.

According to the results, the majority of learners do not face difficulties in their critical comprehension level, as they find it easy to give their personal opinion. It is assumed that this is a result of universities' increased emphasis on developing students' critical thinking skills and providing them with opportunities to express themselves. However, there is a big quantity of students that are struggling with inferential reading, particularly when it comes to developing conclusions. It is believed that this is due to the inadequate encouragement of reading comprehension and a lack of techniques to guide students.

Table 5

Open-ended questions

Question 1	Answer	Total
What types of mind facts do you use the most when you read a text?	Propositional Mind facts (Diagrams with verbs to connect concepts)	22
	Notional Mind facts (Triangular diagrams, information related inside and unrelated outside)	18
	I use concept maps	12
	I don't usually use mind facts	8
	Conceptual Mind facts (Diagrams with subclasses and exclusions)	7
	Other answers	5
	Total	72
Question 2	Answer	Total
What other strategies do you apply to understand a text?	I summarize the information using diagrams, paragraphs, drawings, etc.	18
	I read books, manga, virtual books, articles, newspaper, etc.	18
	I listen to music, watch videos, play videogames, flashcards and use apps or websites.	14
	I highlight key words	9
	I use Kahoot	8
	I brainstorm ideas	3
	I skim and scan texts	2
	Total	72

Question 3	Answer	Total
At what level of reading do you have more problems with?	Inferential comprehension level (Predictions and conclusions)	33
	Literal comprehension level (Recognition of characters, dates, and places)	21
	Critical comprehension level (Provide personal opinion)	11
	Other answers	7
Total		72

Note: Qualitative findings derived from the open-ended questions.

Analysis and Interpretation

Table 5 presents the results of the open-ended questions used to reinforce the research questions:

The first open-ended question, "What types of mind facts do you use the most when you read a text? " The results indicated that the most frequently used mind fact among learners is the propositional mind fact, which received the highest number of responses. Propositional mind facts consist of elements such as verbs that connect ideas and chromatizers. Another popular mind fact among students is the notional mind fact. This triangular mind fact adds clear concepts and helps students distinguish relevant ideas. On the other hand, a smaller number of students stated that they do not use any specific mind fact. This could be attributed to the fact that this diagram is not commonly taught by teachers and, therefore, is not widely known. Additionally, a small group of participants mentioned that they use conceptual mind facts by adding subclasses to their diagrams. Furthermore, some students (5) provided other responses, including the use of Venn diagrams. It is important to note that Venn diagrams do not fall under the category of mind facts and belong to a different category.

The second open-ended question, "What other strategies do you apply to understand a text?" According to the results, the majority of participants primarily use the strategy of summarizing information through diagrams, drawings, and paragraphs. This strategy is considered easy to implement. Additionally, an equal number of

students mentioned another important strategy, which is reading authentic materials such as manga, e-books, articles, among others. Another strategy that students found useful is the use of multimedia resources, including music, videos, series, video games, and even flashcards. Furthermore, students indicated that they underline keywords, while 8 students used the Kahoot application. Interestingly, a small group of participants mentioned that they like to brainstorm their ideas, which goes against what teachers typically teach in class. It is worth noting that only a few students reported applying skimming and scanning strategies.

Lastly, the third open-ended question, " At what level of reading do you have more problems with?" Based on the results, interviewees expressed having the most difficulties at the literal comprehension level. This level requires the reader to recognize characters and events within the text. Additionally, a significant number of participants mentioned facing challenges at the inferential comprehension level, where they need to make predictions and draw conclusions. Learners specifically pointed out that developing conclusions poses another challenge within this level. However, only 4 students reported struggling with understanding contexts, which falls under the category of inferential comprehension. Therefore, it can be concluded that comprehending context is a challenging aspect of inferential comprehension that only a few students seem to have difficulty with. Lastly, in the critical reading comprehension level, only 6 students encountered difficulties when expressing their opinions.

Discussion

The three research questions presented below were designed to explore students' perspectives on the mind facts strategy, specifically, its impact on reading comprehension.

Question 1: *What types of mind facts do you use the most when you read a text?*

Upon analysis, it was found that two mind facts, notional and propositional , were used by the majority of learners. In this regard, these mind facts are not commonly taught in educational institutions.

Mendoza (2017) noted that notional mind facts can be classified as either classal or relational, depending on the individual's mental cycle. On the other hand,

propositional mind facts contain chromatizers, such as examples or quantities, making them more complex to use. Despite this, students prefer to use them. According to De la Herran and Linares (2013), conceptual mind facts assist in organizing concepts and creating structures for effective learning, and they are deductively constructed. However, the research results indicated that conceptual mind facts are used less frequently by students, despite having several advantages over other mind facts. These benefits include hierarchical order, subclasses, exclusions, and others.

Del Valle (2008) argued that the teaching and learning process of some subjects are centered on the teacher's characterization and focus on it, thus turning the student into a passive component. The use of mind facts is a student-driven process that must be developed under the guidance of a teacher. The student should be encouraged to build their ideas based on their understanding, which can help improve their reading comprehension.

Question 2: *What other strategies do you apply to understand a text?* Here's an improved version of the given text:

The study results indicated that the majority of learners use two main strategies for effective reading comprehension: the use of visual elements like diagrams and drawings, and the reading of authentic material. According to Ortiz and Bermudez (2022), using visual elements promotes creativity, imagination, and cultural understanding that may be difficult to explain through words. It is evident from the research that students prefer using visual elements. Similarly, students prefer reading magazines, articles, manga, and other authentic sources of information as it generates a greater level of interest. Tolentino (2021) claimed that reading authentic material not only helps develop linguistic, sociolinguistic, and pragmatic competencies but is also highly motivating and improves verbal and nonverbal communication skills.

