UNIVERSIDAD UCINF
LABOR CONSTANTIAE TRIUMPHARE

FACULTAD DE EDUCACIÓN

PEDAGOGÍA EN INGLÉS

STUDENTS' LEARNING STYLES AND TEACHER'S PERCEPTION

Students' Names:
Barquin, Camila
Lagos, Inés
Matus, Gustavo

Tesis para optar al Grado de Licenciado en Educación

Teacher's Guide:
Espinoza, Freddy

Santiago, Chile

2015

Calificación Tesina

Comité de Evaluación

En Santiago de Chile y con Fecha _____ de _____ de_____,

se ha determinado que esta tesina obtenga una calificación de _____.

Se detalla dicha calificación a modo de referencia para estudiantes y lectores en general

de ésta.

Sin otro particular,

Observaciones:

Comité de Evaluación de Examen de Grado

Pedagogía en Inglés

Universidad Ucinf

RESUMEN

La situación presentada en esta tesina, se basó en torno a la consideración de los estilos de aprendizaje dentro de la práctica educativa promedio en la educación chilena. El objetivo de la siguiente investigación fue explorar la relación entre los estilos de aprendizaje exhibidos por los estudiantes y la percepción que el profesor tenía sobre dicha distribución de estilos de aprendizaje presentes en la clase. Esta investigación fue dirigida hacia el descubrimiento y el análisis de las preferencias de aprendizaje en una clase, así como el punto de vista del profesor en relación a la forma en que sus estudiantes aprenden. Esta tarea se abordó desde la teoría de los estilos de aprendizaje, la identificación de los estilos de aprendizaje se llevó a cabo mediante la aplicación de dos instrumentos: el cuestionario VARK desarrollado por Fleming y Mills (1992) y una lista de cotejo creada específicamente para determinar la percepción del profesor sobre los estilos de aprendizaje de la clase. El cuestionario VARK se aplicó a treinta estudiantes del octavo básico "C" del Colegio Teniente Dagoberto Godoy de Santiago y la lista fue completada por la profesora de inglés de la misma institución. Los resultados obtenidos proporcionaron respuestas definitivas a las preguntas que esta investigación se había formulado, ya que el cuestionario VARK descubrió todos los estilos de aprendizaje presentes en la clase con la prevalencia del estilo visual y auditivo por sobre el resto, de la misma manera, la lista de cotejo estableció que de acuerdo a la percepción del profesor los estilos de aprendizaje predominantes fueron lector escritor y visual. Al contrastar los resultados de ambos instrumentos, esta investigación fue capaz de definir el nivel de similitud entre las variables antes mencionadas, donde los resultados apuntaron al hecho de que el profesor tenía un importante grado de conocimiento acerca de cómo aprende su clase.

Palabras clave: Estilos de aprendizaje, VARK, pedagogía, educación, enseñanza

ABSTRACT

The situation presented in this thesis was based on the consideration of learning styles within the average educational practice in Chilean education. The objective of the following piece of research was to explore the relationship between the learning styles exhibited by students and the perception the teacher had about such distribution of learning styles present in the class. This research was aimed towards discovering and analyzing the preferences for learning in a class as well as the view of the teacher as to how the students learn. This task was addressed from the theory of learning styles, the identification of learning styles was carried out by applying two instruments: the VARK questionnaire developed by Fleming and Mills (1992) and a Teacher Checklist created specifically to determine the teacher's perception about the learning styles in the class. The VARK questionnaire was administered to thirty students from the eighth grade "C" class from Colegio Teniente Dagoberto Godoy in Santiago and the list was filled in by the English language teacher from the same institution. The results obtained provided definite answers to the questions this investigation had formulated as the VARK questionnaire found out all learning styles present in the class with the prevalence of the visual and auditory styles over the others, in the same way, the Teacher checklist established that according to the teacher's perception the most predominant learning styles were reading & writing and visual. By contrasting the results from both instruments, this research was able to define the level of similarity between the above mentioned variables, where the results pointed to the fact that the teacher had an important degree of knowledge about how her class learns.

Keywords: Learning styles, VARK, pedagogy, education, teaching

TABLE OF CONTENTS

PAGE

CHAPTER I

INTRODUCTION

INTRODUCTION

It is a fact that every person has their own style of learning and understanding the world, or different ways to internalize new information. Such styles can be defined as the way people perceive, process, and integrate the information. The authors Stewart and Felicetti (1992) went beyond such definition by referring to learning styles as the educational conditions under which the students achieve learning, in other words, the way they learn and not what they learn, this is because learning is not just about collecting information.

The human brain performs activities such as processing information, connecting and associating data through different patterns, guides or diagrams in order to understand the world and allow humans to adapt to the environment.

From the 1970's to this date there have been many theories formulated to understand how humans learn. Authors like David Kolb, Howard Gardner, Newble & Entwistle and Neil Fleming, among others, have developed different methodologies to find out how the learning styles develop and interact in people.

However, within the Chilean educational system there seems to be a situation where the different learning styles may not be much considered. Thus choosing an appropriate teaching methodology becomes a complex task for the teachers; mainly because this concept may not present in most of the teachers' academic formation and may even not be considered as something relevant. This picture describes a rather negative scenario that harms students and does not provide them with the proper tools to succeed in both their learning and their lives.

As of a general objective, this piece of research intended to explore the abovementioned situation by researching about different learning styles proposed by important authors and obtaining quantifiable data to demonstrate how these are perceived in an average educational institution from the Chilean education system, key elements that were addressed in the following sections.

RESEARCH PROBLEM

To carry out this research, it was important to have in mind that every person is different from each other, the way in which a person perceives the world is not the same when compared to another. That is the reason why many authors and investigators have tried to understand how humans learn and how this knowledge can be brought to the world of education.

One of the most important research investigators in this area was Jean Piaget, who developed the cognitive theory in the 1950's, his work influenced many others that followed, such as David Kolb, who proposed the learning styles as frames according to every person, or Howard Gardner, who created the concept of multiple intelligences, this last author in particular is the outset of this investigation about the different methods the mind possesses when dealing with information and how the learning processes take place.

All individuals learn differently and everyday new strategies are developed when learning something, not only in the academic environment but in life in general. Some people learn through repetition, writing, reading or watching the teacher, whatever way the human brain makes works to internalize the new information and transform it into actual knowledge.

Owing to the traditional Chilean education, where the student is seen only as the receptor of information and the teacher is the protagonist of the class, the research problem of this investigation was to explore whether the concept of learning styles is taken into account in the average Chilean educational reality.

RESEARCH OBJECTIVE

As the main focus of the investigation was the topic of learning styles in the classroom and considering that all individuals learn in different ways, it is undeniable that in the classrooms there are different learning styles present. Thus it is important to know how students learn because by integrating these learning styles to each class teachers could generate a significant and positive change for students in all their school subjects.

The teacher's awareness of the learning styles of the students was another key element important not only for the teacher but also for students as this methodology favors results and improvements in their academic performance, making this process much more dynamic to both students and teachers, contributing to the process of teaching and learning.

The objective of the following piece of research was to explore the relationship between the learning styles exhibited by students from Colegio Teniente Dagoberto Godoy and the perception the teacher had about such distribution of learning styles present in the class.

These crucial findings were achieved by analyzing and contrasting collected data from two instruments, the first instrument was used to measure and quantify the various ways students learn and the second instrument provided the perception about the class' learning styles. This research was aimed to answer key questions that were defined at the beginning of the process, questions that are detailed and answered hypothetically in the following section.

RESEARCH QUESTIONS AND ANSWERS

The following questions were answered hypothetically before obtaining the actual results. In the conclusion of this research paper, these speculative answers were compared with the results obtained through this investigation.

1) Which learning styles are more predominant in students from eight grade "C" class from Colegio Teniente Dagoberto Godoy?

The more predominant learning styles present in the classroom are "visual" and "reading &writing" because they are directly linked to these skills, which are very important when learning a second language.

2) According to the teacher's point of view, which are the main learning styles present in the students in the classroom?

The more predominant learning styles present in the classroom are and "reading & writing" and "visual" because English language teachers are keen on using these elements in their methodology.

3) Is there a correlation between the teacher's perception about the learning styles in the class and the actual questionnaire's results?

There was no correlation between the teacher's perception on the learning styles and the actual results, learning styles are not much considered in the Chilean educational system.

CHAPTER II

THEORETICAL FRAMEWORK

THEORETICAL FRAMEWORK

For this investigation it was essential to find out about the learning styles present in a classroom in order to have a clear idea of what is going on in the schooling system, which was definitely the focus of this research because knowing the style of learning is extremely relevant when there is an intention to produce meaningful education.

Teachers benefit and students learn effectively when they are taught according to their preferred learning styles, even attitudes change when students perceive new methodologies in use in the classroom that ultimately contribute to their learning, because learning styles are closely related to the personal strategies they use to learn.

The diversity of theories about learning styles offers the teachers a broad conceptual framework that allows them to understand behavior, relate to the way students learn and the type of actions that may be more effective when carrying out the class. The goal of school education should be to teach students how to learn, for this reason incorporating learning styles is a key tool for teachers to guide their students in their learning process. Thus the teachers should make intelligent, adaptive and intentional use of learning styles in order to encourage their students' learning path and generate appropriate conditions for it to happen.

This piece of investigation was aimed towards clarifying the relevance and consideration of learning styles in the educational practice in an average school setting from Santiago, Chile. Finding out about the situation presented in a schooling system that has not given education the importance it disserves.