Due to the pandemic crisis, virtual classrooms, online platforms, and websites have become essential tools for education. Kahoot is one such platform that many students find engaging as it offers numerous interactive ways to learn. Unfortunately, strategies like skimming and scanning have been pushed aside,

despite being simple and practical. Aritonang et al. (2019) explained that these strategies help students extract the key ideas of a text quickly, allowing efficient use of time. However, the results show that diagramming can achieve similar goals.

Question 3: At what level of reading do you have more problems with?

Previous results indicated that one of the levels in which students face greater difficulties is the inferential level. According to Gallego et al. (2019), the inferential level of reading reflects students' ability to develop conjectures and hypotheses about the text. In addition, it allows them to predict events and reach conclusions. A significant challenge to learners is drawing conclusions, making it one of the most demanding tasks they regularly encounter. Equally, predicting events has proven to be complex. Consequently, another complicated level for students is the literal level. Durango (2015) explained, the literal level focuses on the ideas and explicit information in the text. Literal reading involves recognizing details and understanding the main idea of a paragraph or text. At first glance, the literal comprehension level seems to be the simplest and most basic level for students to develop, and teachers make a great effort to work on this part through multiple-choice or association exercises. However, according to the results, it is still quite complicated. Surprisingly, the reading level in which students have the least difficulty is the critical level. This level is based on expressing one's own opinions about reading and discerning what is right or wrong. Herazo (2015) pointed out that to speak of critical reading implies referring to one of the most demanding and complex forms of reading, due to the exhaustive degree of interpretation of the text and the skills and previous knowledge that the reader must possess to carry it out. However, the results showed that students do not have difficulties in expressing their own opinions or in communicating based on reading.

CHAPTER IV

CONCLUSIONS AND RECOMMENDATIONS

4.1 Conclusions

After the survey results were analyzed and processed, the following conclusions were reached:

Based on the findings, it can be concluded that students mainly use the propositional and notional mind facts as their preferred diagrams to understand a text. However, a small portion of students do not use any specific mind fact, which could be attributed to its lesser emphasis in educational institutions. It is remarkable that a small group of participants opted for conceptual mind facts, which include adding subclasses to their diagrams. Nevertheless, some students expressed the use of Venn diagrams, which belong to a different category altogether. Overall, understanding mind fact strategies used by learners in reading comprehension could provide valuable insights into developing effective teaching practices.

The main strategies students applied for reading are the use of diagrams, drawings, and paragraphs to summarize information, as it is the easiest strategy to implement. Along with this strategy, reading authentic materials like e-books, manga, and articles, is also essential for effective learning. The use of multimedia resources is another useful strategy that students find beneficial. Other strategies include underlining keywords, using the Kahoot app, and brainstorming, which is a unique approach. Nonetheless, it is important to note that only a few students reported applying skimming and scanning strategies. Teachers should consider incorporating these strategies to improve their teaching practices and cater to students' learning needs.

It was possible to identify the level of reading comprehension at which the interviewees had the majority of problems. Making predictions and drawing conclusions, which are part of inferential comprehension, proved difficult for a significant number of participants. It means that students do not practice enough with predictions and for the creation of conclusions their ideas are too disordered, so they need to connect and organize them first. Learners also faced difficulties in recognizing characters and events within text, which falls under the literal

comprehension level. Expressing opinions was challenging for only a small number of students in the critical reading comprehension level. Universities always try to reinforce critical thinking and punish students to create and express their own ideas, so the learners had no problems with this level.

4.2 Recommendations

Teachers can use notional and propositional mind facts to practice reading comprehension with their students. These diagrams will help students to organize and summarize information, so it will be easier for them to draw conclusions and understand faster and better. In addition, the elaboration of mind facts is easy to explain, and pupils will quickly understand how to make one and start putting it into practice as fast as they can. However, it is highly recommended for teachers to use classal mind facts because these diagrams will help learners with more information about the text and better organization.

It is recommended to use visual materials such as mind facts because they help students to understand a text better. In addition, it is recommended that teachers use authentic materials in the classroom as it helps students get into a total English environment and is a strategy that they feel more comfortable with. Further, it is recommended to reintroduce techniques such as skimming and scanning and encourage students to use them as complementary tools to improve comprehension.

It is recommended for teachers to provide additional support for literal and inferential comprehension, because based on the survey results students have more trouble predicting and drawing conclusions.