The starting point was defining the concept of learning style using four theories that have developed and evolved throughout the years, these theories have shaped through different contributions and lines of thought the concepts of what is understood now a days as learning styles.

LEARNING STYLES

The relevance of the concept of learning styles is what inspired this piece of research; it is one of the many features that contribute to differentiate human beings because every one learns in a different way. In simply words, learning styles are different ways of learning and this was the focus of this investigation, to find out how a group of students from an average Chilean school learn by determining the learning style each of them possesses and the importance these learning styles have during their schooling stage.

The idea of learning styles comes from the field of psychology and appears more than five decades ago thanks to cognitive psychology. According to Chartered psychologist and teacher Matt Jarvis (2005), cognitive psychology is the study of mental processes and it is strongly related to disciplines such as anthropology, linguistics, neuroscience, and philosophy. Cognitive psychology investigates how humans go from processes such as perception, memorization and linking to synthesizing concepts and logical reasoning. In other words, cognitive psychology studies how the brain represents and understands reality and how that understanding or experience changes individuals permanently.

Cognitive psychology deals with processes related to cognition and behavior. It is a branch of psychology based on contributions by Piaget (1973) and Bruner (1961) that achieves a theoretical and methodological affinity around the phenomena of behavior, intelligence and the mind.

Later in this direction, the American psychologist, Howard Gardner (2001), developed a theory about the different ways that people learn and process information, Gardner understood that each student approaches learning in a different way and that teachers are able to adapt their curricula and activities to accommodate these varied styles.

Learning styles are a representation of reality or even represent different aspects of reality and they can change over time. For this reason, they should not be seen as a single, unchanging explanation, but as one of many ways of understanding reality and presenting it as clear as possible.

Learning styles are unique to each individual and in the complexity of teaching and learning situations, establishing guidelines about the style of learning is absolutely necessary to generate meaningful learning.

For this research, the fact that there are many theories, studies and new ideas about learning styles ratifies that it is an important issue that surrounds human beings all the time, diverse studies from cognitive psychology, constructivism, discovery learning, and other approaches demonstrate this relevance.

This project began with Howard Gardner, an author who stated that people learn and process new information in different ways, this line of thinking has become the foundation of this research.

MULTIPLE INTELLIGENCES

The starting point of this research was Howard Gardner as it was the first name that automatically came to mind because he is considered one of the most important and influential intellectuals in the world. Gardner's vision revolutionized the ideas of how learning occurs in the classroom and he became an inspiration to many other authors, psychologists and educators.

From the 50s, decade in which research on learning styles began, there have been various approaches and classifications of learning styles that focus on the way human beings perceive, process and integrate information. In general, all approaches seek to have a better understanding of the learning process and thereby maximize quality to achieve better learning outcomes.

Howard Gardner (2001) explained that there are personal learning styles based on eight multiple intelligences that are present in the different skills and abilities. Gardner's theory is based on three foundational principles:

1) Individuals are not the same

2) All people do not have the same kind of minds

3) Education becomes most effective if these individual differences are considered

The theory of multiple intelligences changed psychology because Gardner (2001) concluded that intelligence is neither innate nor fixed, he established that human intelligence is located in different areas of the brain, this intelligence can work both interconnected and individually, having the capacity to develop widely if it finds an environment that offers the necessary conditions.

Gardner's theory of multiple intelligences had a true impact on the people involved in the teaching-learning process and the educators began to develop strategies that took into account the students' different possibilities to acquire knowledge.

In Gardner's model, intelligence is not seen as something unitary but as a set of multiple, distinct and independent intelligences. In other words, all minds are equally important, the problem is that the Chilean schooling system does not consider this conception and has enthroned the logical mathematical intelligence and linguistic intelligence to the point of even denying the existence of the others.

For Gardner it was clear that with all the research about the topics of learning styles and multiple intelligences, it might be absurd to insist that all students learn in the same way. In the classroom, the same material can be presented to the students in different ways that take advantage of their strengths and allow them to better assimilate the information based on their capabilities.

To provide clear information regarding the eight types of intelligences proposed by Howard Gardner (2001), the following chart summarizes what research investigator M. Sánchez (2012) has been able to come up with:

Type of Intelligence	Main Characteristics
Logical-mathematical intelligence	It allows calculating, measuring and evaluating propositions/hypotheses and performing complex mathematical operations.
Verbal-linguistic intelligence	It involves the ability to think in words and to use language to express and appreciate complex meanings.
Visual-spatial intelligence	Provides the ability to think in three dimensions.
Musical–rhythmic and harmonic intelligence	It is evident in individuals sensitive to melody, rhythm, tone and harmony.
Bodily-kinesthetic intelligence	It allows the individual to manipulate objects and develop physical skills.
Intrapersonal intelligence	It refers to the ability of people to build an accurate perception about themselves and use that knowledge to organize/direct their own lives.
Interpersonal intelligence	The ability to understand others and interact effectively with them.
Naturalist intelligence	It consists in observing the patterns of nature, to identify and classify objects and understand natural systems and those created by men.

Chart 1: Types of Intelligences

One of the most important contributions to the field of education is the acknowledgment that academic performance is not essential and the importance to mold self-sufficient individuals capable of developing a critical thinking perspective. The main initiative is that learning is a consequence of thinking involving the active use of knowledge.

As stated before, Gardner was the pioneer in changing and renewing the concept of how people actually learn, many other investigators followed his steps. Chronologically, this research project considered David Kolb's theory as an important step towards a modern concept of learning style based on how experience affects the learning process.

DAVID KOLB'S LEARNING STYLE

A different concept of learning style is the one that the American psychologist and educator David Kolb created because he developed an experience based learning model. This concept is different to Gardner's because David Kolb focuses on the styles people use towards learning and Gardner looks at the diverse types of intelligences that exist among individuals and the effect they have on their learning process.

According to Kolb (1984), learning styles are closely related to cognitive skills, his model focuses on perception and processing as central elements because the learner perceives and processes information in order to produce learning. To Kolb (1984) learning is a cycle with the following four elements:

Concrete Experience → a new experience occurs.
Reflective Observation → the new experience is reviewed.
Abstract Conceptualization → learning occurs from the new experience, generating a new idea.
Active Experimentation → the learner relates or applies this new idea to his/her life

Chart 2: Elements of Kolb's Cycle of Experiential Learning

Based on the four elements mentioned previously, David Kolb (1984) identified four learning styles:

Divergent (Concrete Experience / Reflective Observation)	Students who are sociable, who generate ideas, who are dreamers, who are oriented to people.
Assimilative (Abstract Conceptualization/ Reflective Observation)	Students who are unsociable, who generate models, who are reflexive, who are oriented to reflection.
Convergent (Abstract Conceptualization / Active Experimentation)	Students who are pragmatic, who are analytic, who are organized, who are oriented to the task.
Accommodative (Concrete Experience / Active Experimentation)	Students who are sociable, who accept challenges, who are impulsive, who are oriented to action.

Chart 3: David Kolb's Learning Styles

As it was mentioned before, David Kolb (1984) identified two major dimensions to learning: perception and processing. To this model learning is the result of the way people perceive and then process what they have perceived.

This theory described two types of perception that are opposite:

- Some people perceive through Concrete Experience
- Some people perceive through Abstract Conceptualization

This theory described two types of processing that are opposite:

- Some people process through Active Experimentation
- Some people process through Reflective Observation

The combination of each of the two types of perception (Concrete Experience and Abstract Conceptualization) with each of the two types of processing (Active Experimentation and Reflective Observation) is what led Kolb (1984) to design a four-quadrant cycle to explain learning styles:
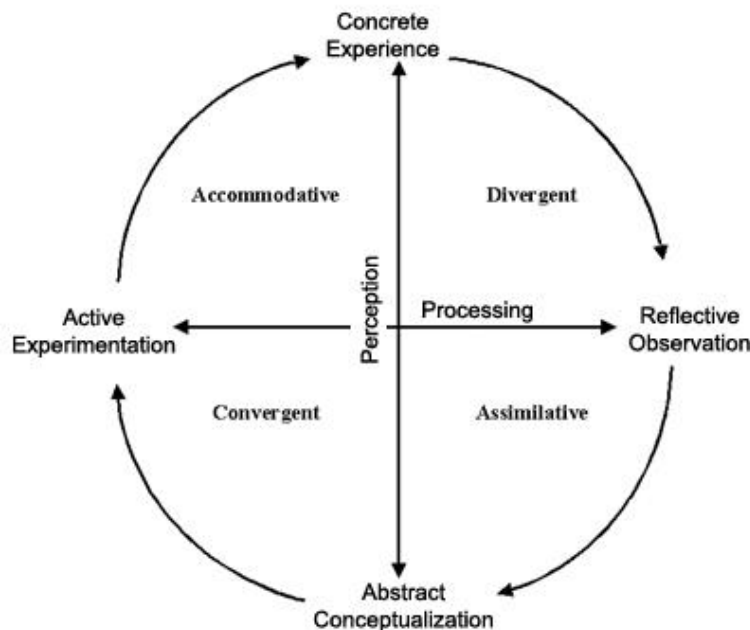
Diagram 1: David Kolb's Learning Cycle

Optimal learning requires going through all the above phases, thus ensuring that activities are able to integrate and empower students while in both their strongest and weakest phases is very important. To this model, students learn and develop distinctive learning styles through their interactions with the environment and the choices they make on how to relate to it.