REFERENCES

- Abbasi, P. (2021). The effect of metacognitive and cognitive Strategies upon EFL learner's reading comprehending developments with emphasizing to student's linguality knowledge. *Technium Business and Management*, 1(1), 1-5. researchgate.net/publication/349573070_Reading_skill
- Ali, A. M., & Razali, A. B. (2019). A Review of Studies on Cognitive and Metacognitive Reading Strategies in Teaching Reading Comprehension for ESL/EFL Learners. *English Language Teaching*, 12(6), 94-111. <https://eric.ed.gov/?id=EJ1215830>
- Anaya, E. V., Muro, A. A., Núñez, D., & Sáenz, P. G. F. (2019). Comprensión lectora y el rendimiento académico en Educación Primaria. *Investigaciones sobre lectura*, (12), 65-98. DOI 10.37132/isl.v0i12.264
- Araujo Ferrer, F. R., & Valenzuela, L. (2021). El mentefacto argumental como estrategia didáctica para la enseñanza del pensamiento crítico en los estudiantes deficiencias políticas. *Frónesis*, 27(1), 44-74. <http://bit.ly/448uX9S>
- Ari, G. (2017). Basic concepts of reading instruction. *International Journal of Languages' Education and Teaching*, 5(4), 484-503. <https://bit.ly/3p5qJkv>
- Aritonang, I. R., Lasmana, S., & Kurnia, D. (2019). The analysis of skimming and scanning technique to improve students in teaching reading comprehension. *PROJECT (Professional Journal of English Education)*, 1(2), 101-106. <http://journal.ikipsiliwangi.ac.id/index.php/project/article/view/458>
- Avila, M. A. S., & Varas, C. I. G. (2021). Las habilidades lingüísticas para fortalecer las destrezas comunicativas, a través de la educación en línea. *Polo del Conocimiento*, 6(8), 373-385. <https://lc.cx/NL9-uC>
- Banditvilai, C. (2020). The effectiveness of reading strategies on reading comprehension. *International Journal of Social Science and Humanity*, 10(2), 46-50. <http://www.ijssh.net/vol10/1012-CH06.pdf>
- Canet Juric, L., Andrés, M. L., & Ané, A. (2005). Modelos teóricos de comprensión lectora. Relaciones con prácticas pedagógicas de enseñanza y aprendizaje. In *XII Jornadas de investigación y Primer Encuentro de Investigadores en Psicología del*

- Mercosur*. Facultad de Psicología-Universidad de Buenos Aires. <https://www.aacademica.org/000-051/55.pdf>
- Canquiz, L., Mayorga Sulbaran, D., & Sandoval, C. (2021). Planeación didáctica para el desarrollo de la comprensión lectora. <https://lc.cx/TiAOfx>
- Casco, G. M. R., & Mayorga, J. I. M. (2021). Reading skill development through CLIL Methodology. *ConcienciaDigital*, 4(3), 68-80. <https://bit.ly/446n5FB>
- Chomsky, N. (1975). *Reflections On Language*. <https://bit.ly/3CyKX9k>
- çTalavera, M. D. C. G. F. (2019). Cuatro formas de entender la Educación: modelos pedagógicos, conceptualización ordenamiento y construcción teórica. *Educación y Humanismo*, 21(36),137-159. <https://dialnet.unirioja.es/servlet/articulo?codigo=7689373>
- Danaei, D., Jamali, H. R., Mansourian, Y., & Rastegarpour, H. (2020). Comparing reading comprehension between children reading augmented reality and print storybooks. *Computers & Education*, 153, 103900. <https://lc.cx/ROX-94>
- Darjito, H. (2019). Students' Metacognitive Reading Awareness and Academic English Reading Comprehension in EFL Context. *International Journal of Instruction*, 12(4), 611-624. <https://files.eric.ed.gov/fulltext/EJ1230078.pdf>
- De Zubiría Ragó, A., y de Zubiría Samper, M. (2019). *Pedagogía conceptual: una puerta al futuro de la educación*. Ediciones de la U. <https://bit.ly/43SoG2b>
- De Zubiría, M. (2006). *Pedagogías del siglo XXI: Mentefactos I. El arte de pensar para enseñar y de enseñar para pensar*. Fundación Alberto Merani. https://books.google.com.ec/books/about/Pedagogías_del_siglo_XXI_Mentefactos_I.html?id=AezhoAEACAAJ&redir_esc=y
- Del Valle, L. A. M., & Chuquimia, G. H. (2008). Los Mentefactos Conceptuales como Estrategia Metacognitiva en el Logro de los Aprendizajes Significativos de los Alumnos en la Asignatura de Corrientes Pedagógicas Contemporáneas. *Ciencia & Desarrollo*, (12), 17-22. <https://bit.ly/43O7gDJ>
- Del Valle, L. A. M., & Chuquimia, G. H. (2019). Los Mentefactos Conceptuales como Estrategia Metacognitiva en el Logro de los Aprendizajes Significativos de los

- Alumnos en la Asignatura de Corrientes Pedagógicas Contemporáneas. *Ciencia & Desarrollo*, (12), 17-22.
<http://www.revistas.unjbg.edu.pe/index.php/cyd/article/view/243>
- Dolba, S. Q., Gula, L. P., & Nunez, J. (2022). Reading Teachers: Reading Strategies Employed in Teaching Reading in Grade School. *Journal of Language and Literature Studies*, 2(2), 62-74. https://papers.ssrn.com/sol3/papers.cfm?abstract_id=4321329
- Duke, N. K., Ward, A. E., & Pearson, P. D. (2021). The science of reading comprehension instruction. *The Reading Teacher*, 74(6), 663-672. <https://bit.ly/469p3qG>
- Dwiningtiyas, G. N., Sofyan, D., & Puspita, H. (2020). Teachers' strategies in teaching reading comprehension. *Journal of Applied Linguistic and Literacy*, 4(2), 66-77. <https://lc.cx/G3gL0X>
- Elleman, A. M., & Oslund, E. L. (2019). Reading comprehension research: Implications for practice and policy. *Policy Insights from the Behavioral and Brain Sciences*, 6(1), 3-11. https://lc.cx/_M1CPN
- Falcón, L. M. M., Freire, A. P. H., Quispilema, D. M. S., Pazmiño, S. J. I., & Pazmiño, S. J. I. (2022). Fortalecimiento pedagógico interactivo de las habilidades Reading and Writing. Limitantes en tiempos de pandemia. *593 Digital Publisher CEIT*, 7(4), 93-105. <https://dialnet.unirioja.es/servlet/articulo?codigo=8561171>
- Fincham, J. E., & Draugalis, J. R. (2013). The importance of survey research standards. *American Journal of Pharmaceutical Education*, 77(1). <https://doi.org/10.5688/ajpe7714>
- Gallego Ortega, J. L., Figueroa Sepúlveda, S., & Rodríguez Fuentes, A. (2019). La comprensión lectora de escolares de educación básica. *Literatura y lingüística*, (40), 187-208. <http://dx.doi.org/10.29344/0717621x.40.2066>
- Gallego Ortega, J. L., Figueroa Sepúlveda, S., & Rodríguez Fuentes, A. (2019). La comprensión lectora de escolares de educación básica. *Literatura y lingüística*, (40), 187-208. <https://lc.cx/crNCTr>

- García García, E. (1993). La comprensión de textos: Modelo de procesamiento y estrategias de mejora. *Didáctica (Lengua y literatura)*. <https://bit.ly/3CDYzjq>
- Gómez Contreras, J. L., Monroy Bermúdez, L. D. J., & Bonilla Torres, C. A. (2019). Caracterización de los modelos pedagógicos y su pertinencia en una educación contable crítica. *Entramado*, 15(1), 164-189. <https://bit.ly/3qSnVYr>
- Guarnizo, N., Talero, E., & Campos, F. (2021). Cambios de estrategias didácticas de la gimnasia en cuarentena: un estudio de caso (Changes in didactic strategies of gymnastics in quarantine: a case study). *Retos*, 42, 316-322. <https://recyt.fecyt.es/index.php/retos/article/view/86527>
- Guerrero, S., & Orrantia, D. Mentefacto argumentativo en clases de ciencias políticas, una alternativa de solución para desarrollar pensamiento crítico. *Direcciones académicas*, 113. <https://produccioncientificaluz.org/index.php/fronesis/article/view/35704>
- Gustanti, Y., & Ayu, M. (2021). The correlation between cognitive reading strategies and students' english proficiency test score. *Journal of English Language Teaching and Learning*, 2(2), 95-100. <http://jim.teknokrat.ac.id/index.php/english-language-teaching/article/view/1452>
- Gutierrez, J., Gómez, F., & Gutiérrez, C. (2018). Estrategias didácticas de enseñanza y aprendizaje desde una perspectiva interactiva. *Journal of Chemical Information and Modeling*, 53(9), 1689-1699. <https://lc.cx/tjKYnR>
- Herazo, Z. D. (2015). La lectura y sus tipos. *Portal de las Palabras*, 1, 9-13. <https://revistas.curn.edu.co/index.php/portaldelaspalabras/index>
- Herrán, A. (2011). Técnicas didácticas para una enseñanza más formativa. Álvarez, N. y Cardoso, R.(coords.), *Estrategias y metodologías para la formación del estudiante en la actualidad*, 1-80. <https://lc.cx/G0XpTs>
- Husain, N. (2015). Language and language skills. *Maulana Azad National Urdu University*, 1-11. <https://lc.cx/u3xgbG>
- Ibarra, C. D. L. Á. M. (2020). Comprensión lectora y rendimiento escolar. *Revista Boletín Redipe*, 9(1), 121-131. <https://lc.cx/PJGuUN>

- Jama-Zambrano, V. R., & Cornejo-Zambrano, J. K. (2018). Las Didácticas Mentefactuales Proposicionales como propuesta innovadora en el proceso enseñanza aprendizaje del área de Desarrollo de Pensamiento en los estudiantes. *Polo del Conocimiento*, 3(3), 65-87. <https://doi.org/10.23857/pc.v3i3.445>
- Jenner, K. (2021). The Science of Reading. In *Indiana Journal*. <https://www.in.gov/doe/files/3-science-reading.pdf>
- L. Haven, T., & Van Grootel, D. L. (2019). Preregistering qualitative research. *Accountability in research*, 26(3), 229-244. <https://lc.cx/2caWx9>
- Lestari, M., & Wahyudin, A. Y. (2020). Language learning strategies of undergraduate EFL students. *Journal of English Language Teaching and Learning*, 1(1), 25-30. <http://jim.teknokrat.ac.id/index.php/english-language-teaching/article/view/242>
- López, O. (2016). *Pedagogía para el encuentro*. León de Greiff. <https://dokumen.tips/education/nociones-proposiciones-conceptos-y-mentefactos.html?page=1>
- Manjunatha, N. (2019). Issue 6 www.jetir.org (ISSN-2349-5162). *JETIR1908597 Journal of Emerging Technologies and Innovative Research*, 6(2349-5162). <https://www.jetir.org/papers/JETIR1908597.pdf>
- Marlina, R. (2018). Teaching language skills. *The TESOL encyclopedia of English language teaching*, 1-15. https://www.researchgate.net/publication/322976448_Teaching_Language_Skills
- Monsalve, J. A. F. (2018). El mentefacto conceptual como estrategia de lectura en octavo grado. *Revista Perspectivas*, 3(2), 96-109. <https://lc.cx/loDbvj>
- Mucha Hospinal, L. F., Lora Loza, M. G., Chamorro-Mejía, R., Aliaga Salguerán, J. J., Vásquez Ramírez, M. R., & Miguel Cifuentes, C. A. (2022). Mentefactos conceptuales como estrategia para el aprendizaje de Estadística Inferencial en estudiantes universitarios. *Educación Médica Superior*, 36(2). <https://lc.cx/a7FuXE>