Every model is different from each other, Kolb's model does not address the motivational factor, something that was an essential part for the following model proposed by David Newble and Noel Entwistle explained in the next section.

DAVID NEWBLE & NOEL ENTWISTLE'S LEARNING STYLE

This research considered that Newble and Entwistle was an interesting learning style that was quite different to what David Kolb postulated about perception and processing because, in this case, learning styles are highly associated with motivation. To contextualize the concept of motivation, educational psychologist and author Anita Woolfolk (2010) provided a clear explanation, stating that, in general, there are two types of motivation:

- Intrinsic motivation means that the interest of the student in learning is not related to obtaining a reward. Being able to perform the task is what matters.

- Extrinsic motivation is not conditioned by the personal interest of the student. It is related to external factors like passing a test, obtaining a reward or avoiding some kind of punishment/consequence.

In 1986, Professor David Newble and educational psychologist Noel Entwistle created this model on learning styles based on obtaining a specific learning intention, being learning the process by which these intentions are attained. This approach is also associated to the experiences and the rewards students can get from learning.

Newble and Entwistle's model considers the intrinsic or extrinsic goal orientation that students want to achieve. In the case of intrinsic motivation, students seek the challenge and cope against conditions. When their motivation is extrinsic, students are directed to qualifications, awards, recognition and approval.

Newble and Entwistle (1986) claimed that students can take three different approaches to learning:

Surface approach	Students who have an orientation toward extrinsic goals try to show others their skills and are interested in obtaining positive assessments of their abilities, although they are not predisposed to use self-regulation strategies and do not enjoy learning. Their learning style is more superficial and based mainly on rote-learning.
Deep approach	Students who have intrinsic goals are usually interested in acquiring new skills and improving their knowledge, therefore, they are willing to use self-regulation strategies and their learning style is more deep oriented and enjoyable.
Strategic approach	Students who have both intrinsic and extrinsic goals, they seek to get good grades and make a good impression on the teachers. These students assume an attitude of competing with peers.

Chart 4: Approaches to learning

According to this learning style, the personal intention or motivation of the students is the main tool for successful learning. In education, intrinsic motivation should always be encouraged, for this reason it was fundamental for this research the relation between motivational factors and what teachers perceive from their students as attitudes towards learning because the students' ability to learn, handle obstacles and make changes depends on a positive attitude towards problem solving. This situation was addressed in the next section.

THE VARK LEARNING STYLE

To this research project, this particular model represented the best alternative to quantify and measure learning styles in a classroom because it considers a holistic point of view and it is related to the skills, it also has been used for years in both educational and business contexts.

In 1992, Neil Fleming, a teacher from New Zealand, in collaboration with his colleague Colleen Mills developed a reference model to classify how people learn, how humans perceive the world through their senses. Their model was developed based on research on Neuro-linguistic programming (NLP), this approach was developed in the late 70's to have a better understanding of the process of human communication; one of its main purposes was to understand how information from the environment is both received and interpreted. NLP considered how information from outside is received by the sensory organs to describe how the human mind works and how it is structured, as these body structures are critical for learning.

Fleming and Mills (1992) postulate that the information reaches the brain, which only considers a part of it while ignoring the rest. Due to the fact that each person is different from one another, the brain selects the information based on particular interests. The style of each person relates to the preferred way that each one has to grasp, remember and imagine a particular content. This also influences the way information is received in accordance with a channel of perception: ears, mouth, and the body in general. How to learn is influenced by different environmental and emotional factors that can alter the perception of the new information.

As the VARK learning style is directly related to NLP, it considers that all the information enters the brain through one of the five senses. Although most people unconsciously use one learning style over another, this does not mean that only one learning style is used and also representation systems are enhanced the more they are utilized. NLP offers a positive point of view of learning, the main idea is to join both mind and body because the learning style of each person is the preferred way that someone has to grasp, remember or imagine a particular content.

On the contrary, formal education has assumed that learning should include concentration and frequent repetition which is not effective because it causes unnecessary tension and tends to use only one half of the brain.

Fleming and Mills (1992) created an instrument that measured learning styles present through a questionnaire with a series of 13 questions to quantify the sensory perceptions each person has to process different information:

Visual	Perceives the information that is expressed in graphical form, i.e. pictures, diagrams, video, slides, illustrations and symbols.
Auditory	The ability to listen prevails; dialogue, debates, discussions and presentations are preferred.
Reading/ Writing	Perceives information that is expressed in words, whether reading it or writing it, as the use of summaries, reviews and reports.
Kinesthetic	This information is more experiential, i.e. feeling it either in actual or fictitious ways like role-play, examples and object manipulation.

Chart 5: Learning styles according to Fleming and Mills

In the year 2006, Neil Fleming and education consultant David Baume redefined this instrument, adding three questions with four answers each in order to give greater reliability. To this date the questionnaire has a total of 16 simple questions that relate to everyday life, it is intended to be a catalyst for reflection and analysis.

This instrument is called VARK questionnaire, which is an acronym for the four initial letters corresponding to the sensory modal preferences. These preferences are, according to Fleming and Mills (1992):

V = visual learning (use of graphics, photos, drawings, among others)   **A** = learning based on audio   **R** = learning based on reading texts   **K** = practical/experience learning

Chart 6: The acronym VARK

As it was previously stated, the teachers, who use methodologies in accordance to the predominant learning styles of the students, get better results by making the learning process much more significant. Thus the teacher must know the variety of styles in order to facilitate the learning process of their students; this is achieved by using strategies that integrate the different ways of learning.

Fleming and Mills (1992) suggested some features to promote active learning such as not limiting the learning process to just listening and engage the students in their learning process. It is important not to rely on the transmission of information but generate self-knowledge through reflection, information searching, questioning, self-assessment, to involve students in more complex tasks, such as implementation of activities, reading, arguing, problem solving and finally, consider the values and attitudes of each student to promote them.

Learning is affected by many factors that range from environmental characteristics (light, temperature or noise) to emotional traits (motivation and responsibility). For this reason, when teachers carry out their class, some students are more receptive than others to the information they receive. It is important that teachers take into account the different learning styles present in the classroom when planning their lessons, trying to create learning activities that incorporate all systems. Especially, when learning a second language as students also have different attitudes and expectations about their English class. Many students see their English class as a curricular obligation; many strongly believe that learning another language is not useful; this view is even more intense in municipal schools.

It should be an objective for teachers to change the students' attitude about learning English. Author Jim Scrivener (2005) claims that the ability to use a language is more a skill people learn by trying to do it than an amount of data to learn and then attempt to apply, with this idea in mind teachers should stimulate students in their learning because students have a great capacity to learn, communicate and abstract ideas and concepts as they are at the prime of their growth, they are in a stage where they absorb much information from the environment.

One way that the teacher can use to motivate and reverse the lack of interest by students in the class is the use of technological equipment found in most classrooms nowadays, if they do not have access to these media, teachers should use their creativity to carry out their classes because a good class should always be seen by students as enjoyable and positive, this is definitely the time when rapport is established between students and teacher.

According to ELT writer Jeremy Harmer (2010), rapport occurs when students become aware of what the teacher thinks of them and how the teacher treats them. It is at this point when not only the teacher's knowledge begins to be questioned but also his nature or personality, in terms of personality there is no ideal teacher.

In fact, students do not expect a perfect teacher, but someone they find interesting and effective at the time of being in front of the class, they seek a close student-teacher relationship, this relationship should be horizontal because the idea that the teacher knows everything is wrong, in the classroom students learn from the teacher and the teacher learns from the students.

Beyond managing and controlling the class, a teacher can provide flexibility and help the students in different matters and situations, the teacher should not only focus on teaching. For example, an important observation from students is whether their teachers know their names, if the teacher does it can definitely be a plus, it is not easy to remember all the names but it is important to establish a real rapport with students, also understanding them is part of being a good professional this can be achieved in part by listening with attention to what they say and express.

However, paying more attention to certain students more than others may cause a negative impression, equal treatment for all students validates a good rapport and also shows professionalism, this is why this research considered that a class or learning in general could be more successful if the teacher uses learning styles because students are motivated to learn more when the class incorporates stimuli related to the way they internalize (such as images, sounds and movements). As it was explained before, Neuro-

linguistic Programming considers that students' learning is influenced by visual, auditory and kinesthetic elements and it is what influenced the VARK model.

Although being a teacher these days is difficult because vocation has to be a priority to carry out this labor, it is of great satisfaction to contribute to the students' academic progress. The attitudes of both students and teachers are positive if the teacher is able to motivate the students using different resources and even more if educators can establish a horizontal relationship with the learners, where respect and the exchange of ideas are key elements.

Summing up, for this research it was necessary to find out about the different approaches regarding learning styles and four of the most relevant ones were considered. The investigation began with Gardner (2001) and his theory of multiple intelligences, this line of thought was opposite to the concept of a single intelligence and it was developed because education was focused on providing content and procedures that assessed only the linguistic and logical-mathematical intelligences not educating students through their full potential.

The second model considered for this investigation was proposed by Kolb (1984), who claimed that learning is the result of the way people perceive and then process what they have perceived and identified two dimensions for learning: perception and processing, which bring about four types of learning styles: divergent (imaginative ability, good at generating ideas), assimilative (ability to create theoretical models, inductive reasoning), convergent (practical application of ideas, technical interests) and accommodative (ability to carry out plans, action-oriented).