- O'Reilly, T., Wang, Z., & Sabatini, J. (2019). How much knowledge is too little? When a lack of knowledge becomes a barrier to comprehension. *Psychological science*, 30(9), 1344-1351. <https://doi.org/10.1177/0956797619862276>
- Ochoa, R. F. (2005). *Hacia una pedagogía del conocimiento* (pp. 234-244). McGraw Hill. <https://lc.cx/GMuWF8>
- Ortiz, W. W. M., & Bermúdez, I. E. C. (2022). Las imágenes como recurso visual para potenciar la comprensión lectora en los niños de 4-5 años. *Revista EDUCARE-UPEL-IPB-Segunda Nueva Etapa 2.0*, 26(Extraordinario), 193-214. <https://doi.org/10.46498/reduipb.v26iExtraordinario.1705>
- Perea, F. (2014). *Los mentefactos conceptuales* [PDF] <https://docplayer.es/39354433-Mentefactos-conceptuales-elaborado-por-francisco-perea-m-1-los-mentefactos-conceptuales.html>
- Reynosa Navarro, E., Serrano Polo, E. A., Ortega-Parra, A. J., Navarro Silva, O., Cruz-Montero, J. M., & Salazar Montoya, E. O. (2020). Didactic strategies for scientific research: relevance in the training of researchers. *University and Society Magazine*, 12(1), 259-266. <http://scielo.sld.cu/pdf/rus/v12n1/2218-3620-rus-12-01-259.pdf>
- Riffo, B. (2000). Procesamiento de información afectiva en la comprensión de textos de la prensa escrita. *Universitat Bielefeld* <https://pub.uni-bielefeld.de/record/2306574>
- Rodríguez, Y. M. S., & Camacho, L. Y. V. (2019). Artefactos pedagógicos: una experiencia innovadora: Pedagogical artifacts: an innovative experience. *Centro Sur*, 3(1), 54-66. <https://www.centrosureditorial.com/index.php/revista/article/view/25/48>
- Romero Díaz, A. D., Velásquez Tapullima, P. A., Yupanqui Cueva, I. M., Cjuro Tito, R. J., & Macazana Fernández, D. M. (2022). Las técnicas gráfico-esquemáticas como estrategia metacognitiva y desempeño académico de los estudiantes de la Universidad Católica sede Sapientiae. *Revista Universidad y Sociedad*, 14(1), 53-70. <http://scielo.sld.cu/pdf/rus/v14n1/2218-3620-rus-14-01-53.pdf>

- Ruiz, M. G. X. (2020). Niveles de comprensión lectora en la educación superior. *Revista Científica Internacional*, 3(1), 175-184. <https://lc.cx/CGsRNr>
- Rumelhart, D. E. (1984). Schemata and the cognitive system. *APA PsycNet*. <https://psycnet.apa.org/record/2011-28549-005>
- Sangia, R. A. (2014). The process and purpose of reading. *Applied Linguistics*. https://www.researchgate.net/publication/327976279_The_Process_and_Purpose_of_Reading
- Santana, C. (2016). What is language?. *Ergo, an Open Access Journal of Philosophy*, 3. <https://doi.org/10.3998/ergo.12405314.0003.019>
- Sarmiento, G., & Ruiz, M. (2021) *Estrategias de comprensión: más allá del quiz y las preguntas de comprensión*. Internacionalización. <https://lc.cx/yL-Tcf>
- Septiyana, L., & Aminatun, D. (2021). THE CORRELATION BETWEEN EFL LEARNERS COHESION AND THEIR READING COMPREHENSION. *Journal of Research on Language Education*, 2(2), 68-74. <https://lc.cx/VEFXVf>
- Sholeh, A., Setyosari, P., & Cahyono, B. Y. (2019). Effects of Scaffolded Voluntary Reading on EFL Students' Reading Comprehension. *International Journal of Instruction*, 12(4), 297-312. <https://files.eric.ed.gov/fulltext/EJ1236317.pdf>
- Smith, J. D., & Hasan, M. (2020). Quantitative approaches for the evaluation of implementation research studies. *Psychiatry research*, 283, 112521. <https://www.sciencedirect.com/science/article/pii/S0165178119307024>
- Spratt, M., Pulverness, A., & Williams, M. (2011). *The TKT course modules 1, 2 and 3*. Cambridge university press. <https://lc.cx/XgHv8r>
- Tejedor, G., Segalàs, J., Barrón, Á., Fernández-Morilla, M., Fuertes, M. T., Ruiz-Morales, J., ... & Hernández, À. (2019). Didactic strategies to promote competencies in sustainability. *Sustainability*, 11(7), 2086. <https://lc.cx/kkGNBP>
- Tolentino Quiñones, H. (2021). Uso del material auténtico en las aulas virtuales para el aprendizaje de un idioma extranjero. *Revista Educación*, 45(1), 631-639. <https://doi.org/10.15517/revedu.v45i1.42297>

- Toro, V., Camacho-Minuche, G., Pinza-Tapia, E., & Paredes, F. (2019). The Use of the Communicative Language Teaching Approach to Improve Students' Oral Skills. *English Language Teaching*, 12(1), 110-118. <https://eric.ed.gov/?id=EJ1200055>
- Van Dijk, T. A., & Kintsch, W. (1983). Strategies of discourse comprehension. Academic Press. <https://www.jstor.org/stable/415483>
- Zambrano, M. E. M., & Castro, F. Z. V. (2019). Niveles en la comprensión lectora de los estudiantes universitarios. *Polo del Conocimiento: Revista científico-profesional*, 4(3), 401-415. <https://dialnet.unirioja.es/servlet/articulo?codigo=7164280>
- Zulua, C. N., Conde, J. D., & Lozano, I. E. O. (2020). El mentefacto conceptual como herramienta didáctica para la enseñanza del componente vivo en estudiantes del grado 7°. *Revista Electrónica EDUCyT*, 11(Extra), 1653-1662. <https://die.udistrital.edu.co/revistas/index.php/educyt/article/view/161>

ANNEXES

Annex 1

ANEXO 3 FORMATO DE LA CARTA DE COMPROMISO.