The third model, developed by Newble and Entwistle (1986) proposed a learning style related to the types of motivation that lead to adopt three approaches: surface (rote-learning, the intention comes from an extrinsic goal), deep (comprehensive and critical learning, the intention comes from an intrinsic goal) and strategic (aimed at success, obtaining good grades and making a good impression, the intention comes from both intrinsic and extrinsic goals).

The last model considered for this research project was the VARK model developed by Fleming and Mills (1992). This learning style considers the continuous information reception through the senses where the brain selects some of this information based on the interests of the individual and ignores the rest; the different senses by which the sensory information is received are very important to this model (visual, auditory, reading & writing and kinesthetic).

The VARK questionnaire was chosen as a means of both measuring the learning styles present in the classroom and as reference to achieve the goals set at the beginning of the investigation to answer the questions formulated in this research, the goal was to find out the learning styles that were both present and predominant in the eighth grade "C" from Colegio Teniente Dagoberto Godoy. This instrument was the best option because it was a questionnaire widely used in the world that referred to the four representation systems (sensory preferences) that all individuals have, as the investigation was carried out in a class of 30 students this instrument was the most reliable, practical, simple, updated, friendly and efficient to apply in the school.

CHAPTER III

METHODOLOGY

METHODOLOGY

This chapter detailed the methodology used to obtain the information and data needed for the analysis of the research that took place at Colegio Teniente Dagoberto Godoy (the participants were the eighth grade "C" class and their English language teacher Jessie Ocaranza). The instruments that were necessary to obtain data to carry out the analysis of this investigation as well as the tabulation system and administration procedures were specified in this section.

The first measuring instrument called the VARK questionnaire was explained. This instrument identified the learning styles of the class and provided clear and accurate information on the styles present in the classroom.

The second measuring instrument called Teacher checklist was also explained in detail, it was an instrument designed for the teacher in order to identify what types of VARK learning styles of the students of English language from eighth grade "C" class from Colegio Teniente Dagoberto Godoy. This was done through the teacher's individual observation of each student.

Finally, the tabulation system used once the data from both instruments was obtained was also explained, this data was processed to achieve the results that validated this research.

Through these instruments and the corresponding data analysis the predominant learning styles from the classroom were determined as well as the information on how the teacher perceives the students' learning style.

SCHOOL SETUP / BACKGROUND

To contextualize the educational establishment where this investigation took place, Colegio Teniente Dagoberto Godoy is a subsidized school located in the commune of La Granja that belongs to *Red Crecemos* (an educational network that integrates seven schools from different areas from Santiago).

Since 1996, this institution has been recognized as having academic excellence, awarded by the Ministry of Education. In 2005, Colegio Teniente Dagoberto Godoy received the Certificate of Quality School Management, which distinguishes those schools that have demonstrated that their administrative and pedagogical processes meet management standards that ensure the sustainability of the school organization.

Red Crecemos covers different levels of education in different places:

- Pre – kinder
- Kinder
- First cycle
- Second cycle
- High school

From 2010 to this date, Primary School No. 120 Teniente Godoy has SEP Law program (Preferential School Subsidy). LAW Nº 20.248 allows the school to establish an Educational Improvement Plan to provide better opportunities for academic development.

PARTICIPANTS

- Students:

  The class chosen for the administration of the VARK questionnaire was the eighth grade "C" class. In this class, there were a total of 34 registered students and it was composed of male and female students between the ages of 13 and 14 years. However, the day of the application of the questionnaire 30 students were present to answer it.

  Students = 30

- Teacher:

  The implementation of the checklist relied on the collaboration of the English language subsector teacher of the school, Jessie Ocaranza, who has been working as a foreign language teacher for over 25 years.

  Teacher = 1

VARK QUESTIONNAIRE - FIRST INSTRUMENT (APPENDIX 1.0)

In order to profile the learning styles from the eighth grade "C" class students of English language from Colegio Teniente Dagoberto Godoy a diagnostic evaluation took place during the second semester of 2014. The instrument used to assess this class was a Spanish version of the redefined Fleming and Baume's VARK Questionnaire (2006), which is widely used nowadays and is especially designed for young students.

The VARK questionnaire was used to assess the four types of student learning present in the class: visual, auditory, reading & writing and kinesthetic (VARK acronym). It was a self-administered questionnaire distributed in 16 questions related to the learning styles proposed by both Neil Fleming and Colleen Mills (1992) and later improved by Neil Fleming and David Baume (2006).

This VARK questionnaire applied to the students had 16 questions with 64 choices spread across those questions, it was different from the version for adults and it focused on reaching a clear result on styles that predominate in the learning process of young students.

To answer the VARK questionnaire, a period of time of 30 minutes was given to the students to complete this task, it was explained to the students that this questionnaire was for university research and that the aim of the questionnaire was to find out their learning styles, so as not to alter the results of the investigation. For the administration of the instrument, the students were instructed to:

- Write their names, class and class list numbers on the VARK questionnaire.

- Answer the questionnaire simultaneously and individually.

- Choose the answer or answers that best explained their preferences, selecting the correct alternative(s) that represented their choices.

- Mark their choice(s) with a tick or by enclosing them in a circle.

- Select more than one alternative in response to a particular question if necessary.

- Leave a blank response in the case that the alternative did not reflect their preferences.

- Answer at least 12 questions out of the total of 16 in order to obtain a coherent result with their actual learning style.

A few minutes were granted to clarify any doubts they might have had and finally, the students answered the questionnaire in complete silence. When the students finished answering the provided VARK questionnaire, the class list numbers were verified and in some cases had to be corrected, all the instruments were collected and carefully stored in order to be used in the investigation.

TEACHER CHECKLIST - SECOND INSTRUMENT (APPENDIX 1.1)

As it was stated early, to this research it was critical to find out the English language teacher's appraisal about the learning styles of the students. It was from the teacher's perspective how the teaching-learning process for all students was carried out hopefully taking into consideration the diversity present inside the classroom.

This second assessment measured the English language teacher's learning style perception regarding the eighth grade "C" class from Colegio Teniente Dagoberto Godoy. This instrument in which the teacher attempted to determine the learning style of the students from the class was called "Teacher Checklist" and it was applied during the second semester of 2014. For the application of this instrument the teacher was asked to fill in the checklist while the students were answering the VARK questionnaire.

The Teacher Checklist contained available spaces for the teacher to write the names of the students horizontally, in a vertical position there was the VARK acronym for the teacher to determine the learning style(s) of each student observed in the class. For the administration of the instrument, the teacher was instructed to:

- Write her class, date, name and signature on the Teacher Checklist.

- Fill in the Teacher Checklist and profile the students from her class as visual, auditory, reading & writing and/or kinesthetic according to her point of view (various options were possible).

- Not to rank the learning styles of her students but state whether such styles were present or not through tick marks on the checklist.

When the teacher finished answering the provided Teacher Checklist, the instrument was collected and carefully stored in order to be used in the investigation.

TABULATION SYSTEM - VARK QUESTIONNAIRE (APPENDIX 1.2)

This was the system used in this research project to collect and manage data from the VARK questionnaires; it was also aimed to collect all the answers that were given by the participants of this study. In this case, this system was used to process the data obtained from the participants that were 30 students from the eighth grade "C" class from Colegio Teniente Dagoberto Godoy between 13 and 14 years old, both male and female.

First of all, a method was created using Microsoft EXCEL to tabulate and sort all information in a simple and clear way for the analysis of this study.

A table was set with rows and columns where the first column was used to record the number of the participant (the class list number) and in each column the respective alternatives: A, B, C, D, from the 16 questions corresponding to the VARK questionnaire.

In the VARK questionnaire's design, the alternatives a, b, c, and d, did not necessarily correspond to the acronym order: Visual, Auditory, Reading & Writing and Kinesthetic, each of the 16 questions has its own established arrangement. That is why under the alternatives row (A, B, C and D) the corresponding keys for each question were included, in this case for Question 1, the VARK order was: alternative A corresponded to a result K, alternative B corresponded to a result A, alternative C corresponded to a result Rand finally, the alternative D corresponded to a result V. As shown in the following table:

	Question 1			
	A	B	C	D
Student	K	A	R	V
2				

Table 1: Question tabulation design sample

To transfer the data, it was established for tabulation purposes that each alternative identified by the student was defined by a "1", in the cases when there was no alternative defined the space was filled by a "0". As shown in the following table:

	Question 1			
	A	B	C	D
Student	K	A	R	V
2	1	1	0	1

Table2: Answer design sample

At the end of the tabulation of the 16 questions, there was another table that was intended to show the total number of the alternatives selected by each student. It is important to consider that this questionnaire allowed the selection of one or more choices; therefore this table showed the total sum of the alternatives selected by each student.

The following table shows the format of the tabulation for the 16 VARK questionnaire questions with their answer keys and total selected answers. The missing student list numbers mean these students were not present the day of the assessment.