CARTA DE COMPROMISO

Ambato, 04 de Abril 2023

Doctor
Marcelo Nuñez
Presidente
Unidad de titulación
Facultad de Ciencias Humanas y de la Educación

Yo, Mg. Sarah Iza, en mi calidad de Coordinadora de la Carrera de Pedagogía de los Idiomas Nacionales y Extranjeros, me permito poner en su conocimiento la aceptación y respaldo para el desarrollo del Trabajo de Titulación bajo el Tema: "Mind Facts strategy and Reading Comprehension" propuesto por la estudiante Mayorga Vargas Emilia Pamela , portadora de la Cédula de Ciudadanía N° 1805243720, estudiante de la Carrera de Pedagogía de los Idiomas Nacionales y Extranjeros Facultad de Ciencias Humanas y de la Educación de la Universidad Técnica de Ambato.

A nombre de la Institución a la cual represento, me comprometo a apoyar en el desarrollo del proyecto.

Particular que comunico a usted para los fines pertinentes.

Atentamente.



.....
Lcda. Sarah Jacqueline Iza Pazmiño, Mg.
Coordinadora de la Carrera
0501741060
0984060528
sj.iza@uta.edu.ec

Annex 2

Cronbach's alfa validation

Reliability Statistics	
Cronbach's Alpha	N of Items
,898	21

Note: Reliability statistics with Cronbach's Alfa of the 21 questions with Likert scale.

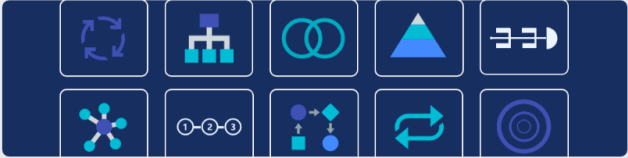
Item-Total Statistics				
	Scale Mean if Item Deleted	Scale Variance if Item Deleted	Corrected Item-Total Correlation	Cronbach's Alpha if Item Deleted
I create triangled diagrams with information inside and outside, to understand a text.	47,36	134,255	,424	,895
I make diagrams to understand a text with principal information inside, and information that it is not necessary outside.	47,55	134,673	,316	,900
I use verbs to connect concepts, for example: generate, influence, impact, contribute, affect, etc to read a text.	49,09	132,691	,529	,893
When I create a diagram, I give examples of the concepts after reading. (For example: the topic is technology the examples will be: smartphones, laptops, televisions among others.	49,00	128,600	,631	,890
When I design a diagram, I look for the type to which my concept belongs. (For example, cat to feline, and dog to canine).	48,91	130,891	,582	,891
When I create a diagram, I divide the concept into subcategories (For example, for the concept of "dog", the subclasses would include breed, food, etc.)	48,64	136,455	,302	,899
When I read a paragraph, I include information that is not related to the topic. (For example,	47,73	125,218	,605	,891

the topic is dog, I also add information about cats).				
I use mind facts when I want to understand a text.	48,27	128,218	,552	,892
I check vocabulary and illustrations before reading.	48,82	132,164	,586	,891
I read fast to have an overview of the topic when I am reading.	49,36	136,655	,688	,892
My teacher asks me to find names, addresses, or colors to understand a text.	48,55	132,673	,681	,890
I underline or take notes on my reading to understand a text.	48,82	130,564	,591	,891
I check the dictionary for some words I don't know.	48,82	128,964	,551	,892
I share ideas and opinions with my classmates to understand a text.	49,09	139,091	,433	,895
I ask myself questions to clarify doubts after reading	49,09	130,891	,613	,890
I read manga, newspapers, magazines or other types of reading in English to understand a text better.	48,64	132,255	,521	,893
I can recognize people and places of a story at the beginning of my reading.	49,45	137,273	,370	,896
I pay close attention to information that is clearly stated in the text	49,36	133,855	,498	,893
I understand the situations or circumstances that occur and are described in the text while I am reading.	49,73	139,218	,365	,896
I can make conclusions after reading a text.	49,73	134,218	,686	,891
When I read a text, I give my personal opinion of the topic	49,45	129,073	,628	,890

Annex 3

Survey

Link for the survey: <https://forms.gle/b5yB2UaziQmC3ubi6>



Mind Facts Strategy and Reading Comprehension

[Iniciar sesión en Google](#) para guardar lo que llevas hecho. [Más información](#)

* Indica que la pregunta es obligatoria

Dear Students: *

The information from the following survey will be used for the study called "Mind Facts Strategy and Reading Comprehension". The data obtained in this instrument will be treated with strict confidentiality. (La información de la siguiente encuesta se utilizará para el estudio denominado "Estrategia de mentefactos y Comprensión lectora". Los datos obtenidos en este instrumento serán tratados con estricta confidencialidad.)

Thank you for your free and voluntary participation. (Gracias por su participación libre y voluntaria.)

I have read the previous paragraph and I am willing to participate in the survey voluntarily. (He leído el párrafo anterior y estoy dispuesto a participar en la encuesta voluntariamente.)

Yes

No

Gender (Género) *

Male (Masculino)

Female (Femenino)

Prefer not to say (Prefiero no decirlo)

Nationality (Nacionalidad) *

Ecuadorian (Ecuatoriano)

Other (Otros)

Native language (Idioma nativo) *

Spanish (Español)

English (Inglés)

Quichua (Quichua)

Other (Otro)

Ethnicity (Etnia) *

Mestizo (Mestizo)

White (Blanco)

Afro-Ecuadorian (Afroecuatoriano)

Indigenous (Indígena)

Other (Otro)

Age (Edad) *

17-20 years old

21-25 years old

26-30 years old

31 and more

Página 1 de 4 [Borrar formulario](#)



Types of mind facts. (Tipos de mentefactos.)