	Question 1				Question 2				Question 3				Question...				Question 16				Totales			
	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D				
Student	K	A	R	V	V	A	R/W	K	K	V	R/W	A	K	A	V	R	A	V	K	R	V	A	R/W	K
2																					0	0	0	0
3																					0	0	0	0
4																					0	0	0	0
5																					0	0	0	0
6																					0	0	0	0
7																					0	0	0	0
8																					0	0	0	0
9																					0	0	0	0
10																					0	0	0	0
11																					0	0	0	0
12																					0	0	0	0
13																					0	0	0	0
14																					0	0	0	0
15																					0	0	0	0
16																					0	0	0	0
17																					0	0	0	0
18																					0	0	0	0
19																					0	0	0	0
22																					0	0	0	0
23																					0	0	0	0
24																					0	0	0	0
25																					0	0	0	0
26																					0	0	0	0
27																					0	0	0	0
28																					0	0	0	0
29																					0	0	0	0
31																					0	0	0	0
32																					0	0	0	0
33																					0	0	0	0
34																					0	0	0	0

Table 3: Questionnaire tabulation format sample

TABULATION SYSTEM - TEACHER CHECKLIST (APPENDIX 1.3)

There was a second tabulation that collected data provided by the English language teacher through the Teacher Checklist.

The first column displayed the student list number and the following columns the dimensions of learning styles that the teacher could choose: V (visual), A (auditory), R (reading & writing), K (kinesthetic).

As it was mentioned previously, there was the possibility to have more than one alternative regarding learning styles, the teacher could mark the presence of all the styles she considered appropriate for each student. In this case "1" showed the presence of the selected alternative, if no alternative was chosen the box was filled in with a "zero".

It is important to point out that this checklist was not used to rank the learning styles, it was only used to show their presence. In this case, for example, the teacher estimated that student number 2 from the class list learns through visual, auditory and reading & writing styles, as shown in the following table:

	Check list			
Student	V	A	R	K
2	1	1	1	0

Table 4: Teacher's perception sample

The next table provides a sample of the tabulation of the Teacher Checklist, instrument in which the teacher marked her perception as to how students learn in the English language class (the missing list numbers mean these students were absent on the day of the assessment).

Student	Check list			
	V	A	R	K
2				
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				
16				
17				
18				
19				
22				
23				
24				
25				
26				
27				
28				
29				
31				
32				
33				
34				
	V	A	R	K
total	0	0	0	0

Table 5: Teacher checklist tabulation sample

TABULATION SYSTEM - SIMILARITY LEVELS (APPENDIX 1.4)

To analyze and externalize the relationship between the results obtained from the VARK questionnaire administered to the students and the teacher's perception results reflected on the Teacher checklist, there were 5 dimensions through which the similarity and correlation between these two instruments was established, as shown in the following explanation:

Similarity %	Answer correlation	Explanation
0%	0/4	There was no similarity between the teacher's perception and the four VARK results.
25%	1/4	There was 1 similarity between the teacher's perception and the four VARK results.
50%	2/4	There were 2 similarities between the teacher's perception and the four VARK results.
75%	3/4	There were 3 similarities between the teacher's perception and the four VARK results.
100%	4/4	There was absolute similarity between the teacher's perception and the four VARK results.

Table 6: Dimensions explanation

In the previous table, the first column displays the similarity percentage between the two variables (VARK questionnaire and Teacher checklist) and the second column displays the answer correlation between the answers from the two instruments.

Taking into account what was previously explained, a third tabulation was created to reflect the results of the comparison between the VARK questionnaire's results and the Teacher Checklist's results, the first column displays the percentage of similarity, the second column shows the number of students and the third column is the percentage of students from the class.

Similarity levels		
Similarity %	Students	Student %
100%		
75%		
50%		
25%		
0%		

Table 7: Similarity levels design sample

CHAPTER IV

RESULTS

RESULTS

In this chapter, both the results of the VARK questionnaire and the Teacher checklist were specified. The results of these instruments provided this research the data for identifying the individual preferences of the students regarding the way they internalize information as well as the teacher's point of view on the learning styles present in her class.

The results of this quantifiable data provided the answers to the questions formulated at the beginning of the research process, the identification of the more predominant learning styles in the classroom according to both the VARK instrument and the teacher checklist, as well as the relation of these two different perspectives.

It was expected that the results obtained in students showed the presence of more than one learning style, as it was explained in the theoretical framework the VARK model considers that there is always more than one style present in the learning process of individuals.

The results were obtained by taking into account the relativity of the answers of the students and their preferences in learning according to the method that was used (VARK questionnaire) and were compared against the answers provided by the teacher on the checklist instrument.

Finally, in order to find out the most and the least used learning styles present in the class and the similarity levels, the results of both measuring instruments were compared and analyzed.

ANALYSIS RESULTS

To obtain the results required for this investigation, all data gathered through the VARK questionnaire applied to the students from the eighth grade "C" class in addition to the checklist filled in by the teacher were transferred to the tabulations to establish a comparison and similarities between the results provided by both instruments.

This tabulation shows the total number of answers given by the students, for each of the alternatives V, A, R and K, the results reflected through the VARK questionnaire are displayed in the following table:

Student	Totales			
	V	A	R/W	K
2	4	7	6	6
3	8	6	7	6
4	3	4	5	4
5	6	6	0	4
6	6	5	4	6
7	3	3	3	6
8	6	3	2	5
9	5	3	0	8
10	9	13	7	6
11	7	6	7	4
12	4	5	6	1
13	5	7	0	4
14	2	4	5	5
15	12	2	4	5
16	8	5	6	8
17	3	3	1	9
18	4	2	6	4
19	7	6	6	5
22	6	1	6	4
23	5	3	6	2
24	5	6	7	7
25	4	6	3	3
26	7	5	6	5
27	5	4	1	5
28	8	8	7	6
29	9	9	9	8
31	11	8	5	7
32	4	6	8	6
33	3	8	1	4
34	7	10	7	10

Table8: VARK questionnaire results

The previous tabulation shows that in some cases there were two or three highest numbers and also the number could repeat, such is the case of student number 2, whose two highest scores were twice number 6 and once number 7, the result meant that this student in particular learnt preferably using three out of the four styles, predominating the auditory style and being in a somewhat less prevalent position the reading & writing and kinesthetic styles.

In some cases, the results showed that students have a much more prevalent style preference over another; such was the case of student number 15, where the predominant style was visual with 12 points compared with the higher score that follows, 5 points for the kinesthetic style.

There was also an even distribution of learning styles in use by the students, this situation was observed in student number 34, where the trend revealed that this person had all learning styles. In a high rank were the auditory and kinesthetic preferences, but in considerably high values were also the visual and reading & writing styles present.

CLASS TENDENCY

The graph below reflects the learning style trend from the whole class, which has been elaborated based on the sum of the 16 answers per categories V, A, R and K of the 30 students who completed the questionnaire.

The results demonstrated there was great similarity in the results obtained from the VARK questionnaire. Although there was predominance of the visual style over the other three styles, this predominance did not surpass by a large margin the learning style that followed, the auditory style, which was only one point above the kinesthetic style. On the other hand, the reading & writing style was below the others by an important amount, it was in a considerably lower position than the other three styles.
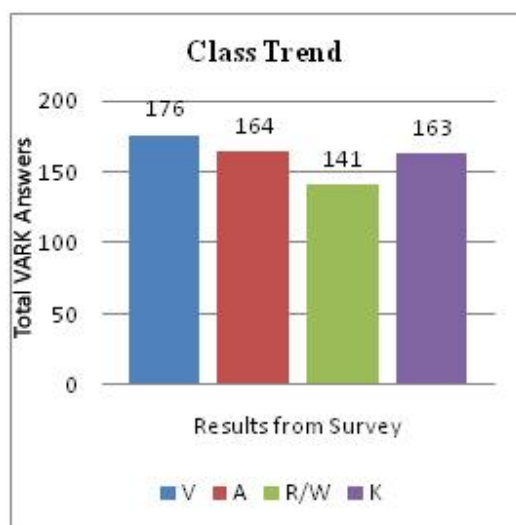
Graph 1: Class trend

Although the graph shows that the class provides the learning process all learning styles according to the VARK model, the reading & writing style, which involves two of the most important skills when learning any language, were less present or were not as developed as they should. Even more so, regarding the acquisition of a second language, well known is the importance of both reading and writing because these skills contribute to the creativity and the development of language itself, they together can become an effective process that contributes to learning.

TEACHER'S PERCEPTION

The results obtained from the research based on the English language teacher's perception were analyzed. On the checklist the teacher expressed by tick marks the presence and absence of the learning styles of each one of the students. The data obtained is shown in the following tabulation:

Student	V	A	R	K
2	1	1	1	0
3	0	0	0	1
4	1	0	0	0
5	1	1	1	0
6	1	0	1	0
7	0	0	1	0
8	0	0	1	0
9	1	1	1	0
10	0	0	0	1
11	1	0	1	0
12	1	0	0	0
13	1	1	0	0
14	0	0	1	1
15	1	0	1	1
16	1	0	1	0
17	1	1	1	1
18	0	0	1	0
19	0	0	1	0
22	0	0	1	0
23	0	0	1	0
24	0	0	1	0
25	1	0	0	1
26	1	1	1	1
27	1	0	1	1
28	0	1	1	0
29	1	0	0	1
31	1	1	1	1
32	1	1	1	1
33	1	0	0	1
34	0	0	0	1
	V	**A**	**R**	**K**
total	**18**	**9**	**21**	**13**

Table 9: Teacher's perception

The sum of the alternatives given by the teacher meant, that according to her perception, most of the students had or used the reading & writing style, with a total of 21 selections against the least predominant style in her opinion, the auditory learning style with only 9 points. The level of perception is shown in the following graph:
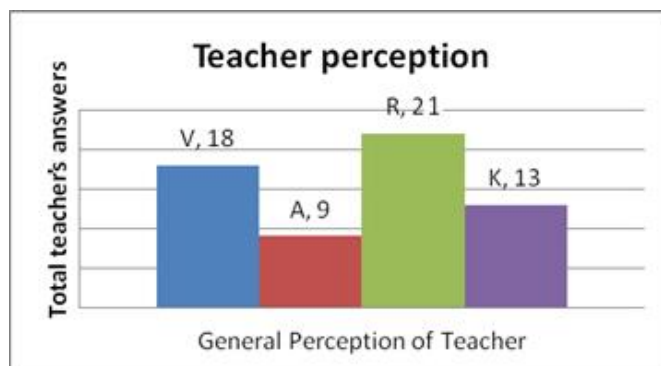
Graph 2: Teacher's perception

According to what was expressed on the checklist instrument, the teacher identified the following combinations of VARK learning styles present in the students from the class. The reading & writing style was the most predominant style as it was present 21 times in 7 combinations out of 11 (R, VARK, VAR, VR, VRK, RK, AR) and the auditory style was the least predominant, according to the teacher's perception; it was only present 9 times in 4 out of the 11 combinations (VARK, VAR, VA, AR):

Style(s)	Times
R	7
VARK	4
VAR	3
K	3
VR	3
VK	3
V	2
VRK	2
VA	1
RK	1
AR	1

Table 10: VARK Combinations

SIMILARITY LEVELS

The levels of similarity between the two instruments (the VARK questionnaire answered by the students and the checklist filled in by the teacher) were shown in this part of the research.

The measurements were made in five levels to set up the dimensions of similarity. Five different dimensions expressed in percentages were established: 0%, 25%, 50%, 70% and 100%, which have been previously explained in "table 6: dimensions explanation" from the previous chapter. The following tabulation shows the results of the degree of similarity in the teacher's answers:

Student	coincidences	similarity %
2	3	75%
3	1	25%
4	1	25%
5	2	50%
6	2	50%
7	1	25%
8	1	25%
9	2	50%
10	1	25%
11	2	50%
12	1	25%
13	2	50%
14	2	50%
15	3	75%
16	2	50%
17	4	100%
18	1	25%
19	1	25%
22	1	25%
23	1	25%
24	1	25%
25	2	50%
26	4	100%
27	3	75%
28	2	50%
29	2	50%
31	4	100%
32	4	100%
33	2	50%
34	1	25%

Table11: Similarity levels

The table below displays in detail the results of the whole class in a general level, the columns from left to right indicate: similarity percentage, the number of students and the class percentage:

Similarity levels		
similarity %	students	student %
100%	4	13%
75%	3	10%
50%	11	37%
25%	12	40%
0%	0	0%

Table 12: Similarity percentages

Therefore, from a universe of 30 students who answered the VARK questionnaire, the absolute level of similarity between the two instruments was achieved in 4 students (expressed in 13% of the class), in 3 students (expressed in 10% of the class), in 11 students (expressed in 37% of the class) and 12 students (expressed in 40% of the class) and zero students (expressed in 0% of the class).

The next graph is shown to achieve a more complete expression of this research, blue represents the number of students, red represents the percentage of students and green is the level of similarity between both instruments (VARK questionnaire and Checklist).
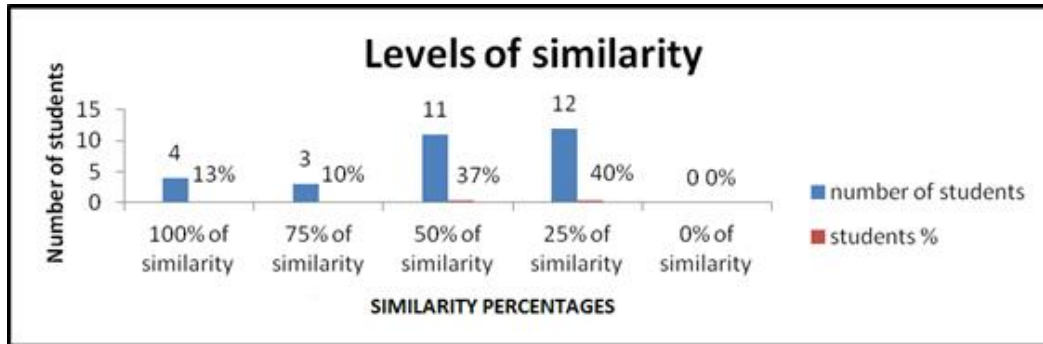
Graph 3: Similarity percentages

For visual purposes the following three tables show the final results of this investigation, the first tabulation represents the VARK results, the second tabulation is the teacher's perception and the third tabulation the similarities between the two studies:

Student #	FIRST INSTRUMENT Students' VARK Questionnaire Answers				SECOND INSTRUMENT Teacher Checklist				SIMILARITY SIMILARITY LEVELS	
	V	A	R	K	V	A	R	K	Coincidence(s)	Similarity %
2	4	7	6	6	1	1	1	0	3	75%
3	8	6	7	6	0	0	0	1	1	25%
4	3	4	5	4	1	0	0	0	1	25%
5	6	6	0	4	1	1	1	0	2	50%
6	6	5	4	6	1	0	1	0	2	50%
7	3	3	3	6	0	0	1	0	1	25%
8	6	3	2	5	0	0	1	0	1	25%
9	5	3	0	8	1	1	1	0	2	50%
10	9	13	7	6	0	0	0	1	1	25%
11	7	6	7	4	1	0	1	0	2	50%
12	4	5	6	1	1	0	0	0	1	25%
13	5	7	0	4	1	1	0	0	2	50%
14	2	4	5	5	0	0	1	1	2	50%
15	12	2	4	5	1	0	1	1	3	75%
16	8	5	6	8	1	0	1	0	2	50%
17	3	3	1	9	1	1	1	1	4	100%
18	4	2	6	4	0	0	1	0	1	25%
19	7	6	6	5	0	0	1	0	1	25%
22	6	1	6	4	0	0	1	0	1	25%
23	5	3	6	2	0	0	1	0	1	25%
24	5	6	7	7	0	0	1	0	1	25%
25	4	6	3	3	1	0	0	1	2	50%
26	7	5	6	5	1	1	1	1	4	100%
27	5	4	1	5	1	0	1	1	3	75%
28	8	8	7	6	0	1	1	0	2	50%
29	9	9	9	8	1	0	0	1	2	50%
31	11	8	5	7	1	1	1	1	4	100%
32	4	6	8	6	1	1	1	1	4	100%
33	3	8	1	4	1	0	0	1	2	50%
34	7	10	7	10	0	0	0	1	1	25%
	V	A	R	K	V	A	R	K		
Total	176	164	141	163	18	9	21	13		

Table 13: VARK + Checklist + Similarity

RESEARCH QUESTIONS & ANSWERS

At this point of the research process, with all the data from both instruments compared and analyzed the answers to the questions formulated at the beginning of the research process were provided:

1) Which learning styles are more predominant in students from eight grade "C" class from Colegio Teniente Dagoberto Godoy?

The most predominant learning style in the classroom was visual with a score of 176 points. The learning style that came right after in second place was the auditory style with a score of 164 points, however it is important to mention that the kinesthetic style was only one point behind it with a score of 163 points. Reading & writing style was the least predominant one with a score of 141 points.

2) According to the teacher's point of view, which are the main learning styles present in the students in the classroom?

According to the teacher, the most predominant learning style was reading & writing with a score of 22 points, on second place the teacher considered the visual learning style with 18 points, third place was for the kinesthetic learning style with 13 points and the least predominant learning style, in this case, was auditory with a score of 9 points.

3) Is there a correlation between the teacher's perception on the learning styles in the class and the actual questionnaire's results?

Similarity levels obtained in the investigation indicate that the teacher identified efficiently her students' different learning styles with a similarity of 100% of her answers in 13% of the class, according to the results there was not any zero % of similarity which

means that the teacher was able to identify at least one or more styles present in her students. The teacher's results reflect her degree of understanding of her students, which definitely favors the processes of teaching and learning in the class. As this piece of research suggests, it is important for the teacher to know how students learn in order to find and implement the best techniques and didactics when teaching, especially when it comes to teaching a second language, as is it was the case of this investigation which was based on an average English class from an average school.

CHAPTER V

CONCLUSIONS

CONCLUSIONS

Education, in this present time, seems to be more complex than it was years ago, students now have different characteristics that were not previously identified or that was not necessary to identify back then.

After a few months conducting this investigation, this research was able to reach some conclusions that contribute to the development and the improvement of educational conditions with the main goal of accomplishing the main objective proposed in this research, which was to explore the relationship between the learning styles exhibited by students at Colegio Teniente Dagoberto Godoy and the perception the teacher has about the distribution of learning styles present in the class.

Besides finding out the predominant styles present in the classroom, in this case visual and auditory styles, as well as the results obtained through the teacher's assessment and their comparison, the results obtained by this research have demonstrated that this educator in particular was aware of the predominant learning styles of the students, from a total of 30 students the teacher showed a perception level of over 50% in 18 of these students, which represented 60% of the whole class.

This is important because when the process of teaching and learning takes place the teacher can generate the appropriate environment so that each of the students builds up their learning. As it was pointed out in this investigation, no person learns like another, each individual has a different way to integrate information and turn it into learning, hence is not just one learning style individuals use, but all of them, although clearly some of the learning styles are more predominant than others.