For the following statements, select one of the options. (Para las siguientes afirmaciones, seleccione una de las opciones)



1. Always (Siempre)
2. Often (A menudo)
3. Sometimes (A veces)
4. Rarely (Rara vez)
5. Never (Nunca)



1. I create triangled diagrams with information inside and outside, to understand a * text. [Creo diagramas triangulares con información dentro y fuera para entender un texto].



Completa el siguiente mentefacto **incluyendo y excluyendo** los valores.

X1=  X6= 

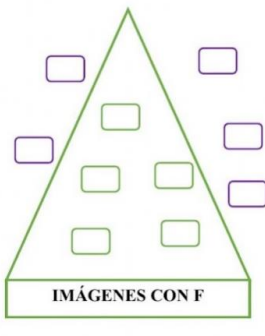
X2=  X7= 

X3=  X8= 

X4=  X9= 

X5=  X10= 

IMÁGENES CON F



1. Always (Siempre)
2. Often (A menudo)
3. Sometimes (A veces)
4. Rarely (Rara vez)
5. Never (Nunca)

2. I make diagrams to understand a text with principal information inside, and information that it is not necessary outside. [Hago diagramas para entender un texto con la información principal dentro e información que no es necesaria fuera.]

MENTEFACTO NOCIONAL CLASAL

X1=  X2= 

X3=  X4= 

[AMBULANCIA]



3. I use verbs to connect concepts, for example: generate, influence, impact, contribute, affect, etc to read a text. [Utilizo verbos para relacionar conceptos, por ejemplo: generar, influir, impactar, contribuir, afectar, etc para leer un texto].

1. Always (Siempre)
2. Often (A menudo)
3. Sometimes (A veces)
4. Rarely (Rara vez)
5. Never (Nunca)

4. When I create a diagram, I give examples of the concepts after reading. (For example: the topic is technology the examples will be: smartphones, laptops, televisions among others. [Cuando creo un diagrama, ejemplifico los conceptos después de leer. (Por ejemplo, el tema es tecnología los ejemplos serán: smartphones, laptops, televisores entre otros)].

1. Always (Siempre)
2. Often (A menudo)
3. Sometimes (A veces)
4. Rarely (Rara vez)
5. Never (Nunca)

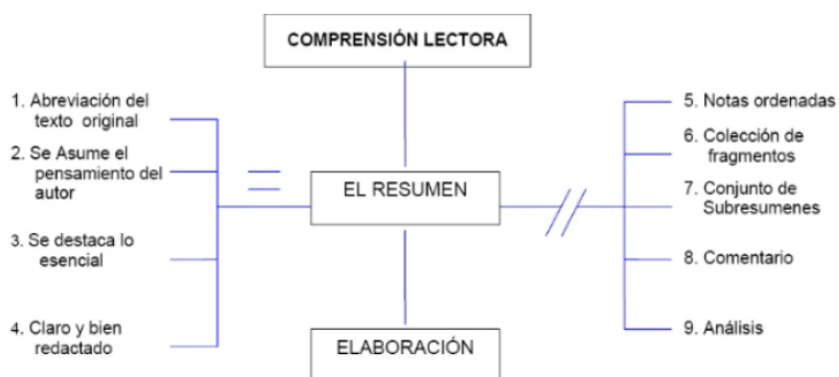
5. When I design a diagram, I look for the type to which my concept belongs. (For example, cat to feline, and dog to canine). [Cuando diseño un diagrama, busco la clase a la que pertenece mi concepto. (Por ejemplo, gato a felino, y perro a canino)].

1. Always (Siempre)
2. Often (A menudo)
3. Sometimes (A veces)
4. Rarely (Rara vez)
5. Never (Nunca)

6. When I create a diagram, I divide the concept into subcategories (For example, for the concept of "dog", the subclasses would include breed, food, etc.) [Cuando creo un diagrama, divido el concepto en subcategorías. (Por ejemplo, para el concepto de "perro", las subcategorías incluirían la raza, la comida, etc.)]

1. Always (Siempre)
2. Often (A menudo)
3. Sometimes (A veces)
4. Rarely (Rara vez)
5. Never (Nunca)

7. When I read a paragraph, I include information that is not related to the topic. *
 (For example, the topic is dog, I also add information about cats). [Cuando leo un párrafo, incluyo información que no está relacionada con el tema. (Por ejemplo, el tema es el perro, también añado información sobre gatos)].



- 1.Always (Siempre)
- 2.Often (A menudo)
- 3.Sometimes (A veces)
- 4.Rarely (Rara vez)
- 5.Never (Nunca)

8. I use mind facts when I want to understand a text. [Utilizo mentefactos cuando quiero entender un texto]. *

- 1.Always (Siempre)
- 2.Often (A menudo)
- 3.Sometimes (A veces)
- 4.Rarely (Rara vez)
- 5.Never (Nunca)

9.- What types of mind facts do you use the most when you read a text ? (For example: I use triangled diagrams, I use verbs to connect concepts, or I add subclasses in my diagram. [¿Qué tipo de mentefactos utiliza más cuando lee un texto ? (Por ejemplo, yo utilizo diagramas en forma de triangulo, yo utilizo verbos para conectar conceptos o yo añado subclases en mi diagrama)]) *

Tu respuesta

Atrás

Siguiente



Página 2 de 4 Borrar formulario

Strategies students use for reading comprehension.
(Estrategias que utilizan los alumnos para la comprensión lectora).