When teachers effectively know how their students learn, they can generate didactics to enable the development of creativity and produce the actual integration of significant learning in each student. For this reason, considering that reading & writing was the least predominant learning style, it is necessary that teachers obtain a sufficient level of educational preparation to determine what or which tactics to use so that everyone has the opportunity to learn, developing the students' skills so that they feel distinctive and comfortable in their learning process.

The integration of activities related to the learning style(s) of the students will enhance and enrich their learning process, such as the use of comics, videos, concept maps in the case of visual learners; the use of music, debates and pair work for auditory students; the use of news, biographies and stories in reading & writing learners and finally, the use of role-play, body and movements for kinesthetic students, these strategies are a highly valuable resource to engage and motivate students by making them feel committed.

This research clarified many aspects; the answers to the questions that were asked at the beginning of the process were an evident reflection of that. In the hypothetical answers that emerged previous to data analysis there were some correspondences as this research initially considered that from the learning styles present in the class the most predominant learning styles were visual and reading & writing, the results demonstrated that the most predominant was, in fact, the visual style, however in the case of reading & writing the actual results demonstrated it was the least prominent of the styles present in the class.

As for the teacher's point of view, there was also a correspondence in the second question, prior to the research it was suggested that the main learning styles according to the teacher were visual and reading & writing, the results produced the same styles.

When referring to the question about the relationship between the perception of the teacher about the learning styles and the actual questionnaire's results, there was no resemblance because prior to the research it was suggested pessimistically that there was no correlation, however the actual results showed just the opposite, the teacher knew how the students from the class learnt.

In this sense, when dealing with the perception of the teacher, it is important to clarify two situations, a negative and a positive one. The negative situation was that the teacher identified the reading & writing style as being the most predominant learning style in her class, however the research revealed that the reading & writing style was in fact the least predominant of them all, this brought the idea that some educational establishments and teachers valuate certain learning styles in relation to the skills they have enthroned for decades, which is worrying because in reality most of the students from the class did not learn in that way. The positive situation has to do with the perception of the teacher in

general; as it was explained earlier this investigation found out that this teacher in particular was able to identify at least one learning style present in the students from the class, this produced an optimistic result for this research as it was stated from the beginning of this research process the importance of taking the different learning styles through which individuals learn into account.

For teachers, it is essential to know their students if their goal is to deliver quality education. Part of the academic formation of teachers should focus on this matter. To be informed and prepared to deal with different students and their respective different ways of learning; learning styles should be internalized to provide the students meaningful learning. It is of real importance to improve the education system contemplating the inclusion of learning styles in the academic formation of teachers, there should be emphasis to develop professionals with a strong base in order to be a concrete contribution to education under the current educational system.

CHAPTER VI

DISCUSSIONS

DISCUSSIONS

If the purpose as educators is to give students different pathways to learn, a contribution in this area is to find out their students' learning styles to further facilitate this process, this practice can become a great help to teachers themselves in order to carry out their work with excellence.

Learning styles have not been fully integrated in the Chilean education. The educational systems should plan programs that take into account the full range of characteristics, interests, abilities and different learning needs because each student has one or more distinctive learning styles that concord best to the environmental requirements.

Teachers also should be aware of their position as a key element in the evolving process of education. Someone, who chooses the pedagogical profession, begins a path that is deeply based on the priority of the teaching practice: to teach students to learn and help them become productive citizens.

This involves an enormous responsibility and requires professionals with the capacity to share their knowledge through real vocation. Teachers even should be aware of how their students have fun and be able to apply this in their classes.

It is essential in order to generate quality education to have the tools and knowledge to effectively find out how students learn. The main challenge is to get to know the students and become involved in their processes so that they learn successfully.

REFERENCES

REFERENCES

Bruner, J.S. (1961). *The act of discovery*. Harvard Educational Review, Vol. 31.

Fleming, N.D. & Mills, C. (1992). Not Another Inventory, Rather a Catalyst for Reflection. *To Improve the Academy, 11*. Canterbury, New Zealand: University of Nebraska - Lincoln.

Fleming, N.D. & Baume, D. (2006) *Learning Styles Again: VARKing up the right tree!* Educational Developments, SEDA. Issue 7.4.

Gardner, H. (2001). *Estructuras de la mente: La Teoría de las Inteligencias Múltiples*. Bogotá: Fondo de Cultura Económica.

Harmer, J. (2010). *How to teach English*. China: Pearson-Longman.

Jarvis, M. (2005). *The psychology of effective learning and teaching*. Cheltenham: Nelson Thornes.

Kolb, D. A. (1984). *Experiential Learning: Experience as the Source of Learning and Development*. N.J.: Prentice-Hall, Inc.

Newble, D.I. & Entwistle N.J. (1986). Learning styles and approaches: Implications for medical education. *Medical Education, 20 (3)*.

Piaget, J. (1973). *Main Trends in Psychology*. London: George Allen & Unwin.

Sánchez, M. (2012). *Inteligencias múltiples: Cómo descubrirlas y desarrollarlas*. Lima, Perú: Ediciones MIRBET S.A.C.

Scrivener, J. (2005). *Learning Teaching: A guidebook for English language teachers*. UK: Macmillan.

Stewart, K.L., Felicetti, L.A. (1992). Learning styles of marketing majors. *Educational Research Quarterly,* 15(2).

Woolfolk, A. (2010). *Psicología Educativa*. México: Pearson Educación.

APPENDIXES

APPENDIX 1.0 VARK QUESTIONNAIRE
(16 QUESTIONS/4 POSSIBLE ANSWERS EACH)

Cuestionario VARK-Versión para jóvenes

Nombre:_____ **Curso:**_____ **Nº de lista**_____

Elije la respuesta que mejor explica tu preferencia y encierra en un círculo la letra o letras de abajo.

Por favor marca más de una respuesta si es que una sola respuesta no coincide con tu percepción. Deja en blanco cualquier pregunta que no se aplique a ti.

1. Me gustan los sitios web que tienen:
    a) objetos en las que puedo hacer clic y hacer cosas.
    b) canales de audio para música, chat y discusión.
    c) Información interesante y artículos.
    d) diseño interesante y efectos visuales.

2. No estoy seguro si una palabra debe escribirse 'aprendizaje' o 'aprendisaje'. Yo:
    a) visualizaría las palabras en mi mente y elegiría por cómo se ven.
    b) las escucharía en mi mente o en voz alta.
    c) las buscaría en el diccionario.
    d) escribiría las dos palabras y elegiría una.

3. Deseo organizar una fiesta sorpresa para un amigo. Yo:
    a) invitaría a amigos y simplemente dejaría que suceda.
    b) imaginaría la fiesta sucediendo.
    c) haría listas de lo que se debe hacer y qué comprar para la fiesta.
    d) hablaría de ello por teléfono o mensajes de texto con otros.

4. Voy a preparar algo especial para mi familia. Yo:
    a) haría algo que ya he hecho antes.
    b) hablaría de ello con mis amigos.
    c) buscaría ideas y planes en libros y revistas.
    d) encontraría instrucciones por escrito para hacerlo.

5. He sido seleccionado como tutor para un programa de vacaciones. Esto es interesante para tus amigos. Yo:
   a) les describiría las actividades que voy a hacer en el programa.
   b) les mostraría el mapa y fotos de donde se llevará a cabo.
   c) comenzaría a practicar las actividades que voy a hacer en el programa.
   d) mostraría la lista de actividades del programa.

6. Estoy a punto de comprar un nuevo teléfono móvil. Aparte del precio, ¿qué influiría más en mi decisión?
   a) probarlo.
   b) leer los detalles acerca de sus características.
   c) que sea lo último en diseño y se vea bien.
   d) lo que el vendedor me diga al respecto.

7. Cuando aprendí a jugar un juego de computador o de mesa. Aprendí mejor:
   a) viendo a los demás jugarlo antes que yo.
   b) escuchando a alguien explicando el juego y haciéndole preguntas.
   c) obteniendo pistas de los diagramas en las instrucciones.
   d) leyendo las instrucciones.

8. Tengo que hacer un trabajo después de leer una obra de teatro. Prefiero:
   a) escribir sobre la obra.
   b) representar una escena de la obra.
   c) dibujar o hacer un boceto de algo que sucedió en la obra.
   d) leer un discurso de la obra.

9. Voy a conectar el nuevo computador de mis padres. Yo:
   a) leería las instrucciones que trae el computador.
   b) llamaría por teléfono, enviaría un mensaje de texto o correo electrónico a un amigo para preguntarle cómo hacerlo.
   c) desembalaría la caja y empezaría a unir las piezas.
   d) seguiría los diagramas que muestran cómo se hace.

10. Tengo que darle instrucciones a unas personas para llegar a una casa cercana. Yo:
    a) caminaría con ellos.
    b) dibujaría un mapa en un pedazo de papel o trataría de obtener un mapa en línea.
    c) escribiría las instrucciones como una lista.
    d) les diría las instrucciones.

11. Tengo un problema en mi rodilla. ¿Prefiero que el médico?:
    a) me mostrara un diagrama de lo que está mal.
    b) me diera un artículo o un folleto que explica las lesiones de rodilla.
    c) me describiera lo que está mal.
    d) me demostrara lo que está mal utilizando un modelo de una rodilla.

12. Una nueva película ha llegado al cine. ¿Qué influiría más en mi decisión de ir (o no ir)?
    a) escuchar a mis amigos hablando de la película.
    b) leer lo que otros dicen en línea o en una revista.
    c) ver un trailer de la película.
    d) que sea similar a otras que me hayan gustado.

13. Prefiero un profesor que le guste usar:
    a) demostraciones, modelos o sesiones prácticas.
    b) debates en clase, debates en línea, chat en línea e invitados a la clase.
    c) un libro y muchos folletos.
    d) tablas, diagramas y mapas.

14. Estoy aprendiendo a tomar fotos con mi nueva cámara digital. Me gustaría tener:
    a) ejemplos de buenas y malas fotos y la manera de mejorarlas.
    b) instrucciones escritas de manera clara con listas y viñetas.
    c) la oportunidad de hacer preguntas y hablar sobre las funciones de la cámara.
    d) diagramas que muestren la cámara y cómo usarla.

15. Quiero retroalimentación acerca de una prueba. Me gustaría tener una retroalimentación:
    a) que utilice ejemplos de lo que he hecho.
    b) de alguien que lo converse conmigo.
    c) que utilice una descripción escrita o una tabla con mis resultados.
    d) que utilice gráficas que muestren lo que he logrado.

16. Tengo que presentar mis ideas a la clase. Yo:
    a) haría diagramas o conseguiría gráficos que ayuden a explicar mis ideas.
    b) escribiría algunas palabras clave y practicaría qué decir una y otra vez.
    c) escribiría mi discurso y lo aprendería leyéndolo una y otra vez.
    d) recopilaría ejemplos e historias para que la presentación sea real y práctica.

APPENDIX 1.1 TEACHER CHECKLIST

<u>CHECKLIST</u>

Please write alphabetically the names of the students in the class and choose if their learning style is: **V** (visual), **A** (auditory), **R/W** (Read/Write), **K** (Kinesthetic). Consider that multiple options are possible.

Class:_____ Date:_____ Teacher/signature:_____

	STUDENT NAME	V	A	R/W	K
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					

29					
30					
31					
32					
33					
34					
35					
36					
37					
38					

APPENDIX 1.2 TABULATION SYSTEM (VARK QUESTIONNAIRE)

Student	Q1 A (K)	Q1 B (A)	Q1 C (R)	Q1 D (V)	Q2 A (V)	Q2 B (A)	Q2 C (R/W)	Q2 D (K)	Q3 A (K)	Q3 B (V)	Q3 C (R/W)	Q3 D (A)	Q4 A (K)	Q4 B (A)	Q4 C (V)	Q4 D (R)	Q5 A (A)	Q5 B (V)	Q5 C (K)	Q5 D (R)	Q6 A (K)	Q6 B (R)	Q6 C (V)	Q6 D (A)	Q7 A (K)	Q7 B (A)	Q7 C (V)	Q7 D (R)	Q8 A (R)	Q8 B (K)	Q8 C (V)	Q8 D (A)
1																																
2	1	1		1			1		1			1			1	1				1	1		1		1	1			1			
3			1	1			1				1			1	1		1	1					1	1	1			1		1		
4				1			1		1						1					1		1			1				1			
5		1			1				1						1		1							1	1						1	
6		1		1	1						1	1			1					1	1			1	1							1
7		1					1				1		1						1					1		1					1	
8		1			1							1			1		1					1			1					1		
9		1			1				1				1						1		1				1							1
10		1				1					1	1			1		1		1		1	1	1			1		1	1	1	1	
11		1	1			1				1	1				1		1	1				1					1	1			1	
12		1					1				1				1			1						1		1					1	
13				1	1							1		1			1				1					1					1	
14			1				1				1					1	1						1			1					1	
15	1					1			1						1		1	1		1		1	1		1						1	
16		1		1	1						1				1	1	1		1		1	1			1	1				1		
17				1			1	1							1			1				1		1	1					1		
18				1			1				1				1			1				1			1							1
19	1	1		1	1					1	1			1	1		1		1		1	1			1	1			1			
20																																
21																																
22			1				1				1				1				1			1					1				1	
23		1					1		1							1				1			1				1				1	
24			1				1				1		1				1				1	1			1							1
25		1					1		1						1					1			1		1							1
26		1				1					1				1					1	1							1		1		1
27		1						1	1				1				1						1		1						1	
28		1	1		1		1				1	1	1	1					1		1					1		1	1			
29						1	1		1		1	1			1	1	1	1		1	1	1		1	1			1	1	1		
30																																
31				1	1	1					1	1			1		1	1	1	1	1	1	1	1	1					1		
32		1	1				1			1	1	1			1		1					1	1			1				1	1	
33		1						1			1				1				1					1		1						1
34	1	1		1		1			1		1	1	1				1	1		1	1		1		1	1						1
ToTales	3	18	8	10	9	7	13	4	8	5	18	11	6	4	21	5	15	9	9	11	13	15	8	9	18	12	1	8	4	13	11	6

	Question 9				Question 10				Question 11				Question 12				Question 13				Question 14				Question 15				Question 16			
	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D	A	B	C	D
	R	A	K	V	K	V	R/W	A	V	R	A	K	A	R	V	K	K	A	R/W	V	K	R	A	V	K	A	R/W	V	V	A	R/W	K
			1					1		1						1		1			1				1	1					1	
1	1			1			1	1	1			1			1	1				1				1				1	1			
		1					1			1					1		1			1					1					1	
			1				1			1					1		1			1				1				1			
1						1	1					1	1		1	1				1				1				1			
x	x	x	x		1			1							1	1				1						1					1
1					1			1							1	1				1				1				1			
			1				1			1					1	1				1				1				1			
	1					1	1		1	1	1	1			1	1	1	1	1			1	1		1		1	1	1	1	1
		1					1			1			1	1	1	1			1	1	1				1				1		
1							1			1			1		1				1		1			1						1	
		1					1			1					1				1			1		1							1
1				1							1				1	1				1		1		1				1			
1			1		1	1					1				1				1	1		1				1		1			1
1			1			1	1		1	1					1	1			1	1	1	1	1				1				1
1							1				1				1	1			1			1				1				1	
1						1			1						1	1				1		1								1	
	1				1				1						1			1	1	1				1				1			
					1	1		1						1		1						1					1				1
			1	1		1				1				1		1		1					1			1					1
			1	1	1	1	1			1		1		1			1	1				1	1	1		1		1			1
	1				1				1				1		1		1	1		1					1					1	
			1		1		1			1			1	1	1	1			1			1			1	1	1	1		1	
1						1				1	1	1				1			1	1	x	x	x	x	1						
1			1		1		1			1				1	1	1	1			1			1		1		1	1			1
	1	1	1			1	1	1	1	1				1	1	1			1			1	1	1	1	1	1	1			
1	1		1		1		1			1			1	1		1			1	1			1	1		1	1	1			1
1		1				1	1		1	1	1		1		1	1			1			1		1					1	
			1			1	1		1					1	1			1				1			1						1
		1		1	1	1		1	1	1		1	1	1		1						1	1	1		1	1	1			
13	6	7	12	4	12	8	19	6	5	18	10	5	3	27	1	18	11	5	9	21	4	3	10	13	11	8	8	16	5	10	11

APPENDIX 1.2.1 TABULATION SYSTEM (VARK QUESTIONNAIRE)

VARK	3
VRAK	2
AKVR	2
RAKV	2
VKAR	2
KVAR	2
AVRK	2
KRAV	2
VRKA	1
RKVA	1
VAKR	1
ARKV	1
VAK	1
KVA	1
RAVK	1
AVK	1
VKRA	1
KVRA	1
KAVR	1
RVAK	1

APPENDIX 1.3 TABULATION SYSTEM (TEACHER CHECKLIST)

Student	V	A	R	K
2	1	1	1	0
3	0	0	0	1
4	1	0	0	0
5	1	1	1	0
6	1	0	1	0
7	0	0	1	0
8	0	0	1	0
9	1	1	1	0
10	0	0	0	1
11	1	0	1	0
12	1	0	0	0
13	1	1	0	0
14	0	0	1	1
15	1	0	1	1
16	1	0	1	0
17	1	1	1	1
18	0	0	1	0
19	0	0	1	0
22	0	0	1	0
23	0	0	1	0
24	0	0	1	0
25	1	0	0	1
26	1	1	1	1
27	1	0	1	1
28	0	1	1	0
29	1	0	0	1
31	1	1	1	1
32	1	1	1	1
33	1	0	0	1
34	0	0	0	1
	V	**A**	**R**	**K**
total	**18**	**9**	**21**	**13**

APPENDIX 1.3.1 TABULATION SYSTEM (TEACHER CHECKLIST)

Style(s)	Times
R	7
VARK	4
VAR	3
K	3
VR	3
VK	3
V	2
VRK	2
VA	1
RK	1
AR	1

APPENDIX 1.4 TABULATION SYSTEM (SIMILARITY LEVELS)

Student	coincidences	similarity %
2	3	75%
3	1	25%
4	1	25%
5	2	50%
6	2	50%
7	1	25%
8	1	25%
9	2	50%
10	1	25%
11	2	50%
12	1	25%
13	2	50%
14	2	50%
15	3	75%
16	2	50%
17	4	100%
18	1	25%
19	1	25%
22	1	25%
23	1	25%
24	1	25%
25	2	50%
26	4	100%
27	3	75%
28	2	50%
29	2	50%
31	4	100%
32	4	100%
33	2	50%
34	1	25%