For the following statements, select one of the options. (Para las siguientes afirmaciones, seleccione una de las opciones)

1. Always (Siempre)
2. Often (A menudo)
3. Sometimes (A veces)
4. Rarely (Rara vez)
5. Never (Nunca)

1. I check vocabulary and illustrations before reading. [Reviso el vocabulario y las ilustraciones antes de leer]. *

- 1.Always (Siempre)
- 2.Often (A menudo)
- 3.Sometimes (A veces)
- 4.Rarely (Rara vez)
- 5.Never (Nunca)

2. I read fast to have an overview of the topic when I am reading. [Leo rápido para tener una visión general del tema cuando estoy leyendo]. *

- 1.Always (Siempre)
- 2.Often (A menudo)
- 3.Sometimes (A veces)
- 4.Rarely (Rara vez)
- 5.Never (Nunca)

3. My teacher asks me to find names, addresses, or colors to understand a text. [Mi maestro me pide que busque nombres, direcciones o colores para entender un texto]. *

- 1.Always (Siempre)
- 2.Often (A menudo)
- 3.Sometimes (A veces)
- 4.Rarely (Rara vez)
- 5.Never (Nunca)

4.- I underline or take notes on my reading to understand a text. [Subrayo o tomo notas de la lectura para entender un texto]. *

- 1.Always (Siempre)

5. I check the dictionary for some words I don't know. [Busco en el diccionario palabras que no conozco]. *

- 1.Always (Siempre)
- 2.Often (A menudo)
- 3.Sometimes (A veces)
- 4.Rarely (Rara vez)
- 5.Never (Nunca)

6. I share ideas and opinions with my classmates to understand a text. [Comparto ideas u opiniones con mis compañeros para comprender un texto]. *

- 1.Always (Siempre)
- 2.Often (A menudo)
- 3.Sometimes (A veces)
- 4.Rarely (Rara vez)
- 5.Never (Nunca)

7. I ask myself questions to clarify doubts after reading. [Me hago preguntas para aclarar dudas después de leer]. *

- 1.Always (Siempre)
- 2.Often (A menudo)
- 3.Sometimes (A veces)
- 4.Rarely (Rara vez)
- 5.Never (Nunca)

8. I read manga, newspapers, magazines or other types of reading in English to understand a text better. [Leo mangas, periodicos, revistas u otro tipo de lectura en Ingles para comprender mejor un texto]. *

- 1.Always (Siempre)
- 2.Often (A menudo)
- 3.Sometimes (A veces)
- 4.Rarely (Rara vez)
- 5.Never (Nunca)

9. What other strategies do you apply to understand a text? (For example: I read virtual books, I use Kahoot, I use mind facts, I choose my own books, I organize ideas in a hierarchical way, I make summaries, I highlight key words, etc). [¿Qué otras estrategias aplicas para entender un texto? (Por ejemplo: Leo libros virtuales, utilizo Kahoot, mentefactos, elijo mis propios libros, organizo las ideas de manera jerárquica, hago resúmenes, subrayar palabras clave, etc)]. *

Levels of reading comprehension. (Niveles de comprensión lectora)

For the following statements, select one of the options. (Para las siguientes afirmaciones, seleccione una de las opciones)

1. Always (Siempre)
2. Often (A menudo)
3. Sometimes (A veces)
4. Rarely (Rara vez)
5. Never (Nunca)

1. I can recognize people and places of a story at the beginning of my reading. *

[Puedo reconocer personas y lugares de una historia al principio de mi lectura].

- 1.Always (Siempre)
- 2.Often (A menudo)
- 3.Sometimes (A veces)
- 4.Rarely (Rara vez)
- 5.Never (Nunca)

2. I pay close attention to information that is clearly stated in the text. *

[Presto mucha atención a la información que aparece claramente en el texto].

- 1.Always (Siempre)
- 2.Often (A menudo)
- 3.Sometimes (A veces)
- 4.Rarely (Rara vez)
- 5.Never (Nunca)

3. I understand the situations or circumstances that occur and are described in the text while I am reading. *

[Comprendo las situaciones o circunstancias que ocurren y se describen en el texto mientras estoy leyendo].

- 1.Always (Siempre)
- 2.Often (A menudo)
- 3.Sometimes (A veces)
- 4.Rarely (Rara vez)
- 5.Never (Nunca)

4. I can make conclusions after reading a text. *

[Yo puedo hacer conclusiones después de leer].

- 1.Always (Siempre)
- 2.Often (A menudo)

5. When I read a text, I give my personal opinion of the topic. *

[Cuando acabo de leer un texto, doy mi opinión personal del tema].

- 1.Always (Siempre)
- 2.Often (A menudo)
- 3.Sometimes (A veces)
- 4.Rarely (Rara vez)
- 5.Never (Nunca)

6.- At what level of reading do you have more problems with? *

(For example, I have problems when I have to recognize characters and places, or when I have to predict events, or when I have to develop conclusions and give my opinion).

[¿En qué nivel de lectura tiene usted mas problemas ? (Por ejemplo, tengo problemas cuando tengo que reconocer personajes y lugares, o cuando tengo que predecir acontecimientos, o cuando tengo que elaborar conclusiones y dar mi opinión)].

Tu respuesta

Atrás

Enviar

Página 4 de 4

Borrar formulario

Annex 4

Urkund Report



Document Information

Analyzed document	MAYORGA PAMELA THESIS URKUND.pdf (D171017349)
Submitted	6/20/2023 7:28:00 PM
Submitted by	
Submitter email	emayorga3720@uta.edu.ec
Similarity	0%
Analysis address	manuelxulcag.uta@analysis.urkund.com

Sources included in the report



Mg. Xavier Sulca

TUTOR TRABAJO TITULACIÓN